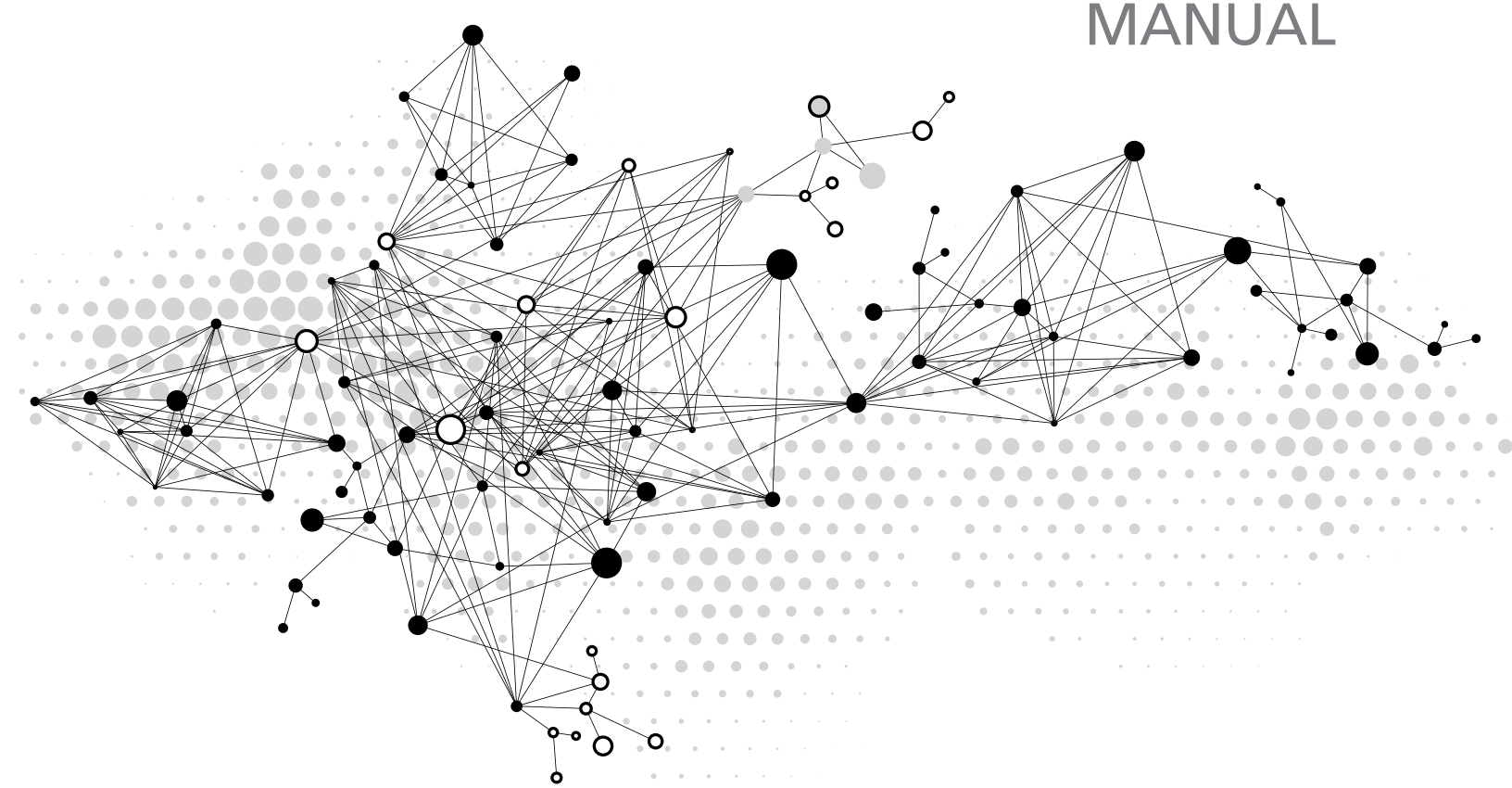
MANUAL



MONETARY AND FINANCIAL STATISTICS MANUAL AND COMPILATION GUIDE

Prepublication Draft

2016

INTERNATIONAL MONETARY FUND

Cataloging-in-Publication Data
Joint Bank-Fund Library

Monetary and financial statistics manual and compilation guide.—Washington, D.C.:
International Monetary Fund, 2016.
pages ; cm

Includes bibliographical references and index.
ISBN: 978-1-51357-919-1 (paper)
ISBN: 978-1-51356-398-5 (Web)
ISBN: 978-1-48430-952-0 (Mobipocket)
ISBN: 978-1-51358-272-6 (ePub)

1. International finance – Statistical methods. 2. Statistics – Methodology – Standards.
I. International Monetary Fund.
HG3821.I52 2016

Please send orders to:
International Monetary Fund, Publication Services
P.O. Box 92780, Washington, D.C. 20090, U.S.A.
Tel.: (202) 623-7430 Fax: (202) 623-7201
E-mail: publications@imf.org
Internet: www.elibrary.imf.org
www.imfbookstore.org

Contents

This prepublication draft is subject to final editing for publication in book form.

Tables

Figures

Boxes

Foreword

The need for accurate, comprehensive, and reliable monetary and financial data across countries has been underscored by modern episodes of financial instability, in particular that of 2008–2009. The International Monetary Fund (IMF) has taken the lead in promoting methodologically sound and internationally comparable monetary and financial statistics. In 2000, the IMF published the *Monetary and Financial Statistics Manual* (*MFSM*), followed in 2008 by its accompanying *Compilation Guide* (*MFS Guide*).

This *Monetary and Financial Statistics Manual and Compilation Guide* (*Manual*) updates and merges into one volume methodological and practical aspects of the compilation process of monetary statistics. The *Manual* is aimed at compilers and users of monetary data, offering guidance for the collection and analytical presentation of monetary statistics. The *Manual* includes standardized report forms, providing countries with a tool for compiling and reporting harmonized data for the central bank, other depository corporations, and other financial corporations.

The methodology and concepts described in the *Manual* are consistent with other macroeconomic data sets, including the *System of National Accounts 2008* (*2008 SNA*), the sixth edition of the *Balance of Payments and International Investment Position Manual* (*BPM6*), the *Government Finance Statistics Manual 2014* (*GFSM 2014*), and the publication by the United Nations and the European Central Bank of the handbook on *Financial Production, Flows and Stocks in the System of National Accounts*. This consistency underscores the close relationship existing between the different macroeconomic statistical systems.

The *Manual* has been prepared by the Statistics Department, in consultation with a group of experts of national central banks, statistical offices, and other international organizations. Earlier versions of the *Manual* were posted on the IMF's website for comments by the general public. I would like to thank all of the experts involved for their invaluable assistance and for their collaborative spirit.

We publish this *Manual* in the expectation that it will assist member countries in their efforts to improve the process of compiling and disseminating high quality monetary and financial statistics. I encourage member countries to adopt the guidelines of the *Manual*.

Christine Lagarde
Managing Director
International Monetary Fund

Preface

The *Monetary and Financial Statistics Manual and Compilation Guide* (*Manual*) updates and merges into one volume methodological and practical aspects of the compilation process of monetary and financial statistics. The *Manual* sets forth the broad framework for the collection and presentation of these statistics and provides specific recommendations for the classification, sectoring, valuation, and recording of various categories of financial assets and liabilities in an economy. The *Manual* was produced by the IMF's Statistics Department (STA) as part of its mandate to provide leadership on the development and application of sound statistical methodologies and practices.

The concepts, accounting principles, and other methodological elements of this *Manual* are harmonized with those of the *System of National Accounts 2008* (*2008 SNA*), the sixth edition of the *Balance of Payments and International Investment Position Manual* (*BPM6*), the *Government Finance Statistics Manual 2014* (*GFSM 2014*), and the handbook on *Financial Production, Flows and Stocks in the System of National Accounts* published by the United Nations and the European Central Bank. Since the main source data for monetary statistics are the accounting records of the financial corporations, this *Manual* elaborates on the relationship between monetary and financial statistics and internationally accepted accounting standards, in particular the International Financial Reporting Standards (IFRSs).

The purpose of this *Manual* is to support compilers of monetary and financial statistics in the production of methodologically sound and cross-country comparable monetary data. It provides a set of tools for identifying, classifying, and recording stocks and flows of financial assets and liabilities; it describes standardized, analytically oriented frameworks in which monetary statistics may be presented; and it identifies a set of analytically useful aggregates within those frameworks.

Acknowledgments

The *Manual* draws on the 2000 *Monetary and Financial Statistics Manual* (*MFSM*) and the 2008 *Monetary and Financial Statistics Compilation Guide* (*MFS Guide*). It was prepared by the staff of the Financial Institutions Division of STA under the general direction of Mr. Robert Heath, STA Deputy Director, and Mr. Luca Errico, Division Chief. Mr. Artak Harutyunyan (Deputy Division Chief) managed the project and, with José M. Cartas (senior Economist), reviewed and edited the text.

The primary contributors to this *Manual* include Mme. Xiuzhen Zhao and Messrs. José M. Cartas, Thomas Elkjaer, Artak Harutyunyan, Jaroslav Kucera, Marco Martínez, Pierre Papadacci, and Richard Walton. Other contributors include Messrs. Thomas Alexander, Gary Barinshtein, Agus Firmansyah, Venkateswarlu Josyula, Phousnith Khay, Alexander Massara, André Mialou, Farid Talishli, and Giovanni Ugazio. Mr. Kenneth Sullivan (accounting expert and former IMF staff) provided support on the IFRSs and other accounting related issues. Mme. Gloria Adison and Mr. Redley Pinkney provided administrative support, and Messrs. Goran Amidzic, Matias Costa Navajas, and Plapa Koukpamou provided support with numerical examples and figures.

This *Manual* has benefited from the review and comments of a wide range of individuals from STA and other IMF departments, including Mmes. Sage De Clerck, Majdeline El Reyes, Valeria Fichera, La-Bhus Fah Jirasavetakul, Kyung Kwak, Maria Mantcheva, Rita Mesias, Karen Ongley, Tamara Razin, Gabriela Rosenberg, Chen Wenjie,

and Vera Zolotarskaya; and Messrs. David Amaglobeli, Michael Atingi Ego, Zdravko Balyozov, Sean Craig, Steve Dawe, Marcelo Dinenzon, Robert Dippelsman, Jemma Dridi, Heikki Hatanpaa, Christopher Hinchcliffe, Kareem Ismail, Alberto Jimenez de Lucio, Marco Marini, Justin Matz, Nicolas Million, José Carlos Moreno-Ramírez, Marshall Reinsdorf, Ranil Manohara Salgado, Mike Seiferling, Manik Shrestha, Subramanian Sriram, Michael Stanger, Bernhard Steinki, Philip Stokoe, Deon Tanzer, Tobias Wickens, Dong Frank Wu, and Barry Yuen.

Finally, this *Manual* benefited from the comments from numerous officials in member countries and international organizations, which are gratefully acknowledged. Also, we wish to thank the following experts who participated in the February 2012 meeting of experts in Washington, D.C., convened to launch the revision of the *MFSM* and *MFS Guide*.

Algeria	Mr. Abdelhakim Sekhri, Banque d'Algérie
Armenia	Mr. Martin Galstyan, Central Bank of Armenia
Australia	Ms. Wendy Raed, Australian Bureau of Statistics
Belarus	Mr. Boris Vlasenko, National Bank of Belarus
Brazil	Ms. Marcia Cristina Fiorindo, Banco Central do Brasil
Canada	Mr. Joseph Wilkinson, Statistics Canada
Chile	Ms. Beatriz Velásquez, Central Bank of Chile
China	Ms. Huiying Gao, People's Bank of China
France	Mr. Marc Chazelas, Banque de France
Germany	Ms. Marit Wehner, Deutsche Bundesbank
Iceland	Ms. Hrönn Helgadóttir, Central Bank of Iceland
India	Mr. B. M. Misra, Reserve Bank of India
Indonesia	Mr. Wiwiek Sisto Widayat, Bank Indonesia
Israel	Mr. Uri Barazani, Bank of Israel
Italy	Mr. Gianmatteo Piazza, Banca d'Italia
Japan	Mr. Chihiro Sakuraba, Bank of Japan
Korea, Republic of	Mr. Byoung Soo Kim, Bank of Korea
Mexico	Mr. Nicolás Amoroso, Banco de Mexico
Morocco	Mrs. Dounia Tahri, Bank Al-Maghrib
Peru	Mr. Guillermo Guevara, Banco Central de Reserva del Perú
Poland	Ms. Malgorzata Lichota, National Bank of Poland
Portugal	Ms. Paula Alexandra Casimiro, Banco de Portugal
Russian Federation	Mrs. Nadezhda Ivanova, Central Bank of the Russian Federation
South Africa	Mr. Danie Meyer, Reserve Bank of South Africa
Saudi Arabia	Mr. Ibrahim Binmayouf, Saudi Arabian Monetary Authority
Spain	Mr. Gonzalo Sainz, Banco de España
Switzerland	Mr. Daniel Kromer, Swiss National Bank
Thailand	Ms. Nitidao Ratanapaitoon, Bank of Thailand
Turkey	Ms. Burcu Cakmak, Central Bank of Turkey
United Kingdom	Mr. Jonathan Beadle, Bank of England
United States	Ms. Carol Bertaut, United States Federal Reserve Board
	Ms. Elizabeth B. Holmquist, United States Federal Reserve Board

BCEAO	Mr. Toussaint Damoh
BEAC	Mr. Simplice Duclair Lonkeng
ECB	Mr. Henning Ahnert
BIS	Mr. Christian Dembiermont
Eurostat	Mr. Leonidas Akritidis
IAIS	Mr. Sebastian von Dahlen
OECD	Mr. Satoru Hagino
UNSD	Mr. Benson Sim
The World Bank	Ms. Huixia Chen
	Mr. Erik Feyen

Louis Marc Ducharme
Director
Statistics Department
International Monetary Fund

Acronyms

1993 SNA	*System of National Accounts 1993*
2008 SNA	*System of National Accounts 2008*
AAOIFI	Accounting and Auditing Organization for Islamic Financial Institutions
AMC	Asset management company
BA	Bankers' acceptances
BCEAO	Banque Centrale des États de l'Afrique de l'Ouest
BEAC	Banque des États de l'Afrique Central
BIS	Bank for International Settlements
BLA	Bilateral Loan Agreement
BMA	Bond Market Association
BML	Broad money liabilities
BOE	Bank of England
BOOTs	Build, own, operate, transfer schemes
BOP	Balance of payments
BPM5	*Balance of Payments Manual,* fifth edition
BPM6	*Balance of Payments and International Investment Position Manual*, sixth edition
BSA	Balance sheet approach
CB	Central bank
CBA	Cost-benefit analysis
CBS	Central bank survey
CCP	Central clearing counterparty
CDO	Collateralized debt obligation
CDS	Credit default swap
CLN	Credit-linked notes
CMA	Common market area
CMO	Collateralized mortgage obligation
CPI	Consumer price index
CS	Closing stock
CSDB	Centralized securities database
CUCB	Currency union central bank
CUNCB	Currency union national central bank
DC	Depository corporation
DCS	Depository corporations survey
DGI	Data gaps initiative
DQAF	Data Quality Assessment Framework
DR	Depository receipt
DSSB	Dissemination Standards Bulletin Board
ECB	European Central Bank

ECCU	Eastern Caribbean Currency Union
ECCB	Eastern Caribbean Central Bank
ECF	Extended Credit Facility
EFF	Extended Fund Facility
ESAF	Enhanced Structural Adjustment Facility
ESO	Employee stock option
FCL	Flexible Credit Line
FC	Financial corporations
FCS	Financial corporations survey
FRA	Forward rate agreement
GAB	General Arrangements to Borrow
GDP	Gross domestic product
GDDS	General Data Dissemination System
GFS	Government finance statistics
GFSM 2014	*Government Finance Statistics Manual 2014*
GNDI	Gross national disposable income
GNI	Gross national income
GRA	General Resources Account
IAH	Investment account holders
IASB	International Accounting Standards Board
IAS	International Accounting Standard
ICPF	Insurance corporations and pension funds
ICS	Integrated Correspondence System
IDB	Islamic Development Bank
IFI	Islamic financial institution
IFRSs	International Financial Reporting Standards
IFS	*International Financial Statistics*
IFSB	Islamic Financial Services Board
IG	Implementation Guidance
IIP	International investment position
IMF	International Monetary Fund
IPSGS	Insurance, pension, and standardized guarantee schemes
IRA	Individual retirement account
ISIN	International Securities Identification Number
IT	Information technology
LIBOR	London interbank offered rate
LICs	Low-income countries
MBB	Mortgage-backed bond
MCM	Market capitalization method
MFI	Monetary financial institution
MFS Guide	*Monetary and Financial Statistics Compilation Guide*
MFSM	*Monetary and Financial Statistics Manual 2000*
MMFs	Money market funds
MT	Managed trust
NAV	Net asset value
NCB	National central bank
NFA	Net foreign assets
NFC	Nonfinancial corporation

NPI	Nonprofit institution
NPISH	Nonprofit institutions serving household
NPL	Nonperforming loan
OCVA	Other changes in the volume of assets and liabilities
ODC	Other depository corporation
ODCS	Other depository corporations survey
OFC	Other financial corporation
OFCS	Other financial corporations survey
OIN	Other items (net)
OS	Opening stock
OTC	Over-the-counter
PEF	Private equity fund
PFIs	Private finance initiatives
PLL	Precautionary and Liquidity Line
PLS	Profit and loss sharing
PNFC	Public nonfinancial corporation
PPP	Public-private partnership
PRGF	Poverty Reduction and Growth Facility
PRGT	Poverty Reduction and Growth Trust
PSA	Public Securities Association
PSIA	Profit sharing investment accounts
PVA	Present-value approach
REIT	Real estate investment trust
RPF	Reserve position in the Fund
RTP	Reserve tranche position in the IMF
SBA	Stand-By Arrangement
s-b-s	Security-by-security
SDDS	Special Data Dissemination Standard
SDR	Special Drawing Rights
SHS	Security holding statistics
SIC	Standards Interpretations Committee
SIFMA	Securities Industry and Financial Markets Association
SNA	System of National Accounts
SPE	Special purpose entity
SRF	Standardized report form
SSF	Social security fund
STA	Statistics Department
SWF	Sovereign wealth fund
UFC	Use of Fund credit
VC	Valuation changes

1 Introduction

I. Purposes of the *Monetary and Financial Statistics Manual and Compilation Guide*

1.1 The main purpose of the *Monetary and Financial Statistics Manual and Compilation Guide* (*Manual*) is to offer guidelines for the compilation and presentation of monetary statistics, with compilers and users of such statistics as its focal target audience. Additionally, the *Manual* provides an orientation to the financial statistics framework. The *Manual* is also useful to compilers and users of other macroeconomic statistics in understanding the relationships among the various macroeconomic datasets.

1.2 This *Manual* combines and updates the concepts, definitions, and recommendations contained in the 2000 *Monetary and Financial Statistics Manual* (*MFSM*) and the 2008 *Monetary and Financial Statistics Compilation Guide* (*MFS Guide*). The *Manual* offers a set of tools for identifying, classifying, and recording stocks and flows of financial assets and liabilities. At the same time, it assists compilers responsible for monetary data collection with practical recommendations on the classification, valuation, and sectoring of financial assets and liabilities for monetary statistics purposes, with special emphasis on borderline cases. In this way, the *Manual* promotes the harmonization of concepts among different macroeconomic datasets and cross-country comparability.

1.3 This *Manual* sets up a conceptual framework for the analytical presentation of monetary statistics, which provides a critical input for monetary policy formulation and monitoring. The statistics covered in this *Manual* also support the assessment of financial system stability.

II. Historical Perspective

1.4 In 2000, the International Monetary Fund (IMF) published the *MFSM*, which was the first volume of its kind in the field of monetary and financial statistics. The *MFSM* was harmonized with the *System of National Accounts 1993* (*1993 SNA*) and other statistical manuals, such as the fifth edition of the *Balance of Payments Manual* (*BPM5*). Because of its focus on concepts, the *MFSM* was not intended as a compilation guide and did not deal with practical issues on sources or methods for compiling statistics.

1.5 The publication in 2008 of the *MFS Guide* filled the void for practical guidance, providing assistance to monetary statistics compilers on the ways to implement the methodology and statistical framework contained in the *MFSM*. The *MFS Guide* focused on the cross-country harmonization of source data and methodology, with special attention to the accounting standards applicable to the source data for MFS.

1.6 Between the publication of the *MFSM* and the *MFS Guide*, the IMF introduced in 2004 the standardized report forms (SRFs) for monetary data reporting by member countries to the IMF. The SRFs present the sectoral balance sheets of the central bank, other depository corporations (ODCs), and other financial corporations (OFCs) in a balance-sheet-like structure, according to the instrument, the currency of denomination, and the counterpart sector. Monetary data compiled using the SRFs were first published in *International Financial Statistics* (*IFS*) in September 2006. Most member countries are submitting their data to the IMF using the SRFs. Many of these countries are also using the SRFs as the platform to generate the monetary data disseminated through their national publications.

1.7 Since these events took place, the methodological framework for national accounts was updated with the release in 2009 of the *System of National Accounts 2008* (*2008 SNA*). Almost simultaneously, the sixth edition of the *Balance of Payments and International Investment Position Manual* (*BPM6*) was published. Finally, a revised *Government Finance Statistics Manual 2014* (*GFSM 2014*) was made available to the public in 2014.

1.8 Another development was the publication in 2014 by the European Central Bank (ECB) and the United Nations of the handbook on *Financial Production, Flows and Stocks in the System of National Accounts*. This handbook elaborates on the financial production and income from an SNA perspective, complementing the concepts and methodology laid out in this *Manual*.

1.9 In view of these major developments, a revision of the 2000 *MFSM* and the 2008 *MFS Guide* was required, in order to align the methodology of monetary and financial statistics to the new framework. The need for revision also presented an opportunity to address practical compilation issues based on the experience gained with the implementation of the SRFs and to reflect recent developments in the financial sector and financial markets. The decision was made to combine the manual and the compilation guide into a single volume, as a way to reduce overlaps and to facilitate the work of compilers and users of monetary statistics.

III. Main Changes from the *MFSM* and the *MFS Guide*

1.10 The major methodological revisions contained in this *Manual*, compared with the *MFSM* and the *MFS Guide*, are summarized in the next paragraphs.

1.11 With respect to **institutional sectors**, the *2008 SNA* increased to nine the number of the subsectors of the financial corporations (FCs) sector, compared with the five of the *1993 SNA*. There is a greater focus on the OFCs, with a split between insurance corporations and pension funds, the identification of money market funds (MMFs) and non-MMF investment funds, and the inclusion of a category for captive financial institutions and money lenders. As it will be seen in Chapter 3, for monetary statistics purposes the institutional units of the FCs sector are grouped into only three subsectors: central bank; ODCs, which include deposit-taking corporations except the central bank [MS][1] and MMFs; and OFCs [MS], which include all remaining FCs. The *Manual* also expands on the treatment of some special cases of institutional units, such as special purpose entities (SPEs), sovereign wealth funds (SWFs), and central clearing counterparties (CCPs).

1.12 Regarding **financial instruments**, the *Manual* adopts the revised terminology and classification of the *2008 SNA*, although in most cases the revisions do not connote a change in concepts. The new classification adds three subcategories to financial instruments: (1) investment fund shares/units are added to equity; (2) the term *Insurance technical reserves* is replaced by the term *Insurance, pension, and standardized guarantee schemes* (IPSGS), while the asset boundary is extended to include *Provisions for calls under standardized guarantee schemes* and *Claims of pension funds on pension managers*; and (3) employee stock options (ESOs) are added to financial derivatives. This *Manual* contains additional discussions on borderline cases in the classification of financial assets and liabilities.

1.13 An important revision concerning financial instruments is the reclassification of the *Special Drawing Rights (SDR) allocations* to the Fund's member countries, from equity to long-term foreign liability. The change was introduced in August 2009 in the monetary data compiled by countries, with historical data having been revised correspondingly. Previously, *SDR allocations* were recorded in monetary statistics as part of equity. The *2008 SNA* and the *BPM6* changed this treatment, considering the SDR allocations as long-term foreign liabilities of the countries receiving the allocation, because of a requirement to repay the allocation in certain circumstances, and also because interest accrues on the allocation. If SDR allocations are held on the balance sheet of the central bank, they are treated

[1]The coverage of deposit-taking corporations except the central bank may differ between the national accounts and monetary statistics as the latter does not include deposit-taking institutions whose deposits are excluded from broad money (see paragraph 3.124). Hence in this *Manual*, "deposit-taking corporations except the central bank" are notated by "MS" (monetary statistics) when referring to monetary data, to emphasize the difference with the subsector with the same name in the *2008 SNA*. A similar approach is taken for OFCs. The coverage of FCs is the same in this *Manual* as in the *2008 SNA*.

as liabilities to nonresidents (foreign liabilities), and recorded as a separate line item (see Annex 4.2.)

1.14 Another revision relates to the classification of **financial instruments with principal and interest indexed to a foreign currency**. In the 2000 *MFSM* and the 2008 *MFS Guide*, the currency of settlement of the instrument was the key factor to determine whether a financial asset or liability was classified as denominated in domestic or in foreign currency. Therefore, instruments denominated in domestic currency but fully indexed to a foreign currency were classified as denominated in domestic currency. This was, for instance, the case for the *IMF No. 1 Account*, *IMF No. 2 Account*, and *IMF Securities Account*, which were classified as being in domestic currency, although principal and interest are indexed to the SDRs. However, the *BPM6* recommends treating financial instruments with principal and interest indexed to a foreign currency as if they were denominated in foreign currency. This *Manual* defers to this approach.

1.15 This *Manual* offers a more elaborate discussion on **money aggregates**, focusing on the characteristics of the financial instruments that should be included as part of broad money: liquidity and store of nominal value. The *MFSM* and the *MFS Guide* were not prescriptive on the national definitions of money, monetary base, credit, and debt, which were left to the discretion of national authorities. This *Manual* provides clear guidelines on the instruments that should be included in the calculation of these aggregates, which should be tailored to the particular characteristics of each economy. For the definition of money aggregates, the *Manual* introduces the concepts of *money issuing*, *money holding*, and *money neutral* sectors. Furthermore, the *Manual* provides a more elaborate discussion on credit and liquidity aggregates.

1.16 To implement the methodological changes when compiling monetary statistics, the **sectoral balance sheets/SRFs were correspondingly revised**. The main changes relate to (1) the inclusion of a separate line for *SDR allocations* on the liability side of the central bank sectoral balance sheet; (2) the reclassification of the *IMF No. 1 Account*, *IMF No. 2 Account*, and *IMF Securities Account* from deposits denominated in domestic currency to deposits denominated in foreign currency; (3) the introduction of separate lines for MMF and non-MMF investment funds shares/units on the asset side of the sectoral balance sheets; (4) the introduction of separate lines for MMF (in the ODCs sectoral balance sheet) and non-MMF investment fund (in the OFCs sectoral balance sheet) shares/units on the liability side with a breakdown by counterpart sector; and (5) more detail in memorandum items that identify assets and liabilities with nonresident FCs, interbank positions with affiliated nonresident FCs, debt securities and loans with a maturity of one year or less, and loans and deposits of households.

IV. Structure of the *Manual*

1.17 This *Manual* consists of eight chapters, including annexes to specific chapters, and three appendices, as presented below.

1.18 After this introductory chapter, **Chapter 2** describes the scope and uses of monetary and financial statistics. It provides the process for the compilation of monetary statistics in a schematic presentation. The process integrates the different institutional units that constitute the FC sector with the source data needed to compile their sectoral balance sheets. It also presents the different analytical surveys, which are generated from the sectoral balance sheets.

1.19 The chapter then discusses the main principles and concepts, focusing on the links between the *2008 SNA* as an overarching framework for all macroeconomic datasets, including monetary and financial statistics, and explaining the areas where this *Manual* differs from the *2008 SNA*.

1.20 The remainder of the chapter explains the linkages between the accounting records of FCs, which are the source data for monetary statistics, and the methodological guidelines for monetary and financial statistics. Accounting records are produced according to International Financial Reporting Standards (IFRSs) or national accounting standards, which focus on the financial position and performance of an entity as a way to provide information useful to a wide range of users in making investment and other economic decisions. Therefore, when compiling monetary and financial statistics, the information available from accounting records needs to be expanded to provide more details and be tailored so as to conform to the sectoring of institutional units and the classification of financial instruments recommended in this *Manual*.

1.21 Chapter 3 deals with institutional units and their allocation to institutional sectors. When distinguishing between resident and nonresident units, and classifying resident institutional units into sectors, the chapter follows the concepts and definitions of the *2008 SNA* and other statistical manuals (the *BPM6* and the *GFSM 2014*). This chapter elaborates on the description of institutional units and provides examples of borderline cases that arise when classifying resident and nonresident institutional units.

1.22 The focus of this *Manual* is on the relationship between the FCs sector vis-à-vis other resident sectors and the rest of the world. Therefore, the different subsectors of the FC sector, as presented in the *2008 SNA*, are combined here into only three subsectors: (1) central bank; (2) ODCs, comprising deposit-taking corporations except the central bank [MS] and MMFs; and (3) OFCs [MS], comprising all the remaining subsectors of the FCs sector. Furthermore, the resident nonfinancial corporations (NFCs) sector is split into only two subsectors—public nonfinancial corporations (PNFCs) and other NFCs—unlike the *2008 SNA*, where resident NFCs are divided into three separate subsectors: PNFCs, national private NFCs, and foreign controlled NFCs. In monetary and financial statistics, the subsectors state government and local government within general government are combined into one subsector, as are the sectors households and nonprofit institutions serving households (NPISHs).

1.23 Chapter 4 provides a detailed description of the characteristics of different categories of financial assets and liabilities. At its highest level, the classification of financial assets and liabilities in this *Manual* is fully consistent with that of the *2008 SNA*. The chapter provides guidance for the classification of: (1) monetary gold and SDRs, (2) currency and deposits, (3) debt securities, (4) loans, (5) equity and investment fund shares, (6) IPSGS, (7) financial derivatives and ESOs, and (8) other accounts receivable/payable. At a secondary level, currency and deposits are disaggregated into separate subcategories for (1) currency, (2) transferable deposits, and (3) other deposits.

1.24 For monetary statistics purposes, deposits and debt securities on the liability side are divided into *included in broad money* and *excluded from broad money*. Equity and investment fund shares are disaggregated into separate subcategories for (1) MMF shares, (2) non-MMF investment fund shares, and (3) equity.

1.25 In line with the *2008 SNA*, IPSGS is disaggregated into (1) nonlife insurance technical reserves, (2) life insurance and annuity entitlements, (3) pension entitlements, (4) claims of pension funds on pension managers, (5) entitlements to nonpension benefits, and (6) provisions for calls under standardized guarantees. Similarly, *Other accounts receivable/payable* are disaggregated into (1) trade credit and advances, and (2) other accounts receivable/payable. Where relevant, financial assets and liabilities are split into denominated in domestic currency and denominated in foreign currency.

1.26 This chapter contains three annexes: (1) "Examples of Debt Securities Issued through Securitization," (2) "Accounts with the IMF," and (3) "Islamic Financial Institutions and Instruments."

1.27 Chapter 5 describes the concepts of stocks and flows, and the accounting rules for compiling data for institutional units within the FCs sector. The chapter provides an overview of the integrated framework of stocks-and-flows data, where double-entry accounting rules give rise to data that add up both vertically and horizontally. It then covers the compilation of flows, with general recommendations on the recording of transactions, revaluations, and other changes in the volume of assets (OCVA).[2]

1.28 Chapter 5 also covers the following accounting rules: (1) time of recording; (2) treatment of transaction costs and financial services fees; (3) valuations of financial stocks and flows; and (4) aggregation, netting, and consolidation. The chapter concludes by providing detailed guidance on the compilation of stocks and flows for each category or subcategory of financial assets and liabilities, and by discussing the recording of debt reorganizations.

1.29 This *Manual,* consistent with the *2008 SNA,* recommends using the accrual basis of recording. In the accrual basis of recording, flows are recorded at the time economic value is created, transformed, exchanged, transferred or extinguished. Further, this *Manual* recommends that valuations of stocks and flows should be based on market prices or market-price equivalents. It recognizes that market prices are

[2]References to OCVA also apply to liabilities.

not available for financial assets not traded or infrequently traded in secondary markets. It is, therefore, necessary to estimate market-equivalent values for such financial assets. (See Table 2.2.)

1.30 It is the general principle in this *Manual*, and in the *2008 SNA,* that data should be reported on a gross basis; although in some circumstances reporting on a net basis may be needed due to the lack of availability of data on a gross basis. The underlying data for monetary and financial statistics should be reported on an aggregated basis, adding stock and flow data across all institutional units within a sector or subsector, or of all assets or liabilities within a particular instrument category. Data should be disseminated on a consolidated basis, eliminating stock positions and flows that occur between institutional units that are grouped together and should be presented as if they constituted a single unit. For analytical purposes, positions with nonresidents and central government are presented on a net basis.

1.31 Four annexes are attached to Chapter 5, elaborating on the (1) estimation of transactions and valuation changes from exchange rate movements; (2) valuation, recording, and numerical examples for specific types of debt securities; (3) valuation, recording of financial derivatives, and a numerical example; and (4) settlement date and transaction date accounting.

1.32 Chapter 6 deals with the concepts of money, liquidity, credit, and debt. It covers a variety of issues pertaining to the collection and reporting of data for compiling monetary base, broad money, and other money aggregates. Money plays an important role in an economy and is a key component of the transmission mechanism from monetary policy to economic activity and inflation. This *Manual* provides a definition of broad money. The definition is intended to help monetary statistics compilers determine the scope of broad money, taking into account the structure and other features of the financial system in their own economies and against the principles specified in this *Manual*.

1.33 The aggregates of money, liquidity, credit, and debt have the following same underlying dimensions: (1) the financial instruments that are components of a particular aggregate, (2) the issuing sectors, and (3) the holding sectors. The distinction between money issuers, money holders, and money neutral sectors is introduced in this chapter. Extending the discussion on money aggregates, this chapter presents the underlying framework for compiling liquidity aggregates with data on their counterpart sources, as well as measures of credit and debt.

1.34 Chapter 6 contains the following six annexes on: (1) currency-union currency; (2) dollarized economies and co-circulation; (3) reserve requirements; (4) seasonal adjustment of economic time series; (5) holding sectors of debt securities issued by FCs; and (6) divisia money.

1.35 Chapter 7 discusses the framework and practical issues in the compilation and presentation of monetary statistics in accordance with the methodology of this *Manual*, and the necessary source data. The chapter describes first the overall framework for monetary statistics, followed by sectoral balance sheets that provide a framework for the collection of monetary statistics, and then presents the main outputs of monetary statistics, namely the analytical surveys for the FC sector and its subsectors, explaining the use of the surveys for monetary policy formulation. The depository corporations survey (DCS), for example, contains consolidated data for all depository corporations (DCs), presenting their claims on other sectors of the economy and on nonresidents, which constitute the counterpart sources of broad money. The financial corporations survey (FCS) contains consolidated data for all institutional units within the FC sector and provides the broadest coverage of domestic credit supplied by FCs.

1.36 The source data for monetary statistics are discussed later in the chapter, including the systematic identification of data reporting requirements, data adjustments and estimations, and validation tests of the reported data. Finally, the chapter deals with the dissemination of monetary data, at the national level and for reporting to the IMF.

1.37 The following three annexes, mostly in table forms, are attached to Chapter 7: (1) "Other Changes in the Volume of Assets," (2) "Consolidation Adjustments," and (3) "Supplementary Data."

1.38 Chapter 8 presents the framework for financial statistics, describing the compilation, presentation, and data sources for financial statistics. After providing definitions and scope for flow and stock accounts, more sophisticated frameworks are introduced,

with various levels of detail on financial statistics: (1) two-dimensional financial statistics, and (2) three-dimensional financial statistics on a from-whom-to-whom basis. The chapter touches also on the main data sources for financial statistics and statistical discrepancies when two or more datasets provide different results for a particular data category. The only annex attached to this chapter provides an overview of the *2008 SNA*.

1.39 In addition to annexes pertaining to specific chapters, the *Manual* contains three appendices. Appendix I presents the relationship between monetary and financial statistics on one side, and government finance statistics and external sector statistics on the other. Appendix II contains illustrative sectoral balance sheets/ SRFs and guidelines for their completion. Appendix III presents the FCSs and monetary authorities accounts.

2 Overview of the Monetary and Financial Statistics Framework

I. Introduction

2.1 This chapter provides an overview of the monetary and financial statistics framework, focusing on its scope, uses, and main principles and concepts. Further, it explains the relationship of monetary and financial statistics with the *System of National Accounts 2008* (*2008 SNA*), other statistical manuals, and the International Financial Reporting Standards (IFRSs). The chapter sets the stage for the other chapters of this *Manual*, providing a context for the reader.

2.2 The chapter first discusses the scope and uses of monetary and financial statistics. This discussion is then followed by a summary of all essential principles and concepts used in compiling monetary and financial statistics, within the framework provided by the *2008 SNA*. The final section compares the source data available from IFRSs and the needs of monetary and financial statistics, focusing on the commonalities and the differences between the two.

2.3 In this *Manual* the needs of monetary statistics and financial statistics occasionally diverge. When the guidance applies only to monetary statistics, this is made explicit in the text, and similarly when the guidance only applies to financial statistics. In all other cases, the guidance applies both to monetary and financial statistics.

II. Scope and Uses of Monetary and Financial Statistics

A. Scope

2.4 The monetary and financial statistics described in this *Manual* cover financial and nonfinancial assets, and liabilities of all institutional sectors within an economy, with a particular focus on the financial corporations (FCs) sector. Assets are stores of value, over which ownership rights are enforced and from which their owners may derive economic benefits by holding them over a period of time. Financial assets are a subset of economic assets that are financial instruments and are unconditional creditor claims on economic resources of other institutional units, which give rise to corresponding liabilities of debtors.[1] Other financial instruments of a contingent nature, such as guarantees (except standardized guarantees) and commitments, are outside the assets boundary and therefore are not included in the monetary and financial statistics (see paragraph 4.2).

2.5 Principles and concepts for the measurement of stocks and flows in monetary and financial statistics are consistent with the *2008 SNA* and other statistical manuals. In particular, flows comprise the sum of one or more of the following: (1) transactions; (2) revaluations (also called holding gains and losses); and (3) other changes in the volume of assets (OCVA). In compiling monetary and financial statistics, these categories are used to account for period-to-period changes in outstanding amounts (i.e., stocks) of assets and liabilities.

2.6 Data on the market prices, including market exchange rates, of financial assets and liabilities as well as market interest rates are necessary for the implementation of this *Manual*'s recommendations on the valuation of financial assets and liabilities. Monetary and financial statistics, however, as defined in the next two subsections, do not cover the compilation and presentation of interest rates, debt and equity security prices, or exchange rates.

B. Monetary Statistics

2.7 ***Monetary statistics cover the stocks and flows of the assets and liabilities of the resident FCs sector***

[1]The exception is gold bullion held by monetary authorities as a reserve asset (monetary gold), which does not have a counterpart liability and is a financial asset by convention.

with respect to all other resident institutional sectors and nonresidents. Based on the concepts of the *2008 SNA*, monetary statistics provide a framework for analyzing the relationship between the FCs sector and other institutional sectors, including through broad money, credit aggregates, and liquidity measures.

2.8 Monetary statistics comprise a set of stock and flow data that are organized in two hierarchical frameworks, namely *sectoral balance sheets* and *analytical surveys*.

2.9 In the sectoral balance sheets, compiled for the three FCs subsectors—central bank, other depository corporations (ODCs) and other financial corporations (OFCs) [MS]—the asset and liability positions (and the corresponding flows) are presented in a balance-sheet-like form by category of financial instrument, by currency (domestic and foreign), and by counterpart institutional sector. (See Chapter 7, Section II, and Tables A2.1–A2.3 in Appendix II.)

2.10 The analytical surveys are derived from the respective sectoral balance sheets, whereby the sectoral balance sheet data are rearranged into an analytical format. In the analytical surveys, the assets are presented as FCs' claims on other resident institutional sectors and nonresidents, while the liabilities are presented by category of financial instrument in the order of their liquidity. Claims on and liabilities to nonresidents and central government are presented on a net basis. (See Chapter 7, Section IV, and Tables A3.1–A3.5 in Appendix III.)

2.11 The analytical surveys comprise the following:

a. Three surveys that cover the FCs subsectors—the central bank survey (CBS), the other depository corporations survey (ODCS), and the other financial corporations survey (OFCS).

b. The depository corporations survey (DCS) consolidates the CBS and the ODCS.

c. The financial corporations survey (FCS) consolidates the DCS and the OFCS and contains data for the entire FCs sector.

2.12 The compilation process for monetary statistics is shown in Figure 2.1.

2.13 Monetary statistics are a prominent and somewhat special part of the macroeconomic statistical system of a country. Compared with other types of macroeconomic statistics, namely national accounts, external sector statistics (ESS), and government finance statistics (GFS), most countries compile and disseminate monetary statistics on a more frequent and more timely basis. This is facilitated by law and regulations, by the needs of policymakers and market participants, as well as by the broad availability of detailed and frequent source data. Most countries compile the DCS on a monthly basis and disseminate it within one or two months after the end of the reference period.

2.14 For monetary policy purposes, the focus is on the consolidated data for the depository corporations (DCs) subsector, presented in the CBS, the ODCS, and the DCS. The CBS contains data on all components of the monetary base, which comprises the central bank liabilities that support the expansion of broad money and credit. The DCS contains data on all DCs' liabilities included in broad money.

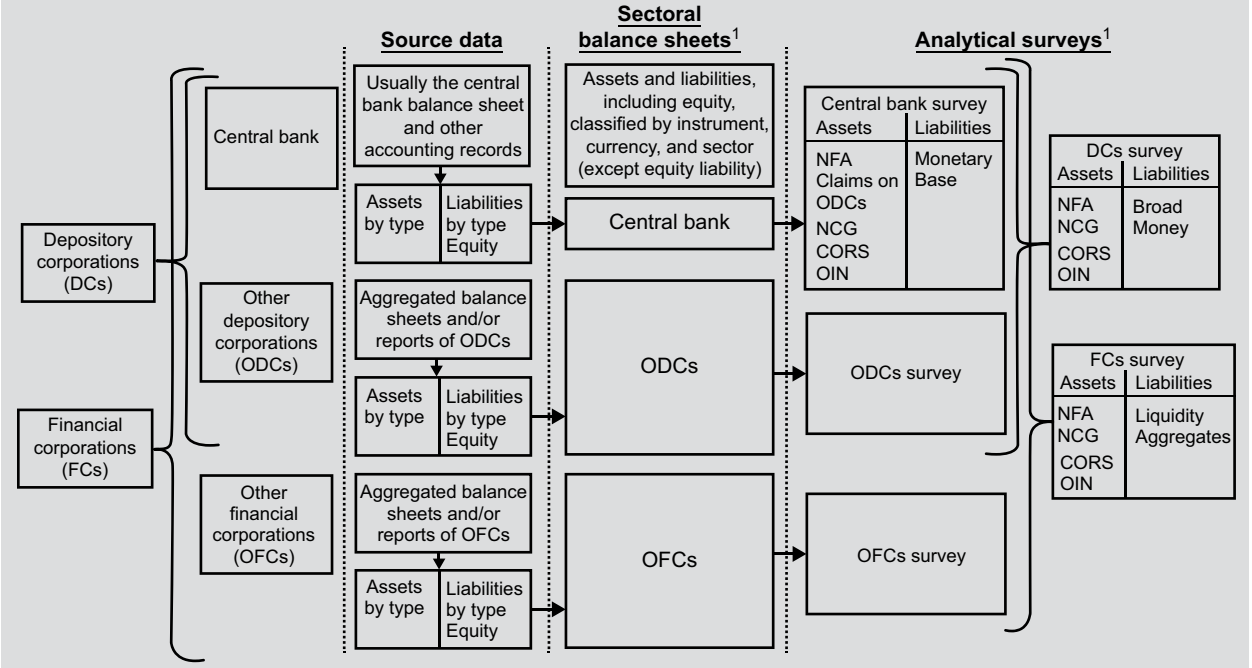
2.15 The balance sheet identity in the DCS (see paragraph 7.14) provides a direct link between the broad money supply and DCs' claims on nonresidents and on the resident sectors of the economy. These data are used for the formulation of monetary policy and, more broadly, for macroeconomic policy.

2.16 For purposes of broader macroeconomic policies, there is also an increasing focus on the OFCs subsector and the FCS, which is the broadest set of monetary statistics in terms of institutional coverage. The FCS contains consolidated data for the entire FCs sector. The data in the FCS are particularly useful for analyzing the FCs sector's claims on (i.e., credit to) the other sectors of the economy and nonresidents, as well as for presenting the liquidity aggregates issued by FCs.

C. Financial Statistics

2.17 ***Financial statistics cover the stock and flows of the assets and liabilities between all sectors of the economy and between the sectors of the economy and nonresidents.*** Thus financial statistics extend the range of monetary statistics to include all sectors of the economy and nonresidents. The financial statistics are organized and presented in formats designed to show financial flows between the sectors of an economy and nonresidents, and corresponding financial asset and liability positions. Sectoral balance sheets of the FCs subsectors contain a significant portion of the data needed to compile financial statistics.

Figure 2.1 Compilation Framework for Monetary Statistics



Note: NFA = Net foreign assets; NCG = Net claims on central government; CORS = Claims on other resident sectors; OIN = Other items net.

2.18 Financial statistics are compiled and presented with varying degrees of detail depending on the availability of source data and analytical needs. Common presentation formats of financial statistics include *flow-of-funds statistics*, the *balance sheet approach matrix*, and *financial sectoral accounts* as discussed in more detail in Chapter 8.

2.19 Financial statistics provide data for use in compiling the financial account and balance sheets of the *2008 SNA*. It is advised to produce these sets of statistics in a cooperative effort between compilers of monetary statistics and of national accounts to gain efficiencies in the compilation process and to promote integration of macroeconomic statistics. For the FCs subsectors, the data needed for compiling the financial account and SNA balance sheets are derived from the sectoral balance sheets, as described in Chapter 7. Data for entries that do not pertain to assets or liabilities of the FCs sector are obtained from other sets of macroeconomic statistics, including ESS, GFS, and national accounts.

III. Principles and Concepts

2.20 This section explains the relationship of the monetary and financial statistics with the *2008 SNA* and other statistical manuals, and provides a summary of the principles and concepts underlying the monetary and financial statistics. Adherence to these principles and concepts and to the resulting systematic recording and presentation of data facilitates cross-country and global comparisons and ensures internal consistency as well as consistency with other major sets of macroeconomic statistics within an economy (see Appendix I). Chapters 3, 4, and 5 cover these principles and concepts in more detail.

A. Relationship to the 2008 SNA *and Other Statistical Manuals*

2.21 For monetary and financial statistics, as well as for the other macroeconomic datasets (ESS and GFS), the overarching framework is the SNA. In this respect, the basic principles and concepts underlying monetary and financial statistics are consistent with those of

the *2008 SNA,* the sixth edition of the *BPM6,* and the *Government Finance Statistics Manual 2014 (GFSM 2014)*. The integral links between the monetary and financial statistics, and the financial account and balance sheets of the *2008 SNA* are underpinned by consistency in principles and concepts such as residence and sectoring of institutional units, classification of financial assets and liabilities, recording and valuation rules of financial and nonfinancial assets and liabilities, as well as transactions and other flows, and data aggregation and consolidation. The only exceptions are the recording of provisions, the valuation of equity liabilities, and the coverage of deposit-taking corporations except the central bank.

2.22 Methodological consistency ensures harmonization and comparability among the different macroeconomic datasets, and has benefits for both compilers and users of statistics. Data consistency often implies that the same data item appears in two or more of the macroeconomic datasets with the same nomenclature and value. Nonetheless, while the macroeconomic datasets share many concepts and accounting rules, each has some unique nomenclature and concepts. Two macroeconomic datasets are consistent if the data are reconcilable, meaning that (1) the data are the same; (2) any data discrepancies can be explained and justified (eliminating the discrepancies, if possible); or (3) the data in one set can be constructed from "building blocks" of another dataset.

2.23 Because of its broader scope, the *2008 SNA* contains principles and concepts not necessarily relevant for the compilation of monetary statistics. Conversely, monetary statistics contain some accounting and regulatory concepts not found in the *2008 SNA*. This stems from the close relationship of the FCs sectoral balance sheets to the accounting principles set by IFRSs or national accounting standards, as well as monetary statistics' focus on broad money and other financial aggregates. Differences between this *Manual* and the *2008 SNA* are described in the remainder of this section and in the next section. Table 2.1 summarizes the differences between monetary statistics, and the *2008 SNA* and other macroeconomic datasets.

B. Economic Territory, Residence, and Center of Economic Interest

2.24 The delineation between resident and nonresident units is a key feature of all macroeconomic statistical frameworks. The separate identification of claims on and liabilities to nonresidents is necessary for the measurement of a country's international investment position. Likewise, the separate identification of DCs' liabilities to resident money-holding sectors is necessary for the measurement of an economy's broad money issued by resident DCs.

2.25 The definition of residence in this *Manual* is identical to those in the *2008 SNA* (paragraphs 4.10–4.15) and *BPM6* (paragraphs 4.113–4.115). It is based, as discussed further in Chapter 3, on the concepts of economic territory and center of predominant economic interest. An institutional unit is a resident in an economic territory when there exists some location (dwelling, place of production, or other premises) within the economic territory, on which or from which the unit engages and intends to continue engaging, either indefinitely or over a finite but long period of time (determined to be at least one year) in economic activities and transactions on a significant scale.

C. Institutional Sectors

2.26 Identifying and sectoring institutional units into institutional sectors is a key element in all macroeconomic statistical frameworks. Sectoring of institutional units involves grouping together institutional units with similar economic objectives, functions, and behavior into institutional sectors. The *2008 SNA* groups resident units of the economy into the following mutually exclusive institutional sectors: (1) nonfinancial corporations (NFCs); (2) FCs; (3) general government; (4) households; and (5) nonprofit institutions serving households (NPISHs). The same delineation is used in monetary statistics, except that household and the NPISHs sectors are aggregated.

2.27 In the *2008 SNA,* the FCs sector contains the following nine subsectors: (1) central bank; (2) deposit-taking corporations except the central bank; (3) money market funds (MMFs); (4) non-MMF investment funds; (5) other financial intermediaries except insurance corporations and pension funds; (6) financial auxiliaries; (7) captive financial institutions and money lenders; (8) insurance corporations; and (9) pension funds.[2] For monetary statistics, this *Manual* combines subsectors (2) and (3) into one subsector called ODCs, which together with the central bank constitute the

[2] See Table 27.1 in the *2008 SNA*.

Table 2.1 Summary of Differences between the *2008 SNA* and Monetary Statistics

Issues	Different treatment		Reconciliation
	Monetary statistics	*2008 SNA*	
Institutional sectors			
Financial corporations (FCs) subsectors	FCs sector is divided into three subsectors: central bank, other depository corporations (ODCs), and other financial corporations (OFCs) by combining FCs subsectors separately identified in the *2008 SNA*.	FCs sector is divided into nine subsectors.	ODCs subsector combines two subsectors in *2008 SNA*: deposit-taking corporations [MS] and money market funds (MMFs). OFCs [MS] subsector combines all FCs subsectors other than central bank, deposit-taking corporations except the central bank, and MMFs in the *2008 SNA*.
Offshore banks	Offshore banks that do not issue liabilities included in broad money (e.g., they only take deposits from nonresidents) are classified as other financial intermediaries except insurance corporations and pension funds within OFCs [MS].	All offshore banks are classified as deposit-taking corporations except the central bank.	Separating out the accounts of such offshore banks will allow reconciliation of the data.
Nonfinancial corporations (NFCs) subsectors	NFCs sector as counterpart to FCs is divided into two subsectors: public NFCs (PNFCs) and other NFCs, combining national private and foreign-controlled NFCs.	NFCs sector is divided into three subsectors: public, national private, and foreign controlled.	Other NFCs combines national private NFCs and foreign-controlled NFCs, as defined in the *2008 SNA*.
Households and nonprofit institutions serving households (NPISHs)	Household and NPISHs sectors as counterparts to FCs are aggregated.	Household sector and NPISHs sector are separately presented.	Household and NPISHs sector combines the two subsectors of the *2008 SNA*. Recommended memorandum items identify households separately for major relevant financial assets and liabilities.
General government subsectors	General government as counterpart to FCs is divided into (1) central government, and (2) state and local government. Social security funds (SSFs) are presented together with the level of government at which they operate.	Two methods are allowed: (1) identifying four general government subsectors—central, state, local, and SSFs; (2) merging SSFs with their appropriate level of government.	The treatment in monetary statistics is consistent with the second method of the *2008 SNA*, with state and local governments combined.

(*Continued*)

Table 2.1 Summary of Differences between the *2008 SNA* and Monetary Statistics (*Continued*)

Issues	Different treatment		Reconciliation
	Monetary statistics	*2008 SNA*	
Classification and valuation of financial assets and liabilities			
Interbank positions	Interbank (inter-depository corporations) positions are identified fully by all relevant instrument categories (except for equity liability). When there is uncertainty between a loan and a deposit, it should be recorded under *Other deposits*.	Interbank positions other than debt securities and accounts receivable or payable are shown as separate category under *Transferable deposits*.	Memorandum items in the sectoral balance sheets for the central bank and ODCs separately identify claims on and liabilities to MMFs, allowing the compilation of interbank positions as defined in the *2008 SNA*.
Equity liability (excluding investment fund shares)	Equity liability of FCs is disaggregated into five components without identifying holding counterpart sectors and is valued at book value. (See paragraphs 4.131 and 5.167–5.168.)	Equity liability is valued at market value and is not disaggregated into categories. For unlisted equity, the *own funds at book value* method is used based on the five categories.	In monetary statistics, market value of equity liabilities of FCs and holding counterpart sectors are recorded as memorandum items in FCs' sectoral balance sheets, allowing a full reconciliation.
Provision for losses on assets	Provisions for losses on assets are treated as liabilities and classified under *Other accounts payable [MS]*. (See paragraph 2.32.) Provisions made are recorded as OCVA resulting in a reduction in equity.	Provisions for losses on assets are treated as bookkeeping entries internal to the reporting institutional unit and are not included in the *2008 SNA*, except in the case of expected losses on nonperforming loans (NPLs), which appear as memorandum items in the balance sheets.	See Figure 2.2 for reconciliation.
Net worth	The net worth concept does not appear in monetary statistics, where the equity liability is valued at book value. (See paragraphs 5.42 and 5.52d.)	Net worth is defined as the value of all the assets owned by an institutional unit or sector *less* the value of all its outstanding liabilities (including equity).	In both the *2008 SNA* and monetary statistics, the value of all the assets less the value of all the outstanding liabilities (including equity) and net worth (in *2008 SNA* only) equals to zero. See Figure 2.2 for reconciliation.

Note: *2008 SNA* = *System of National Accounts 2008*.

DCs subsector. Categories (4) through (9) are combined into one subsector called OFCs [MS].[3]

[3] In this context, the term "other financial corporation" means "financial corporations other than DCs."

2.28 In the *2008 SNA*, the NFCs sector contains three subsectors: (1) public nonfinancial corporations (PNFCs), (2) national private NFCs, and (3) foreign controlled NFCs. For monetary statistics, the NFCs sector is split into only two subsectors: PNFCs and

other NFCs. Thus, unlike the *2008 SNA*, this *Manual* does not divide resident other NFCs into separate subsectors based on the residency of the units that own and control them.

2.29 The *2008 SNA* (paragraphs 4.129–4.130) and the *GFSM 2014* (paragraph 2.78) offer two options for the subsectoring of the general government. The first method divides general government into: (1) central government, (2) state government, (3) local government, and (4) social security funds. The second method merges social security funds with their appropriate level of government. For monetary statistics, data on social security funds should be merged with the level of government at which they operate. State and local government are aggregated in monetary and financial statistics into only one subsector of the general government sector.

D. Classification of Financial Assets and Liabilities

2.30 At its highest level, the classification of financial assets and liabilities in this *Manual* is fully consistent with that of the *2008 SNA*. At a more detailed level of classification, monetary statistics disaggregate *Currency and deposits* into separate subcategories for currency, transferable deposits, and other deposits. Further, deposits (as well as debt securities) on the liability side are classified into *included in broad money* and *excluded from broad money*; and also into *included in monetary base* and *excluded from monetary base* for the central bank's liabilities.[4] Equity and investment fund shares are disaggregated into equity, MMF shares, and non-MMF investment fund shares.

2.31 In monetary statistics, equity liabilities of FCs (except MMF and non-MMF investment fund shares) are further disaggregated into the following components: (1) funds contributed by owners, (2) retained earnings, (3) current year result, (4) general and special reserves, and (5) valuation adjustment. These separate components within equity do not appear in the *2008 SNA* or in the financial statistics presented in Chapter 8 of this *Manual*. To recognize the difference of the liability measure of equity in monetary statistics from the SNA concept, in this *Manual* equity liabilities in monetary statistics are labeled *Equity liability [MS]*. Data for the five components support the balance sheet identity in the sectoral balance sheets and provide the necessary details for the analysis of the structure of the FCs' equity in the context of monetary statistics. In monetary statistics, information on the counterpart sectors holding equity liabilities of FCs appears only as memorandum items. MMF and non-MMF investment fund shares are disaggregated on the liability side by counterpart sectors.

2.32 In monetary statistics, provisions for losses on assets, which are internal to the reporting institutional unit, are treated as if these are liabilities and are classified under *Other accounts payable [MS]*.[5,6] In this regard, the underlying assets are recorded gross of such provisions. There is a reduction in *Equity liability [MS]* whenever provisions are made, because these provisions are charged to losses. Provisions are a precursor of a possible loan (or other financial asset) write-off and, similar to loan write-offs, are recorded as OCVA. Provisions for losses on assets are treated as bookkeeping entries internal to the reporting institutional unit and are not included in the *2008 SNA*, except in the case of expected losses on nonperforming loans (NPLs), which appear as memorandum items in the balance sheets.[7]

E. Valuation

2.33 The valuation principles used for monetary statistics are the same as those in the *2008 SNA* with one exception. Consistent with the *2008 SNA*, this *Manual* recommends that valuations of stocks and flows should be based on market prices or market-price equivalents. It recognizes that market price quotations are not available for financial assets not traded or infrequently traded. It is, therefore, necessary to estimate market-equivalent values for such financial assets. Table 2.2 summarizes the classification and valuation principles of financial assets and liabilities used for monetary statistics.

2.34 Deposits and loans in this *Manual*, as well as in the *2008 SNA*, are valued at nominal value—that is, the outstanding amount the debtor owes to the creditor, which comprises the outstanding amount including

[4] Financial assets and liabilities are further disaggregated by domestic/foreign currency of denomination, where relevant.

[5] As the definition of *Other accounts payable* for monetary statistics differs from the definition in the *2008 SNA*, it is labeled *Other accounts payable [MS]* in this *Manual*.

[6] See paragraph 4.198.

[7] *2008 SNA*, paragraphs 3.41 and 13.66–13.68.

Table 2.2 Financial Assets and Liabilities—Classification and Valuation in Monetary Statistics

Classification	Valuation method[1]
Monetary gold (central bank)	Market value
Special Drawing Rights (central bank)	Market value
Currency	Face value (in currency of denomination)
Deposits	Nominal value (in currency of denomination)
Debt securities	Market or fair value
Loans	Nominal value (in currency of denomination)
Equity and investment fund shares	Market or fair value (assets and investment fund share liabilities); book value (liability)
Insurance, pension, and standardized guarantee schemes	Market or fair value
Financial derivatives and employee stock options	Market or fair value
Other accounts receivable/payable	Nominal value

[1] All foreign-currency-denominated assets and liabilities are converted into domestic currency units at market exchange rates (see paragraph 2.39).

accrued but not yet paid interest. The same valuation principle applies to trade credit and advances.

2.35 For monetary statistics, it is recommended that equity and investment fund shares on the asset side of the balance sheet, and investment fund shares on the liability side of the balance sheet, are valued at market prices. In contrast, equity on the liability side of the FCs' sectoral balance sheets is valued at book value—that is, the value recorded in a FC's business accounts. The following issues arise because of this deviation from the *2008 SNA*:

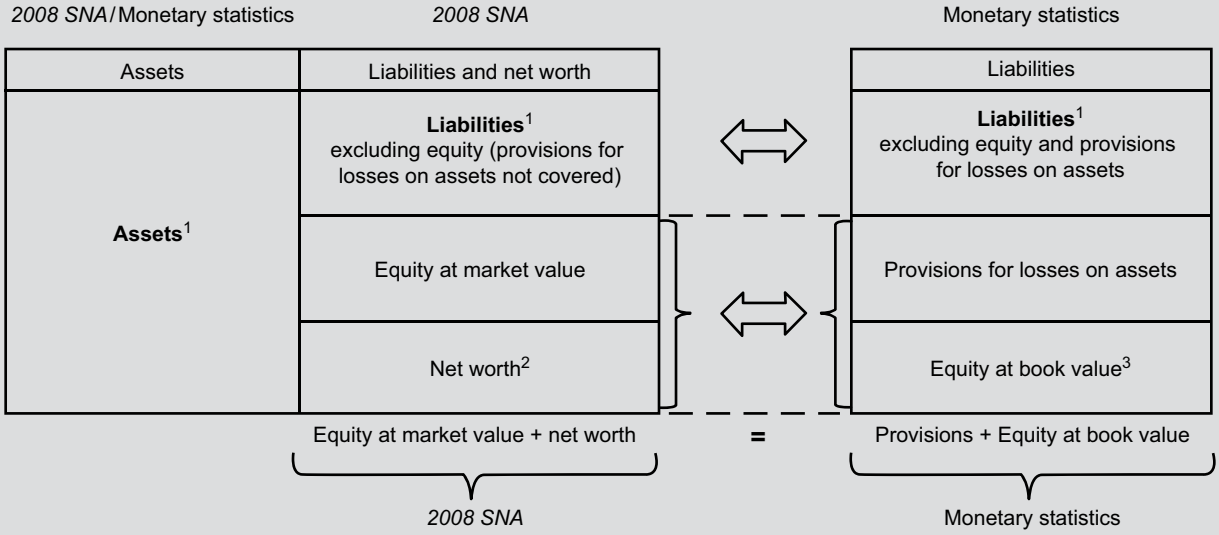
a. In monetary statistics, flows between *Equity liability [MS]* and assets, and between *Equity liability [MS]* and other liabilities, are classified as transactions, revaluations, and OCVA depending on their nature (see paragraphs 5.168) to ensure that *Equity liability [MS]* is the balancing item between assets and non-equity liabilities. Such flows do not appear in the *2008 SNA*, as equity is recorded as a separate instrument at market value and not as an item that balances the balance sheet.

b. The *2008 SNA* concept of net worth, defined as the value of all the assets owned by an institutional unit or sector less the value of all its outstanding liabilities (including equity), is embedded in *Equity liability [MS]*. In both *2008 SNA* and this *Manual*, the value of all the assets less the value of all the outstanding liabilities (including equity) and net worth (in the *2008 SNA* only) equals to zero.

2.36 Although the valuation of *Equity liability [MS]* at book value is not the preferred approach in the *2008 SNA*, it is recommended for monetary statistics in order to maintain the balance sheet identity of the data reported and to support analysis of the FC balance sheet. *Equity liability [MS]* can be assimilated to the SNA calculation of shareholders' equity called *own funds*, where net worth of an institutional unit is zero such as for foreign owned branches (see *2008 SNA*, paragraph 13.88). This *Manual* also recommends that data on the market value of equity liability are compiled as memorandum items in the sectoral balance sheets.

2.37 MMF shares or units are presented in monetary statistics at market value. MMFs typically invest in short-term, low-risk assets to ensure that the invested value can be repaid on demand, making MMF shares and units close substitutes for deposits. Non-MMF

Figure 2.2 Reconciliation of Equity Liabilities in the *2008 SNA* and Monetary Statistics



[1] Provided the same valuation is applied, assets and the liabilities indicated in footnotes 2 and 3 would be the same under both frameworks.

[2] In this figure, net worth is assumed to be positive. It may also be negative, in which case the reconciliation will still hold.

[3] Reflects contra-entry adjustments made by compilers when values of some assets and liabilities (other than equity liability) are adjusted to market values.

Note: *2008 SNA* = *System of National Accounts 2008*

investment funds shares or units are also recorded at market value in the sectoral balance sheet.

2.38 Differences between monetary statistics and the *2008 SNA* in the treatment of provisions for losses on assets (see paragraph 2.32) and *Equity liability [MS]* can be reconciled with the SNA concept of net worth as follows. Provided the same valuation principles are used for valuing all the assets and liabilities except equity liability, the sum of SNA net worth and market-valued equity (so-called own funds) would be equal to the sum of book-valued equity plus all provisions for losses on assets recorded in monetary statistics (see Figure 2.2).

2.39 The standard unit of account for the monetary and financial statistics is the domestic currency. When compiling monetary and financial statistics, foreign-currency-denominated assets and liabilities must be converted into domestic currency units using the market exchange rate prevailing on the balance sheet date. For transactions in foreign-currency-denominated assets and liabilities, the market exchange rate prevailing on the transaction date should be used. The midpoint between the buying and selling exchange rates should be used as the prevailing market exchange rate when converting both flow and stock data.

F. Time of Recording

2.40 This *Manual,* consistent with the *2008 SNA* (paragraph 3.172) and other statistical manuals, recommends recording of transactions on a change-of-ownership basis. This accrual approach to recording means that flows and changes in the corresponding stocks are recorded at the time economic value is created, transformed, exchanged, transferred, or extinguished, rather than at the time of payment.

2.41 In principle, the two parties to a transaction should record it simultaneously. A financial asset transaction is to be recorded on the trade date, rather than on the settlement date.

G. Aggregation, Consolidation, and Netting

2.42 *Aggregation* refers to the summation of stock or flow data across all institutional units within a sector or subsector, or of all assets or liabilities within a particular instrument category. This *Manual* recom-

mends reporting and organizing the underlying data for the monetary and financial statistics on an aggregated basis.

2.43 *Consolidation* refers to the elimination of stocks and flows that occur between institutional units that are grouped together and presented as if they constituted a single unit. For monetary statistics the reported data are consolidated into the analytical surveys of the FCs' sector and its subsectors, but for financial statistics data are presented on an unconsolidated basis.

2.44 As a general principle, data should be recorded and compiled on a gross basis (see paragraphs 5.61–5.63). Claims held by an institutional unit on other institutional units should not be netted out, individually or at a sectoral level, against the liabilities to those same institutional units or sectors.[8] However, acquisitions and disposals of a specific category of financial instruments are presented on a net basis.

IV. Monetary Statistics and International Financial Reporting Standards

A. Overview

2.45 The basic source data for monetary statistics are the FCs' accounting and regulatory records (balance sheets, subsidiary ledgers, etc.). These records reflect the national (or international) accounting, supervisory, and taxation frameworks and, as a result, have a different structure than monetary statistics. The task of the monetary statistics compiler is to adapt the accounting records for their use in monetary statistics. The structures of the sectoral balance sheets[9] and analytical surveys indicate the type and the detail of information required to accomplish this task.

2.46 The international accounting and reporting principles are covered in the IFRSs issued by the International Accounting Standards Board (IASB).[10] Accounting principles that have been imposed by national law or regulation are called the *national financial reporting standards* of a country.[11] With increasing globalization of financial markets, many countries have adopted the IFRSs, or have been harmonizing their national financial reporting standards with the IFRSs. This *Manual* refers to the IFRSs to illustrate the relationship between FCs' accounting data and the source data for the monetary and financial statistics.

2.47 The IFRSs and the methodology for the monetary and financial statistics contain similarities, but also some differences in concepts and terminology. The differences require that reporters of the source data and compilers of monetary statistics be familiar with both sets of standards. This would facilitate the conversion of IFRSs-based accounts for their use in monetary statistics.

2.48 The balance sheets within the financial statements, as specified in the IFRSs, and the balance sheets used in monetary and financial statistics have many characteristics in common. In both cases, the balance sheet data and flows are compiled through double-entry accounting, the accrual principle is used in accounting, and market or fair valuation is the basic principle for recording assets and liabilities.[12] As in the IFRSs, the valuation principles and other accounting rules for monetary and financial statistics are based on the treatment of institutional units as going concerns.

2.49 The main differences between the IFRSs and the methodology in this *Manual* stem from their objective and focus. The IFRSs focus on the accounts and other information for the preparation and dissemination of financial statements of a reporting entity. According to the IASB's *Conceptual Framework for Financial Reporting,* the objective of financial reporting is to provide financial information about the reporting entity that is useful to a wide range of users in making economic decisions. Monetary and financial statistics record stocks and flows of financial assets and liabilities between all sectors of the economy and between the sectors of the economy and nonresidents, with a particular focus on the economic relationship between the FCs sector and other institutional sectors

[8] Exceptions to the general rule may arise due to special circumstances or unavailability of data on a gross basis, such as derivative contracts settled on a net basis.

[9] Sectoral balance sheets also cover flows when economic flows are compiled for monetary statistics.

[10] See Box 2.1.

[11] Depending on the country, the standards may be referred to as financial reporting standards, accounting standards, or generally accepted accounting principles.

[12] In the IFRSs, fair value is the default basis for initial recognition but not for subsequent measurement.

Box 2.1 International Financial Reporting Standards

The International Financial Reporting Standards (IFRSs) issued by the International Accounting Standards Board (IASB) cover the relevant international accounting and reporting principles for preparing general purpose financial statements. The IASB is the independent standard-setting body of the IFRS Foundation.[1] Its members, appointed by the Trustees, are responsible for the development and publication of IFRSs[2] and for approving *Interpretations of IFRSs* as developed by the IFRS Interpretations Committee (IFRIC, formerly called the Standards Interpretations Committee, SIC). The IASB, and this *Manual*, uses the term IFRSs in a collective sense to encompass the *Conceptual Framework for Financial Reporting*, all issued individual IFRSs, International Accounting Standards (IASs),[3] IFRICs,[4] and SICs.[5] These include the *Implementation Guidance* (*IG*), *Illustrative Examples* (*IE*), and *Basis of Conclusions* for individual standards.

This *Manual* refers to the IFRSs to illustrate the impact of IFRS-based financial reporting on source data for monetary and financial statistics. This involves highlighting similarities and differences in methodology and terminology between financial corporations' IFRS-based information systems and the source data for the monetary and financial statistics.

The IFRSs referenced in this *Manual* are those available for application on January 1, 2015, as published in the *2015 International Financial Reporting Standards–Consolidated without early application* and in the *2015 International Financial Reporting Standards*, which include IFRSs 1 through 13; IAS 1 through IAS 41 (excluding IAS 3 through IAS 6, IAS 9, IAS 13, IAS 14, IAS 15, IAS 22, IAS 25, IAS 30, IAS 31, and IAS 35, which have been superseded by other Standards); IFRICs 1–2, 4–7, 9, 10, 12–21; and SICs 7, 10, 15, 25, 27, 29, 31–32.

The IFRSs focus on the data and other information for the preparation and dissemination of financial statements. The *Conceptual Framework for Financial Reporting* (paragraph OB2) states:

> The objective of general purpose financial reporting is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity.

The financial statements are listed in IAS 1.10:

> A complete set of financial statements comprises:
>
> (a) a statement of financial position as at the end of the period
>
> (b) a statement of profit and loss and other comprehensive income for the period
>
> (c) a statement of changes in equity for the period
>
> (d) a statement of cash flows for the period
>
> (e) notes, comprising a summary of significant accounting policies and other explanatory information; (ea) comparative information in respect of the preceding period
>
> (f) a statement of financial position as at the beginning of the preceding period when an entity applies an accounting policy retrospectively or makes a retrospective restatement of items in its financial statements, or when it reclassifies items in its financial statements …

---

[1] For additional information on the IASB and a chronology of IASB activities since 2001, see www.ifrs.org.

[2] See www.ifrs.org/How-we-develop-standards/Pages/How-we-develop-standards.aspx.

[3] IASs are IFRSs that were created by the predecessor body of the IASB, and were adopted by the IASB when it took over in 2001 and, therefore, form part of the body of the IFRS requirements.

[4] IFRICs are the official interpretations of the IFRSs.

[5] SICs are the official interpretations of the IASs.

through macroeconomic aggregates such as broad money, domestic credit, and liquidity.

B. Terminology

2.50 In the IFRSs, the original entry of an asset or liability into the balance-sheet accounts is called the *initial recognition* of the asset or liability. *Revaluation* of an asset or liability, as defined for the monetary and financial statistics, is termed *subsequent measurement* of the asset or liability in the IFRSs. In the IFRSs, the equity of an enterprise is classified separately from its liabilities, whereas the equity account is designated as equity liability in the monetary and financial statistics (consistent with the *2008 SNA* framework). *Provisions for losses on assets,* discussed in Chapters 4 and 5 of this *Manual,* are referred to as *allowances for losses on impaired assets* in the IFRSs.

2.51 In this *Manual*, *fair value* is a *market-equivalent value* and is an estimated value that is used when a market price for a financial asset or liability is unavailable. In the IFRSs, the concept of *fair value* encompasses both market values based on price quotations in active markets and fair values that, in the absence of market price quotations, are estimated to approximate market values.

2.52 For monetary statistics, several categories of financial assets and liabilities are recorded at *nominal value*, a concept that does not appear in the IFRSs. The counterpart in the IFRSs is valuation at *amortized cost* (amount advanced originally plus all accrued but not paid interest, less any repayment of principal, less any allowance for impairment or non-collectability), which is not fully consistent with nominal value. This is because the valuation at amortized cost reduces the value of an asset by the amount of the allowance for impairment or non-collectability.

C. Sectoring

2.53 In this *Manual*, stocks and flows for FCs need to be disaggregated by counterpart sector/subsector as follows: central bank, ODCs, OFCs, central government, state and local government, PNFCs, other NFCs, households and NPISHs, and nonresidents. Sectoral disaggregation is not specified in the IFRSs.

2.54 For counterpart sector classification, compilers may need to request more detailed information from FCs. The general and subsidiary ledgers usually contain a hierarchy of accounts that correspond to all types of data disaggregation needed for sectoral balance sheets, assets and liabilities subdivided by economic sector of debtor/creditor.

D. Presentation, Classification, and Valuation of Financial Instruments

2.55 The presentation of assets and liabilities is standardized in monetary statistics. By contrast, the IFRS guidance is not prescriptive with regard to the presentation of assets and liabilities on the balance sheet. For example, under the IFRSs assets and liabilities can be presented in the following ways: order of liquidity, expected date of realization of assets and liabilities, and current and non-current liabilities.[13] However, the order of presentation of assets and liabilities under the IFRSs is unlikely to be materially affected by the approach taken.

2.56 As compared with the valuation methodology for financial assets and liabilities in monetary statistics shown in Table 2.2, the IFRSs have a separate set of classifications and measurement rules on the basis of an enterprise's motivations for acquiring the financial assets, either for trading or for holding to maturity. For example, securities that are classified as held-for-trading are measured at *fair value through profit and loss* reflecting market prices. Securities classified as held-to-maturity are measured at amortized cost in the IFRSs.

2.57 To obtain source data for monetary and financial statistics, some components of the data based on IFRSs or national financial reporting standards need to be adjusted as follows:

a. Debt securities valued at amortized cost need to be restated at market or fair value.[14] The market value replaces the amortized cost in the recording of the outstanding amount of the securities and a contra-entry in the amount of the difference between the fair value and the amortized

[13] See *IAS 1—Presentation of Financial Statements*. Although IAS 1 does not prescribe the order or format in which an entity presents balance sheet items, IFRSs emphasize fair presentation of financial statements, which is to present information, including accounting policies, in a manner that provides relevant, reliable, comparable, and understandable information (IAS 1, paragraph 17). IFRSs also require consistency of the presentation and classification of items from one period to the next (IAS 1, paragraph 45).

[14] IFRSs annual financial statements require disclosure of fair value amounts in the notes to the accounts.

cost (positive for a gain, and negative for a loss) is recorded in monetary statistics in *Equity liability [MS]* as a valuation adjustment.

b. For monetary statistics, holdings of equity shares valued at amortized cost need to be restated at market or fair value. No adjustment is needed for liabilities in the form of equity, as these are measured at book value. For financial statistics, the adjustment to market or fair value applies to both assets and liabilities in the form of equity.

c. Loans valued at market or fair value in accordance with the IFRSs' guidelines need to be restated at nominal value, and a contra-entry (amounting to the positive or negative difference between the nominal value and the fair value of the loan) would need to be recorded in *Equity liability [MS]* as a valuation adjustment.

2.58 In the IFRSs, specific rules apply for the recording of gains or losses due to revaluations, either through recording in the profit-or-loss accounts (wherein gains are recorded as income and losses as expenses) or directly in equity. The recording prescribed by IFRSs or by the national financial reporting standards maybe in the *Current year result* (profit-or-loss accounts) or *Valuation adjustment*. In the methodology of this *Manual*, revaluation is based on the valuation rules in Table 2.2. Revaluations (within a reporting period) for each asset and liability need to be recorded separately in the revaluation account.[15] For monetary statistics, the contra-entry for a gain or loss arising from asset/liability revaluation is to be recorded in *Equity liability [MS]* given that both *Current year result* and *Valuation adjustment* are components of *Equity liability [MS]*.

2.59 The IFRSs and most national financial reporting standards follow the accrual accounting principle, but many of these standards do not require that the accrued interest should be included in the outstanding amounts of the underlying financial assets or liabilities. In using FCs' accounting records as source data for the monetary and financial statistics, converting these data to the methodology of this *Manual* requires that accrued interest recorded in *Other accounts receivable/payable* be reclassified as part of the outstanding amounts of the underlying financial asset or liability.

E. Time of Recording

2.60 In monetary and financial statistics, debtor and creditor records should agree in amount and time of recording of stocks and transactions. These issues are not prominent in the IFRSs, which focus on the financial records of a reporting entity.

2.61 For monetary and financial statistics, transactions in financial assets are recorded on the trade date (i.e., the time of change in economic ownership of a financial asset) rather than on the settlement date (i.e., the time of delivery of the financial asset). If settlement of a financial transaction occurs after the ownership has changed, this gives rise to accounts receivable/payable. In the IFRSs, an entity can record transactions in financial assets on the trade dates or the settlement dates (IAS 39.38 and IFRS 9,[16] paragraph 3.1.2). For compiling monetary and financial statistics, adjustment to a transaction-date basis should be made for transactions that are recorded on a settlement-date basis but for which settlement does not take place until the next reporting period.

F. Loans on a Gross or Net Basis

2.62 The IFRSs and monetary statistics recognize that the realizable value of loans may change due to NPLs. However, they report provisions for NPLs differently.

2.63 In the IFRSs, loan asset values are directly adjusted for impairment based on objective evidence, or are presented as the carrying amount of loans (gross) *less* allowances for loan losses. In monetary statistics, loan asset values are presented on a gross basis at nominal value, with provisions for losses on assets classified as liabilities (see paragraph 2.32). Data on expected loan losses are included as memorandum items to the sectoral balance sheets to ensure that the realizable values of loans can be calculated.

G. Periodicity and Timeliness

2.64 IFRSs require a presentation of financial statements at least annually (IAS 1.36) and encourage publicly traded entities to provide interim financial reports at least as of the end of the first half of their

[15] Valuation changes and the other two major categories of flow data—transactions and OCVA—in monetary statistics are discussed in Chapters 5 and 7 (monetary statistics) and Chapter 8 (financial statistics).

[16] IFRS 9 was introduced in January 2015 to ultimately replace IAS 39 in its entirety by January 2018, after a three-year transition period.

financial year and not later than 60 days after the end of the interim period (IAS 34.1). Timely preparation of annual financial statements is specified as within six months after the reference date/period—a much longer time-lag than is deemed appropriate for the reporting of monetary statistics.

2.65 The source data for monetary statistics are normally reported by DCs on a monthly basis, within four to six weeks after the end of the reference month. Depending on the country, OFCs report on a monthly or quarterly basis, with a time-lag varying between one and four months. These frequency and timeliness compare favorably with the standards for financial statement preparation in the IFRSs and are adequate for compiling monetary statistics.

2.66 The recommendations of this *Manual* for the periodicity and timeliness of *monetary statistics* are as follows:

a. Reporting of source data and compilation of the CBS, ODCS, and DCS on a monthly basis with a time lag of one–two months.

b. Reporting of source data and compilation of the OFCS on a monthly or quarterly basis with a time lag of one–three months or three–four months, respectively.

c. Compilation of the FCS on a monthly or quarterly basis, depending on whether the OFCS is compiled on a monthly or quarterly basis, with a time lag of one–three months or three–four months, respectively.

2.67 Most countries have long-standing experience with the compilation of balance-sheet (stocks) data for the central bank and ODCs on a monthly basis.[17] Some countries currently compile balance-sheet data for some or all categories of OFCs on a quarterly or annual basis or, for some countries, on a monthly basis.

2.68 Reporting of source data and compilation of financial statistics on a quarterly or annual basis depends on the periodicity of the data reporting and compilation of the current accounts and the capital account of the national accounts statistics. Compilation of the financial statistics on a quarterly basis is applicable to countries that have quarterly data for current accounts and the capital account of their national accounts statistics, or are currently working on migration from annual to quarterly national accounts statistics.

2.69 As a general recommendation, this *Manual* follows the practice of most countries, which requires DCs to provide monthly source data to the compilers of monetary statistics within the month immediately following the reference month for the data. A longer time-lag may be required for the reporting of quarterly data for the OFCs' subsector in the monetary statistics, and for the reporting of quarterly or annual data for financial statistics.

[17] In many countries, DCs are required to report additional data on a daily, weekly, or bi-weekly basis. Such data, though important for economic policy formulation in some countries, are outside the scope of the monetary statistics as defined in this *Manual*.

3 Institutional Units and Sectors

I. Introduction

3.1 Chapter 3 identifies institutional units and groups them into institutional sectors based on their economic objectives, functions, and behavior. The chapter focuses on the role of institutional units as holders and issuers of financial assets and the classification and sectoring of their accounts for compiling monetary and financial statistics. The definition of institutional units and their classification into sectors follow closely the *System of National Accounts 2008* (*2008 SNA*), the sixth edition of the *Balance of Payments and International Investment Position Manual* (*BPM6*), and the *Government Finance Statistics Manual 2014* (*GFSM 2014*). In addition, this chapter expands on issues that are relevant for compilers of monetary statistics and discusses special cases where sectoring is not straightforward.

3.2 The chapter first presents the concept and characteristics of institutional units, and the two main types of units that may qualify as institutional units. The chapter focuses then on the concept of residence, which is used to establish the economic boundary for compiling monetary and financial statistics, determining the foreign/domestic breakdown of assets and liabilities of the financial corporations (FCs). Finally, the classification of resident institutional units into institutional sectors and subsectors allows the presentation of the FCs' claims on and liabilities to the different sectors of the domestic economy. This sectoring is one of the foundations for constructing the analytical aggregates on broad money and credit described in Chapter 6.

II. Institutional Units

3.3 ***An institutional unit is an economic entity that is capable, in its own right, of owning assets, incurring liabilities and engaging in economic activities and in transactions with other entities.***

3.4 The following are the four main attributes of institutional units: (1) they are entitled to own goods or assets in their own right; (2) they are able to take economic decisions and engage in economic activities; (3) they are able to incur liabilities on their own behalf; and (4) they either have a complete set of accounts, including a balance sheet of assets and liabilities, or it would be possible and meaningful to compile such a set of accounts, if required.

3.5 Institutional units, as owners of financial assets and issuers of liabilities, constitute the structural building blocks for monetary and financial statistics. They own financial assets and incur liabilities.

3.6 Two main types of units may qualify as institutional units: persons or group of persons in the form of households, and legal or social entities.

A. Households

3.7 ***A household is a group of persons who share the same living accommodation, pool some, or all, of their income and wealth and consume certain types of goods and services collectively, mainly housing and food.***

3.8 A household may consist of an individual or more than one person. Special cases of groups of persons who stay together for a very long or indefinite period of time (institutional households) are described in the section on institutional sectors (see paragraph 3.261).

3.9 Many assets are owned, or liabilities incurred, jointly by two or more members of the same household, while the income of individuals may be pooled for the benefit of all members. Many expenditure decisions, especially those relating to the consumption of food, or housing, may be made collectively for the household as a whole. It is meaningful to compile transactions accounts or balance sheets for the entire household unit, and not for individuals belonging to the same household. The individual members of

multi-person households are not, therefore, treated as separate institutional units, but the household as a whole is treated as one institutional unit.

3.10 Production activities undertaken by households—such as production and selling of goods and services—are treated as an integral part of the households, unless legal or social entities are created separately from the households, such as those that satisfy the criteria to be considered quasi-corporations (see paragraphs 3.18–3.20).

B. Legal or Social Entities

3.11 The second type of institutional unit is a legal or social entity that engages in economic activities and transactions in its own right. ***A legal or social entity is one whose existence is recognized by law or society independently of the persons, or other entities, that may own or control it.*** Such units are responsible and accountable for the economic decisions or actions they take, although their autonomy may be constrained to some extent by other institutional units.

3.12 Three categories of legal or social entities constituting institutional units can be identified: (1) corporations, (2) nonprofit institutions (NPIs), and (3) government units. The status of an institutional unit cannot always be inferred from its name, and it is necessary to examine its economic objectives, functions, and behavior.

Corporations

3.13 ***Corporations are entities capable of generating a profit or other financial gain for their owners, are recognized by law as separate legal entities from their owners, and are set up for purposes of engaging in market production.*** In macroeconomic statistics, the term *corporation* is used more broadly than in just a legal sense. It covers legally constituted corporations, but also includes cooperatives, limited liability partnerships, notional resident units, and quasi-corporations. The key to classifying a unit as a corporation in macroeconomic statistics is not its legal status but rather the economic nature of the entity.

Types of corporations

Legally constituted corporations

3.14 ***A legally constituted corporation is a legal entity, created for the purpose of producing goods or services for the market, which may be a source of profit or other financial gain to its owner(s). It is collectively owned by shareholders who have the authority to appoint directors responsible for its general management.***

3.15 In macroeconomic statistics, the term *corporation* is not necessarily used in the same way as in the legal sense. Some NPIs and government units have the legal status of a corporation, but are not considered corporations for the purposes of macroeconomic statistics. The key to classifying a unit as a corporation in macroeconomic statistics is the notion of being a market producer. Of particular importance is the characteristic to produce goods and services for the market at economically significant prices, as explained in paragraph 3.42, as well as the potential to be a source of profit or other financial gain to the owner(s).

Cooperatives, partnerships, etc.

3.16 Cooperatives are set up by producers for purposes of marketing their collective output. The profits of such cooperatives are distributed in accordance with their agreed rules and not necessarily in proportion to shares held, but effectively they operate like corporations.

3.17 Partnerships whose members enjoy limited liability, or not, are separate legal entities that behave like corporations. In effect, the partners are at the same time both shareholders and managers.

Quasi-corporations

3.18 ***Quasi-corporations are unincorporated enterprises that function in all (or almost all) respects as if they were incorporated.*** For purposes of sectoring and subsectoring, they are treated as institutional units (corporations) separate from the units that own them.

3.19 For a quasi-corporation to exist, it must be possible to develop a full set of accounts, including balance sheets, to distinguish it from its owners. The business-related assets and liabilities of the quasi-corporation must be separate from the personal assets and liabilities of its owners. Moreover, it must be possible to identify flows of capital and income occurring between the quasi-corporation and its owners. The intent is to separate from their owners those unincorporated enterprises that are sufficiently self-contained and independent that they behave in the same way as corporations.

Included are unincorporated enterprises owned by a nonresident institutional unit that is deemed to be a resident institutional unit because it engages in a significant amount of production in the economic territory over a long or indefinite period of time.

3.20 The three main kinds of quasi-corporations are: (1) unincorporated enterprises owned by government units engaged in market production and operated in a similar way as publicly owned corporations; (2) unincorporated enterprises, including unincorporated partnerships or trusts, owned by households that are operated as if they were privately owned corporations; and (3) unincorporated enterprises that belong to institutional units resident abroad, referred to as "branches."

Ownership and control of corporations

3.21 ***Control of a corporation is the ability to determine the general corporate policy of the corporation.*** The ownership of a listed corporation is diffused among the institutional units that own its shares. An institutional unit owning more than a half of the voting shares, or equity, of a corporation is able to control its policy and operations. There may be exceptional cases in which certain shareholders enjoy privileged voting rights, such as a "golden share" giving a right to veto. Effective control may also be exercised with less than 50 percent ownership, depending on the corporation's structure and the diffusion of ownership. However, it is not possible to stipulate a minimum below 50 percent that will guarantee control in all cases.[1]

Subsidiary and associate corporations

3.22 ***A corporation is a subsidiary of another corporation when the latter is able to exercise control over the former either by control of more than half of the shareholders' voting power or the right to appoint or remove a majority of the directors.***

3.23 ***A corporation is an associate of another corporation when the latter is able to exercise a significant degree of influence over the former, but not control.***

Groups of corporations

3.24 Large groups of corporations, or *conglomerates*, may be created whereby a parent corporation controls several subsidiaries, some of which may control subsidiaries of their own. Even if for certain purposes it may be desirable to have information on the group as a whole, each individual corporation should be treated as a separate institutional unit. Conglomerates owning subsidiaries or branches in other countries are usually described as multinational corporations.

Government control of corporations

3.25 ***A corporation is a public corporation if a government unit, another public corporation, or some combination of government units and public corporations control the entity.*** The ability to determine general corporate policy does not necessarily include the direct control of the day-to-day activities or operations of a particular corporation.

3.26 In determining control by government,[2] the following indicators will be the most important factors to consider: (1) ownership of the majority of the voting interest; (2) control of the board or other governing body; (3) control of the appointment and removal of key personnel; (4) control of key committees of the entity; (5) golden shares and options; (6) regulation and control; (7) control by a dominant public sector customer or group of public sector customers; and (8) control attached to borrowing from the government.

Control by a nonresident unit

3.27 In general, a nonresident unit controls a resident corporation if the nonresident unit owns more than 50 percent of the equity of the corporation. Branches of nonresident corporations are always under foreign control. Control may also be possible with a holding of less than half the equity if the nonresident unit can exercise some of the powers described in the previous paragraph indicating possible control.

Special cases

Head offices and holding companies[3]

3.28 Two different types of units exist that are often referred to as holding companies.

[1] For exceptional cases where control of a corporation can be achieved with less than half of the voting power, see *2008 SNA*, paragraphs 4.69–4.71.

[2] For more details see *GFMS 2014*, Box 2.2, Government Control of Corporations.

[3] For the definition and delineation of head offices and holding companies see the European Central Bank's and United Nations' handbook on *Financial Production, Flows and Stocks in the System of National Accounts*, Box 2.1 and Box 2.2.

3.29 The first is the head office that exercises some aspects of managerial control over its subsidiaries. These may sometimes have noticeably fewer employees, and more at a senior level, than its subsidiaries. These units are allocated to the nonfinancial corporations (NFCs) sector, unless all or most of their subsidiaries are FCs, in which case they are treated by convention as financial auxiliaries.

3.30 The type of unit properly called a holding company is a unit that holds the assets of subsidiary corporations but does not undertake any management activities. These units are captive financial institutions and are always allocated to the FCs sector, even if all the subsidiary corporations are NFCs.

Special purpose entities (SPEs)

3.31 SPEs are typically created to carry out a single, well-defined specific activity. Usually, they are created to raise funds in open markets to be used by their parent corporations or government, hold and manage wealth for individuals or families, and/or issue debt securities on behalf of related companies or government units. Although there is no common definition of SPEs, they share some of the characteristics described below.

3.32 Often, SPEs have no employees and no or very little nonfinancial assets, and are sometimes referred to as "brass plate companies," or "shell companies." They may have little physical presence beyond a "brass plate" confirming their place of registration. They are always related to another corporation or government unit, and are often resident in a territory other than the territory of residence of the related corporation or government unit. In the absence of any physical dimension to an enterprise, their residence is determined by the territory of incorporation or registration.

3.33 SPEs are commonly managed by employees of another corporation or government unit, which may or may not be a related one. The unit pays fees for services rendered to it and in turn charges its parent or other related corporation a fee to cover these costs.

3.34 Independent of the specific characteristics and denominations, units described as SPEs are allocated to sector and industry according to its principal activity, unless they fall into one of these three categories: (1) captive financial institutions; (2) artificial subsidiaries of corporations; and (3) special purpose units of general government.

3.35 A resident SPE that raises funds in open markets to be used by its parent corporation is one example of a *captive financial institution* (see also paragraph 3.185). Another example of a SPEs is a holding company that simply holds the assets (owning controlling-levels of equity) of its subsidiaries and whose principal activity is to own the group (see paragraphs 3.30 and 3.182). Other units also treated as captive financial institutions are units with characteristics of SPEs used for holding and managing wealth for individuals or families and issuing debt securities on behalf of related companies.

3.36 Artificial subsidiaries of corporations are legal entities that cannot act independently and are simply passive holders of assets and liabilities. A subsidiary corporation, wholly owned by a parent corporation, may be created to provide services to the parent corporation or other corporations in the same group, often for tax purposes or to minimize liabilities in the event of bankruptcy. In general, these corporations do not satisfy the criteria to be institutional units. They are thus not treated as separate institutional units, but as an integral part of the parent corporation or government unit, and their accounts are consolidated with those of the parent's unless they are resident in an economy different from that where the parent is resident. All nonresident artificial subsidiaries are treated as separate institutional units resident in the economy where they are established.

3.37 A distinction must be made between artificial subsidiaries and a unit undertaking only ancillary activities, which are limited in scope to the type of service functions that virtually all enterprises need to some extent (cleaning premises, running staff payroll, etc.). Like artificial subsidiaries, units undertaking only ancillary activities will in general not satisfy the condition of being an institutional unit.

3.38 General government may also set up units with characteristics and functions of artificial subsidiaries. Often, such special purpose units of general government (see also paragraphs 3.241–3.243) do not have the power to act independently, are restricted in the range of transactions they can engage in, and do not bear the risks and rewards associated with the management of the assets they hold. These units do not

satisfy the criteria to be an institutional unit in macroeconomic statistics. If they are resident units, they are treated as an integral part of the general government subsector that has established them and not as separate units. If they are nonresident, they are treated as separate institutional units resident in the economy where they are established, but the fiscal activities they carry out are reflected in the accounts of the government that controls them.

Nonprofit institutions (NPIs)

3.39 ***NPIs are legal or social entities created for the purpose of producing or distributing goods and services, but they cannot be a source of income, profit, or other financial gain for the institutional units that establish, control, or finance them.***

3.40 The motives leading other institutional units—whether households, corporations, or government—to create NPIs include: (1) to provide services for the benefit of the households or corporations that control or finance them; (2) to provide goods or services to other persons in need for charitable, philanthropic, or welfare reasons; (3) to provide health or education services for a fee, but not for profit; and (4) to promote the interest of pressure groups in business or politics.

3.41 The distinction between NPIs engaged in market production and NPIs engaged in nonmarket production is used in determining the sector of the economy where an NPI is classified.

NPIs engaged in market production

3.42 Although they are not a source of profit to other institutional units, NPIs can be market producers if they provide services for which they charge economically significant prices. ***Economically significant prices are prices that have a significant effect on the amounts that producers are willing to supply and on the amounts purchasers wish to buy***.[4] NPIs engaged in market production sell their output at prices that are economically significant, but any surpluses generated cannot be appropriated by other institutional units, including those that control or manage them.

3.43 NPIs engaged in market production are classified as corporations. Schools, colleges, universities, clinics, or hospitals constituted as NPIs are market producers when they charge fees for their services that are based on production costs and are economically significant. Also treated as market producers are NPIs that, because of their status, are able to raise additional funds from donations by households, corporations, or governments, but still charge economically significant prices for their goods and services.

3.44 Other market NPIs restrict their activities to serving a particular subset of other market producers. Such NPIs are created by associations of the enterprises whose interests they promote. They include chambers of commerce, agricultural, manufacturing, or trade associations, employers' organizations, research and testing laboratories, or other organizations or institutes engaged in activities that are of mutual interest or benefit to the group of businesses that control and finance them. These NPIs are financed by contributions or subscriptions from the group of enterprises concerned. The subscriptions are treated not as transfers but as payments for services rendered and these NPIs are, therefore, classified as market producers (corporations).

NPIs engaged in nonmarket production

3.45 The majority of NPIs in most countries are nonmarket producers that provide most of their output free or at prices that are not economically significant. NPIs engaged mainly in nonmarket production fall into two main groups: (1) those NPIs controlled by government; and (2) those NPIs that are not. The latter group is the NPIs serving households (NPISHs) which constitute a separate sector of the economy.

3.46 Nonmarket NPIs that are controlled by government are included in the general government sector. NPIs are considered to be controlled by government[5] when: (1) the government has the right to appoint the officers managing the NPI; (2) other provisions exist enabling the government to determine significant aspects of the policy or program of the NPI; (3) a contractual agreement exists between a government and an NPI allowing the government to determine key aspects of the NPI's general policy; (4) an NPI is financed mainly by the government; or (5) a government is exposed to all, or a large proportion of, the financial risks associated with the NPI's activities.

[4] For a more detailed discussion of economically significant prices, see paragraphs 3.206–3.210.

[5] For more details see *GFSM 2014*, Box 2.1, Government Control of Nonprofit Institutions.

3.47 Such government-controlled NPIs may engage in research and development, for example, for the benefit of producers, such as farmers. They may also be concerned with the setting or maintenance of standards for health, safety, the environment, accounting, finance, education, etc. Government-controlled NPIs are allocated to the general government sector, regardless of the types of institutional units that mainly benefit from their activities. Certain entities legally constituted as corporations by government units may have the characteristics of nonmarket NPIs controlled and mainly financed by government. Such entities should be treated as general government units whatever their names.

3.48 NPISHs consist of nonmarket NPIs that are not controlled by government. They provide goods and services to households free or at prices that are not economically significant.

Government units

3.49 Government units are unique kinds of legal entities established by political processes that have legislative, judicial, or executive authority over other institutional units within a given area. Their principal economic functions are to: (1) assume responsibility for the provision of goods and services to the community or individual households primarily on a nonmarket basis; (2) redistribute income and wealth by means of transfer payments; (3) engage primarily in nonmarket production; and (4) finance their activities primarily out of taxation or other compulsory transfers.

3.50 Government units may control unincorporated enterprises engaged in the production of market goods and services. If these enterprises are managed in a way similar to a corporation, with their own set of accounts, they are treated as quasi-corporations. Unincorporated enterprises owned by a government unit that are not quasi-corporations remain an integral part of these units and so are included in the general government sector.

III. Residence

3.51 The concept and coverage of residence for monetary and financial statistics are identical to those in the *2008 SNA* and *BPM6*. The delineation between resident and nonresident units facilitates the estimation of the external position of the FCs sector. The key concepts for defining the residence of an institutional unit are *economic territory* and *center of predominant economic interest*. Residence is not based on nationality of the account holder, nor on the currency of denomination of accounts.

A. Economic Territory

3.52 An economic territory can be any geographic area or jurisdiction for which statistics are required. The most commonly used concept of economic territory is the area under the effective economic control of a single government. It includes special zones.[6] The connection of entities to a particular economic territory is determined from aspects such as physical presence and being subject to the jurisdiction of the government of the territory. Economic territory may be larger or smaller than the physical or political borders of a country, for example a currency or economic union, or part of a country.

3.53 The economic territory includes: (1) the land area; (2) airspace; (3) territorial waters, including areas over which jurisdiction is exercised over fishing rights and rights to fuel or minerals; (4) in maritime territory, islands that belong to the territory; and (5) territorial enclaves in the rest of the world, such as embassies, consulates, military bases, scientific stations, information and immigration offices, aid agencies, and central bank representative offices with diplomatic status.

3.54 Economic territory has the dimensions of physical location, as well as legal jurisdiction, so that corporations created under the law are part of that economy. The concepts of economic territory and residence are designed to ensure that each institutional unit is a resident in one economic territory, determined by its center of predominant economic interest. Exceptions may be made for multi-territory enterprises, as explained later in this chapter.

B. Residence of Institutional Units

3.55 ***The residence of each institutional unit is the economic territory with which it has the strongest connection, expressed as its center of predominant economic interest.***

3.56 An institutional unit has a center of predominant economic interest in an economic territory when there

[6] For the government's own statistical needs, data on activities in these zones may be excluded or shown separately.

exists, within the economic territory, some location, dwelling, place of production, or other premises on which or from which the unit engages and intends to continue engaging, either indefinitely or over a finite but long period of time, in economic activities and transactions on a significant scale. Actual or intended location for one year or more is used as an operational definition. Although the choice of a specific period of time is somewhat arbitrary, it is adopted in *BPM6* (see paragraph 4.114) to avoid uncertainty and facilitate international consistency.

Resident units

3.57 ***An institutional unit is considered a resident of an economy if it has already engaged in economic activities and transactions on a significant scale in the territory for one year or more, or if it intends to do so.***

3.58 A household is a resident in the economic territory in which the household members maintain or intend to maintain a dwelling or succession of dwellings treated and used by members of the household as their principal dwelling. The residence of individual persons is determined by that of the household of which they form part and not by their place of work. All members of the same household have the same residence as the household itself, even though they may cross borders to work or otherwise spend periods of time abroad (see also paragraphs 3.62–3.63).

3.59 Corporations and NPIs usually may be expected to have a center of predominant economic interest in the economy in which they are legally constituted and registered. Corporations may be resident in economies different from their shareholders, and subsidiaries may be resident in different economies from their parent corporations. As a general principle, an enterprise is resident in an economic territory when it is engaged in a significant amount of production of goods or services from a location in the territory. They must maintain at least one production establishment in the territory and plan to operate it indefinitely or over a long period of time (usually one year or more). Additional factors to consider are the maintenance of a set of accounts covering local productive activities, and being subject to the income tax system in the economy in which it is located. Unincorporated enterprises that are not quasi-corporations are not separate institutional units from their owners and, therefore, have the same residence as their owners. When a nonresident unit has substantial operations over a significant period in an economic territory, but no separate legal entity for those operations, a branch may be identified as an institutional unit.

3.60 When a nonresident has ownership of immovable assets such as land, structures, or natural resources other than land, the assets are deemed to be owned by a notional resident institutional unit in the economy of location. All land, structures, and natural resources other than land are, therefore, owned by residents. The legal owner is deemed to hold equivalent equity in the notional resident unit.

3.61 Apart from these general definitions, there are special cases in which individuals or institutional units should be considered residents of the territory, and their accounts with FCs incorporated in the domestic assets and liabilities of those FCs.

Cross-border workers

3.62 Individuals who cross international borders to work remain residents of their home territories. In some cases, these workers regularly cross the frontier (daily or weekly) to work in a neighboring country. Also included as residents in home countries are seasonal workers, who cross the border for particular periods, such as the harvest or tourist season to attend a place of employment and then return to their households. Other short-term employment may occur for a particular task, such as construction projects, repairs, delivery of advice, and so on. In each case, the residence of the concerned person is based on the principal dwelling, rather than the territory of employment.

3.63 If these workers engage in substantial and sustained economic activity abroad; earn income, consume, and maintain regular residence abroad; and return only briefly or infrequently to their original household, they cease to be considered a member of the household in their home territory and, therefore, are no longer resident in the economy where the household is located. In this case, these individuals have a center of predominant economic interest where they work and consume.

Highly mobile individuals

3.64 Some individuals have close connections with two or more territories; they may have dwellings in

more than one territory where they spend a significant amount of time. For individuals who do not have continuous actual or intended presence in any one territory for one year, the territory of the principal dwelling they maintain is the key consideration.

Staff of international organizations and technical assistance personnel

3.65 Although international organizations (see paragraph 3.98) are, by definition, resident in an economic territory of their own (that is, nonresidents of the country where they are physically located), employees of these organizations are residents of the local economies where they have their principal dwelling.

3.66 Technical assistance personnel on long-term (more than one year) assignment should be treated as residents of the countries where they work. Employees of international organizations on long-term assignment in a country different from the location of the headquarters of the organization are residents of the country where they perform their duties. If the assignment is shorter than one year, they are considered residents of the economy in which they reside on a longer-term basis.

Locally recruited staff of diplomatic representations

3.67 Locally recruited staff of embassies and other diplomatic representations continue to have their center of predominant economic interest in the country where they live and in which the embassy (or representation) is located.

Crew members of ships, aircrafts, or similar equipment

3.68 Crew members of ships, aircrafts, oil rigs, space stations, or other similar equipment that operate outside a territory or across several territories continue to be residents of the economies where they have their principal dwelling (even if they are outside their home-base territory for long periods of time) and not of the economies in which they stop or layover but are not living.

Refugees

3.69 The residence of refugees will change from their home territory to the territory of refuge, if they have stayed or intend to stay in their place of refuge for one year or more, even if that residence is involuntary or transient, and its future status is unclear.

General government

3.70 General government includes territorial enclaves, such as embassies, consulates, military bases, scientific stations, information or immigration offices, aid agencies, and other enclaves of governments in host territories with diplomatic status. Usually, these operations are not separate institutional units, but even if they were, they are residents of their home territory, rather than the host territory where they are physically located. However, an entity created by a government under the laws and jurisdiction of the host territory is a corporation resident in the host economy, and not part of the general government sector in either economy.

Subsidiaries or branches of multinational conglomerates

3.71 Subsidiaries of a multinational corporation should be treated as units separate from the parent company, because they meet the definition of an institutional unit, and, therefore, are residents of the economy where they operate. Branches of a multinational corporation should be treated as units separate from the parent company when resident in another economy.

Construction projects

3.72 Construction companies operating in a foreign territory (for instance, for the construction of major projects like roads or dams) may be managed through a branch or local office in the economy where the project is undertaken. Although the branch or local office may have no separate legal identity, it may, nevertheless, be treated as a quasi-corporation and resident of the territory where the project is located. This is applicable particularly to large-scale projects with completion times of several years.

3.73 If the construction project will be finished in less than a year, the construction operations may not satisfy the conditions for recognition as a branch. Consequently, the accounts of the local office should be recorded as accounts of nonresidents for the territory where the project is located.

Units operating mobile equipment

3.74 Mobile equipment can consist of ships, aircrafts, drilling rigs and platforms, railway rolling stock, etc. The same principles of the residence of an enterprise must be applied to an enterprise operating mobile equipment outside the economic territory where the enterprise is a resident. If the operations take place in international waters or airspace, the unit has a predominant center of economic interest where the operator maintains the base of its operations. If operations take place in another economy outside of the home base and are substantial enough to meet the criteria to be classified as a branch, then the branch is considered a resident in the host economy.[7] Otherwise, production is attributed to the home base of the operator.

Offshore enterprises, offshore banks, and offshore financial centers

3.75 Sometimes a government has a separate physical or legal zone that is under its control, but to which, to some degree, separate laws are applied, such as free trade zones or offshore financial centers. These special zones are part of the economic territory under the control of the government and consequently the enterprises located there are treated as resident units of that economic territory.

3.76 Offshore units engaged in manufacturing processes (including assembly of components manufactured elsewhere) are residents of the economies in which the offshore enterprises are located. This treatment applies even if the units are located in special zones exempted from custom duties or regulations (free trade zones).

3.77 Similarly, offshore banks, which engage exclusively (or almost exclusively) in transactions with nonresidents, are still considered residents of the country where they are incorporated or registered.

3.78 Offshore financial centers are jurisdictions in which the majority of the financial transactions are entered into by FCs located therein and are on behalf of clients who reside outside the offshore financial center. Offshore financial centers have adapted to increased competition resulting from liberalization of financial regulations in advanced economies and account for a significant share of global financial flows. Offshore financial centers should compile data for all corporations incorporated or registered in their jurisdictions.

Pension funds of international organizations

3.79 Separately constituted pension funds of international organizations are not treated as international organizations, but regarded as FCs. They are residents of the economic territory in which they are located or, lacking a physical presence, residents of the economy where they are incorporated or registered.

Ancillary corporations, holding corporations, and special purpose entities

3.80 Domestic ancillaries are treated as an integral part of the parent corporation, rather than as separate institutional units. Ancillary corporations located in a country different from their parent corporations are, however, treated as separate units, and considered residents of the country in which they are legally established.

3.81 Holding corporations and SPEs are often constituted outside the country where their parent unit resides, either for tax purposes or because of legal or accounting considerations. Even if these holding corporations and SPEs are bare trustees, not bearing any market or credit risk, they are treated as separate institutional units and considered residents of the economic territory where they are incorporated or registered.

Nonprofit institutions

3.82 An NPI is a resident of the country under whose laws and regulations it was created and in which its existence as a legal or social entity is officially recognized and recorded. When an NPI engages in charity or relief work on an international scale, it is necessary to specify the residence of any branches it may maintain in dispensing relief in individual territories. If an NPI maintains a branch or unit for one year or more in a particular country, that branch or unit should be considered a resident of that economy.

Currency union central banks

3.83 A currency union central bank (CUCB) is a regional financial institution that acts as a central

[7] See also *BPM6*, paragraphs 4.27–4.28 and 4.31.

bank for the member countries of a currency union. The CUCB is an institutional unit in its own right, owning assets and liabilities on its own account. The CUCB is nonresident of any currency union economy, but when compiling monetary statistics for the entire currency union, the CUCB is a resident institutional unit of the union. More detailed information on CUCBs is provided later in this chapter (see paragraphs 3.119–3.122).

Multiterritory enterprises

3.84 Some enterprises may operate as a seamless operation over more than one economic territory. Although the enterprise has substantial activity in more than one economic territory, it is run with no separate accounts and no separate branches can be identified.

3.85 Particular cases of multiterritory enterprises are binational (or multinational) public entities established to construct and operate hydroelectric projects on river borders; and bridges, tunnels, or undersea cables that cross borders. Such enterprises may also include shipping lines, airlines, or pipelines.

3.86 Governments usually require separate entities or branches to be identified in each economic territory, but multiterritory enterprises may be exempted from such requirements. In the case of multiterritory enterprises, it is preferable that separate institutional units are identified for each economy. If that is not feasible, it is necessary to prorate the total operations of the enterprise into the individual economic territories. The factor used for prorating should be based on available information that reflects the contributions to actual operations, such as equity shares, equal splits, wages, or tonnage.

Nonresident units

3.87 ***Institutional units that have their center of predominant economic interest outside the economic territory are nonresidents.*** Their accounts are recorded as part of foreign assets or foreign liabilities of the resident FCs, irrespective of the nationality of the account holder and of the currency of denomination of the accounts.

3.88 In addition to cases in which it is easy to identify the accounts of nonresidents, there are several cases in which it is not clear-cut that the account holder is a nonresident of the economy, as discussed in the remainder of this section.

Migrant workers

3.89 Migrant workers that earn income, consume, and maintain their principal dwelling abroad for one year or more and who return only briefly or infrequently to their original households are no longer considered part of the household in their home economy, but rather are residents of the economy where they work as this is where they have a predominant center of economic interest. Even if individuals continue to be employed and paid by an enterprise that is resident in their home economy, those persons should be treated as residents of the host economy where they maintain their principal dwelling continuously for one year or more, as the principal dwelling determines their center of predominant economic interest.

3.90 Very often, migrant workers maintain deposit accounts in their country of origin (home economy) for savings purposes or to have access to funds when they visit their country. Accounts of migrant workers should be reported as nonresident accounts and, therefore, as foreign liabilities of the depository corporations (DCs) subsector in their home country. Similarly, any loan granted to a migrant worker in his or her country of origin should be reported as a loan to a nonresident. For DCs, it is often difficult to identify accounts of migrant workers as nonresident accounts, because they are opened by providing a national identification and a national address. In countries with a substantial proportion of their population who live and work abroad, special instructions should be issued to DCs with a view to identifying the accounts of migrant workers.

3.91 If the account opened by a migrant worker in the home economy is a joint account with a resident of that economy, or if the account holder authorizes a resident of the home economy to withdraw funds from such an account, then the account should be considered as belonging to a resident and should be reported under domestic liabilities.

Students

3.92 People who go abroad for full-time study generally continue to be resident in the economy in which they were resident prior to studying abroad, even though their course of study may exceed one year. Accounts that they open with FCs in the economy

where they study should be reported, therefore, as accounts of nonresidents. If they develop an intention to continue their presence in the territory of study after the completion of the studies, they should then be considered as residents in the host territory.

Medical patients

3.93 People who go abroad for the purpose of medical treatment maintain their predominant center of interest in the territory in which they were resident before they received the treatment, even if they stay longer than one year. As with students, the movement is considered to have a temporary motivation and these patients remain members of households in their home territories.

Foreign diplomatic representations

3.94 Embassies and other diplomatic representations are enclaves of their governments in the host economy and part of the economic territory of the government they represent. Their accounts in the financial system of the host economy are reported as accounts of nonresidents.

3.95 Employees, including members of their household, sent by a government to work in its diplomatic representations continue to have a center of predominant economic interest in their home country, irrespective of the length of their assignment in the foreign country. They continue to be residents in their home economy even if they live in dwellings outside the enclaves. Their accounts in the financial system of the host economy are classified as accounts of nonresidents.

Government entities resident abroad

3.96 If a government uses an entity that is resident in another economic territory to carry out general government activities (i.e., fiscal activities rather than as a public corporation producing goods and services for the market), that entity is not included as part of the general government in either its economy of residence or the economy of the government that uses the entity. Such entities are not treated in the same way as embassies and other territorial enclaves if they are created and operate under the laws of the host economy. However, special imputations of transactions and positions between the government and the entity are adopted to ensure that any fiscal operations undertaken through nonresident entities are reflected in the transactions and positions of the government concerned.

Military personnel

3.97 Military personnel stationed abroad in an enclave of their home country (a military base) or in peace-keeping missions, as well as the military base itself, continue to have their center of predominant economic interest in their home economy, irrespective of the length of duty of their assignment. They and members of their household are considered nonresidents of the territory where they are serving.[8]

International organizations

3.98 International organizations have the following characteristics:

a. The members are either national states or other international organizations whose members are national states.

b. They are entities established by formal political agreements between their members that have the status of international treaties; their existence is recognized by law in their member countries.

c. International organizations are created for various purposes:

   - International financial institutions—these entities conduct financial intermediation at an international level (i.e., channeling funds between lenders and borrowers in different economies). Examples are the IMF, World Bank Group, Bank for International Settlements (BIS), and regional development banks.
   - Other international organizations—these entities provide nonmarket services of a collective nature for the benefit of their member states, such as peacekeeping, education, science, policy issues, and other research.

3.99 The economic territory of an international organization consists of the territorial enclave(s) over which the organization has jurisdiction. International organizations are not considered residents of any

[8] See also *BPM6*, paragraph 4.123.

national economy and, in particular, are not residents of the economy in which they are located or conduct their affairs. They are treated as extra-territorial (that is, nonresident) by that economy. All accounts that these organizations have with the FCs are treated as nonresidents' accounts. Regional organizations are a type of international organization whose members are governments or monetary authorities of economies that are located in a specific region of the world.

IV. Institutional Sectors

3.100 Institutional units are allocated to different institutional sectors according to the nature of the economic activity they undertake. Sectoring of resident institutional units is a key element in the compilation and presentation of monetary and financial statistics. In the monetary statistics described in Chapters 6 and 7, it is necessary to delineate the FCs sector and its subsectors, to identify money-issuing and money-holding sectors, and to identify FCs' claims on each of the other resident sectors and on nonresidents. Conceptually, the sectoring of institutional units in monetary and financial statistics should be aligned with the *2008 SNA* and other macroeconomic datasets, which group similar kinds of institutional units according to their economic objectives, functions, and behavior.

3.101 The resident institutional units of the economy are grouped into five mutually exclusive sectors: (1) FCs, (2) NFCs, (3) general government, (4) households, and (5) NPISHs. These sectors are further divided into subsectors, as shown in Box 3.1. The additional splitting of FCs into DCs, other depository corporations (ODCs), and other financial corporations (OFCs) subsectors for the purpose of monetary statistics is discussed in more detail later in this chapter. All resident institutional units are allocated to only one institutional sector. A unit engaged in activities belonging to more than one sector and not having a separate set of accounts for each activity must be classified entirely in a single sector, based on the most prominent economic activity in which it engages.[9]

[9] The *2008 SNA* (Figure 4.1) and the *GFSM 2014* (Figure 2.4) provide decision trees to allocate institutional units into different sectors based on whether they are residents or nonresidents, households or legal entities, whether the latter are market or nonmarket producers, whether they are controlled by government or not, and whether they produce financial services, or goods or nonfinancial services.

Box 3.1 Main Sectors and Subsectors of the Domestic Economy

Financial corporations [S12][1]
- Depository corporations
  - Central bank [S121]
  - Other depository corporations (ODCs)
    - Deposit-taking corporations except the central bank [S122][2]
    - Money market funds (MMFs) [S123]
- Other financial corporations
  - Non-MMF investment funds [S124]
  - Other financial intermediaries except insurance corporations and pension funds (ICPF) [S125]
  - Financial auxiliaries [S126]
  - Captive financial institutions and money lenders [S127]
  - Insurance corporations [S128]
  - Pension funds [S129]

Nonfinancial corporations [S11]
- Public nonfinancial corporations
- National private nonfinancial corporations
- Foreign-controlled nonfinancial corporations

General government[3] [S13]
- Central government [S1321]
- State government [S1322]
- Local government [S1323]

Households [S14]

Nonprofit institutions serving households [S15]

[1] Square brackets indicate the *2008 SNA* sector codes.

[2] Deposit-takers whose deposit liabilities are not included in broad money are excluded from ODCs and classified as other financial intermediaries except ICPF.

[3] Social security funds are allocated to the general government subsectors, on the basis of the level at which they operate. This is the approach adopted in this *Manual*. Alternatively, the *2008 SNA* also allows social security funds to be combined into a separate subsector of general government.

3.102 Dividing the total economy into sectors and subsectors enhances the usefulness of the data for purposes of economic analysis. Institutional units with similar objectives and types of behavior are grouped together. Corporations, government units, households, and NPISHs differ with respect to their economic objectives, functions, and behavior. Corporations

are created for the purpose of primarily producing goods and services for the market; government units provide primarily nonmarket goods and services to the community and redistribute income and wealth. Households are motivated by different economic objectives, including final consumption, and are therefore distinguished from corporations, although households may also engage in production for the market.

A. Financial Corporations [S12]

3.103 ***The FCs sector consists of all resident corporations, including quasi-corporations, that are principally engaged in providing financial services, including insurance and pension fund services, to other institutional units.*** It is usually the case that units providing financial services do not produce other goods and services and that financial services are not provided as secondary production.

3.104 FCs are distinguished from NFCs at the first level of sectoring, because FCs are engaged principally in providing financial services, including financial intermediation, which are inherently different from other types of productive activity. Financial intermediation involves incurring liabilities on their own account for the purpose of acquiring financial assets by engaging in financial transactions on the market. Some characteristics of financial intermediation include: (1) incurrence of liabilities to raise funds for lending; (2) transformation of financial instruments with respect to maturity, interest rate, currency of denomination, etc.; and (3) acquisition of credit and financial risks. Among the key factors in determining if an entity is part of the FCs sector are the incurrence of credit and financial risks, the existence of a separate set of accounts for the financial intermediation activities, and the predominance of the provision of financial services within the total production of goods and services of the unit.

3.105 The following entities are not included in the FCs sector: (1) corporations or quasi-corporations that mainly sell goods or nonfinancial services and provide credit directly to their customers—for example, manufacturers or retailers that extend consumer credit under their own credit plans; and (2) individuals or households that make loans or buy and sell foreign currency, if they do not have separate and complete sets of accounts for their financial activities.

3.106 For purposes of monetary statistics, a distinction is made between FCs that issue liabilities included in broad money (known as DCs), and OFCs that intermediate in financial assets, or engage in activities closely related to financial intermediation, but do not issue liabilities included in broad money. The DCs subsector comprises the central bank, deposit-taking corporations except the central bank, and MMFs.[10] The OFCs subsector of monetary statistics includes FCs other than DCs.

3.107 Although not directly relevant for the compilation of monetary statistics, the *2008 SNA* and the *GFSM 2014* decision trees for allocating institutional units (see footnote 9 in this chapter) also distinguish between public, foreign-controlled, and national private FCs. Using source data for monetary statistics, this kind of grouping of FCs may also be undertaken.[11]

Depository corporations

3.108 Chapter 6 defines the concept of broad money to be applied by compilers, taking into account the structure and other features of the financial system. ***For monetary statistics purposes, DCs are FCs that issue liabilities included in broad money.*** (The definition of broad money is presented in paragraph 6.11)

3.109 Due to its special characteristics, the central bank constitutes a separate subsector within the DCs subsector. When compiling monetary statistics, the accounts of deposit-taking corporations except the central bank, and MMFs are aggregated together and are presented in a consolidated form in the ODCs survey (ODCS).

Central bank [S121]

3.110 The central bank is the domestic financial institution that exercises control over key aspects of the financial system. The central bank functions generally comprise the following: (1) issuing currency;[12] (2) conducting monetary policy, including by regulating money supply and credit; (3) managing international

[10] In *BPM6*, MMFs are included in the OFCs subsector.

[11] For compiling data for these three groups of FCs, separate sectoral balance sheets need to be compiled for each of the three groups for ODCs and OFCs.

[12] A few territories (Hong Kong SAR, Scotland, and Northern Ireland) have authorized private banks to issue currency, fully backed by reserves held with the central bank.

reserves; (4) transacting with the IMF; (5) providing credit to ODCs; and (6) usually acting as banker to government in holding central government deposits and in providing credit in the form of overdrafts, advances, and purchases of debt securities. Central banks in some countries also accept deposits from or provide credit to NFCs, NPISHs, and households.[13]

3.111 The central bank subsector includes the following: (1) central banks, which in most countries are separate identifiable institutional units subject to varying degrees of government control, and have various names such as central bank, reserve bank, monetary authority, national bank, or state bank; (2) currency boards or independent currency authorities that issue domestic currency that is fully backed by foreign exchange reserves; and (3) government-affiliated agencies that are separate institutional units and primarily perform central banking functions, except those exclusively engaged in supervision and regulation of the financial system (see paragraphs 3.113 and 3.175).

3.112 Many central banks act as fiscal agents of their central governments or government-affiliated units. Transactions and financial positions should be attributed to the central bank when it acts on its own behalf and is the actual debtor/creditor. When it acts only as an agent, the transactions or positions should be attributed to the unit that is the actual debtor/creditor. A key factor in determining the creditor/debtor status is the bearing of the financial risks and the appropriation of the benefits from the transactions.

3.113 Many central banks also regulate and supervise deposit-takers and sometimes OFCs. If these activities are performed within the structure of the central bank, they are included in the central bank subsector. However, if the supervisory authority is a separate institutional unit, it is classified as a financial auxiliary outside the central bank subsector.

3.114 Central banks usually have branches in various regions of a country. When compiling the central bank balance sheet, the accounts of all branches must be consolidated with the accounts of the headquarters. Central bank representative offices located in other economies are not consolidated with headquarters but are classified as resident financial auxiliaries in the economy in which they are located (see paragraph 3.172). If such overseas representative offices have diplomatic immunity, they are considered part of the economic territory in which the central bank itself is located.

3.115 In many countries, the central bank performs all central banking functions listed in paragraph 3.110. In some countries, however, certain central banking functions are performed wholly or partly by the central government. These functions might include currency issuance, the holding of international reserves, and conducting transactions with the IMF. In such situations, consideration could be given to compile, in addition to the central bank survey, an expanded set of accounts, referred to as the *monetary authorities accounts* (described in more detail in Chapter 7). These accounts follow a functional approach—that is, all data relating to central banking functions performed by the central government should be included along with the central bank's data. The functional approach groups stock positions and flows according to the functions or objectives they serve, as opposed to the institutional approach adopted in macroeconomic statistics. Specifically, if the central government holds part of the international reserves, they are included in the monetary authorities accounts together with the reserves held by the central bank.

Currency boards

3.116 Currency boards are independent monetary authorities that issue domestic currency, usually fully backed by foreign exchange reserves, at a fixed exchange rate vis-à-vis some major international currency. Although not engaged in all central banking functions, currency boards are included in the central bank subsector.

Government-affiliated agencies

3.117 In some countries, government-affiliated units perform certain central banking functions such as the issuance of coins and/or currency notes, the holding of international reserves, operation of exchange stabilization funds, or having financial relationships with the IMF. When the agencies undertaking such monetary authorities functions are institutional units separate from the central government (except those exclusively engaged in supervision and regulation of the financial system), they should be included in the central bank subsector.

[13] Some central banks offer deposit accounts and provide loans to their staff.

3.118 However, if these units remain financially integrated with and under the direct control and supervision of the government, they cannot be treated as separate institutional units, and any monetary authority functions carried out by the government should be recorded in the central government subsector.

Currency unions and currency union central banks

3.119 A common currency area, or currency union, consists of more than one economy and has a regional central decision-making body, usually a CUCB, with the authority to conduct a single monetary policy and issue the legal tender of the area. To belong to this area, an economy must be a member of the central decision-making body. Member countries of the currency union share a common currency and may have a single monetary and foreign exchange policy. Two kinds of currency unions are identified (see Box 3.2 and also *BPM6*, Appendix 3).

3.120 In the centralized model, the currency union has a CUCB owned by the governments of the member economies with the common currency issued by the CUCB and the central bank operations in each economy carried out by national directorates or agencies of the CUCB. This model is of the type observed in the Banque Centrale des États de l'Afrique de l'Ouest (BCEAO), the Banque des États de l'Afrique Centrale (BEAC), and the Eastern Caribbean Central Banks (ECCB). In a centralized currency union, in each member economy the central bank functions are deemed to be carried out by a national (resident) directorate or agency of the central bank. This institutional unit acts as the central bank for that economy and must be treated for statistical purposes as an institutional unit that is separate from the headquarters of the CUCB. In these currency unions, not all transactions carried out and positions held by the CUCB can be allocated to individual member countries. Transactions and positions that are conducted on the own account of the CUCB and cannot be allocated to member countries (in particular, international reserves) remain at the CUCB-headquarter level and are taken into account, together with the allocated transactions and positions, only when monetary statistics are compiled at the currency union level.

3.121 The decentralized model was developed by the euro area through the creation of the European Central Bank (ECB). In the decentralized model, the currency union comprises a CUCB and currency union national central banks (CUNCBs) of the member economies, with the CUCB owned by the CUNCBs. Monetary policy decisions are made by the decision-making body of the CUCB, which also coordinates the implementation of the decisions, a primary responsibility of the CUNCBs. In each economy, monetary activities with residents of the currency union are carried out by CUNCBs having their own assets and liabilities, and these activities are recorded in the national data.

3.122 The economic territory of a currency union consists of the economic territory of the currency union economies, plus the CUCB. Any other regional organizations that comprise the same or a subset of the currency union economies are included in the currency union. The currency union needs to compile monetary statistics for the union-wide area, consolidating the accounts of the CUCB headquarters and the accounts of the CUNCBs, respectively. Foreign assets and liabilities of the CUCB will reflect its claims on and liabilities to nonresidents of the currency union. To support the compilation of the union-wide data, the sectoral bal-

Box 3.2 Currency Unions and Regional Central Banks[1]

Centralized Model

Banque Centrale des États de l'Afrique de l'Ouest (BCEAO)
Benin, Burkina Faso, Côte d'Ivoire, Guinée-Bissau, Mali, Niger, Sénégal, Togo

Banque des États de l'Afrique Centrale (BEAC)
Cameroon, Central African Republic, Chad, Republic of Congo, Equatorial Guinea, Gabon

Eastern Caribbean Central Bank (ECCB)
Anguilla, Antigua and Barbuda, Dominica, Granada, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines

Decentralized Model

European Central Bank (ECB)
Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Portugal, Slovakia, Slovenia, Spain

[1] As of December 31, 2015.

ance sheets and surveys for economies in a currency union should have a two-way classification of claims on and liabilities to nonresidents: those vis-à-vis residents in other economies of the currency union, and those vis-à-vis nonresidents of the currency union.

Other depository corporations

3.123 ***For monetary statistics purposes, all FCs (other than the central bank) that incur liabilities included in broad money are classified as ODCs.***

Deposit-taking corporations except the central bank [MS]

3.124 ***Deposit-taking corporations except the central bank have financial intermediation as their principal activity. To this end, they obtain funds through the acceptance of deposits or other financial instruments (such as short-term certificates of deposits) that are close substitutes for deposits.*** Deposit-taking corporations may also issue bills, bonds, other debt securities, or other financial instruments.

Commercial banks

3.125 *Commercial bank* is the most common designation of a deposit-taking corporation. The range of activities in which a commercial bank can participate varies widely among countries, depending on national banking regulations and practices, and the sophistication of the financial system in each country. The most common services provided by commercial banks are accepting deposits and granting business and personal loans. In many countries, they are required to place reserve requirements at the central bank in a certain proportion to their deposit liabilities.

Other deposit-taking corporations

3.126 Many other types of financial intermediaries also accept deposits and/or issue other types of liabilities that are close substitutes for deposits and therefore are included in broad money. These other deposit-taking corporations have various names, depending on their principal activities and national naming conventions.

3.127 Among the corporations and quasi-corporations that may be classified as other deposit-taking corporations are the following: (1) merchant banks; (2) savings and loan associations, building societies, and mortgage banks; (3) credit unions, and credit cooperatives; (4) municipal credit institutions; (5) rural banks and agricultural banks; (6) discount houses; (7) traveler's check companies engaged mainly in financial activities; (8) post office giro institutions; and (9) electronic money institutions.

3.128 This list is neither exhaustive nor prescriptive. Compilers of monetary statistics should investigate the characteristics of an FC's liabilities to determine whether the liabilities should be included in broad money, which determines whether such FC should be covered in the ODCS or not. (For more details see Chapter 6).

3.129 Merchant banks specialize in financial activities that facilitate trade and commerce, typically dealing in international financing, long-term lending, and underwriting of securities. They also have banking relationships with multinational and other large corporations but usually do not offer banking services to the general public.

3.130 Savings and loans associations, building societies, and mortgage banks specialize in long-term lending for purchases of real estate. Traditionally, building societies and savings and loans associations were organized as mutual associations—that is, individuals who provided funds or borrowed were association members who had voting rights and control of the institutions. Legal and regulatory changes have relaxed the rules governing these institutions in many countries. Building societies raise funds in commercial money markets, and savings and loans associations undertake functions similar to commercial banks.

3.131 Credit unions and credit cooperatives are owned and controlled by their members. By opening a deposit account at a credit union, an individual becomes a member—and partial owner—of the credit union, participating in its equity. Credit unions accept deposits (technically, these may be designated as shares) and grant various types of loans to their members. Regulation and reporting requirements vary from country to country.

3.132 Municipal credit institutions are independent, locally managed savings banks that concentrate their business activities on customers in the region. In

general, they are not profit-oriented, but are market producers. Their shareholders are usually located in one city or several cities in an administrative district.

3.133 Rural banks and agricultural banks are small community banks that provide financial services in rural areas. Due to the economic characteristics of their clients, they tend to specialize in micro-financing of rural and agricultural activities. Collecting data from rural banks can often be hampered by: (1) lack of supervision by the central bank and lack of legal obligation to report their data; (2) inadequate communication infrastructure in remote areas of the country that may hinder regular reporting (although improvements in communication technology is reducing this problem); and (3) lack of sufficient staff resources for timely and accurate compliance with reporting requirements.

3.134 Discount houses raise funds primarily to finance investments in money-market instruments (for example, government bills, bankers' acceptances, and certificates of deposits), and they purchase debt securities from individual banks for rediscounting with the central bank. If they issue liabilities included in broad money, they are classified in the ODCs subsector; otherwise they should be classified as OFCs.

3.135 Traveler's checks companies sell negotiable instruments that can be directly used in making third-party payments. A corporation that issues travelers' checks should be classified as an ODC if it is an FC and if the traveler's checks are included in broad money. Traveler's checks that have characteristics of both currency and liquid deposits are included in broad money if it is expected that most of the checks will be used for domestic market transactions; they are excluded if most are expected to be used for foreign travel.

3.136 Post offices in some countries accept transferable and savings deposits, either on their own account or on behalf of third parties (e.g., the treasury or another financial corporation). Account holders in post office giro institutions may make third-party payments or may withdraw funds from their savings accounts at other post offices of the country. If this financial activity of the post office has a separate set of accounts, it should be included in the ODCs subsector. If the deposit-taking and transfer services are not separated from the accounts of the nonfinancial operations, the postal system in its entirety is classified as an NFC. Data on transferable and other deposits accepted by the postal system should be collected for inclusion in broad money (see also paragraph 6.54).

3.137 Electronic money institutions are entities authorized to issue electronic money, which is a payment instrument whereby monetary value is electronically stored on a physical device or remotely at a server (see paragraphs 4.38–4.41). Electronic money can usually be used for payments to third-parties and is, therefore, a close substitute for transferable deposits. An electronic money institution should be classified as an ODC if it is an FC and if the electronic money issued is included in broad money (see paragraph 6.30). Monetary value stored on specific prepaid instruments does not represent electronic money if the instruments are designed to address specific needs only and can be used only in a limited way.[14]

Offshore banks

3.138 *Offshore banks* is a term for deposit-taking corporations (except the central bank) established in jurisdictions that provide legal and fiscal advantages, such as low or no taxation and less stringent regulations in terms of reserve requirements or foreign exchange restrictions. They engage in various types of financial transactions, including deposit-taking and the extension of loans denominated in currencies other than the currency of the economy in which they are located. They may be restricted from accepting deposits from residents of the economy in which they are located.

3.139 Offshore banks engaged in trade and finance are residents of the economies in which they are located. For the purpose of monetary statistics,[15] it is recommended that offshore banks are included in the ODCs subsector if they transact with residents of the economy where they are located and issue liabilities included in broad money. If they do not issue such liabilities, they should be classified as OFCs.[16] Because of

[14] See European Central Bank (2012), pages 9–10.

[15] The *BPM6* (paragraph 4.72) includes all offshore banks in deposit-taking corporations, regardless of whether they are in the money-issuing sector or not, and recommends that the money-issuing sector be identified on a supplementary basis to assist in reconciliation with monetary data.

[16] In the *2008 SNA*, offshore banks are included in the deposit-taking corporations subsector if they take deposits and meet the definition of a deposit-taker, regardless of whether those deposits are included in broad money or not.

the special characteristics of offshore banks, their data should be identified separately within the subsector.[17]

3.140 Given that offshore banks are often subject to less-stringent regulations than onshore FCs, data collection from offshore units is sometimes difficult. If the central bank does not regulate the activities of offshore banks, it will need to negotiate the provision of data from the offshore units, or to seek special legal powers to obtain reporting compliance.

Banks in liquidation

3.141 Because of financial difficulties, some deposit-taking corporations may operate under the control of receivers or regulators and others may have been closed. The deposit-taking corporations continue to exist until a formal bankruptcy or reorganization has taken place. Until such corporations are liquidated or reorganized, their deposits may be frozen. It is unclear as to whether depositors and other creditors will be able to recover all or part of their deposits or other funding and, if so, the length of time before creditors are reimbursed.

3.142 The deposit-taking corporations in liquidation or reorganization continue to have claims on various sectors of the economy, which may be transferred to a restructuring agency or may be acquired by other deposit-taking corporations. Reorganization, sale, or merger of such depository corporations may result in all or part of the funds eventually becoming available to depositors and possibly other creditors.

3.143 To avoid distortion in the monetary statistics during the restructuring process, it is recommended that deposit-taking corporations in liquidation or reorganization continue to be included in the ODCs subsector as long as they own financial assets and liabilities, but their liabilities be excluded from broad money as the depositors' withdrawal demands cannot be met (see paragraph 6.42). Separate data on their accounts should be presented as memorandum items accompanying the ODCs sectoral balance sheet. It is recognized that in practice it is usually difficult to get data on the accounts of banks in liquidation reported on a regular basis.

[17] Separate identification of offshore banks or units will also allow reconciling monetary and financial statistics with the national accounts and balance of payments.

Money market funds [S123]

3.144 ***MMFs are collective investment schemes that raise funds by issuing shares or units to the public. The proceeds are invested primarily in money market instruments, money market fund (MMF) shares or units, transferable debt instruments with a residual maturity of not more than one year, bank deposits, and instruments that pursue a rate of return that approaches the interest rates of money market instruments.*** For an investment fund to be recognized as an MMF, there needs to be: (1) a certain degree of capital certainty (store of nominal value); and (2) the possibility to withdraw funds immediately or on short notice. If the preceding conditions are not met, the institution is not classified as an MMF but as a non-MMF investment fund.

3.145 Some MMFs offer the facility to withdraw funds from shareholder accounts through checks payable to third parties or other means of direct payments to third parties. These payments to third parties may be limited with respect to minimum amount or maximum number of checks that can be written in a specified period.

3.146 MMF shares and units—with or without third-party payment features—are highly liquid and very close substitutes for transferable and other deposits. MMF shares and units are thus included in broad money and all MMFs as defined in paragraph 3.144 are classified as ODCs.

Other financial corporations [MS]

3.147 ***OFCs comprise the following* 2008 SNA *subsectors: non-MMF investment funds, other financial intermediaries except insurance corporations and pension funds (ICPFs), financial auxiliaries, captive financial institutions and money lenders, insurance corporations, and pension funds.***

3.148 FCs in the OFCs subsector may be supervised and regulated by agencies at the state or national level rather than by the central bank, or not at all. Close collaboration between monetary statistics compilers and the agencies supervising the various types of OFCs is required in collecting and compiling monetary and financial statistics.

Non-MMF investment funds [S124]

3.149 ***Non-MMF investment funds are collective investment schemes that raise funds by issuing shares***

or units to the public. The proceeds are invested predominantly in long-term financial assets, such as equity shares, bonds, and mortgage loans, and nonfinancial assets, such as real estate. Non-MMF investment funds may also invest a small percentage of their total assets in highly liquid short-term financial instruments to ensure that requests to redeem shares or units are met without delay. They can be run under several denominations, such as mutual funds, investment pools, investment trusts, unit trusts, or institutions for collective investment. Shares or units issued by non-MMF investment funds are not close substitutes for deposits because of the following reasons: (1) they are not transferable by means of checks or other means of third-party payments; and (2) their price can fluctuate according to market conditions and so they are not a reliable store of nominal value. Consequently, shares or units issued by non-MMF investment funds do not meet the definition of broad money and are not included therein.

3.150 It is possible to distinguish between open-ended and closed-ended non-MMF investment funds. Open-ended investment funds issue and redeem shares on a continuous basis: each time a new investment is made by an investor, new shares or units are created; when shares are redeemed, an investment must be sold to match such redemption. Closed-ended investment funds are open for subscription only during a specified period at the launch of the scheme; thereafter, investors can acquire shares only by buying them on a secondary market from other investors.

3.151 Depending on the investment strategy, different kinds of non-MMF investment funds can be identified: (1) equity-based investment funds; (2) security-based investment funds; (3) real estate investment funds, which invest in debt and equity securities of companies that purchase real estate; (4) mortgage real estate investment trusts (mortgage REITs),[18] which provide dividends to shareholders by investing in real estate mortgages or mortgage-backed securities; (5) index funds, which are index-tracking funds that mirror the performance of a specific group of shares; (6) exchange-traded funds, which are a subset of index funds that are priced continuously throughout the trading day, and therefore trade like a stock; (7) funds of funds, which hold a portfolio or other investment funds shares rather than investing directly; and (8) hedge funds involving high minimum investments and light regulation, which invest in financial derivatives, take long and short positions in securities, and may sell over-the-counter derivative contracts.

3.152 Private equity funds (PEFs) are collective investment schemes that invest in unlisted equity. They are usually constituted as closed-ended investment funds or as limited partnerships. Investments into PEFs are made mainly by institutional investors, such as ICPFs or large financial groups. Venture capital funds are a subcategory of PEFs that invest in start-up companies. PEFs are included within non-MMF investment funds.

Other financial intermediaries except insurance corporations and pension funds [S125]

3.153 ***Other financial intermediaries except ICPFs consist of FCs that are engaged in providing financial services by incurring liabilities, in forms other than currency, deposits or close substitutes for deposits, on their own account for the purpose of acquiring financial assets by engaging in financial transactions on the market.*** It is a feature of a financial intermediary that transactions on both sides of the balance sheet are carried out in open markets.

3.154 FCs in the other financial intermediaries subsector generally raise funds on wholesale financial markets, and usually not in the form of deposits, and use the funds to extend loans and acquire other financial assets. The intermediaries often specialize in lending to borrowers in particular sectors of the economy and for specialized financial arrangements. Some of the types of units classified as other financial intermediaries are described in the following paragraphs.

3.155 Finance companies extend credit mainly to NFCs and households. They are less regulated than units in the ODCs subsector and often are subject to fewer reporting requirements. Finance companies offer such services as consumer loans, credit cards, small business loans, mortgage loans, economic development loans, and purchases of bankers' acceptances and trade receivables. If finance companies accept deposits included in broad money, they should be classified in the ODCs subsector.

[18] Equity REITs are not considered financial intermediaries as they specialize in owning and managing real estate. Thus, they are not part of the FCs sector.

3.156 Financial leasing companies engage in financing for the purchase of tangible assets. The leasing company is the legal owner of the financed goods (airplanes, automobiles, machine tools, mainframe computers, etc.); economic ownership (see paragraph 4.9) is conveyed to the lessee who incurs the benefits, costs, and risks associated with ownership of the assets.

3.157 Central clearing counterparties (CCPs) provide clearing and settlement of market transactions in securities and derivatives. This can include tri-party repos (see paragraph 4.79). *Clearing* refers to the process of offsetting obligations and entitlements vis-à-vis counterparties to transactions so that settlement—which involves the actual exchange of securities, derivatives, and funds—can occur more efficiently on a net basis. The CCPs take the financial risk of the transaction between the counterparties onto their own account and so mitigate counterparty risk to the other parties involved. CCPs are FCs, but not money issuers as the margin deposits they collect to mitigate the financial risks they assume are restricted and held as collateral, and so are not included in broad money (see paragraphs 6.37 and 6.76). CCPs should, therefore, be classified as other financial intermediaries except ICPFs.

3.158 Investment banks assist corporations in raising funds in equity and debt markets and provide strategic advisory services for mergers, acquisitions, and other types of financial transactions. In addition to assisting with raising funds for their corporate clients, investment banks invest their own funds, including in the securities offerings of their clients, and hedge funds dedicated to direct investments in corporations. Investment banks do not usually have deposit liabilities that meet the definition of broad money.

3.159 Underwriters and dealers specialize in securities market activities, operating through public exchanges, over-the-counter markets, and privately negotiated deals. They assist firms in issuing securities through the underwriting and market placement of new securities issues, and may trade in new or outstanding securities on their own account. Only underwriters and dealers that act as financial intermediaries are classified in this category. Securities brokers and other units that arrange trades between securities buyers and sellers but do not purchase and hold securities on their own account are classified as financial auxiliaries.

3.160 Financial derivative intermediaries consist of units that engage primarily in issuing and/or taking positions in financial derivatives.

3.161 Securitization vehicles are created to raise funds by selling securities backed by specific assets or future income streams. Securitization is the practice whereby an asset or a pool of cash flow-producing assets is converted into marketable securities.[19] For example, an originating mortgage lender could sell a portfolio of loans to a special purpose vehicle that issues securities to investors. The originator may continue to provide administrative services, but the vehicle is the legal owner of the portfolio. Such vehicles are included in other financial intermediaries except ICPFs if the entity is the legal owner of a portfolio of assets, sells a new financial asset that represents an interest in the portfolio, and has—or it would be possible and meaningful to compile—a full set of accounts. When the portfolio is not transformed, or the vehicle does not bear market or credit risks, then it should be combined with its parent (if resident in the same economy) or treated as a captive intermediary (if in a different economy to that of its parent).

3.162 Specialized financial intermediaries are a diverse group of highly specialized intermediaries such as: (1) export/import finance firms, which offer a broad range of financial and documentary services associated with international trade; (2) factoring companies, which acquire accounts receivables from commercial enterprises, extend credit by rediscounting the receivables, and provide guarantees that cover late or defaulted payments; (3) venture capital funds that pool funds of third-party investors in start-up companies; and (4) mezzanine companies that provide short-term financing for corporate mergers and acquisitions.

3.163 Asset management companies (AMCs) and bank restructuring agencies are created to address the workout of nonperforming loans (NPLs) or other impaired financial assets through the acquisition, management, and disposal of the impaired assets, often in the context of a banking crisis. These entities can function as fast-disposal units for selling loans and/or other impaired financial assets, medium-term corporate restructuring agencies, warehouses for holding the NPLs for extended periods, and hybrid units

[19] See *Handbook on Securities Statistics*, Chapter 6, paragraphs 6.2–6.9.

performing multiple functions. Most bank restructuring agencies have been established by governments as public institutions, but AMCs have also been created as subsidiaries of FCs to facilitate the management of their own NPL portfolios. For AMCs that are subsidiaries of ODCs and resident in the same economy as their parent, their balance sheets are consolidated with the balance sheets of their parent ODCs unless they meet all the criteria of an institutional unit (see paragraph 3.4).

3.164 If the entity is government-controlled, the extent to which it is engaged or not in financial intermediation will determine whether it is classified as a general government unit or an FC. The following criteria should be considered in determining whether the entity is an FC or part of general government, given that the economically significant price criteria are usually insufficient for this purpose:

a. An entity is more likely to be included in the general government sector if it (1) serves only government or primarily government; (2) sells or buys financial assets at a value other than market values; and/or (3) takes low risks because it has strong public financial support and, by law or effectively, acts on behalf of government.

b. An entity should be classified in the FCs sector if it (1) is a genuine holding company controlling and managing a group of subsidiaries; and/or (2) borrows on the market at its own risk to acquire financial or nonfinancial assets that it actively manages.

3.165 If the government-controlled entity is considered to be operating as an FC, it is sectored as an FC according to the nature of its operations, usually in the subsector other financial intermediaries except ICPFs. Otherwise, it should be classified as a general government unit, with its transactions, and assets and liabilities consolidated with those of the government.

Financial auxiliaries [S126]

3.166 ***Financial auxiliaries consist of FCs that are principally engaged in activities associated with transactions in financial assets and liabilities or with providing the regulatory context for these transactions but in circumstances that do not involve the auxiliary taking ownership of the financial assets and liabilities being transacted.*** Financial auxiliaries do not act as intermediaries. Some of the most common types of financial auxiliaries are described in the next paragraphs.

3.167 Public exchanges**,** securities markets**,** and clearing houses[20] provide facilities in which commodities, debt and equity securities, and financial derivatives are transacted and/or settled. An exchange is often responsible for ensuring the qualifications of its members, guaranteeing the completion of transactions, clearing and netting transactions, arranging payments, resolving disputes, and guarding against fraud. Exchanges are identified as such if they (1) are legally determined to be exchanges by regulators or courts; (2) maintain insurance or capital reserves; (3) exercise control over the trading of exchange members; or (4) operate a margining system or collect collateral. Provided they do not act as a principal to the transactions being conducted, the subsector includes the exchange and a number of entities such as securities depository companies, accounting and clearing offices, other specialized providers of securities trading services, and entities (private and government-controlled) that regulate or supervise exchanges and securities markets.

3.168 Brokers and agents are individuals or firms that arrange, execute, or otherwise facilitate client transactions in financial assets. Included are brokers and agents who handle the purchase and sale of securities or other financial contracts for their clients, as well as providers of financial advisory services to brokers and their clients. Brokerage firms are distinguished from underwriters and dealers that are classified as other financial intermediaries except ICPFs. Only brokers and agents that clearly specialize in brokerage and related activities and do not take their own positions in financial assets should be included in this subsector.

3.169 Foreign exchange companies, or bureaux de change, are separate institutional units that buy and sell foreign exchange in retail or wholesale markets. They are classified as financial auxiliaries because their main function is to intermediate in foreign exchange, earning a buy-sell spread, rather than obtaining their income from taking positions in foreign exchange. In many countries, foreign exchange corporations are licensed and regulated, and high-quality data on their activities can be collected. In economies with foreign exchange

[20] Contrary to CCPs, clearing houses do not assume any risk during the clearing process.

controls, individuals or enterprises such as travel agencies engage in informal foreign exchange trade, complicating the measurement of overall activity.

3.170 Insurance and pension funds auxiliaries include agents, adjusters, and salvage administrators. The unique nature and the large scale of their activities in some countries justify the separate identification of these units.

3.171 Financial derivative corporations facilitate the issuance of financial derivative contracts, without issuing the financial derivatives or taking financial positions in them. Although these units may have financial assets, they are not classified as other financial intermediaries except ICPFs, because they do not intermediate by incurring liabilities in order to acquire financial assets. These financial derivative corporations are distinguished from financial derivative intermediaries that issue or take positions in financial derivatives, and which are classified as other financial intermediaries except ICPFs.

3.172 Representative offices of foreign banks that do not accept deposits or extend credits are classified as resident financial auxiliaries, even though they promote and facilitate transactions of the nonresident parent company.

3.173 Corporations primarily involved in the operation of electronic payment mechanisms are classified as financial auxiliaries if they can be separately identified as institutional units, are primarily engaged in this specialized activity, and do not incur liabilities against the electronic payment instruments. If they incur liabilities against the issuance of electronic money, they are included in the ODCs subsector (if the electronic money is included in broad money).

3.174 Third-party payment processors, which provide banks with a payment platform, are classified as financial auxiliaries. Examples include online payment corporations, prepaid card corporations, and financial payment corporations.

3.175 Supervisory agencies and regulatory bodies that regulate or supervise FCs are sectored as financial auxiliaries if they are separate institutional units, even if they are agencies affiliated with the government. When the regulation is exercised by the central bank through one of its departments, such regulatory activities are subsumed within the central bank. Regulatory bodies may become involved in extending emergency credits, or acquiring assets and liabilities of FCs during bankruptcies or reorganizations. When holdings of financial assets and liabilities become substantial and the unit engages in financial intermediation, it should be reclassified as other financial intermediary except ICPFs.

3.176 Managers of pension funds and of mutual funds are responsible for implementing the fund's investment strategy and managing the trading of the portfolio. They are paid a fee for their services, which is usually a percentage of the fund's average assets under management. The fund's managers are allocated to the financial auxiliaries subsectors; the funds they manage are sectored either as MMFs, non-MMF investment funds, or pension funds.

3.177 Head offices of FCs that are engaged principally in controlling FCs or groups of FCs, but that do not themselves conduct financial intermediation are sectored as financial auxiliaries. Only if all or most of their subsidiaries are FCs are they classified as financial auxiliaries; otherwise they are allocated to the NFCs sector.

3.178 Solicitor nominee companies are bare trusts that receive funds from private sources for lending secured by property. The nominee company holds the asset in its own name, but on behalf of the investors, who are the beneficial owners of the loan.

3.179 Peer-to-peer lending companies facilitate the lending of money from individuals and other lenders to unrelated individuals or small businesses ("peers"), circumventing traditional financial intermediaries. The loans are for relatively small amounts, and made mostly to individuals for consumption or credit refinancing. Peer-to-peer lending companies operate online by matching individual investors and other lenders with borrowers. They are classified as financial auxiliaries. Their main source of income is the fees collected from borrowers and lenders. Using several credit checking tools they are able to assign differentiated risk ratings to potential borrowers and so set customized interest rates. The interest rate is lower than for similar loans provided by banks because of the lower overhead costs of peer-to-peer lending companies, but the lenders receive a yield significantly higher than for a deposit. Nonetheless, the loans are generally unsecured and the lenders bear the default risk. Peer-to-peer lending companies typically assume no liability or risk for the loans being made, although sometimes they also use own funds for lending. If the

latter is the case, they act as financial intermediaries and should be classified as other financial intermediaries except ICPFs.

Captive financial institutions and money lenders [S127]

3.180 ***Captive financial institutions and money lenders consist of institutional units providing financial services other than insurance where most of either their assets or liabilities are not transacted on open financial markets.*** They include entities transacting within only a limited group of units or subsidiaries of the same holding corporation, or entities that extend loans from own funds provided by only one sponsor.

3.181 Captive financial institutions are corporate subsidiaries that act as financial agents for their parent corporations, raising funds for lending to their parent corporations or for purchase of parent corporations' accounts receivables. Captive financial institutions are sometimes operated by deposit-taking corporations for engaging in specialized activities or for regulatory reasons. If they do not qualify to be treated as units separate from their parent corporations, they are subsumed within the balance sheets of the parent corporations unless they are resident in an economy different from that where the parent is resident. They are classified in the OFCs subsector if they qualify to be treated as separate institutional units. Captive insurance companies and pension funds that serve their owners are not included in this subsector, but classified as insurance corporations or pension funds, respectively.

3.182 Holding companies are units that hold the assets of a group of subsidiary corporations as their principal activity, and do not provide any other service to the enterprises in which the equity is held (i.e., they do not administer or manage other units). Holding companies are always allocated to the FCs sector and treated as captive financial institutions, even if all the subsidiary corporations are NFCs.

3.183 Trusts are arrangements that provide for legal control of financial assets and liabilities and specify the use of the portfolio holdings and the income generated thereby.[21] Personal trusts control portfolios of assets owned by individuals, and assets within personal trusts are treated as part of the direct holdings of the households that control the trust. Similarly, many pension funds are organized as trusts. In general, trusts are not recognized as separate institutional units and are consolidated within the units that control or benefit from them. Only in two circumstances are trusts treated as separate institutional units, that is, as quasi-corporations: (1) if they are constituted in a different economy to that of any of the beneficiaries; or (2) otherwise satisfy the definition of a quasi-corporation. For instance, trusts established for some types of financial intermediation (e.g., securitization, collateralized security issuance, investment pooling) may be recognized as separate units if (1) they act like financial intermediaries, and (2) no other unit can reasonably be considered as controlling the portfolio. Data on trusts administered by DCs that are located in the same economy as their parent should be reported together with the accounts of the parent corporations.

3.184 Classified in this subsector are also units that provide financial services exclusively with own funds, or funds provided by a sponsor, to a range of clients and incur the financial risk of the debtor defaulting. The following units are included here, provided that they qualify as quasi-corporations: (1) money lenders (persons or groups) that offer small personal loans at a high rate of interest; (2) corporations engaged in lending (e.g., student loans, import and export loans) from funds received from a sponsor such as a government unit or an NPI; and (3) pawnshops or pawnbrokers that extend loans to individuals who use personal property as collateral.

3.185 Special purpose entities that qualify as separate institutional units and raise funds in open markets to be used by their parent corporation are classified as captive financial institutions. In this regard, it is essential to establish whether the SPE has a full set of accounts and is acting as a financial intermediary, such that it bears financial risk; otherwise its accounts are consolidated with those of its parent, if resident in the same economy. Accounts that SPEs hold at financial institutions should be classified in the same sector as their parent units if the SPE is not treated as a separate corporation. An SPE established in a different economy to its parent is always treated as a separate unit and sectored as other financial intermediaries except ICPFs in the economy in which it is incorporated.

[21] See also *BPM6*, paragraph 4.48.

3.186 Sovereign wealth funds (SWFs) are created and owned by the general government to hold, manage, or administer assets to achieve financial objectives. They employ a set of investment strategies, which include investing in foreign financial assets. The funds are commonly established out of balance of payments surpluses, official foreign currency operations, privatization proceeds, fiscal surpluses, and/or receipts resulting from natural resources or commodity exports. The establishment of an SWF thus raises the issue of whether it is a separate institutional unit of the OFCs subsector or part of the general government. As with SPEs, the decision will depend on whether the SWF actively manages its portfolio and provides financial services on a market basis to government or simply acts as a passive holder of the government's assets.

3.187 Sometimes, the SWF engages the central bank as an agent to handle its transactions in foreign assets, but retains all investment decisions and the risks and rewards associated with them. In such cases, the accounts of the SWF should be kept by the central bank off-balance sheet. On other occasions, the SWF constitutes deposits with the central bank, which represent the value of the fund, with the central bank bearing all risks and rewards associated with managing those assets. In such cases, the deposits of the SWF are recorded by the central bank on its balance sheet as a liability to the SWF, and the corresponding assets are recorded as part of total central bank assets.

3.188 If the SWF is an entity incorporated abroad or a quasi-corporation located abroad, it is treated as a separate institutional unit in the OFCs sector of the economy in which the entity is legally incorporated or domiciled.

Insurance corporations [S128]

3.189 ***Insurance corporations consist of incorporated, mutual, and other entities whose principal function is to provide life, accident, sickness, fire, or other forms of coverage to individual institutional units or groups of units, or reinsurance services to other insurance corporations.*** Captive insurances, which are insurance companies that serve only their owners, and reinsurance corporations are also included in this subsector. Insurance corporations may also operate pension plans, as indicated in the next section.

3.190 Life insurance corporations invest premiums to build up portfolios of financial assets to be used to meet future claims of policyholders, spreading risks of the policyholders over time. Non-life insurance corporations provide financial benefits to policyholders in the event of accidents, fire, property loss, health-related expenses, etc., spreading current risk or expenses among clients. Some individual insurance corporations sell both life and non-life insurance, in which case they are called composite insurance companies.

3.191 Some corporations create captive insurance subsidiaries to handle their insurance needs. Captives are units separate from their parents and are included in this subsector. Captives collect premiums from their parent corporation, then reinsure themselves, or invest their assets to build up reserves against future claims of the parent corporation.

3.192 Reinsurance corporations insure the insurance policies written by other insurance corporations in exchange for insurance premiums. Insurance corporations purchase reinsurance to offset policy risk, thereby capping the net loss incurred if the insured event occurs.

3.193 Financial guarantee corporations, including national deposit guarantee schemes and similar deposit protection arrangements, insure customers against financial loss on specific securities or other contracts, or against losses from the collapse of financial institutions. Deposit insurers, issuers of deposit guarantees, and other issuers of standardized guarantees that are separate institutional units and function like insurers by constituting reserves and charging premiums proportional to the cost of the service provided, are sectored as insurance corporations. Very often, guarantees on financial instruments are provided by banks, securities brokers, and other financial intermediaries as secondary activities and so are treated as an integral part of these institutional units.

3.194 A financial protection scheme may be classified as part of the general government, as a public FC, or a private FC outside the public sector according to the same sectoring principles that apply to any other entity. A resident financial protection scheme may satisfy the criteria to be an institutional unit or not. If it is not an institutional unit, it is treated as an integral part of the institutional unit that controls it. Where

fees for such financial protection schemes are set by government, or when the government or a public corporation has control over the protection scheme through other means, the scheme is to be classified as a public financial (insurance) corporation, if it is a separate institutional unit. A protection scheme will be part of the general government sector if: (1) fees payable to the government for such a protection scheme are compulsory, that is, if beneficiaries cannot opt out of the scheme; (2) fees are clearly out of proportion to the service provided (fees are not determined based on the associated risks covered); and (3) fees payable to the government are not set aside in a fund, or can be used for other purposes (see also *GFSM 2014*, paragraph 2.135).

Pension funds [S129]

3.195 ***The pension funds subsector consists of autonomous pension funds that are established to provide retirement benefits for specific groups of individuals.*** These pension funds have their own separate sets of pension-fund assets and liabilities, with specific obligations to their contributors. Pension schemes can be established on a voluntary basis, or they can be compulsory with mandated contributions from the employee, employer, or both. Pension schemes may be administered by a separately constituted pension fund, or a fund that is operated by the employer. Governments also sometimes organize pension schemes for their employees, which are independent of the social security system.

3.196 Autonomous pension funds are separate funds (i.e., separate institutional units) established for purposes of providing incomes on retirement for specific groups of employees that are organized, and directed, by private or public employers or jointly by the employers and their employees. Nonautonomous pension funds are not separate institutional units and are therefore not separated from the entity who has organized them, and so their assets and liabilities are reflected in the accounts of that entity.

3.197 Pension schemes may be *funded* or *unfunded*. Funded pension schemes have separate pools of financial assets, or reserves, assigned for the payment of benefits. Unfunded pension schemes are administered by employers or the government, who do not create specific pension-fund reserves for the payment of benefits. By definition, unfunded pension schemes have no separated pool of assets, and are not a separate institutional unit from the administrator of the scheme.

3.198 There are three types of funded pension schemes: (1) those operated by insurance corporations, (2) those operated as autonomous pension funds, and (3) those operated as nonautonomous pension funds. If funded, all three types of pension funds will hold reserves dedicated to the payment of pensions and other retirement benefits to the policyholders or other beneficiaries.

3.199 Depending on how the benefits are determined, pension plans may operate as *defined benefit plans* or *defined contribution plans*. Under a defined benefit plan, the future retirement benefits are determined by an actuarial formula related to participants' length of service and salaries, expected retirement ages, mortality rates, etc. Under a defined contribution plan, the benefits to be received by a participant are based on the participant's contributions to the pension fund and the investment performance of the fund.

3.200 Excluded from the pension fund subsector are nonautonomous pension funds managed by the employer, government-sponsored pension schemes funded through social security schemes (pay-as-you-go schemes), and arrangements organized by nongovernment employers for which the reserves of the fund are simply included among the employer's own resources or are invested in securities issued by that employer. A nonautonomous pension fund is not a separate unit and the assets of the fund belong to the employer. All assets, liabilities, transactions, and other flows of nonautonomous pension funds are consolidated in the accounts of the employer who operates the scheme.

B. Nonfinancial corporations [S11]

3.201 ***The NFCs sector encompasses corporations and quasi-corporations whose principal activity is the production of market goods or nonfinancial services.***

3.202 The NFCs sector is composed of the following resident institutional units: (1) all resident NFCs, regardless of the residence of their shareholders; (2) the branches of nonresident enterprises that are engaged in nonfinancial production in the economic territory on a long-term basis; and (3) all resident NPIs that are market producers of goods or nonfinancial services.

3.203 Some NFCs or quasi-corporations may have secondary financial activities—for example, producers or retailers of goods that provide consumer credit directly to their customers. Such corporations are classified as belonging entirely to the NFCs sector, provided that their main activities are nonfinancial.

3.204 Two classification criteria are used in the *2008 SNA* to subsector the NFCs. One criterion is to show NPIs separately from other units in the sector. Units other than NPIs may be described as for-profit institutions. The second criterion is that of control, to show: (1) PNFCs, (2) national private NFCs, and (3) foreign-controlled NFCs. For monetary statistics, the resident NFCs sector is split into only two subsectors—PNFCs and other NFCs.

3.205 The criteria for control of corporations and NPIs by government and nonresident units are described in the subsection *Legal or social entities* (see paragraphs 3.11–3.12). NFCs controlled by government are described as PNFCs, while NFCs controlled by nonresidents are described as being foreign-controlled.

Public nonfinancial corporations

3.206 PNFCs consist of resident NFCs and quasi-corporations that are subject to control by government units, another public corporation, or some combination of government units and public corporations (see the definition in paragraph 3.25). To be classified as a PNFC, rather than as a government unit, a corporation must be a market producer of goods or nonfinancial services (i.e., charge economically significant prices as defined in paragraph 3.42).[22]

3.207 In practice, it may be difficult to determine whether the prices charged are economically significant. Although there is no prescriptive numerical relationship between the value of sales (excluding taxes and subsidies) and the production costs, one would expect the value of the sales by PNFCs to average at least half of the production costs over a sustained multiyear period.

3.208 For instance, public railway and urban transportation systems may generate losses in a particular period, but when the fares for their service are high enough to cover at least half of the productions costs of the corporation and influence the public's decisions to use or not use the system, they can be regarded as economically significant prices. However, some government services may be provided for nominal fees that are so low that the fees do not ration the use of the facilities and do not produce enough revenue to contribute significantly to the financing of the operations, in which case the unit should be classified as part of general government.

3.209 A government-controlled publishing office that is an institutional unit and sells its publications at prices that cover at least half of its production costs should be classified as a PNFC. However, a national statistical office will be considered part of the central government, even if its publications are sold to the general public, because this activity produces only modest revenue.

3.210 The distinction between market and nonmarket producers should be made on a case-by-case basis. Once a government-controlled unit is classified as a market—or a nonmarket—producer, it should be reclassified only if a change in pricing holds for several years or is expected to hold for several years. Market producers that do not satisfy the requirements to be recognized as separate institutional units are integrated with the general government unit that controls them.

3.211 A government-controlled entity undertaking only ancillary activities, such as transportation, cleaning, or maintenance services to other government units does not satisfy the criteria to be an institutional unit and will be classified as part of general government.

3.212 For a market producer corporation (or quasi-corporation) controlled by government to exist and be classified as a public corporation, the government must allow considerable discretion with respect to the management of production and the use of funds. The corporation must be able to maintain its own working capital and finance some or all of its capital formation, either from own resources or by borrowing. The ability to distinguish flows of income and capital between a corporation and the government unit that owns it implies that the operating and financing activities of the corporation are not fully integrated with the parent unit's corresponding activities, even if the corporation is not a separate legal entity.

3.213 It is important to distinguish between public and private NFCs, and between government units and

[22] Paragraphs 2.104 through 2.121 of the *GFSM 2014* discuss the public corporations subsector in detail.

units that are PNFCs. The starting point in achieving a proper subsectoring should be the development of an official and comprehensive list of institutional units belonging to the PNFCs subsector. This list should be distributed to the central bank, ODCs, and OFCs, to ensure a uniform subsectoring of these units. The list should be periodically reviewed and updated. Some countries have introduced an identification code (linked to the tax system) for each institutional unit, which would lead to inclusion of each unit in its appropriate sector/subsector.

Other nonfinancial corporations

3.214 ***Other NFCs include all resident NFCs that are not controlled by government.*** Within this category, the *2008 SNA* (but not this *Manual*) distinguishes national private NFCs from foreign-controlled NFCs. For monetary statistics, the national private and foreign-controlled NFCs are combined into the category of *Other NFCs*.

National private nonfinancial corporations

3.215 National private NFCs include all resident NFCs that are not controlled by government or by nonresident institutional units.

3.216 Some private NFCs may produce goods or services for the government (that is, public goods or public services) or goods or services for which production is subsidized by the government. Even if the goods or services are not being produced for the market, corporations that produce the goods or services and charge economically significant prices should be classified as private NFCs.

3.217 This subsector also includes NPIs that produce goods or nonfinancial services for the market, such as units engaged in providing education or health services on a fee basis, or trade associations serving enterprises.

Foreign-controlled nonfinancial corporations

3.218 Foreign-controlled NFCs comprise all resident NFCs that are controlled by nonresidents. The classification is based on majority control (more than 50 percent of the shares) and is therefore not identical to the balance of payments concept of direct investment enterprises, which includes associated firms (those with 10–50 percent ownership by nonresidents). In other words, all foreign-controlled corporations are foreign direct-investment enterprises by definition, but not all direct investment enterprises may be foreign-controlled.[23] This subsector includes: (1) subsidiaries (but not associates) of nonresident corporations; (2) corporations controlled by a foreign government, or by a group of nonresident units acting in concert; and (3) branches or other unincorporated entities controlled by nonresidents that engage in significant amounts of production in the economic territory on a long-term basis and therefore are treated as resident quasi-corporations.

Unincorporated enterprises within households

3.219 Household unincorporated market enterprises are created for the purpose of producing goods or services for sale or barter on the market. They can engage in any kind of productive activity, and can range from individuals working as street vendors with no capital or premises of their own, to manufacturing, construction, or service enterprises with several employees. These enterprises also include unincorporated partnerships in which the partners belong to different households.

3.220 Unincorporated enterprises within households that are not quasi-corporations are not separate institutional units from their owners and are classified as part of the household sector. However, if these unincorporated enterprises have their own sets of accounts independent of the households, their assets are separable from those of the owners, and their owners do not bear unlimited liability for the debts of the enterprise, they are treated as quasi-corporations and are classified in the nonfinancial corporations sector (see *2008 SNA*, paragraphs 4.155–4.157).

C. General Government [S13]

3.221 Government units are unique kinds of legal entities established by political process that have legislative, judicial, or executive authority over other institutional units within a given area. The principal functions of government units are to assume responsibility for the provision of goods and services to the community or individual households primarily on a nonmarket basis, to redistribute income and wealth by

[23] For example, a foreign direct investment enterprise may be a government-controlled corporation with 10 percent of equity owned by a nonresident (*2008 SNA*, paragraph 4.82).

means of transfers, engage in nonmarket production, and to finance their activities out of taxation or other compulsory transfers.

3.222 ***The general government sector consists of resident institutional units that fulfill the functions of government as their primary activity.*** The general government sector comprises all government units of central, state, provincial, regional and local government, and social security funds, as well as all resident nonmarket NPIs controlled by government units. Depending on the administrative and legal arrangements, more than one level of government exists within a country, but not all countries have all levels of government. The *2008 SNA* and the *GFSM 2014* provide two principal methods for delineating the subsectors of general government. The first method divides general government into: (1) central government, (2) state governments, (3) local governments, and (4) social security funds. The second method, which is the recommended method in this *Manual*, subsumes the social security funds within the general government subsectors—central, state, or local government—in which the social security funds operate, so classifying the deposits of the social security fund by level of government.

3.223 A government unit is not limited to a specific geographic location, given that ministries and government departments may be dispersed throughout a country, and branch offices and agencies may be maintained in various locations. Despite their separate locations, these government offices are part of the same institutional unit.

Central government [S1321]

3.224 The political authority of a central government extends over the territory of the country. The central government has the authority to impose taxes on all resident and nonresident units engaged in economic activities within the country.

3.225 The central government is a large and complex subsector. It is composed of a central group of departments or ministries, plus autonomous units under the authority of the central government. The departments (or ministries) are sometimes deliberately dispersed throughout the country, but they nevertheless remain part of the central government. Similarly, if the central government maintains branch offices or agencies in different parts of the country to meet local needs, including military bases or installations that serve national defense purposes, these must also be counted as part of the central government. For instance, a ministry of health may maintain a network of hospitals in different parts of the country. In this case, the accounts of the hospitals are classified as part of central government, rather than treated as part of local government.

3.226 Central government entities such as health or education ministries may establish hospitals, schools, universities, etc. for the provision of general public services that are offered free of charge or require payment of fees that are not economically significant. If these units are not separate institutional units, their accounts are an integral part of the central government accounts. Even where a separate institutional unit can be identified, if the unit is a nonmarket producer, its accounts should be consolidated with the central government accounts, as extrabudgetary units. The same principles apply for such units established by state and local government entities.

3.227 If entities such as hospitals and schools are separate institutional units under the control of government, and they charge economically significant prices for their services, they are considered to be market producers and their accounts are included in the public nonfinancial corporations subsector.

3.228 Compilers need to be provided with a comprehensive list of agencies and other entities that belong to the central government (as well as lists of entities within state and local government), based on the definitions of this *Manual* and other statistical manuals. Responsibility for providing this list should reside with a single government agency such as the ministry of finance or the general accounting office. The list should be periodically reviewed and updated.

3.229 In some countries, the central government may include units that engage in financial activities that are undertaken by central banks in other countries, such as issuance of currency, holding of international reserves and operation of exchange stabilization funds, and/or a financial relationship with the IMF. When such units remain financially integrated with central government and under direct control and supervision of central government, their activities are recorded in the central government subsector. Nonetheless, analytic importance is attached to compiling a single set of

accounts that cover all monetary authority functions performed by the central bank and the central government, as explained in paragraph 3.115.

Nonmarket NPIs controlled by government

3.230 Nonmarket NPIs controlled by the central government should be classified as part of the central government sector. Governments may choose to use NPIs rather than government agencies to carry out some government policies. Government NPIs take the form of research and development institutes, standard-setting agencies, environmental protection agencies, etc.

3.231 A nonmarket NPI primarily financed by the central government through the national budget should be considered a central government agency, even if it charges fees for its services or has a source of income through the sale of its products. For instance, it is common for standard-setting agencies to charge for the issuance of certificates of quality, or for research and development institutes to copyright and sell their discoveries. However, these proceeds are not their main sources of income, and they continue to rely primarily on government transfers to finance their activities.

Autonomous agencies

3.232 Within the central government sector are numerous units created for special purposes that enjoy substantial administrative autonomy in terms of policy setting and budget management. Central government entities with individual budgets not fully covered by the general budget are considered extrabudgetary. Nevertheless, these should be classified as part of the central government, because they are funded mainly through the national budget.

3.233 Special agencies may have separate legal identity and discretion over the volume and composition of their expenditures, and may have a direct source of revenue in the form of earmarked taxes. Such agencies are often established to carry out specific functions such as road construction or the nonmarket production of health or education services.

3.234 Market regulatory agencies act on behalf of a government (or a regional organization with governments as its members), and influence the market for specific goods or services directly and/or indirectly. The nature of these market regulatory agencies may differ, and should be investigated to decide the sector classification. If the agencies merely distribute subsidies, or have solely administrative, advisory or price setting functions, they should be classified in the general government sector. Those agencies with principal activity to buy, hold, and sell goods or services at economically significant prices should be classified in the nonfinancial public corporations sector. Those market regulatory agencies that meet the definition of an international or regional organization are classified as residents of the rest of the world.

3.235 Sinking funds are separate accounts that may be institutional units or not. They are made up of segregated contributions provided by the units that make use of the funds (the "parent" units) for the gradual redemption of the parent units' debt. Sinking funds may also be established to provide for major repairs or replacements. Public sector sinking funds are classified to sectors according to whether they are separate institutional units and, if so, whether they provide their services at economically significant prices or not. Sinking funds that are separate institutional units and provide services as market producers are classified as public financial corporations. Sinking funds that are separate institutional units and provide services as nonmarket producers are classified as general government units. Sinking funds that are not separate institutional units are classified with the unit that controls them.

3.236 Agencies that manage internationally financed development projects such as those financed by multilateral organizations (e.g., the World Bank) or donor agencies (e.g., the United States Agency for International Development), usually have the power to hire staff, acquire goods, and contract work for project implementation. These resident agencies open special accounts, either at central banks or at commercial banks, for the project funds. These agencies enjoy autonomy, but their expenditures are project-related. They are usually classified as part of the central government. The central government (generally the ministry of finance or the ministry of development) negotiates the loans or grants with the international organizations and assumes the financial liability for the project.[24] For analytical purposes, separate identification of

[24] In some cases, the loans or grants are extended to a lower level of government. The funds may be deposited with a financial institution that manages them. In this case, the accounts opened to administer the projects are classified by the FC to the corresponding creditor sector (such as central, state, or local government).

the government accounts related to projects financed by international agencies is recommended.

3.237 National universities are a special case of units providing nonmarket education services. Even if they are incorporated into the ministry of education and receive most of their funding through the national budget, they enjoy a much greater degree of policy and financial autonomy than primary or secondary schools. If the universities are controlled by a central government unit (e.g., the ministry of education) and their main source of funding is the central government, their accounts should be part of the central government accounts, even if the universities can freely spend the funds provided by the central government. If controlled at the state level, the university is part of the state government subsector.

3.238 Political parties are usually part of the NPISHs sector. In single-party states, the relationship between the central government and the government party may determine that the party should be classified within the central government subsector.

Public-private partnerships

3.239 ***Public-private partnerships (PPPs) are long-term contracts between two units, whereby one unit acquires or builds an asset or set of assets, operates it for a period, and then hands the asset over to a second unit.*** Such arrangements are usually between a private enterprise and government, but other combinations are possible, with a public corporation as one of the parties or a private NPI as the second party. These schemes are described variously as PPPs; private finance initiatives (PFIs); build, own, operate, transfer schemes (BOOTs); and so on.

3.240 A PPP arrangement may or may not result in the creation of a separate institutional unit. When a separate institutional unit is established as a result of a PPP arrangement, its sector classification is determined by the economic nature of its activities, including whether it is a market producer or not, and who controls it. If the PPP is a market producer, it is classified as an NFC; whether it is a PNFC or other NFC will depend on the control (whether it is controlled by a government unit or a private corporation).[25] If the PPP is a nonmarket producer controlled by a government unit, it is classified as part of the general government sector. Relevant for monetary statistics compilers is the sectoring of FCs' claims on and liabilities to PPP units.

Special purpose entities of government

3.241 Governments may set up SPEs that may be involved in fiscal or quasi-fiscal activities, such as securitization of assets or borrowing. Resident SPEs that function only in a passive manner relative to general government and that carry out fiscal and quasi-fiscal activities, do not satisfy the criteria to be institutional units and are therefore treated as part of government, regardless of their legal status.

3.242 Resident SPEs acting independently, acquiring assets and incurring liabilities on their own behalf, and accepting the associated risk, are treated as separate institutional units and classified to a sector according to their principal activity.

3.243 SPEs that are resident in a different country than their controlling government are always classified as separate institutional units in the economy where they are established. A government may create nonresident SPE to undertake government borrowing or incur government outlays abroad for fiscal purposes. Even if there are no actual flows recorded between the government and the SPE related to these fiscal activities, flows and stock positions should be imputed in the accounts of both the government and the rest of the world to reflect the fiscal activities of the government undertaken by the SPE (see *BPM6*, paragraphs 8.24–8.26).

State, provincial, or regional governments [S1322]

3.244 State, provincial, or regional governments exercise some of the functions of government at a level below that of central government and above that of the local government level. This subsector consists of state, provincial, or regional governments that are separate institutional units plus those nonmarket NPIs that are controlled by state, provincial, or regional governments.

3.245 A state, province, or region is the largest geographical area into which a country may be divided for political or administrative purposes. The legislative, judicial, and executive authority of a state gov-

[25] For the statistical treatment of PPP arrangements, see *Public Sector Debt Statistics: Guide for Compilers and Users* (2013), paragraphs 4.123–4.126, and *GFSM 2014*, paragraphs A4.58–A4.65.

ernment extends over the entire area of an individual state, which usually includes numerous localities. The autonomy, powers, and responsibilities of states vary widely among countries, depending on their political and historical circumstances. In some countries, individual states do not exist.

3.246 A state government usually has the fiscal authority to levy taxes on institutional units that are resident in, or engage in economic activities or transactions within, its area of jurisdiction. It must also be entitled to spend or allocate some, or possibly all, of the taxes or other revenue that it receives according to its own policies, although some of the transfers it receives from central government may be tied to certain specific purposes. It should also be able to appoint its own officers, independently of external administrative control. If a regional unit is entirely dependent on funds from central government, and if the central government also determines the ways in which these funds are to be spent, for statistical purposes the unit should be treated as an agency of the central government rather than as a separate level of government.

3.247 The principal departments and ministries of a state government will constitute a single institutional unit similar to the core unit of the central government. In addition, there may be agencies that operate under the authority of a state government and have separate legal identity and enough autonomy to form additional institutional units. The same considerations that apply to the central government regarding nonmarket NPIs, autonomous agencies, and SPEs are applicable to determination of whether these units are part of the state government subsector or some other sector. State governments may own or control corporations or have other units that engage in market production and are classified as quasi-corporations.

3.248 The authority over some institutional units may be shared by two or more states. Such units are included in the state government subsector.

Local governments [S1323]

3.249 The local government subsector consists of local governments that are separate institutional units plus those nonmarket NPIs that are controlled by local governments. The legislative, judicial, and executive authority of local government units is restricted to the smallest geographic areas distinguished for administrative and political purposes. The scope of their authority is less than that of the central or state governments, and such governments may or may not be entitled to levy taxes on institutional units or economic activities in their areas.

3.250 Typical sources of revenue for local government are taxes on real estate and automobiles and fees for collective services (e.g., trash collection). Local governments are typically dependent on grants and transfers from higher levels of government. In some countries, local governments are able to raise funds by issuing bonds. Local governments are entitled to own assets, raise funds, and incur liabilities on their own account and must also have some discretion over their expenditures and should be able to appoint their own officers independent of external administrative controls.

3.251 The principles for classifying units at the central and state government level also apply to the local government subsector. Units that satisfy the criteria to be a quasi-corporation should be classified in the NFCs sector if the services are supplied on a market basis. Units supplying services on a nonmarket basis remain an integral part of the local government unit to which they belong.

3.252 Statistics for local government may cover a wide variety of governmental units, such as counties, municipalities, cities, towns, townships, boroughs, school districts, and water sanitation districts. Local government units with different functional responsibilities often have authority in the same geographic area. For example, separate government units representing a town, a county, and a school district may have authority over the same areas. Two or more contiguous local governments may jointly organize a government unit with regional authority that is accountable to the local governments. Such units should also be included in the local government subsector.

3.253 Government units serving both a state and one or more local governments are included at the level of government that accounts for the largest share of their operations and financing. In some countries, other levels of government exist between the central government and the lower levels of government. These intermediate levels of government are grouped together with the level of government, either state or local, with which they are most closely associated.

Social security funds

3.254 A social security fund is a particular kind of government unit that is devoted to the operation of one or more social security schemes. Social security funds can be found at all government levels (central, regional, local). To be treated as independent institutional units, they must be organized and managed separately from the other activities of the government, hold their assets and liabilities separately, and engage in financial transactions on their own account.

3.255 Social protection schemes are systematic government interventions intended to relieve households and individuals of the burden of a defined set of social risks.[26] Typical social risks covered by these schemes are: (1) old age, (2) invalidity, (3) death, (4) sickness and maternity, (5) work injury, and (6) unemployment. The government often provides the relief in the form of social benefits, which are transfer payments (in cash or in kind) provided in a collective arrangement. These benefits are provided through social security schemes that cover the community as a whole, or large sections of the community, and generally require formal participation by beneficiaries, evidenced by compulsory contributions by employees and/or employers. The terms under which benefits are paid to recipients are determined by the government.

3.256 Social security funds can be very large and play an important role in government policies and the mobilization of financial resources of the entire community. Because the government can vary social security benefits as part of its overall economic policy, no liabilities are associated with social security schemes. In some countries, social security funds may become so closely integrated with the other finances of the government as to bring into question whether they should be treated as a separate subsector of the general government. Even if they are separately constituted, this *Manual* recommends combining the accounts of social security funds with the level of government at which they operate.

3.257 Social security funds are distinguished from autonomous pension schemes provided by employers, which offer benefits linked to employment. These schemes, operated privately or by the government, are included in the OFCs sector.

[26] For a description of different organizational structures to provide social protection, see *GFSM 2014*, Appendix 2.

D. Households [S14]

3.258 A household is defined in paragraph 3.7. In general, each member of a household should have some claim upon the collective resources of the household. Unattached individuals are also considered households.

3.259 Households often coincide with families. Nonetheless, a household may be of any size and take a wide variety of different forms in different societies or cultures, depending on tradition, religion, climate, geography, and other socioeconomic factors. Most relevant is that among members of the same household there is sharing of resources and consumption.

3.260 Domestic staff that live on the same premises as their employer do not form part of their employer's household, even though they may be provided with accommodation and meals as remuneration in kind. They have no claims upon the collective resources of their employer's households, and the accommodation and food they consume are not included with their employer's consumption. They should be treated as belonging to a separate household.

3.261 Households can also be institutional households. These comprise groups of persons who are expected to reside in institutions for long, or indefinite, periods of time and are treated as belonging to a single household if they have little or no autonomy of decision making or action in economic matters. Some examples of persons belonging to institutional households are: (1) members of religious orders living in monasteries, convents, or similar institutions; (2) long-term patients in hospitals, including mental hospitals; (3) prisoners serving long sentences; and (4) persons living permanently in nursing or retirement homes.

Households as producers

3.262 Households may engage in various kinds of economic activity, not merely consumption. Members of households play a major role in production through the operation of their own unincorporated enterprises (often referred to as "sole proprietors") or through the supplying of labor as employees of unincorporated or corporate enterprises.

3.263 Households' unincorporated enterprises may produce for the market or for their own final use. Some household enterprises are created solely for the purpose of producing goods or services for sale or barter on the market. Other household enterprises

operate primarily for production of goods or services for own final use, such as the activities of subsistence farmers, and households engaged in the construction of their own dwellings.

3.264 Household unincorporated enterprises also include unincorporated partnerships that are engaged in producing goods or services for sale or barter on the market. The partners may belong to different households. When the liability of the partners for the debts of the enterprises is unlimited, the partnerships must be treated as unincorporated enterprises and remain within the household sector because all the assets of the household, including the dwelling itself, are at risk if the enterprise goes bankrupt.

3.265 Unincorporated enterprises owned by households and engaged in market production are classified in the household sector. However, if it is possible to separate all assets of the enterprise—including financial assets down to the level of cash—from those belonging to the household as consumer, these enterprises qualify as quasi-corporations and they are included in the NFCs sector. Similarly, unincorporated partnerships with many partners, such as some large legal, accounting, or architectural firms are likely to behave like corporations and should be treated as quasi-corporations assuming a complete set of accounts is available for the partnerships.

E. Nonprofit Institutions Serving Households [S15]

3.266 NPIs are allocated to the financial or NFCs sector when they engage in market production, or to the general government sector if they are controlled by government, resident in the same economy, and engaged in nonmarket production. NPIs are nonmarket producers if they provide goods or services to their members, other households, or the community as a whole, either free or at prices (or fees) that are not economically significant. Nonmarket NPIs that are not financed and are not controlled by government units are called NPISHs and constitute a separate institutional sector.

3.267 NPISHs are mainly financed from contributions, subscriptions from members, donations, transfers, and earnings on their holdings of financial and nonfinancial assets. The NPISHs sector includes two major categories: (1) trade unions, professional or learned societies, consumers' associations, political parties (except in single-party states), churches or religious societies (including those financed by the government), and social, cultural, recreational, and sports clubs; and (2) charities and relief or aid organizations financed by voluntary transfers (in cash or in kind) from other institutional units.

3.268 Compilers may need to consider borderline cases or misleading designations in deciding whether a unit should be classified as a NPISHs or an NFC. For example, recreational and sports clubs are classified as NPISHs if they are not-for-profit and are organized as civil associations. However, sports clubs that are organized as private enterprises are classified in the NFCs sector. Professional associations can be borderline cases for which it is necessary to determine if they serve households (and therefore are NPISHs) or serve corporations.

3.269 For monetary statistics, households and NPISHs are combined in the category of *Households and NPISHs*. It is recommended that compilers identify a memorandum item *"of which: households"* for loans to and deposits of households.

4 Classification of Financial Assets and Liabilities

I. Introduction

4.1 This chapter describes the principal characteristics of financial assets and liabilities, and their classification by type of financial instrument within the framework of monetary and financial statistics. The recommended classification at its highest level follows that of the *System of National Accounts 2008* (*2008 SNA*). This chapter also includes three annexes: Annex 4.1 presents examples of debt securities issued through securitization; Annex 4.2 deals with the recommended treatment of accounts with the IMF in monetary statistics; while Annex 4.3 discusses topics related to Islamic financial institutions and instruments.

4.2 Financial instruments comprise the full range of financial contracts made between institutional units. Financial instruments include financial assets and other financial instruments. Financial assets have demonstrable value. Other financial instruments (e.g., financial guarantees, lines of credit, or loan commitments) are contingent or conditional upon the occurrence of uncertain future events. They are outside the financial assets boundary and therefore not included in the monetary and financial statistics (see paragraphs 4.220–4.221).

II. Financial Assets and Liabilities

A. Definition of Financial Assets and Liabilities

4.3 ***An asset is a store of value, over which ownership rights are enforced and from which their owners may derive economic benefits by holding or using them over a period of time.*** Financial assets are a subset of economic assets that are financial instruments.

4.4 Most financial assets are financial claims arising from contractual relationships entered into when one institutional unit provides funds or other resources to another. These contracts are the basis of creditor/debtor relationships through which asset owners acquire unconditional claims on economic resources of other institutional units. The creditor/debtor relationship provides asset and liability dimensions to a financial instrument. From this a financial claim, and hence a liability, can be defined. There are no nonfinancial liabilities recognized in macroeconomic statistics, thus the term *liability* necessarily refers to a liability that is financial in nature.[1]

4.5 ***A financial claim is an asset that typically entitles the creditor to receive funds or other resources from the debtor under the terms of a liability.*** Each claim is a financial asset that has a corresponding liability.

4.6 ***A liability is established when one unit (the debtor) is obliged, under specific circumstances, to provide funds or other resources to another unit (the creditor).*** Usually, a liability is established through a legally binding contract that specifies the terms and conditions of the payment(s) to be made and payment according to the contract is unconditional.

4.7 Financial assets consist of all financial claims, including shares or other equity in corporations, plus gold bullion held by monetary authorities as a reserve asset. Equity is regarded as a claim; it represents a claim of the owner on the residual value of the entity after the claims of all creditors have been met. Gold bullion included in monetary gold is considered to be a financial asset because of its role as a means of international payments and a store of value for use in reserve assets.[2]

[1] In contrast, the International Financial Reporting Standards (IFRSs) recognize nonfinancial liabilities under certain conditions.

[2] Reserve assets are those external assets that are readily available to and controlled by monetary authorities for meeting balance-of-payments financing needs, for intervention in exchange markets to affect the currency exchange rate, and for other related purposes (such as maintaining confidence in the currency and the economy

4.8 In this *Manual*, provisions for losses on assets that are internal to the reporting institutional unit are treated as liabilities and classified under *Other accounts payable [MS]*. Such provisions are not recorded in the *2008 SNA*, except in the case of expected losses on nonperforming loans, which appear as memorandum items in the balance sheets.[3]

B. Legal and Economic Ownership

4.9 Two types of ownership can be distinguished in macroeconomic statistics: legal ownership and economic ownership. ***The legal owner of nonfinancial and financial assets and liabilities is the institutional unit entitled by law and sustainable under the law to claim the associated benefits. The economic owner of nonfinancial and financial assets and liabilities is the institutional unit entitled to claim the benefits associated with their use by virtue of accepting the associated risks.***

4.10 Every nonfinancial and financial asset and liability has both a legal and an economic owner. In most cases, the economic owner and the legal owner are the same. Where they are not, the legal owner has passed the risk involved in using the resource in an economic activity to the economic owner as well as associated benefits. In monetary and financial statistics, when the expressions "holder(s)," "holding(s)," "ownership," or "owner" are used, and the legal and economic owners are different, the reference should generally be understood to be to the economic owner.

4.11 In general, a change in legal ownership also involves a change in economic ownership. In some cases, however, a change of economic ownership takes place even though the legal ownership remains unchanged (e.g., financial leases). In other cases, there is no change in economic ownership, even though there is a change in legal ownership (e.g., repurchase agreements).

III. Classification of Financial Assets and Liabilities

4.12 The classification scheme of the *2008 SNA* is used to classify financial assets and liabilities in this *Manual*. This classification system is based primarily on: (1) the liquidity of the asset, which subsumes other more specific characteristics such as negotiability, transferability, marketability, or convertibility, as well as divisibility; and (2) the legal characteristics that describe the underlying creditor/debtor relationship. Although not explicitly identified, these specific characteristics of liquidity play a major role in determining the categories.

4.13 The financial asset and liability classification facilitates the analysis of transactions and positions between institutional units and serves as a framework for assessing the sources and uses of financing and degree of liquidity of these units. This classification is intended to provide broad categories that allow international comparability and the inclusion of new instruments within the broad categories identified in the *2008 SNA*.

4.14 Table 4.1 shows the main categories of financial assets for the compilation of monetary statistics, as classified in the *2008 SNA*.

A. Monetary Gold and SDRs

4.15 Monetary gold and Special Drawing Rights (SDRs) are financial assets that are usually held only by monetary authorities.

Monetary gold [F11]

4.16 ***Monetary gold is gold to which the monetary authorities (or others who are subject to the effective control of the monetary authorities) have title and is held as a reserve asset.***[4] It comprises gold bullion (including gold held in allocated gold accounts) and unallocated gold accounts with nonresidents that give title to claim the delivery of gold. All monetary gold is included in reserve assets or is held by international financial institutions.

4.17 For gold bullion, there is no corresponding liability. Except in limited institutional circumstances when reserve assets may be held by other institutions, gold bullion can be a financial asset only for the central bank or central government. Gold bullion takes the form of coins, ingots, or bars with a purity of at least 995 parts per thousand. Gold bullion holdings that are not part of reserve assets are classified as nonfinancial assets.

and serving as a basis for foreign borrowing). (See the sixth edition of the *Balance of Payments and International Investment Position Manual (BPM6)*, paragraph 6.64.)

[3] See *2008 SNA*, paragraphs 3.41 and 13.66–13.68.

[4] See the definition of reserve assets in footnote 2 in this chapter.

Table 4.1 Classification of Main Financial Assets

2008 SNA	*1993 SNA*[1]
Monetary gold and Special Drawing Rights [F1][2]	Monetary gold and Special Drawing Rights
Currency and deposits [F2]	Currency and deposits
Debt securities [F3]	Securities other than shares
Loans [F4]	Loans
Equity and investment fund shares [F5]	Shares and other equities
Insurance, pension, and standardized guarantee schemes [F6]	Insurance technical reserves
Financial derivatives and employee stock options (ESOs) [F7]	Financial derivatives
Other accounts receivable/payable [F8]	Other accounts receivable/payable

Source: *2008 SNA*, paragraphs A1.26 and A1.39, and *1993 SNA*, Annex V.
[1] Classification of major financial assets in the *1993 SNA* is shown for ease of reference. In the case of *Insurance, pension, and standardized guarantee schemes* and *Financial derivatives and ESOs* there is not a direct correspondence with the *1993 SNA* categories.
[2] Square brackets indicate the *2008 SNA* codes for transactions in financial assets and liabilities.
Note: *2008 SNA* = *System of National Accounts 2008; 1993 SNA* = *System of National Accounts 1993*.

4.18 An *allocated gold account* provides ownership of a specific piece of gold, whereas an *unallocated gold account* does not give the holder the title to physical gold but provides a claim against the account operator to deliver gold (see also paragraph 4.44). Both allocated and unallocated gold accounts can be opened by any sector or subsector with a financial corporation (FC) that offers such services.

4.19 Allocated gold accounts are classified as monetary gold when held by monetary authorities (or other units authorized by them) as reserve assets, or as a nonfinancial asset when not held as reserve assets. Unallocated gold accounts that give title to claim the delivery of gold are classified as monetary gold when held by monetary authorities (or other units authorized by them) as reserve assets. Unallocated gold account assets not held as reserve assets, and all unallocated gold account liabilities, are classified as deposits in foreign currency. The same principle applies to unallocated accounts for other precious metals.

4.20 Nonmonetary gold, which can be in the form of bullion, gold powder, and gold in other unwrought or semi-manufactured forms, or gold coins, may be held as either a store of value or for industrial purposes. In some cases, a central bank may own gold bullion that is not held as a reserve asset and thus should be classified as nonmonetary gold.

Special Drawing Rights [F12]

4.21 ***SDRs are international reserve assets created by the IMF and allocated to its members that are SDR Department[5] participants (currently all IMF member countries) to supplement existing official reserves.*** SDRs are held by member countries (central banks or central governments) that participate in the SDR Department. Other holders of SDRs include the IMF, through the General Resources Account (GRA) within the General Department, and international organizations and monetary institutions prescribed by the IMF.[6] SDRs are transferable among SDR Department participants, prescribed holders, and the IMF GRA.[7] SDR holdings represent assured and unconditional rights to obtain freely usable currency.

4.22 SDRs are assets representing claims on the SDR Department participants collectively and not on the

[5] The SDR Department of the IMF, an accounting entity rather than an organizational unit of the IMF, records and administers all transactions and operations involving SDRs. The Articles of Agreement require that the General and SDR Departments be kept strictly separated. (See *IMF Financial Operations*).
[6] See *IMF Financial Operations*, page 87.
[7] The GRA refers to the principal account of the IMF, consisting of a pool of currencies and reserve assets largely representing the paid subscriptions of member countries' quotas. The GRA is the account from which the regular lending operations of the IMF are financed (see paragraph 4.241 and *IMF Financial Operations*, Chapter 2).

IMF. A holder of SDRs may sell some or all of its SDR holdings to another participant or holder and receive in return a freely usable currency.

4.23 SDR holdings and SDR allocations should be recorded as gross assets and liabilities in the balance sheet of the entity that under domestic law is responsible for a member's SDR Department positions, usually the central bank and in some cases the central government. Therefore, allocations of SDRs increase claims on nonresidents (reserve assets) and liabilities to nonresidents (foreign liabilities), initially by the same amount.

4.24 SDR allocations are classified as *debt liabilities to nonresidents*[8] because (1) interest is payable to the SDR Department on the cumulative allocation, and arrears arise if payments are not made on time;[9] and (2) a country would be required to repay its allocation of SDRs in certain circumstances such as upon termination of its participation in the SDR Department, cancellation of SDRs, or upon liquidation of the SDR Department. Annex 4.2 provides more detailed discussion on IMF-related accounts and their treatment in monetary and financial statistics.

B. Currency and Deposits

Currency [F21]

4.25 ***Currency consists of notes and coins that are of fixed nominal values and are issued or authorized by central banks or governments.*** Currency is divided into domestic currency and foreign currency.

4.26 Domestic currency is the one that is legal tender in the economy and is issued by the central bank or government of that economy or of the common currency area to which the economy belongs. Any currencies that do not meet this definition are foreign currencies to that economy, representing claims on nonresident central banks or governments.

4.27 Some countries issue gold or precious metal coins, which are held for their intrinsic value, or commemorative coins, which are held for their numismatic value. If not in active circulation, such coins should be classified as nonfinancial assets rather than as financial assets. Those commemorative coins that differ only slightly from the standard coins in circulation, are issued at or near their face value, are fungible with the standard coins in circulation, and for which the issuing authority has a liability to redeem them, are classified as currency (see also paragraph 6.25).

4.28 Central bank or central government holdings of unissued currency are nonfinancial assets, and are valued at cost.

Deposits

4.29 ***Deposits are nonnegotiable contracts that represent the placement of funds available for later withdrawal.*** A deposit is usually a standard contract, open to the public at large, that allows the placement of variable amounts of money. Deposits include all claims that are (1) on the central bank, other depository corporations (ODCs), other financial corporations (OFCs), and, in some cases, other institutional units; and (2) represented by evidence of deposit. The category of deposits comprises transferable deposits and other deposits.

Transferable deposits [F22]

4.30 ***Transferable deposits comprise all deposits that are (1) exchangeable for banknotes and coins on demand at par and without penalty or restriction; and (2) directly usable for making payments to third parties by check, draft, giro order, direct debit/credit or other direct payment facility.***

4.31 Judgment must be applied in the national context in deciding whether deposits with less-than-full transferability features should be classified as transferable deposits because some types of deposits embody only limited features of transferability. For example, some deposits have restrictions such as on the number of third-party payments that can be made per period and/or on the minimum size of the individual third-party payments. Usually, deposits with limited features of transferability are excluded from the category of transferable deposits and treated as other deposits.

Special cases

4.32 Cashier's checks. A cashier's check is a check purchased by a depository corporation's (DC) customer

[8] In the *System of National Accounts 1993* (*1993 SNA*) and the fifth edition of the *Balance of Payments Manual* (*BPM5*), SDR holdings were classified as financial assets without a corresponding liability. In the *Monetary and Financial Statistics Manual*, (*MFSM*), SDR allocations were classified as *Shares and other equity*.

[9] Given that the rate of interest earned by members holding SDRs is the same as the rate of interest owed by those with SDR allocations, no settlement payment is made if the levels of holdings and allocations are equal for a member.

and drawn on the own account of a DC. It is signed by the DC's cashier and is made payable to the party specified by the purchaser of the check. Whether purchased with currency or through deposit withdrawal, a cashier's check should be included within transferable deposit liabilities of the DC on which it is written. For deposit classification by sector, the bank check should be attributed to the economic sector of the purchaser of the check, rather than to the economic sector of the recipient of the check.

4.33 Bank draft (or teller's check). Less commonly, a DC's customer may purchase a *bank draft* (sometimes called a *teller's check*) that is a check or similar instrument written by a DC against funds in its deposit account at another DC. For a bank draft purchased by one of its customers, a DC should record (1) a reduction in deposit liabilities, arising from a withdrawal from the customer's deposit holdings (or an increase in the DC's currency holdings, if the check was purchased with cash); and (2) a reduction in its deposit holdings at the DC on which the draft was written.[10] A bank draft (or teller's check) should be included within transferable deposit liabilities (and broad money liabilities if the customer is a money holder), of the DC on which it is written when the draft is presented for payment. While the bank draft is being held by the purchaser of the draft or is in transit to the payee, it is not included in broad money.[11]

4.34 Deposit overdrafts. Depositors in some countries are authorized to obtain funding in the form of an *overdraft*—a check or other item in an amount that overdraws a transferable deposit account. All outstanding claims arising from overdrawn deposit accounts should be classified as loans rather than as negative balances in depositors' accounts, regardless of whether the depositor intentionally created the overdraft or inadvertently had insufficient funds in the account.

4.35 Traveler's check. *Traveler's checks* are issued by financial or nonfinancial corporations (NFCs) to provide a medium of exchange with characteristics of both currency and transferable deposits. One feature of traveler's checks is that they provide a safer way to carry funds than currency as a security feature is provided against lost or stolen checks by the issuing party.[12] Traveler's checks should be included within transferable deposit liabilities of the issuing DC. (See also paragraph 6.29.)

4.36 IMF No. 1 Account, IMF No. 2 Account, and IMF Securities Account. Deposit liabilities of central banks include the IMF *No. 1 Account* and *IMF No. 2 Account*, which are transferable deposits that the IMF holds in central banks of member countries. Securities that have been substituted for *IMF No. 1 Account* liabilities should also be classified as transferable deposits, because these liabilities have the characteristics of demand deposits rather than debt securities and, in particular, are encashable on demand by the IMF.[13]

4.37 Reserve deposits. Reserve deposits are deposits at the central bank that ODCs use to satisfy reserve requirements for eligible liabilities. All reserve deposits of ODCs that satisfy reserve requirements, including any excess reserves,[14] based on the averaging of reserve holdings over a period (as well as used for settlement purposes) are classified as transferable deposits unless they are illiquid. Reserve deposits that are pre-specified fixed amounts or required reserves (without averaging), including excess reserves, are classified as other deposits (i.e., nontransferable deposits). (See Annex 6.3.)

4.38 Electronic money is a payment instrument whereby monetary value is electronically stored on a physical device or remotely at a server and represents a claim on the issuer. To qualify as electronic money, the payment instrument must represent general purchasing power (i.e., it may be used for making payments to a variety of other entities). Electronic money

[10] The DC should record a reduction in its deposit holdings at the other DC, even though the corresponding entry will not be made in the other DC's accounts until the item has been presented for payment through the clearing system.

[11] The exclusion from broad money is achieved automatically because when one of its customers (money-holding units) purchases a bank draft, the DC reduces its deposit liabilities to that customer, while the DC on which the draft was written still includes this amount within its deposit liabilities to another ODC (a money-issuing unit).

[12] Specific checks are given unique check numbers, similar to a normal check. When a lost or stolen check is identified, it is simply canceled and the individual is re-issued a new check.

[13] If net recording is followed, there will be no entries for IMF *No. 1 Account* and *IMF Securities Account* in the sectoral balance sheet for the central bank.

[14] Excess reserves are deposits held at the central bank in excess of those required.

that can be used for direct payments to third parties qualifies as a transferable deposit.

4.39 In comparison with currency, which has only physical security features, electronic money uses cryptography to authenticate transactions and to protect the confidentiality and the integrity of the data processing. One common type of electronic money is the "electronic purse," where monetary value of small amounts is stored on payment cards for use in making small payments. Other examples of electronic money include prepaid cards (except those designed to address specific needs and that can be used only in a limited way (see paragraph 3.137); web-based electronic money (such as PayPal, if monetary value is electronically stored); and mobile money, which is electronic money accessible via a mobile phone or a mobile device to make direct payments to third parties.

4.40 Not all electronic payments involve electronic money. For instance, credit cards or debit cards are not electronic money because no monetary value is stored on them; neither are store cards, because they are similar to credit cards but with use limited to only the issuing stores. Internet-based currency, such as Bitcoins,[15] is not electronic money because it does not meet the definition of currency, as it is not issued or authorized by a central bank or government, and additionally is not widely accepted as a medium of exchange.

4.41 Both FCs and NFCs can issue electronic money. Regardless of the issuing sector, electronic money is classified as deposits rather than currency. Closed circulation of electronic money is when recipients of funds are required to forward evidence of ownership to the issuer for redemption. Less common is open circulation, which allows the funds to be transferred through a sequence of buyer-to-buyer transactions without involvement of the issuer of the electronic money.

4.42 Data collection is straightforward for electronic money under closed circulation issued by ODCs, given that accounting for transactions and balances for the electronic money and for regular transferable deposits are similar. In the loading of funds to the electronic money device, the ODC depositor acquires electronically stored money on a device in exchange for transferable deposits or currency. The ODCs' transactions with the recipients of the electronic funds are similar to electronic settlements for other types of transferable deposits.

[15] Bitcoins are classified as nonfinancial assets.

Other (or nontransferable) deposits [F29]

4.43 ***Other (or nontransferable) deposits comprise all claims, other than transferable deposits, that are represented by evidence of deposit.*** Other deposits include:

a. Sight deposits that permit immediate cash withdrawals but are not useable for direct payments to third parties.

b. Savings deposits[16] that are accounts with deposit-taking institutions that pay interest but cannot be used for direct payments to third parties (for example, by writing a check). These accounts enable customers to set aside a portion of their liquid assets while earning interest.

c. Fixed-term deposits (also known as term deposits or time deposits) that are provided by deposit-taking institutions to their customers with a higher rate of interest than a regular savings account. These are with maturities ranging from a month to a few years. When a fixed-term deposit is set, the fund can only be withdrawn after the term has ended or by giving a predetermined number of days' notice.

d. Nonnegotiable certificates of deposits.

e. Deposits of limited transferability that are excluded from the category of transferable deposits.

f. Transferable deposits that have been posted to depositors' accounts, but cannot be drawn upon until the deposited items (e.g., checks or drafts) have been collected by the depository corporations that accepted them.

g. FCs' liabilities in the form of shares (such as issued by savings and loan associations, building societies, and credit unions) arising from members' deposits that are legally or in practice redeemable immediately (but are not useable for direct third-party payments) or at short notice.

[16] Deposits that are called *savings deposits* but are equipped with automatic transfer service features should be classified as transferable deposits.

h. The reserve tranche position in the IMF, which represents the payment of the foreign exchange component of the IMF quota subscription (see paragraph 4.246b). The reserve tranche position is a claim on the IMF and an international reserve asset.

i. Repayable margin payments in cash related to different financial contracts, such as financial derivatives and repos (see paragraphs 4.47–4.49).

j. Repurchase agreements with money-holding sectors resembling a deposit, where the DC is the cash-taker.[17] These repurchase agreements may be included in broad money. (See paragraph 6.36)

Special cases

Unallocated accounts for precious metals

4.44 Unallocated gold accounts assets, other than monetary gold, are classified as other deposits in foreign currency. All unallocated gold accounts liabilities, including counterpart accounts for monetary gold, are classified as other deposits in foreign currency (see paragraph 4.19). The same principle applies to unallocated deposit accounts for other precious metals (e.g., silver or platinum). Unallocated deposit accounts for other precious metals are included in foreign currency deposits. Allocated deposit accounts for all metals, other than for gold held by monetary authorities as reserve assets,[18] are included in nonfinancial assets. Conceivably, unallocated deposit accounts could arise for commodities other than precious metals.

Interbank positions

4.45 The *2008 SNA* (paragraphs 11.56–57) recommends that interbank positions in loans and deposits be shown as a separate category of transferable deposits. The borrowing and lending within the deposit-taking subsector, which may be substantial, is of a different economic nature from their intermediation activities involving other sectors. In monetary statistics, all assets and liabilities (except equity liabilities) are classified by sectors/subsectors of counterparts, including for the central bank and ODCs, so that inter-DC positions are identified by all relevant instrument categories. Further, memorandum items in the sectoral balance sheets for the central bank and ODCs separately identify claims on and liabilities to MMFs, allowing the compilation of interbank positions as defined in the *2008 SNA* (see Table 2.2). When the parties are uncertain as to whether the interbank position is a loan or a deposit, this *Manual* recommends recording it under other deposits.

Restricted deposits

4.46 Restricted deposits are those for which withdrawals are restricted on the basis of legal, regulatory, policy, or commercial requirements. Such deposit withdrawal restrictions do not include limitations on the early withdrawal of deposits that have agreed maturities. A fixed-term deposit withdrawal prior to maturity may not be allowed or, if allowed, typically carries a penalty for early withdrawal. Such withdrawal conditions are treated as standard maturity provisions of fixed-term deposits, rather than as restrictions. Examples of restricted deposits are:

a. Import deposits required in advance of imports as evidence of available funds.

b. Compulsory savings deposits that can be accessed only after a specified period or from which withdrawals may be made only for specified purposes (e.g., home purchase or retirement).

c. Escrow deposit accounts that cannot be accessed until the appropriate conditions and obligations have been fulfilled.

d. Judicial deposits paid to a court, in the name and to the credit of such a court.

e. Fiduciary deposits, which are placed with an ODC (the recipient) by a trustee, typically another ODC or OFC on behalf of another party (the beneficiary).

f. Foreign currency deposits that are blocked (i.e., withdrawal allowed only under certain circumstances or conditions) because of national policies (e.g., rationing of foreign currency).

[17] Money holders usually deposit funds with ODCs rather than provide loans to them. Repurchase agreements with counterparts other than money-holding sectors where the DC is the cash-taker should be classified as loans. Although OFCs are money-holders, they may provide loans, some of them in the form of repurchase agreements, to ODCs as part of their intermediation function.

[18] Such gold is classified as monetary gold.

g. Impaired deposits that are expected to be partially or totally uncollectible (that have not yet been written off), including frozen deposits in FCs that are under liquidation or reorganization.

Margin deposits

4.47 Margins are payments of cash or deposits of collateral that cover actual or potential obligations incurred. The required provision of margin reflects counterparty risk and is standard in financial derivative markets (see also financial derivative section, later in this chapter). The classification of margins depends on whether they are repayable or nonrepayable.

4.48 Repayable margin consists of cash or other collateral deposited to protect a counterparty against default risk. Ownership of the margin remains with the unit that deposited it. Although its use may be restricted, a margin is classified as repayable if the depositor retains the risks and rewards of ownership—such as the receipt of income or exposure to holding gains and losses. At settlement, a repayable margin (or the amount of repayable margin in excess of any liability owed on the financial contract) is returned to the depositor. In organized markets, repayable margin is sometimes known as *initial margin*.

4.49 Repayable margin payments are transactions in deposits, not transactions in the associated financial assets (e.g., financial derivatives). Repayable margin deposits made in cash are classified as other deposits (particularly if issued by ODCs and included in broad money) or in other accounts receivable/payable (especially if placed with financial auxiliaries). When a repayable margin deposit is made in a noncash asset (i.e., debt securities), no transaction or a new position in stocks is recorded in the balance sheets because no change in economic ownership has occurred.

4.50 Nonrepayable margin payments are transactions in financial derivatives, and not in deposits. In organized exchanges, nonrepayable margin is paid daily to meet liabilities recorded as a consequence of the daily marking of derivatives to market value. The payments reduce the liability created through the financial derivative with the contra-entry a reduction in another financial asset (likely in currency or deposits). The receipt of nonrepayable margin is recorded as a reduction in the financial derivative asset; the contra-entry is an increase in another financial asset (probably in currency or deposit).

4.51 In some countries, repayable and nonrepayable margins are recorded in a single account, and it may be difficult to distinguish. The institutional arrangements (i.e., the types of units making payments and types of instruments used) must be reviewed. The key test is whether the margin is repayable or whether payment of the margin represents an effective transfer of ownership between counterparties to the financial contract.

C. Debt Securities [F3]

4.52 ***Securities are financial claims that have the characteristic feature of negotiability.*** In this *Manual* (and the *2008 SNA* and other statistical manuals), a financial asset is negotiable if its legal ownership is readily capable of being transferred from one unit to another unit by delivery or endorsement. Securities are negotiable instruments that are designed to be traded usually on an organized exchange or in the over-the-counter (OTC) market.[19] The OTC market involves parties negotiating directly with one another, rather than on a public exchange. Some securities may be legally negotiable, but there might not be, in fact, a liquid market where they can be readily bought or sold. Negotiability is a matter of the legal form of the instrument, and evidence of actual trading is not required.

4.53 Securities comprise debt securities and equity securities. Debt securities are discussed in this subsection, while equity securities are discussed in the subsection *Equity and Investment Fund Shares* in this chapter.

4.54 ***Debt securities are negotiable financial instruments serving as evidence of a debt.*** They include bills,

[19] For a detailed discussion of debt security features see *Handbook on Securities Statistics,* paragraphs 2.8–2.23. The *Handbook on Securities Statistics* deals with the conceptual framework for the compilation and presentation of securities statistics, elaborating on issues such as securities' issuers, holders, currency, maturity, and type of interest rate.

bonds, notes, negotiable certificates of deposit, commercial paper, debentures, asset-backed securities, and similar instruments usually traded in the financial markets.

4.55 Common types of debt securities are those sold on:

a. A *coupon basis*, stipulating that periodic interest, or coupon, payments will be made during the life of the instrument and that the principal will be payable at maturity.

b. An *amortized basis*, stipulating that interest and principal payments will be made in installments during the life of the instrument.

c. A *discount,* or *zero coupon*, *basis*, whereby a security is issued at a price that is less than the face (or par) value of the security, and all interest and principal are payable at maturity.

d. A *deep discount basis*, whereby a security is issued at a price that is less than face value, and the principal and a substantial part of the interest is payable at maturity.

e. An *indexed basis*, which ties the amount of interest and/or principal payment to a reference index, such as a price index, an interest rate, an exchange rate index, or to a price of a commodity (e.g., gold).

4.56 Box 4.1 shows examples of some common types of debt securities. Box 4.2 presents examples of debt securities issued and traded in international markets.

4.57 ***Bills are debt securities that give the holders the unconditional right to receive stated fixed sums on a specified date.*** Bills are generally issued with short-term maturities at a discount to face value that depends on the rate of interest and the time to maturity; they are usually traded in organized markets. Examples of such short-term securities are treasury bills, negotiable certificates of deposit, promissory notes, bankers' acceptances, and commercial paper.

4.58 ***Bonds and debentures are long-term debt securities that give the holders the unconditional right to fixed payments or contractually determined variable payments on a specified date or dates, that is, the earning of interest is not dependent on earnings of the debtors.*** Bonds and debentures also give holders the unconditional right to fixed sums as payments to the creditor on a specified date or dates.

Box 4.1 Debt Securities: Some Common Types

Short-term securities sold on a zero coupon (or discount) basis

- Treasury bills and other securities issued by a central government or its agencies
- Other securities issued by state and local government
- Commercial and financial papers issued by financial and nonfinancial corporations
- Negotiable certificates of deposit issued by other depository corporations (ODCs)
- Bankers' acceptances

Long-term securities sold on a fixed-rate coupon basis

- Central government bonds
- Bonds issued by state and local governments
- Corporate bonds
- Negotiable certificates of deposit issued by ODCs
- Preferred stock (if qualifying as debt rather than equity)

Pass-through and other asset-backed securities (including principal-only and coupon-only strips)

- Collateralized mortgage obligations
- Collateralized debt obligations
- Mortgage-backed bonds

Debentures: unsecured or uncollateralized debt security backed only by the creditworthiness of the issuer

Debt securities with embedded financial derivatives

- Denominated in a foreign currency[1]
- Variable interest rate (including with interest caps, floors, or collars)[1]
- Interest and/or principal indexed to equity values, commodity prices, or other reference variables
- Callable at the option of the issuer
- Puttable at the option of the holder
- Convertible to equity shares
- Extendable maturity
- Credit derivative features

[1] Included under the broadest characterization of embedded financial derivatives.

Box 4.2 Debt Securities: Some Types Traded in International Markets[1]

Short-term securities. Eurocurrency instruments, denominated in U.S. dollar, euro, yen, etc.

- *London certificates of deposit*. Negotiable certificates of deposit issued by a London bank or a London branch of a foreign bank
- *Euro commercial paper* and *euronotes*
- *Euro bankers' acceptances.*

Long-term securities. International bonds are those issued outside the domestic market of the borrower.

- *Global bonds.* Simultaneously placed in the euro area and one or more domestic markets with securities fungible between the markets
- *Eurobonds.* Issued by a borrower in a foreign country, denominated in a euro currency (U.S. dollar, euro, yen, etc.), and underwritten and sold by an international syndicate of a financial corporation
- *Floating-rate notes (FRNs)*. Medium- to long-term securities with variable rates usually linked to the London interbank rate (offer, bid, or average rate).

[1] For descriptions of these and other instruments, see the *Coordinated Portfolio Investment Survey Guide* (2002), Appendices V and VI.

Specific types of debt securities[20]

4.59 Negotiable loans. Loans that have become negotiable de facto are to be reclassified from loans to debt securities. For such reclassification, there needs to be evidence of secondary market trading, including the existence of market makers and frequent quotations of the instruments, such as provided by bid-offer spreads.

4.60 Preferred shares. Nonparticipating preferred stocks or shares (also called preference shares) that pay a fixed income but do not provide for participation in the distribution of the residual value of an incorporated enterprise on dissolution are included in debt securities.

[20] Appendix I of the *External Debt Statistics: Guide for Compilers and Users* (2013) provides detailed information on specific types of financial instruments and transactions, and their classification in the gross external debt position.

4.61 Convertible bonds are fixed interest rate bonds that may be converted into equity and should also be classified as debt securities prior to the time when they are converted.

4.62 Bankers' acceptances (BA) are treated as debt securities from the time of acceptance (even though funds may not be exchanged until a later stage) and classified under the category of debt securities. A BA involves the acceptance by an FC, in return for a fee, of a draft or bill of exchange and the unconditional promise to pay a specific amount at a specified date. A BA must be tradable. The BA represents an unconditional claim on the part of the holder and an unconditional liability on the part of the accepting FC; the FC's counterpart asset is a claim on its customer. (See also *Bills of exchange and acceptances* in the subsection *Loans*.)

4.63 Private placements of debt securities involve an issuer selling debt securities directly to a small number of investors without public offering. The creditworthiness of private placements is not assessed by credit rating agencies and as the securities are generally not resold or re-priced, their secondary market is thin. To the extent that some private placements can be (and are) traded among investors, the criterion of negotiability for debt securities is met.

4.64 A structured debt security combines a debt security, or a basket of debt securities, with a financial derivative, or a basket of financial derivatives. This financial derivative, or the basket, is embedded in and is, therefore, inseparable from the debt security. When the debt security and financial derivative components of a financial instrument are separable from each other, they should be classified accordingly; but if they cannot be separated, then the instrument should be valued and classified according to its primary characteristics, either as a debt security or financial derivative.[21]

4.65 Depository receipts (DRs)[22] allow a nonresident institutional unit to introduce its equity or debt into

[21] For more detailed discussion on structured debt securities see the *Handbook on Securities Statistics*, Annex 2.

[22] The most common categories are American depository receipts (ADRs) and Global depository receipts (GDRs), both most often denominated in U.S. dollars, but sometimes in euros. ADRs are traded on U.S. exchanges such as the New York Stock Exchange and American Stock Exchange, while GDRs are commonly listed on European stock exchanges such as the London Stock Exchange.

another market in a form more readily acceptable to the investors in that market. A resident deposit-taking corporation will acquire the underlying securities and then issue receipts in a currency more acceptable to the investor. After issuance, DRs can be traded freely among investors, either on a stock exchange or OTC. DRs are classified according to the underlying financial instrument backing them (i.e., as debt securities or equity). This is because the issuer (the deposit-taking corporation) does not take the underlying securities onto its balance sheet, but rather acts as a facilitator.

4.66 A promissory note is an unconditional promise to pay a certain sum on demand on a specified date. Promissory notes are one specific type of debt securities within the category *bills*, which give holders the unconditional rights to receive the stated sums on a specified date. Bills are issued and usually traded in organized markets at a discount to face value depending on the rate of interest and the time to maturity.

Debt securities issued through securitization

4.67 ***Securitization involves the issuance of debt securities that are backed by financial assets (such as mortgage loans, claims on credit card holders, car loans, commercial and industrial loans), nonfinancial assets, or future income streams (such as from music record or ticket sales).*** Although future income streams are sometimes used in securitization transactions, these future streams are not recognized as an asset in macroeconomic statistics.[23] Securitization of assets provides liquidity in assets that are otherwise not so liquid. For example, an originating mortgage lender could sell a portfolio of loans to a special purpose vehicle that issues securities to investors that are "backed" by the loans. In cases in which the originator issues asset-backed securities on its own books, the securitization may take place without the creation of a separate entity. Examples of debt securities issued through securitization are provided in Annex 4.1.

Indexed securities

4.68 Indexed debt securities are instruments for which either the coupon payments (interest) or the principal or both are linked to an index such as a price index, an interest rate, an exchange rate index, or the price of a commodity. These securities are classified as variable-rate instruments. The recording of revaluations and interest for indexed financial instruments is discussed in Chapter 5 (paragraphs 5.53–5.59 and Annex 5.2, paragraph 5.271).

D. Loans [F4]

4.69 ***Loans are financial assets that are (1) created when a creditor lends funds directly to a debtor, and (2) evidenced by documents that are not negotiable.***[24]

4.70 The category of loans includes overdrafts, mortgage loans, installment loans, hire-purchase credit, loans to finance trade credit, and payday loans. Claims on, or liabilities to, the IMF that are in the form of loans are also included in this category.[25] An overdraft arising from the overdraft facility of a transferable deposit account is classified as a loan. Repurchase agreements, gold swaps, and financing by means of a financial lease are classified as loans, with few exceptions, as explained in the remainder of this subsection. Undrawn lines of credit are not recognized as an asset as they are only potential claims. Accounts receivable/payable, which are treated as a separate category of financial assets, and loans that have become debt securities are also excluded from loans.

Repurchase agreements and securities lending

4.71 ***A securities repurchase agreement (repo) is an arrangement involving the sale of securities for cash, at a specified price, with a commitment to repurchase the same or similar securities at a fixed price either on a specified future date (often one or a few days hence, but also further in the future) or with an "open" maturity.***[26] A repo is viewed from the perspective of the provider of the securities (i.e., the cash

Other categories are *European depository receipts* and *International depository receipts*. Based on a determined ratio, each DR may be issued as representing a single or more than one share of the underlying equity.

[23] The *Handbook on Securities Statistics* (Chapter 6) provides a description of three broad types of securitization schemes and the range of debt securities issued under these schemes.

[24] Negotiability is defined in paragraph 4.52. Loans may be traded, but their legal form is not designed for negotiability in the same way as debt securities.

[25] Annex 4.2 of this chapter contains a detailed discussion on IMF-related accounts.

[26] "Open" maturity is where both parties have the option to agree daily to renew or terminate the agreement. Such an arrangement avoids settlement costs if both parties wish to rollover the repo on a continuing basis.

taker). The agreement is called a reverse repo when viewed from the perspective of the securities taker (i.e., the cash provider).

4.72 Repos convey the legal ownership of the securities to the cash provider, which entitles the cash provider to sell the securities to a third party (on-selling). Despite conveyance of the legal ownership to the cash provider, the economic ownership is retained by the cash taker (i.e., the securities provider), as the cash taker retains the market risk and ownership benefits, other than the right of sale, including holding gains or losses and interest income on the securities. Because of these features, a repo is similar to a loan that is collateralized by the securities underlying the agreement.

4.73 Repos may be used for a variety of different purposes, for example, as a means of financing the acquisition of the underlying instrument, for cash borrowing, or as a means of covering a negative position ("short" position) in the security. In some circumstances, substitution of the securities may be permitted.[27] To provide for protection against adverse movements in the price of the security, a "haircut" is subtracted from the market value of the asset used as collateral; with the size of the "haircut" reflecting the perceived risk associated with holding the asset. An additional margin deposit may be required to cover residual counterparty risk. Repurchase agreements are usually "cash-driven," where the motivation is to obtain cash with the security provided as collateral; but they may be "security-driven," where the motivation is to obtain a security when it has "gone special" (i.e., when it has become difficult to obtain).

4.74 A buy-sell-back is one type of repo, which involves a spot sale of a security with a simultaneous forward purchase. Buy-sell-backs have the same economic effect as a securities repo. The main difference between the two arrangements is that in a repo both transactions are conducted under the same contract, whereas under a buy-sell-back the transactions are conducted under two legally independent contracts: a spot transaction and the opposite forward transaction.

4.75 In macroeconomic statistics, securities repurchase agreements are treated as collateralized loans or deposits, rather than as outright sales of securities. Generally, a repurchase agreement is classified as a loan. However, repurchase agreements with money-holding sectors resembling a deposit, where the DC is the cash taker, should be classified as other deposits and may be included in broad money. The securities should remain on the balance sheet of the cash taker and a new financial asset (i.e., a loan or a deposit) should be recorded as an asset of the cash provider and a liability of the cash taker.

4.76 Securities acquired under reverse repos may in turn be repoed. In such circumstances, the securities under repo support two loan transactions—the cash provider's claim on the cash taker under the original repo and the claim of the "on-buyer" (i.e., the cash provider under the new repo) on the original cash provider (i.e., the cash taker under the new repo, who is also the cash provider under the first repo/reverse repo). The party with the loan asset from the reverse repo does not net it against the loan payable in the subsequent repo, because the counterparties to the two transactions are different. Double-counting of the holding of the security should not arise in such a case, because the securities underlying both the first and the second repos continue to be recorded only on the balance sheet of the original cash taker.

4.77 Consistent with the *2008 SNA* and other statistical manuals, this *Manual* makes a specific recommendation on the statistical treatment of securities that are acquired under reverse repo and are on-sold outright. Although a cash provider should not record the acquisition of a security under a reverse repo as a transaction in securities, if the security so acquired is on-sold outright, a transaction in the security should be recorded by the cash provider (and by the outright purchaser). This is known as "short selling"[28] —the sale of a financial asset not currently held on-balance sheet—and results in a recorded short position in the security for the on-seller. This treatment reflects the economic ownership in that the holder of the negative position is exposed to the risks and rewards of the security, in an equal and opposite way, as the party in a long position. Interest accrues on the negative posi-

[27] Similar securities can be substituted if permitted under the agreement. "Similar" may be defined narrowly or broadly, depending on the circumstances.

[28] This treatment should be applied to the recording of all short sales of securities, whether or not associated with repos.

tion negatively (i.e., the negative position becomes larger). In aggregate, the recording of a negative position overcomes the double counting that would otherwise result from the security being recorded as an on-balance sheet asset holding of the third party that has purchased it outright, as well as still being recorded on-balance sheet as a security asset holding of the cash taker under the repo.

4.78 In this instance, additional information may be required for a fuller understanding of the repo market and to determine who is holding the instrument. It is useful for the analysis of liquidity, leverage, and vulnerability, to identify the parties to repo transactions. Accordingly, it is recommended that when a repo (reverse repo) is undertaken, data on the counterparty to the repo (reverse repo) transaction (resident sector or nonresident) and the instrument and sector of issuer (e.g., government debt security) are made available to the compilers, for ensuring appropriate recording in sectoral balance sheets.

4.79 ***A tri-party repo is a transaction mediated by a third party, typically a custodian bank or central counterparty, to reduce counterparty risk for the lender.*** Tri-party repos are structured in a way that transfers the risk to the third party as follows: (1) the borrower enters into a repurchase agreement with the third party, borrowing the required amount and pledging collateral to the third party as required; (2) the lender enters into a reverse repurchase agreement with the third party; and (3) the third party administers the transaction and the collateral, acting as the direct counterparty to the seller and the buyer, thus assuming the risk of default of the borrower.[29]

4.80 ***Securities lending is an arrangement whereby a security holder transfers securities to a borrower, subject to the stipulation that the same (or similar)***[30] ***securities be returned on a specified date or on demand.*** "Full, unfettered ownership" is transferred to the borrower, but the risks and benefits of ownership (economic ownership) remain with the original owner.[31] The practice is undertaken by owners of securities to raise the return on the securities and/or to reduce the cost of custody.

4.81 Securities lending arrangements are divided into two major categories that are delineated by the type of collateral—either cash or securities—that is provided to the lender of the securities.[32] The borrower of the securities usually provides collateral that is of equal value to, or greater value than, the value of the securities being lent.

4.82 Securities lending backed by cash collateral is similar to a repo, has the same economic effect as a repo, and so is treated statistically in the same way as a collateralized loan.

4.83 Securities lending that is backed by collateral other than cash (or that is not collateralized) should not be treated as a transaction and should be recorded off-balance sheet by both the lender and borrower of the securities. If the securities are on-sold outright to a third party, the "borrower" of the securities should record a security transaction, and a reduction in security assets, resulting in a "short" position in that security asset. Similar to repos, this approach overcomes the double counting that would otherwise result, in the aggregate, from the security being recorded as an on-balance sheet asset holding of the third party that has purchased it outright as well as still being recorded on-balance sheet as a security asset holding of the original lender of the securities.[33]

4.84 Similar to securities received under a repo that are on-sold, additional information may be required when a security acquired under a securities lending transaction has been on-sold.

Gold swaps and gold loans

4.85 ***A gold swap***[34,35] ***involves an exchange of gold for foreign exchange with an agreement that the transaction be reversed at an agreed future date at an***

[29] See European Central Bank (2012), pages 119–120.

[30] Similar securities can be substituted, if permitted under the lending arrangements.

[31] If the original owner does not retain these elements of ownership, the provision of the securities should be viewed as an outright sale.

[32] In some instances, collateral is not provided.

[33] The collateral might, conceivably, be provided in part in securities and the rest in cash. If so, the securities lending should be recorded as a loan in the amount of the cash collateral and, in all other respects, should not be recorded on the balance sheets of the lender and borrower of the securities.

[34] These swaps should not be confused with interest rate or currency swaps that are financial derivatives, as described later in this chapter.

[35] Gold swaps may be more broadly defined to include arrangements involving nonmonetary gold and parties other than qualified holders of monetary gold.

agreed gold price, so that the original owner remains exposed to the gold market. Gold swaps are forms of repurchase agreements undertaken between central banks or between a central bank and other types of FCs. Its features are similar to those of a repo and, therefore, they should be treated in a similar way.

4.86 Gold swaps should be recorded as collateralized loans when they involve the exchange of gold for foreign exchange. Consequently, the gold remains on the balance sheet of the original owner and is not taken onto the balance sheet of the cash provider—in the same manner in which a repurchase agreement is recorded. If gold received under a gold swap is swapped again, the same treatment applies: it is treated as a collateralized loan by both parties. In the event that the gold received under a gold swap is sold outright, the seller (if not a monetary authority) should record a "short" holding of nonmonetary (i.e., commodity) gold and the purchaser (if not a monetary authority) should record on its balance sheet a holding of nonmonetary (i.e., commodity) gold. If the gold acquired under a gold swap is sold outright by a nonmonetary authority to a monetary authority, monetization will be involved.[36] If gold received under a gold swap is sold outright by a monetary authority (whether to a monetary authority or another party), it should record on its balance sheet a negative position in monetary gold. The transaction will involve demonetization if the counterparty in this instance is not a monetary authority.

4.87 Gold loans (or gold deposits) may be undertaken to obtain an income return on gold. The gold that is placed on loan (or deposit) may be either a financial asset (i.e., monetary gold) or a nonfinancial asset (i.e., nonmonetary gold). The gold remains on the books of the gold lender, and the lender retains the exposure to the market risk arising from movements in the market price of gold. Gold loans (or deposits) are not backed by cash collateral and, in some cases, are not backed by any collateral. However, the gold may be on-sold by the borrower. This *Manual* (and the *2008 SNA* and other statistical manuals) recommends that gold loans be treated as off-balance-sheet items (i.e., not recorded as assets or liabilities, and transactions). If the gold is on-sold, however, the on-selling party (i.e., the gold borrower) should record a gold transaction, in the same manner as to gold swaps. (See also paragraph 4.44.)

4.88 Recording repos, securities lending, gold swaps and gold loans (reverse transactions) under the collateralized loan approach as set out in this *Manual*, is in line with the economic ownership principles in the *2008 SNA*.

Financial leases

4.89 A financial lease is a contract under which the lessor, as legal owner of an asset, conveys substantially all the risks and rewards of ownership of the asset to the lessee. The lessee, therefore, becomes the economic owner of the asset. A financial lease involves imputing a loan. Under a financial lease, the lessor is shown as making a loan to the lessee, which the lessee uses to acquire the asset. Thereafter, the leased asset is shown on the balance sheet of the lessee and not of the lessor, the corresponding loan is shown as an asset of the lessor and a liability of the lessee. Payments under the financial lease are treated not as rentals on the asset but as payments of interest, possibly a service charge (financial intermediation services indirectly measured), and repayments of principal on the imputed loan. Such financial leases are classified as loans.

4.90 The statistical treatment of financial leases is designed to move away from the legal arrangements to capture the economic substance of such arrangements, by treating assets under a financial lease as if they were acquired and owned by the user who financed the acquisition with a loan. For example, if a bank leases a cargo vessel to a transportation company, the company is deemed to have taken economic ownership of the vessel. The vessel is therefore shown as an asset in the balance sheet of the transportation company, while a loan is recorded as a liability.

4.91 Examples of situations that would usually lead to a recording of a financial lease include:

a. The lease transfers legal ownership to the lessee at the end of the lease term; or

b. The lease has the option for the lessee to acquire legal ownership at the end of the lease term at a

[36] This could create the situation where monetary gold is overstated, in aggregate, as far as the same holding of gold would be reported on the balance sheet of two monetary authorities at the same time. If both the originator of the gold swap and the outright purchaser are monetary authorities, and the outright seller is not a monetary authority, there will be no offsetting negative position: the negative position will be recorded by the nonmonetary authority in nonmonetary gold.

price that is sufficiently low that the exercise of the option is reasonably certain; or.

c. The lease term is for the major part of the economic life of the asset; or

d. At inception, the present value of the lease payments amount to substantially all of the value of the asset; or

e. If the lessee can cancel the lease, the lessor's losses are borne by the lessee; or

f. Gains or losses in the residual value of the residual asset accrue to the lessee; or

g. The lessee has the ability to continue the lease for a secondary period for a payment substantially lower than market value.

4.92 These conditions in the lease contract may not, however, demonstrate conclusively that substantially all of the risks have been conveyed; for example, if the asset is conveyed to the lessee at the end of the lease at its fair value at that time, then the lessor holds substantial risks of ownership. The lease is then called an operating lease. Financial leases are also called finance leases, capital leases, or full-payout leases, highlighting that the motivation is to finance acquisition of the asset. Accounting practices recognize financial leases in the same way as in macroeconomic statistics.

Credit card debt

4.93 Credit cards are used as a convenient means of payment for purchases and as a means of financing purchases. Cardholders usually do not incur financing charges if the entire balance due for their credit-card purchases is paid within each billing cycle, typically monthly. Card holders who carry credit card balances on a month-to-month basis are charged interest on all outstanding balances, including the balances generated by new credit card purchases during the month leading up to the billing cycle. All credit card balances should be classified as loans, and interest accrued and not yet paid are recorded as for loans.

Loan participations

4.94 A loan participation occurs when two or more investors (usually FCs) jointly fund a loan to a single borrower, either through a loan syndication—a loan origination by a syndicate, or group, consisting of a lead creditor and one or more other creditors who jointly finance the loan—or when portions of an outstanding loan that was originated by one creditor are purchased by various creditors. Each syndicate member records the amount of the loan participation that the member has funded.

4.95 A loan participation should be disaggregated by economic sector of the debtor and each creditor. Debtor-creditor relationships for loan participations are determined by contractual arrangements. If the loan participation is on an assignment basis (the most prevalent type), each participant has a direct creditor claim on the debtor. If the loan participation is on a nonassignment basis, the initial contract between a single creditor and the debtor remains intact, but the original creditor incurs a liability to each purchaser of a participation in the loan. The entries for the loan transactions are:

a. Assignment basis. Each participant classifies the amount of the loan participation as a direct claim on the original debtor. The debtor records the loan participations as individual loans, disaggregated by economic sector of the creditor. The originator of the loan participation would show a loan claim on the debtor only to the extent that the originator retained a participation in the loan.

b. Nonassignment basis. The original creditor/debtor relationship remains intact, and a new set of creditor/debtor relationships is created. The original creditor continues to record a loan claim on the debtor, and the debtor continues to record a loan to the original creditor—in the full outstanding amount of the loan. In addition, the original creditor records a loan liability to each participant in the outstanding amount of participation, classified by economic sector of the participant. Each participant shows the outstanding amount of the participation as a loan claim on the original creditor, classified by the economic sector of the original creditor. An FC may specialize in originating loans that are to be sold (usually, shortly after origination) to another FC that intends to hold the loans to maturity.

4.96 Loan participations that, after initial purchase, are to be held to maturity should continue to be clas-

sified as loans. If structured as a negotiable instrument, all syndicate participants should classify the loan participations as debt securities, resulting in the single classification, as debt securities, for the entire syndicated loan.

4.97 Collection and disbursement of the interest and principal payments are usually on a pass-through basis. The FC that sold the loan participations (or its agent) records the interest and principal payments receivable from the debtor and, for a fee, passes the amounts payable to the loan participants (even if the seller of the loan participations no longer holds a participation share).

Bills of exchange and acceptances

4.98 A bill of exchange is an unconditional order written and signed by one party (drawer of the bill), requiring the party to whom it is addressed to pay on demand, or at a fixed or determinable future time, a specified sum to order or to the bearer. Bills of exchange—sometimes called *trade bills* or simply *bills*—are most often associated with foreign trade, but also may be used for domestic trade. Bills of exchange are often called *sight drafts* or *time drafts*, depending on whether payable on demand or payable by a specified future date. A bill of exchange is an *order to pay*, rather than a *promise to pay*. When it is received and "accepted"—stamped[37] and signed—by the party on whom it is written (i.e., the drawee), the bill of exchange becomes a promissory note[38] and is designated as an *acceptance*.[39]

4.99 An acceptance is classified within loans, debt securities, or trade credit, depending on the characteristics of the credit instrument. Those acceptances that are eligible for rediscounting in a secondary market or by a central bank are usually known as bankers' acceptances and classified as debt securities (see paragraph 4.62). Acceptances ineligible for rediscounting are designated as other acceptances and are classified as loans or trade credit depending on the nature of the acceptance.[40] The loans and debt securities created through acceptances include:

a. Exporter credit. The drawer (exporter) may hold the acceptance and, at maturity, receive payment (usually channeled through the exporter's bank) from the drawee (importer). The drawer would classify the acceptance as a trade credit claim on the drawee.

b. Export bill. Instead of holding the acceptance, the drawer (exporter) may rediscount the acceptance at a DC. If ineligible for further rediscounting, the acceptance should be classified as a loan that the DC has extended to the drawee (importer). If eligible for rediscount in the bankers' acceptances (BA) market and/or at the central bank, the acceptance should be classified within debt securities and, for purposes of sectoral classification, should be attributed to the economic sector of the drawee (importer), who is the original issuer.

c. Import bill. An importer may arrange an acceptance that calls for the exporter to be paid from the proceeds of a loan that the importer obtains from an ODC that will make the payment. The credit advanced to the importer is classified as a loan by the ODC. The loan remains in the DC's loan portfolio until repaid by the importer.

d. Banker's acceptances. Export and import bills that meet the BA eligibility requirements are sold to BA investors, principally to FCs, NFCs, and nonresident institutions. For classification by debtor, the BA should be attributed to the economic sector of the drawee of the bill of exchange. For example, the BA based on an export bill drawn on an importer should be classified within debt securities issued by nonfinancial corporations (assuming the importer is a nonfinancial corporation). The purchaser of a BA that originated as an import bill drawn on an ODC should classify the BA within debt securities in the subcategory for claims on ODCs.

e. Own acceptances. A DC may repurchase its' own acceptances that it earlier issued in the

[37] Traditionally, a stamp and signature were required, but modern drafts may not be stamped, but are subject to other forms of acceptance, such as electronic signatures, etc.

[38] See paragraph 4.66 for the definition of promissory notes.

[39] A check written on a bank is a bill of exchange that, because payable on demand, is sometimes called a sight draft. A bank "accepts" a check by making the ordered payment.

[40] ODCs provide a variety of off-balance-sheet services for bills of exchange and acceptances, including letters of credit that support the origination of bills of exchange and cross-border transmission of documentation for the bills and acceptances.

bankers' acceptance market. Holdings of own acceptances, representing a DC's liability to itself, should be deducted from the liability account for bankers' acceptance outstanding. The repurchased own bankers' acceptance can be reintroduced as a debt security, if the DC decides to rediscount them in the bankers' acceptance market during the remaining term to maturity.

Nonperforming loans

4.100 ***A loan is nonperforming when (1) payments of interest and/or principal are past due by 90 days or more; or (2) interest payments equal to 90 days or more have been capitalized or delayed by agreement; or (3) evidence exists to reclassify a loan as nonperforming even in the absence of a 90-day past due payment, such as when the debtor files for bankruptcy.*** Once a loan is classified as nonperforming, it (or any replacement loans) should remain classified as such until payments are received, or the principal is written off on this or subsequent loans that replace the original.

4.101 Impaired loan trading. Loans sold in secondary markets range from high-quality loans (those with little credit risk) to nonperforming or otherwise impaired loans for which repayment is highly uncertain, or even unlikely. Transactions in nonperforming or otherwise impaired loans often involve purchases at deep-discounted prices (i.e., at well below the nominal value, or carrying amount, of the loans), reflecting the potential default on interest and principal payments for significant proportions of the loan portfolios purchased. These instruments should be classified as loans even if sold at a fraction of nominal value unless there is evidence of secondary-market trading, including the existence of market makers, and frequent quotations of the instruments, such as provided by bid-offer spreads. In the latter case, they are classified as debt securities and recorded at market value.

Distinction between deposits and loans

4.102 As a general principle, all financial instruments that can be used for direct payments to third parties should be classified as transferable deposits, regardless of the designation of the instrument (i.e., checking account, current account, giro account, nostro/vostro account, etc). Transferable deposits cannot be classified as loans, because loans are not usable for payments to third parties.

4.103 Differentiating between an other deposit and a loan can be more difficult, in particular for interbank transactions. This *Manual* recommends that classification as an other deposit or as a loan is based on the instrument characteristics specified in the documentation, focusing on whether an early withdrawal for the creditor is possible or not. If the creditor does not have an option of early withdrawal, the instrument should be classified as a loan unless the creditor is a household or a nonfinancial corporation. Regardless of the classification, the financial instrument should have the same classification in the accounts of the creditor (holder of the financial asset) and the debtor (issuer of the liability).

Other deposits

4.104 Deposits in broad money (see Chapter 6). The issue of distinguishing between a loan and a deposit does not arise for a financial instrument that is included in broad money. In particular, broad money does not include a separate component for loans. Any financial instrument that, in national terminology, is designated or informally described as a loan is classified as an other deposit, if the financial instrument is included in broad money.

4.105 Zero-interest deposits. The issue of distinguishing between a loan and a deposit does not arise for a financial instrument that is non-interest bearing. Loans are generally recognized as interest-bearing instruments (with some minor exceptions such as a credit card debt that is paid within the specified period). The most common category of zero-interest deposits are transferable deposits.

4.106 Deposits with non-formula-based variable interest rates. This category relates to savings accounts. The amount and timing of an increase or decrease in interest rate is at the discretion of the DC in which the deposit is placed. The new interest rate applies to all deposit accounts (new accounts and those outstanding) in the category. This type of interest-rate mechanism does not typically exist for loans.

4.107 Insured deposits. Deposit insurance is a means of ensuring that depositors (usually with a predefined limit) will recover all or part of their deposit balances in DCs that have been liquidated. Credit guarantees

applied to loans and debt securities are similar to deposit insurance. An insured deposit and a loan subject to third-party guarantee can be distinguished on the basis of the institutional arrangements and the nature of asset coverage. Deposit insurance is usually provided by an institutional unit[41]—the insuring agency—that specializes in insuring broad categories of DCs' liabilities. In contrast, credit guarantees apply to an individual loan or loan portfolio (or specific set of securities). Loans subject to credit guarantees are a means of ensuring that creditors (primarily, central governments and corporate lenders) are covered in the event of default by a borrower or issuer of securities.

4.108 Deposits in the form of repurchase agreements. Repurchase agreements are classified as other deposits if they are contracted with money holders and the DC is the cash taker (see paragraph 4.75). All other repurchase agreements (and all collateral-based security lending arrangements) are classified as loans.

4.109 Margin deposits. Investors hold deposits to meet the daily settlement requirements for financial futures and for other purposes. Margin deposits held at DCs are classified as deposits. Margin deposits held at a financial auxiliary are classified as deposits, if the general ledger of the financial auxiliary includes deposit accounts. If not, the financial auxiliary may include the margin deposits in the category of *Other accounts payable [MS]—other*. The margin accounts are not classified as loans (see also paragraphs 4.47–4.51).

4.110 Deposits incorporated in residential mortgage loan contracts. This type of arrangement—called an *offset mortgage*—combines a mortgage loan and one or more deposit accounts that the mortgagee holds at the lending institution. The outstanding balances in the deposit accounts are deducted from (i.e., offset against) the outstanding amount of the mortgage loan so as to obtain the net outstanding amount for calculation of monthly loan payments. Under flexible offsetting arrangements, the deposit offset can be used to (1) reduce monthly loan payments, (2) occasionally skip monthly payments, or (3) accelerate repayments to shorten the effective maturity of the mortgage loan. Under some arrangements, the mortgagee's credit-card debt and other types of non-mortgage borrowing can be consolidated with the mortgage loan and the deposit offset. Despite the account consolidation, the mortgagee/depositor retains access to the deposit accounts and receives monthly statements that show the activity of the individual deposit and loan accounts. The deposit and loan components of the offset mortgage are recorded separately in the categories of *Deposits* and *Loans*, respectively.

[41] This does not apply in cases when a deposit insurance or a financial guarantee scheme is part of the general government.

Loans

4.111 Collateralized loans. Many business loans, commercial and residential mortgage loans, and consumer loans for the purchase of automobiles and other durable goods are backed by collateral. Loans that investors acquire from securities brokers and dealers are usually collateralized by securities or other financial assets that the investors are purchasing (or by other securities or other financial assets that the investors already hold). Deposit contracts do not include collateral requirements.

4.112 Loans with protective covenants. Protective covenants appear in some loan contracts, but not in deposit agreements. Protective covenants may stipulate specific actions that a borrower must take (e.g., maintain at least a specified amount of working capital throughout the life of a loan). Other protective covenants may specify actions that a borrower must not take without the lender's approval (e.g., expansion of fixed assets, acquisition of additional external financing, entry into a merger, establishment of a subsidiary, or replacement of the senior management of the borrowing firm).

4.113 Loans with supporting balance requirements. Loan contracts can specify that, throughout the life of a loan, a borrower must maintain a required amount (or average amount) of deposits in the depository corporation that makes the loan. Similar requirements do not exist for deposits.

4.114 Loans backed by letters of credit and or other trade-related documentation. Trade bills, letters of credit, and other trade-related documents are used to facilitate the lending associated with the acquisition of imports (or sometimes domestic goods). Financial instruments backed by such documentation are classified as loans. Similar arrangements do not exist for deposits. Credit in the form of bankers' acceptances that are tradable instruments should be classified as debt securities.

4.115 Loans made under commitment. Loan commitments, which once were informal credit lines available to corporate customers who kept adequate deposit balances at lending institutions, and are now firm agreements that lay out lending institutions' obligations to provide credit in the future (including the amount of credit available and the interest rate to be charged), in return for customers' payments of fees to guarantee the credit availability. All credit extended under informal credit lines or formal loan commitments (including revolving credit arrangements) are classified as loans.

Distinction between loans and debt securities

4.116 The defining feature that distinguishes between loans and debt securities is that the former are nonnegotiable financial contracts (evidenced by nonnegotiable documents), whereas the latter are negotiable instruments.[42] Loans that become negotiable or tradable should be reclassified from loans to debt securities (see paragraph 4.59). In other words, debt securities should include loans that have become negotiable de facto. These debt securities result from the conversion of loans, with the recording of two other changes in the volume of assets (OCVA) flows, that is, liquidation of the loan and creation of the new debt security (see paragraph 5.21e).

E. Equity and Investment Fund Shares [F5]

Equity [F51]

4.117 ***Equity comprises all instruments and records acknowledging claims on the residual value of a corporation or quasi-corporation after the claims of all creditors have been met.*** Equity is treated as a liability of the issuing institutional unit.

4.118 Ownership of equity in legal entities is usually evidenced by shares, stocks, participations, DRs, or similar documents. Shares and stocks have the same meaning. Participating preferred shares are those that provide for participation in the residual value on the dissolution of an incorporated enterprise. Such shares are also equity securities, whether or not the income is fixed or determined according to a formula.

[42] Similar to the case between loans and debt securities, the defining feature that distinguishes between deposits and debt securities is that the former are nonnegotiable financial contracts (evidenced by nonnegotiable documents), whereas the latter are negotiable instruments.

4.119 Shares (often called common stock) of a corporation may be widely held among many investors, closely held among a few investors, held within a single family, or held exclusively by one corporation or an individual. Shares in a corporation may be traded on securities exchanges, in OTC markets, or not traded.

4.120 Share holdings of FCs include shares of their own subsidiaries, as well as shares of unrelated corporations. Financial holding companies (see paragraph 3.182) hold shares of subsidiaries (principally, FCs) that they own and control. Subject to national law and regulation, FCs may hold shares in DCs, OFCs, NFCs, and foreign corporations. In a few countries, FCs (and, in some countries, other investors) hold central bank shares.

4.121 Corporations sometimes purchase their own shares in the market. The reacquired shares (called treasury shares) are not classified as asset holdings (i.e., as a corporation's claim on itself) but rather are deducted from funds contributed by owners within the liability account for *Equity and investment fund shares* (see paragraph 5.157).

4.122 In the *2008 SNA* (but not in this *Manual* for purposes of compiling monetary statistics), equities are subdivided into:

a. Listed shares
b. Unlisted shares
c. Other equity.

4.123 Both listed and unlisted shares are negotiable and are, therefore, equity securities.

4.124 Listed shares are equity securities listed on an exchange. They are also referred to as quoted shares. The existence of quoted prices of shares listed on an exchange means that current market prices are readily available.

4.125 Unlisted shares are equity securities not listed on an exchange. Unlisted shares can also be called *private equity*; venture capital usually takes this form. Unlisted shares tend to be issued by subsidiaries and smaller scale enterprises, and they typically have different regulatory requirements, but neither qualification is necessarily the case.

4.126 Other equity is equity that is not in the form of securities. It can include equity in quasi-corporations (such as branches, trusts, and partnerships), unincor-

porated funds, and notional units for ownership of real estate and other natural resources. The ownership of some international organizations is not in the form of shares and so is classified as other equity. Ownership of currency union central banks is included in other equity.

4.127 Other equity is principally in the form of the accumulation of proprietor's net additions to the equity of quasi-corporate enterprises—derived as (1) funds or other resources (including fixed or other assets) that the owners provide for capital investment by quasi-corporate enterprises; (2) accumulated retained earnings; *less* (3) withdrawals from quasi-corporate enterprises, which could include withdrawals of income, proceeds from the sale of fixed or other assets, transfers of fixed or other assets, and withdrawals taken from accumulated savings and reserves.

4.128 For quasi-corporations, all equity (including retained earnings and reserves) is assumed to be held by the owners. In some cases, the owners may provide financing to a quasi-corporation through the extension of loans, placement of deposits, purchase of debt securities issued by the quasi-corporation, or provision of trade credit to the quasi-corporation. The owners and the quasi-corporations should record such claims/liabilities as respectively loans, deposits, etc., in line with the contractual financial instrument, rather than as additions to the equity of quasi-corporations. The owner may also provide nonfinancial assets such as machinery, and this increases the value of other equity in the quasi-corporation to the owner.

4.129 Shares include DRs, if their underlying instruments are shares (see paragraph 4.65).

Equity liability [MS]

4.130 In the context of the monetary statistics (but not financial statistics), FCs' total liabilities in the form of equity (except MMF and non-MMF investment fund shares)[43] are recorded at book value, the difference between the value of the balance sheet assets and liabilities other than equity liabilities. This measure of equity liabilities is labeled "*Equity liability [MS]*" in this *Manual*.

4.131 For the purposes of monetary statistics, *Equity liability [MS]* can be divided into the following separate components:

a. Funds contributed by owners, which include the total amount from the initial and any subsequent issuance of shares, stocks, or other forms of ownership of corporations and quasi-corporations.

b. Retained earnings, which constitute all previous years' after-tax profits that have not been distributed to shareholders or appropriated as general or special reserves.[44]

c. Current year result, which represents the accumulation of profit or loss since the beginning of the fiscal year.

d. General and special reserves, which are appropriations of retained earnings.[45]

e. Valuation adjustment, which shows the net counterpart to changes in the value of assets and liabilities on the balance sheets of FCs, excluding those changes in value (i.e., gains or losses) that are recorded in net profit or loss for the period under IFRSs or national financial reporting standards (see paragraph 2.58).

4.132 *Equity liability [MS]* is reconciled with the *2008 SNA* concepts as presented in Figure 2.2,[46] and it is consistent with the valuation approach for unlisted equity called *own funds at book value* described in

[43] For the treatment in monetary statistics of MMF and non-MMF investment fund shares, see paragraphs 4.134–4.136.

[44] In principle, net profit or loss can be transferred to retained earnings in each period, as the profit or loss is recorded. In practice in many countries, net profit or loss is transferred to retained earnings on a quarterly or annual basis. In the periods between transfers to retained earnings, profit or loss is transferred on a cumulative basis to a separate account within equity. In national financial reporting standards, this account may be designated as results for the period, or accumulated profit or loss, or by some other name. In monetary statistics, retained earnings should include all profit or loss that has accumulated in previous periods and has been officially transferred to retained earnings; current year result should include the current period profit or loss that has not been officially transferred to retained earnings.

[45] In many cases, general reserves are required by law to provide the entity and its creditors with an added measure of protection from the effects of losses. Special reserves also provide added protection, but from the effects of losses that may arise from specific activities of the corporation or quasi-corporation.

[46] Recording the market value of the equity liability by counterparty sector on a frequent basis presents difficulties for monetary statistics compilers, given that the primary source data of FCs' accounting records do not provide such information, although estimation of such data may be made on a less-frequent basis.

the *2008 SNA* (paragraphs 13.71e and 13.88), which is applicable for quasi-corporations such as foreign-owned branches. Data for these categories support the balance sheet identity in the sectoral balance sheets and provide the necessary details for the analysis of the structure of FCs' equity.

4.133 The accounting rules for *Equity liability [MS]* are described in Chapter 5 of this *Manual*.

Investment fund shares or units [F52]

4.134 This category includes shares or units issued by all kinds of investment funds, including MMFs and non-MMF investment funds described in Chapter 3 (see paragraphs 3.144–3.146 and 3.149–3.151). Those units acquiring shares in the funds thus spread their risk across all the instruments in the fund.

4.135 MMF shares or units. As described in paragraph 3.146, MMF shares—with or without third-party payment features—are close substitutes for deposits and are included in broad money. For the compilation of monetary statistics, MMF shares or units should be separately identified on the asset and liability side of the sectoral balance sheets, with a further disaggregation on the liability side between MMF shares included in or excluded from broad money based on the creditor sector, and sectored by counterpart holding sector.

4.136 Non-MMF investment fund shares or units. As discussed in paragraph 3.149, these entities allow individual investors to acquire participation in a pool of financial assets and possibly real estate. The shares or units are not transferable and are typically not regarded as substitutes for deposits. For the compilation of monetary statistics, non-MMF investment fund shares or units should be separately identified on the asset and liability side of the sectoral balance sheets, with a further disaggregation on the liability side by counterpart holding sector.

F. Insurance, Pension, and Standardized Guarantee Schemes [F6]

4.137 IPSGS all function as a form of redistribution of income or wealth mediated by financial institutions. The redistribution may be between individual institutional units in the same period or for the same institutional unit over different periods, or a combination of the two. Units participating in the schemes contribute to them and may receive benefits (or have claims settled) in the same or later periods.

4.138 This section deals mainly with the classification of respective asset and liability accounts of insurance corporations, pension funds, and standardized guarantee schemes included in the OFCs subsector, as reflected in the sectoral balance sheets in the monetary statistics. The accounts within this category receive separate treatment, owing to the specialized treatment of these accounts in national financial reporting standards and macroeconomic statistics.

4.139 Insurance, pension, and standardized guarantee schemes (IPSGS) are usually intermediated by FCs. There are five categories of reserves applicable to IPSGS:

a. Nonlife insurance technical reserves
b. Life insurance and annuities entitlements
c. Pension entitlements and nonpension entitlements
d. Claims of pension funds on pension managers
e. Provisions for calls under standardized guarantees.

4.140 These reserves, entitlements, and provisions, except for claims of pension funds on the pension fund manager, represent liabilities of the insurer, pension fund, or issuer of standardized guarantees and a corresponding asset of the policyholders or beneficiaries. Only claims related to nonlife insurance technical reserves, claims of pension funds on the pension manager, and claims related to provisions for calls under standardized guarantees may appear as assets in the balance sheets of FCs. Further, only life insurance, and annuity and pension entitlements may appear as liabilities in the balance sheets of FCs, the beneficiaries and policyholders for which are households.

4.141 The insurers, pension funds, and guarantors usually hold a range of assets to allow them to meet their obligations; however, these are not necessarily equal to the provision and entitlement liabilities. The aggregate value of liabilities can be estimated actuarially.

4.142 In macroeconomic statistics, the term insurance is treated as a form of nonlife insurance. A policy that provides a benefit in the case of death within a given period, but in no other circumstances, is usually called term insurance and should be regarded

as nonlife insurance because, as with other nonlife insurance, a claim is payable only if a specified contingency occurs within the specified time frame, and not otherwise.

Nonlife insurance technical reserves [F61]

4.143 Nonlife insurance provides cover to the policyholders against loss or damage suffered as a result of accident, fire, property loss, health-related expenses, etc. ***Nonlife insurance technical reserves consist of prepayments of net nonlife insurance premiums and reserves to meet outstanding nonlife insurance claims.*** This definition applies to both nonlife direct insurance and reinsurance:

a. Prepayments of net nonlife insurance premiums. A buyer of an insurance coverage (the "insurance policy") pays for this service an amount—called a premium—to the insurance provider. Typically, the client prepays the premium (the cost of the insurance policy) at the beginning of the period of insurance coverage. The insurance provider earns income from the insurance service provided to the client on an accrual (pro-rated) basis.[47] The category includes prepayments for nonlife insurance policies which cover a wide variety of events such as accident, sickness, fire, theft, etc. The category also includes less-common types of premium payments, including those for reinsurance and deposit insurance.[48] The category includes prepayments that insurance corporations have made to other insurance corporations—for example, a life insurance corporation's prepayments for fire insurance provided by a nonlife insurance corporation. It also includes reserves for unexpired risks, which are reserves created at the discretion of the insurer if it considers that the funds kept in the unearned premium reserve are not enough to cover the perceived risk.

   Prepayment of nonlife insurance premiums is one of the categories of IPSGS for which there are both asset and liability positions in the sectoral balance sheets of FCs. Assets cover the amount of FCs' prepayments for insurance services to all resident and nonresident insurers; liabilities cover the prepayment of insurance premiums received from all resident and nonresident policyholders by a resident insurance corporation.

   Prepayments in the asset account for IPSGS need to be disaggregated by prepayments made to resident (with breakdowns into ODCs[49] and OFCs) and nonresident insurers. The disaggregation is needed to facilitate the compilation of total claims on and liabilities to (1) resident individual institutional sectors, and (2) nonresidents, as shown in the consolidated surveys compiled from the sectoral balance sheets discussed in Chapter 7.

b. Reserves to meet outstanding nonlife insurance claims are funds set aside by insurance corporations to cover the amounts that they expect to pay out with respect to valid claims that are not yet settled or claims that may be disputed. Reserves against such outstanding claims are considered to be assets of the beneficiaries and liabilities of the insurance corporations. Policy benefits due to claimants are considered assets of the claimants. Until paid, these assets are held by insurance corporations as reserve liabilities.

   Other reserves, such as equalization reserves, may be identified by insurers; these are recognized as liabilities and corresponding assets, only when there is an event that gives rise to a liability. Otherwise, equalization reserves are internal accounting entries by the insurer that represent saving (recorded under the general and special reserves component of equity) to cover irregular catastrophes and, thus, do not represent any existing corresponding claims for policyholders.

[47] These prepayments are similar in some respects to prepayments for some types of goods (e.g., subscriptions to publications) and some types of non-insurance services (e.g., dues for memberships in organizations). Prepayment of insurance premiums is classified separately in insurance technical reserves, because of the specialized treatment of insurance corporations' output in the national accounts statistics.

[48] Deposit insurance included in this category should be distinguished from deposit protection schemes, also known as deposit insurance provided to the general public. The former relates to deposit insurance policies at the initiation of the deposit holders who pay an insurance premium for the insurance service, whereas the latter relates to ODCs' participation in deposit-protection schemes, which is usually mandatory under national legislation and in which the participating ODCs pay fees or contributions to the scheme.

[49] ODCs may also engage in insurance business.

4.144 For nonlife insurance, investment income attributable to policyholders generated from the assets corresponding to nonlife insurance technical reserves is treated as if it were (1) payable by the insurance corporations to policyholders, and (2) payable back to the insurance corporations in the form of premium supplements.

Reinsurance

4.145 Reinsurance is insurance where both parties to the policy are providers of insurance services. That is, reinsurance allows insurance risk to be transferred from one insurer to another. Many insurers act as both direct insurers and reinsurers. There may be chains of transferring risk, from insurer to reinsurer to secondary reinsurer and so on. Transactions and positions between the direct insurer and the reinsurer should be recorded as a separate set of transactions and positions rather than on a net basis—that is, no consolidation takes place between the transactions of the direct insurer as the issuer of policies to its clients on the one hand and the holder of a policy with the reinsurer on the other, and the claim of the original issuer of policies on the reinsurance corporation is not netted out from its liabilities to beneficiaries. Reinsurance activities are classified and recorded in the same way as direct nonlife insurance.

Life insurance and annuity entitlements [F62]

4.146 ***Life insurance and annuities entitlements are financial claims policyholders have against an institutional unit offering life insurance or providing annuities.*** This category consists of reserves of life insurance corporations and annuity providers for prepaid premiums and accrued liabilities to life insurance policyholders and beneficiaries of annuities. Life insurance and annuity entitlements are used to provide benefits to policyholders upon the expiration of the policy, or to compensate beneficiaries upon the death of policyholders, and, thus, are kept separate from shareholders' funds. Annuity entitlements are the actuarial calculation of the present value of the obligations to pay future income until the death of the beneficiaries. These entitlements show the extent of financial claims that policyholders have against an institution offering life insurance or providing annuities and are therefore regarded as liabilities of the life insurance corporations and annuity providers, and assets of the policyholders and beneficiaries.

4.147 For life insurance, the income earned by insurance corporations from their holdings of assets to meet their liabilities (which equal the present value of expected claims from existing policyholders) is attributed to the policyholders as investment income on their claims on life insurance corporations, and then treated as being paid back to the insurance company as premium supplements.

Pension entitlements [F63] and nonpension entitlements [F65]

4.148 Pension entitlements are used to provide retirement benefits for specific groups of employees. ***Pension entitlements show the extent of financial claims that both existing and future pensioners hold against either their employer or a fund designated by the employer to pay pensions earned as part of a compensation agreement between the employer and employee.*** In addition to funded liabilities of pension funds, this category includes liabilities of unfunded employment-related pension schemes. As well as pensions, some schemes may have other related liabilities, such as for health benefits, which are included under entitlements to nonpension benefits. For practical reasons, liabilities for nonpension entitlements may be included with those for pension entitlements.

4.149 Net implicit obligations for future social security benefits (other than employment-related retirement benefits) are not recognized as financial assets or liabilities, because there is no direct link between the contributions made and the benefits eventually payable, and those benefits may be varied to achieve policy objectives that have no direct connection with the concept of social protection schemes. However, if a social security fund also acts as an employment-related pension scheme (as is sometimes the case for benefits for present and former government employees), those pension obligations (but not implicit social security obligations) are included under this category.

Claims of pension funds on the pension manager [F64]

4.150 An employer may contract with a third party to administer the pension funds for its employees. If the employer continues to determine the terms of the pension schemes and to retain the responsibility for funding any deficit, as well as the right to retain any

excess funding, the employer is described as the *pension manager* and the unit working under the direction of the pension manager is described as the *pension administrator*. If the agreement between the employer and the third party is such that the employer passes the risks and responsibilities for any deficit in funding to the third party in return for the right of the third party to retain any excess, the third party becomes the pension manager as well as the administrator.

4.151 When the pension manager is a unit different from the administrator, with the consequences that responsibility for any deficit or claims on any excess rests with the pension manager, the claim of the defined benefit pension fund on the pension manager is shown under this category.

Provisions for calls under standardized guarantees [F66]

4.152 ***Provisions for calls under standardized guarantees consist of prepayments of net fees and provisions to meet outstanding calls under standardized guarantees.***

4.153 Standardized guarantees are issued in large numbers, usually for fairly small amounts, along identical lines. Standardized guarantees are not provided by means of a financial derivative (i.e., credit default swaps (CDSs)) nor in the form of a one-off guarantee, but for which the probability of default can be well established. These guarantees cover similar types of credit risk for a large number of cases. Examples include guarantees issued by governments on export credit or student loans. It is not possible to estimate precisely the risk of any one loan being in default, but it is possible to make a reliable estimate of how many out of a large number of such loans will default. It is, therefore, possible for a guarantor to determine suitable fees to charge for a guarantee working on the same principle as an insurance corporation for which the fees received in respect of many policies cover the losses by a few. The transactions and stocks for provisions for calls under standardized guarantee schemes recorded are similar to reserves for nonlife insurance; they include unearned fees and calls not yet settled.

4.154 Standardized guarantees can be contrasted with two other types of guarantees:

a. Guarantees that meet the definition of financial derivatives (as defined in paragraph 4.156) protect the lender, on a guarantee-by-guarantee basis, against certain types of risk arising from a credit relationship by paying the guarantor a fee for a specified period. The guarantees covered are such that experience in the market allows the guarantor to apply standard master legal agreements or to make a reasonable estimate of the likelihood of the borrower defaulting and to calculate suitable terms for the financial derivative. CDSs are included in financial derivatives as options (see paragraphs 4.180 and 4.182).

b. One-off guarantees occur in situations in which the conditions of the loan or of the security that is guaranteed are so particular that it is not possible for the degree of risk associated with it to be calculated with any degree of precision. These guarantees are not recognized as liabilities on the balance sheet of the guarantor until their activation, that is, when the event occurs that makes the guarantor responsible for the liability. These are off-balance sheet contingent assets until activated.[50]

G. Financial Derivatives and Employee Stock Options [F7]

4.155 Financial derivatives and employee stock options (ESOs) are financial assets and liabilities that have similar features, such as a strike price and some of the same risk elements. Although both transfer risk, ESOs are designed to be a form of remuneration.

Financial derivatives [F71]

4.156 ***A financial derivatives contract is a financial instrument that is linked to another specific financial instrument, indicator, or commodity, and through which specific financial risks (e.g., interest rate risk, foreign exchange risk, equity and commodity price risk, credit risk) can be traded in their own right in financial markets.***

4.157 The value of a financial derivative derives from the price of an underlying item: the reference price. The reference price may relate to a commodity, a financial asset, an interest rate, an exchange rate, another derivative, or a spread between two prices.

[50] One-off guarantees granted by governments to corporations in financial distress and that have a very high likelihood of being called are, however, treated as if they were activated at inception.

The derivative contract may also refer to an index or a basket of prices. No principal amount is advanced that has to be repaid, and no investment income accrues. Financial derivatives are used for a number of purposes, including risk management, hedging, arbitrage between markets, and speculation. Valuation of financial derivatives is covered in Chapter 5.

4.158 The risk embodied in a financial derivative contract can be traded either by trading the contract itself, as is possible with options, or by creating a new contract embodying risk characteristics that match, in a countervailing manner, those of the existing contract. The latter practice, which is termed *offsetability*, occurs in forward markets. Offsetability means that it is often possible to eliminate the risk associated with a derivative by creating a new but "reverse" contract having characteristics that countervail the risk underlying the first derivative. Buying the new derivative is the functional equivalent of selling the first derivative, because the result is the elimination of the underlying financial risk. The ability to countervail the underlying risk in the market is therefore considered the equivalent of tradability in demonstrating value. The outlay that would be required to replace the existing derivative contract represents its value; actual offsetting is not required.

4.159 Financial derivative contracts are usually settled by net payments of cash rather than by the delivery of the underlying items. Exchange-traded contracts, such as commodity futures, are often settled before maturity. Cash settlement is a logical consequence of the use of financial derivatives to trade risks independently of the ownership of underlying items. Some financial derivative contracts, particularly those involving foreign currency, are, however, settled by deliveries of the underlying items. Once a financial derivative reaches its settlement date, any unpaid overdue amount is reclassified as accounts receivable/payable, as its value is fixed, and, thus, the nature of the claim becomes debt.

4.160 There are two broad types of financial derivatives—options and forward-type contracts. A major difference between option and forward contracts is that, whereas either party to a forward contract is a potential debtor, the buyer of an option contract acquires an asset and the option writer incurs a liability. Option contracts can expire without worth; options are exercised only if settling a contract is advantageous for the option holder.

4.161 In the financial markets there are a large assortment of financial derivatives in the broad categories of forward-type contracts and options contracts. A number of standard types of forward-type contracts and options contracts are shown in Tables 4.2 and 4.3, respectively. Examples of *exotic options*—those with relatively atypical contract terms—are described in Box 4.3.

Forward-type contracts

4.162 ***A forward-type contract (forward) is an unconditional contract by which two counterparties agree to exchange a specified quantity of an underlying item (financial or real) at an agreed-upon contract price (the strike price) on a specified date.*** Forward-type contracts include forwards, futures, and swaps.[51] Forward-type contract is used as a term because the *forward* is often used more narrowly in financial markets (often excluding swaps).

4.163 At the inception of a forward-type contract, risk exposures of equal market value are exchanged, so a contract typically has zero value at inception. As the price of the underlying item changes, the market value will change, although it may be restored to zero by periodic settlement during the life of the forward. The classification of a forward-type contract may change between asset and liability positions.

4.164 Futures are forward-type contracts traded on organized exchanges, while forward contracts are bought and sold in OTC trading conducted through computer-linked networks of dealers, or by telephone between FCs or between an FC and a nonfinancial corporate client. Forward contracts are not standardized, whereas futures contracts have standard terms as specified by the futures exchanges. The exchanges facilitate trading by determining the standardized terms and conditions of the contract, acting as the counterparty to all trades, and requiring margins to be deposited and paid to mitigate against risk.

4.165 Significant differences between forward and futures contracts include: (a) buyer and seller negotiat-

[51] Other types of arrangements also called swaps, but not meeting the definition of a financial derivative, include gold swaps, central bank swap arrangements, and other similar arrangements.

Table 4.2 Standard Types of Forward and Futures Contracts

Definitions	Underlying instrument (Main price-settlement variable)
Forward contract. An over the counter (OTC) agreement to buy or sell an asset for a predetermined delivery price at a specified future time. Futures contract. An exchange-traded agreement to buy or sell an asset for a predetermined delivery price at a specified future time.	For future and/or forward contracts: • Currency (exchange rate) • Equity shares in a corporation(s) (individual share price or stock price index) • Debt securities (interest rate) • Gold (gold price) • Other commodity or commodity basket (individual commodity price or commodity price index) • Swap contract (interest rate). A forward agreement to enter into a swap contract at a future time—called a deferred swap or forward swap.
Swap contract. An OTC agreement between two parties to exchange future cash flows.	
• Interest-rate swap. Fixed-rate payments swapped for floating-rate payments.	• Notional principal (interest rate)
• Currency swap. Payments in one currency swapped for payments in another currency.	• Notional principal (exchange rate)
• Cross-currency interest-rate swaps. Fixed-rate payments in one currency swapped for floating-rate payments in another currency.	• Notional principal (interest rate and exchange rate)
• Equity swap. One party's swapped payments are based on the performance of a stock price or stock index. The other party's swapped payments can be based on a fixed or floating rate, another stock price, or a stock index.	• Notional principal (stock prices, stock price and interest rate, etc.)
• Forward rate agreement (FRA). An over-the-counter obligation that applies a predetermined interest rate to a notional principal amount over a specified future time period.	• Notional principal (interest rate)

ing directly in a forward contract, whereas futures contracts are handled through a clearing house; (b) a forward contract usually contains an exact delivery date, whereas a futures contract usually specifies an entire month or several days within a month; (c) forward contracts are usually settled by delivery of the underlying asset or by cash settlements at maturity, whereas futures contracts are usually closed out prior to maturity; and (d) both forward and futures contracts have zero value at inception, but in a forward contract daily gains or losses are allowed to accrue, whereas for a futures contract the clearing house requires daily marking to market and daily settlement of any gain or loss on the contract.

4.166 The remainder of this subsection discusses different types of forward-type contracts.

4.167 A forward rate agreement (FRA) is an arrangement in which two parties, in order to protect themselves against interest rate changes, agree on an interest rate to be paid, at a specified settlement date, on a notional amount of principal that is never exchanged. FRAs are settled by net cash payments. The only payment that takes place is related to the difference between the agreed forward rate and the prevailing market rate at the time of settlement times the notional principal underlying the contract. The buyer of the FRA receives payment from the seller if

the prevailing rate exceeds the agreed rate; the seller receives payment if the prevailing rate is lower than the agreed rate. An FRA is equivalent to a swap agreement in which a pre-determined fixed-rate payment is swapped for a floating-rate payment.

4.168 A foreign currency forward contract involves two counterparties who agree to transact in foreign currencies at an agreed exchange rate in a specified amount at some agreed future date.

4.169 A swap contract involves the counterparties exchanging, in accordance with prearranged terms, cash flows based on the reference prices of the underlying items. Swap contracts classified as forward-type contracts include currency swaps, interest rate swaps, cross-currency interest rate swaps, and equity swaps. Under a swap contract, the obligations of each party may arise at different times, for example, an interest rate swap for which payments are quarterly for one party and annual for the other. In such cases, the quarterly amounts payable by one party prior to payment of the annual amount payable by the other party are recorded as transactions in the financial derivative contract.

4.170 An interest rate swap contract involves an exchange of cash flows related to interest payments, or receipts, on a notional amount of principal, which is never exchanged, in one currency over a period of time. One party pays an interest rate based on variable rates and the other based on fixed rates. Settlements are often made through net cash payments by one counterparty to the other.

4.171 A foreign currency swap is a spot sale/purchase of currencies and a simultaneous forward purchase/sale of the same currencies. For foreign currency swaps, it is necessary to distinguish between the transactions in the underlying currencies and the transaction in a financial derivative contract.

4.172 A cross-currency interest rate swap, sometimes known as a currency swap, involves an exchange of cash flows related to interest payments and an exchange of principal amounts at an agreed exchange rate at the end of the contract.

4.173 An equity swap involves an exchange of cash flows based on the performance of a stock price or stock index for one party, and based on a fixed or floating rate, another stock price, or a stock index for the other party.

4.174 An off-market swap has a non-zero value at inception as a result of having reference rates priced differently from current market values (i.e., "off-the-market"). The economic nature of an off-market swap is equivalent to a combination of a loan and an on-market financial derivative.[52] Therefore, off-market swaps should be recorded as two stock positions in the sectoral balance sheets—a loan and an on-market financial derivative.

4.175 In those cases where a swap does not have the characteristics of a financial derivative, such as a central bank swap arrangement or other similar arrangement, it should be treated as an exchange of deposits.

Options

4.176 ***In an option contract (option), the purchaser acquires from the seller a right to buy or sell, depending on whether the option is a call (buy) or a put (sell) a specified underlying item at a strike price on or before a specified date. The purchaser of an option pays a premium to the writer of the option.*** (On a derivatives exchange, the exchange may act as the counterparty to each contract.)

4.177 Options can be contrasted with forward-type contracts in that:

a. At inception, a premium is paid for an option representing a nonzero value for the contract, unlike a forward-type contract where there is usually no up-front payment and the derivative contract begins with a zero value.

b. During the life of the contract, for an option the buyer is always the creditor and the writer is always the debtor; whereas for a forward-type contract, either party can be creditor or debtor, and it may change during the life of the contract.

c. At maturity, redemption is determined by the buyer of the option, whereas it is unconditional for a forward-type contract.

[52] See also the *Public Sector Debt Statistics: Guide for Compilers and Users* (2013), paragraphs 3.44 and 4.128–4.131.

Table 4.3 Standard Types of Option Contracts

Definitions	Option contract
Call and put options: • Call option. A contract giving the holder the right to buy an asset at a stated price (i.e., the strike price) on or before a certain date. • Put option. A contract giving the holder the right to sell an asset at a stated price (i.e., the strike price) on or before a certain date. American, European, and Bermuda options: • American option: Right to exercise at any time during the life of the option. • European option: Right to exercise only at expiration. • Bermuda option: a combination of American and European options. Exercisable at the date of expiration and on certain specified dates that occur between the purchase date and the date of expiration. In-the-money and out-of-the-money options: • In-the-money call (put) option. Strike price below (above) the market price of the underlying asset. • Out-of-the-money call (put) option. Strike price above (below) the market price of the underlying asset.	Option contract (strike price variable): • Stock option[1] (market price of a corporation's equity shares) • Index option (level of a stock price index) • Bond option (market price of corporate or government debt securities) • Foreign-currency option (market exchange rate) • Option on a futures contract, called a futures option (market price of futures contract) • Option on an interest-rate swap contract—also called a swap option, or swaption (fixed interest rate in the swap contract)

[1] Includes long-term equity anticipation securities, which are long-term call options.

4.178 Warrants are a form of financial derivative option giving the owner the right but not the obligation to purchase from the issuer of the warrant a fixed amount of an underlying asset, such as shares or bonds, at an agreed contract price for a specified period of time or on a specified date. Although similar to other traded options, a distinguishing factor is that the exercise of the warrants can create new securities, thus diluting the capital of existing bond or shareholders, whereas traded options typically grant rights over assets that are already available.

4.179 Warrants also include covered warrants, which can have a wider variety of underlying financial instruments and are issued by FCs. Covered warrants allow a holder to buy financial instruments issued by other institutional units and not only those instruments issued by the issuer of the warrant.

Credit derivatives

4.180 ***Credit derivatives are financial derivatives whose primary purpose is to trade credit risk.*** They are designed for trading mainly in loan and security credit default risk. In contrast, the financial derivatives described in the previous paragraphs are related mainly to market risk of changes in the market prices of securities, commodities, interest rates, and exchange rates. Credit derivatives take the form of both forward-type (total return swaps) and option-type contracts (CDSs).

4.181 A total return swap transfers both the credit and market risk of an underlying asset, such as a loan or a bond. Under a total return swap agreement, one party makes payments based on a set rate (fee), either fixed or variable, while the other party makes payments based on the return of an underlying asset, which includes both the income it generates and any capital

Box 4.3 "Exotic" Option Contracts: Examples[1]

Definitions

Nonstandard American options[2]

- Early exercise restricted to specific dates, or to only part of the life of the option.[3]
- The strike price varies over the life of the option.

Forward start option: an option that starts at some future date.[3]

Compound option: an option on an option (i.e., a call option on a call option, a put option on a call option, a call option on a put option, or a put option on a put option).

Chooser option: (also called an as you like it option): an option that, after a specified time, the holder can designate as either a call or a put option.

Barrier option: if the underlying asset price reaches a specified level, the option (1) ceases to exist (knock-out option), or (2) comes into existence (knock-in option).

Binary option: an option with a discontinuous pay-off (e.g., an in-the-money call option that pays a fixed amount, regardless of the differential between the current price and strike price of the asset).

Lookback option: an option for which the payoff depends on the maximum or minimum price of the asset during the life of the option.

Asian option: an option for which the payoff depends on the average price of the asset during a predetermined averaging period within the life of the asset.

[1] Characteristics of these and other exotic options, along with valuation methods, are covered in Hull (2015).

[2] Some warrants issued by corporations on their own stock have these features.

[3] Executive stock options often have this feature; right of exercise starts when the options are vested.

gains. In this way, total return swaps allow the party receiving the total return to gain exposure and benefit from an underlying asset without actually having to own it, and allow the other party (which retains the underlying asset on its balance sheet) to buy protection against loss in its value (see also paragraph 5.218).

4.182 In a CDS, the buyer of the swap pays a periodic fee to the seller of the swap in return for a cash payment by the seller in the event of a default by the debtor of the underlying instrument. A CDS is also referred to as a credit derivative contract and is considered insurance against non-payment. A buyer of a CDS might be speculating on the possibility that the third party will indeed default.

4.183 Similar to other financial derivatives, credit derivatives are frequently drawn up under standard master legal agreements and involve collateral and margining procedures that allow for a means to make a market valuation.

Employee stock options [F72]

4.184 ***ESOs are options to buy the equity of a company, offered to employees of the company as a form of remuneration.*** An ESO is an agreement made on a given date (the "grant" date) under which an employee may purchase a given number of the employer's shares at a stated price (the "strike" price), either at a stated date (the "vesting" date) or within a period of time (the "exercise" period) immediately following the vesting date. The exercise date is the time at which the option is exercised. It cannot be earlier than the vesting date or later than the end of the exercise period.

4.185 ESOs are issued as a form of employee compensation and as incentives for corporate employees to perform their duties in the best interests of the corporation's shareholders. Transactions in ESOs are recorded in the financial account as the counterpart to the element of compensation of employees represented by the value of the stock option. For many corporations, ESOs are called executive stock options, because they are provided only to senior managers of the corporation. In some cases, stock options may be provided to suppliers of goods and services to the enterprise. Although these are not employees of the enterprise, for convenience they are also recorded under ESOs because their nature and motivation is similar in supporting the successful performance of the enterprise. Whereas the corresponding entry for stock options granted to employees is compensation of employees, the corresponding entry for stock options granted to suppliers is the goods and services supplied.

4.186 In some respects, executive stock options are similar to warrants that corporations issue on their

own shares. Exercise of the stock options may result in an increase in the number of corporate shares outstanding, depending on whether the exercise of the options is honored by a corporation through: (1) issuing new shares; (2) drawing on own shareholdings (i.e., treasury stock); or (3) purchasing its own shares in the stock market for delivery to the option holder.

4.187 Consistent with the *2008 SNA* subcategories of financial derivatives, this *Manual* recommends the compilation of separate data on ESOs in sectoral balance sheets. The data on ESOs should be available to compilers of monetary and financial statistics, either on request or as a memorandum item in the source data.

Financial instruments not classified as financial derivatives

4.188 For monetary and financial statistics purposes, the following types of financial instruments are not financial derivatives:

a. A fixed-price contract for goods and services is not a financial derivative unless the contract is standardized so that the market risk therein can be traded in financial markets in its own right.

b. Insurance and standardized guarantees are not financial derivatives. Insurance contracts provide individual institutional units with financial protection against the consequences of the occurrence of specified events. (In many instances, the value of this financial protection cannot be expressed in terms of market prices.) Insurance is a form of financial intermediation through which funds are collected from policyholders and invested in financial or other assets. These assets are held as technical reserves to meet future claims arising from the occurrence of events specified in insurance policies (i.e., insurance is used to manage event risk, primarily by the pooling, not the trading, of risk).

c. Contingencies, such as one-off guarantees and letters of credit, are not financial derivatives. The principal characteristic of a contingency is that one or more conditions must be fulfilled before a financial transaction takes place. Contingencies are not instruments that facilitate the trading of specific financial risks.

d. An embedded derivative (a derivative feature that is inserted in a standard financial instrument and is inseparable from the instrument) is not considered a financial derivative (see also paragraph 4.64). If a primary instrument such as a security or loan contains an embedded derivative, the instrument is valued and classified according to its primary characteristics—even though the value of that security or loan may well differ from the values of comparable securities and loans because of the embedded derivative. Examples are bonds that are convertible into shares, securities with options for repayment of principal in currencies that differ from those in which the securities were issued, or loans that can be prepaid without penalty.

e. Gold swaps, central bank swap arrangements, and other similar arrangements that do not meet the definition of financial derivatives. (See the sixth edition of the *Balance of Payments and International Investment Position Manual (BPM6),* paragraphs 5.91 and 6.102–6.104.)

4.189 The classification of margins required for financial derivatives depends on whether they are repayable or nonrepayable. The classification principles are discussed in paragraphs 4.47–4.51.

H. Other Accounts Receivable/Payable [F8]

4.190 Other accounts receivable/payable include: (1) trade credit and advances, and (2) other.

Trade credit and advances [F81]

4.191 ***Trade credit and advances consist of (1) credit extended directly by the suppliers of goods and services to their customers;***[53] ***and (2) advances for work that is in progress (or is yet to be undertaken) and prepayment by customers for goods and services not yet provided.*** For FCs, trade-credit receivables are usually associated with their sale of financial services, given that FCs seldom are vendors of goods and nonfinancial services. Trade-credit payables of FCs arise from their acquisition of goods and services provided by other institutional units, as well as from their purchases of financial services from other FCs.

4.192 Excluded from the category of trade credit and advances are:

[53] Trade credit is sometimes described as supplier credit.

a. Claims or obligations arising from transactions in financial assets. A transaction is recorded at the time of change of economic ownership, which may precede settlement (payment) for the financial asset by several days or longer. For the recipient of the future payment, the claim is recorded in *Other accounts receivable–other*. The provider of the future payment records the obligation in *Other accounts payable [MS]–other*.

b. Prepayment of insurance premiums. The *advances* subcategory within trade credit and advances applies to advance payments for work in progress and prepayments for goods and services, except for the prepayment of policy premiums for insurance services. The classification of these prepayments under the category of IPSGS facilitates the data compilation for the insurance corporation subsector.

4.193 Trade credits do not include loans to finance trade credit. Macroeconomic statistics distinguish between trade credits and loans by specifying that trade credits are a direct extension of credit by the suppliers of goods and services to their customers, whereas financing provided by third parties to finance trade are classified as loans. In general, trade credits are not interest-bearing. They may have payment terms whereby cash discounts are provided for prompt payment. The discount is viewed as an implicit interest that is avoided by early payment (see paragraph 5.227).

Other accounts receivable/payable–other [F89]

4.194 This category includes accounts receivable and payable, other than those described previously. It includes amounts related to taxes, dividends, purchases or sales of financial assets, rent, wages, and salaries. The other category also includes items such as deferred income and provisions for financial asset losses.

4.195 Other accounts receivable–other should be disaggregated into resident and nonresident categories and should cover the following items (not identified separately, unless noted otherwise):

a. Dividends receivable on corporations' shares, arising from the recording of dividends when the shares go ex-dividend (the date dividends are excluded from the market price of shares), rather than when the dividends are paid. When notified that a share has gone ex-dividend, the shareholder records the amount of the dividend receivable. For shares that are not traded publicly, the shareholder records the amount of the dividend receivable when the dividends are payable.

b. Settlement accounts that are used to account for differences in the time of recording of: (1) purchases or sales of financial assets on the *trade dates* when changes of ownership occur, and (2) the subsequent payments for the financial assets on the settlement dates.

c. Items in the process of collection are created when a DC receives a check or other transferable item from a customer. The usual procedure is to record the item in the customer's deposit account, along with a contra-entry in *Other accounts receivable–other*. The entry is reversed after the item has been presented through the clearing system and has been paid by the DC (resident or nonresident) on which it was drawn. The posting *Other accounts receivable–other* is needed unless the item is settled on the same day as deposited,[54] or has been recorded on an off-balance-sheet basis.[55]

   A special category of *items in the process of collection* arises if a central bank provides advance availability of funds to ODCs that have sent checks or other items to the central bank for collection, known as *central bank float*. In the absence of data adjustment, broad money would be overstated by the amount of the central bank float because the funds would appear in the accounts of the customers of both banks (i.e., the amount provided to DCs by the central bank in advance of the central bank's collection of funds from the DC on which the items were written). Central bank float need not be shown as a separate category within *Other accounts receivable–other* in the sectoral balance sheet of the central bank. Central

[54] For example, the item may have been written on the DC that received it, because the payee and payer are customers of the same DC. The propensity for same-day settlement increases as countries adopt electronic clearing of collectible items.

[55] Recording *items in the process of collection* off-balance-sheet may be a general practice in a few countries.

bank float is reported as a memorandum item to accompany the sectoral balance sheet of the central bank. Adjustment for central bank float can be made as part of the compilation of the Depository Corporations Survey, as described in Chapter 7 of this *Manual*. (See paragraphs 7.34 and 7.57d.)

d. IMF quota subscription is recorded as an asset on the balance sheet of the central bank of the member country if the central bank has been designated as a depository or as both depository and fiscal agency for the country's financial relationship with the IMF and records the *IMF quota subscription, IMF No. 1 Account* and *IMF Debt Securities Account* on a gross basis[56] (see Annex 4.2). Quota is determined upon admission to IMF membership and can be adjusted under the IMF's General Quota Reviews or on an ad hoc basis. Separate data on the IMF quota subscription should be shown under the nonresident category of *Other accounts receivable–other* in the sectoral balance sheet of the central bank.

e. Miscellaneous asset items are all accounts not elsewhere classified in the FCs' balance sheets and include suspense accounts (used for temporary recording of claims for which proper classification has not yet been determined; claims for which verifications, notifications, instructions, or other documentations are required for completing the transactions; and claims that are under litigation or otherwise in dispute), amounts related to taxes, and prepayments of import duties, rent, wages, or other operating expenses.

4.196 In exceptional circumstances, a relatively large transaction may be recorded in *Other accounts receivable–other*. If so, the FC should provide supplementary information to the compilers on the nature and amount of the transaction, as well as identification of the sector of the transactor (nonresident or, if resident, identified by economic sector), for ensuring appropriate recording in the sectoral balance sheet.

4.197 Other accounts payable [MS]–other should be disaggregated into resident and nonresident categories, and provisions for losses on assets. Resident and nonresident categories should cover the following items (not identified separately):

a. Dividends payable that arise from the recording of dividends on the FC's shares at the time when the shares go ex-dividend or are payable (see paragraph 5.168b), rather than when paid.

b. Settlements accounts that record an FC's obligations for payments (on future settlement dates) for financial assets that were purchased (on trade dates).

c. Miscellaneous liability items, which include suspense accounts (the same as for assets discussed in paragraph 4.195e), amounts related to taxes, and accrued wages, rent, or other operating expenses.

4.198 Provisions for losses on assets[57] are presented as if these items are liabilities and are classified as a separate component in *Other accounts payable [MS]–other;* although they are "internal accounts" rather than liabilities to creditors. This accounting treatment contrasts with the *2008 SNA*, where such provisions are not recorded in the balance sheet. To be used in financial statistics, the data from the monetary statistics need to be adjusted to exclude provisions from *Other accounts payable [MS]–other*, in accordance with the methodology of the *2008 SNA*.

4.199 The balance-sheet presentation in accounting standards shows the estimated recoverable amounts of impaired financial assets that are obtained by direct write-down in the amount of the estimated impairment loss or through deduction of provisions for losses on assets. For monetary statistics, provisions for losses on assets are classified as *Other accounts payable [MS]–other*. Treatment of provisions for assets as liabilities facilitates the presentation of financial assets on a gross basis. It preserves a full set of balance-sheet accounts without a deduction of provisions from the asset accounts on the balance sheet, but differs from the *2008 SNA,* which does not regard such internal accounts as liabilities.

[56] Alternatively, if net recording is exercised, the resulting *Reserve tranche position in the* IMF is recorded under other deposits in foreign currency with nonresidents in the sectoral balance sheet of the central bank. (The *2008 SNA* and *BPM6* also recommend reporting of the *Reserve tranche position in the IMF* as *Other deposits*.)

[57] *Provisions for loan losses* is the main category of this item.

IV. Cross-Classification of Financial Assets and Liabilities by Sector and Currency

4.200 In addition to the classification of financial assets and liabilities by type of instrument as discussed in the previous section of this chapter, the framework for compiling monetary and financial statistics calls for further cross-classification, at a minimum, by residency of the counterparts and institutional sector of resident counterparts, and by currency of denomination. For the central bank sectoral balance sheet, there is a need to identify separately those foreign assets that meet the definition of reserve assets as defined in *BPM6* (paragraph 6.64) and included in the *reserve assets* subcategory.

A. Cross-Classification by Institutional Sector of Counterparts

4.201 Monetary statistics focus on flows and stocks of financial assets and liabilities of the FCs sector vis-à-vis the other resident institutional sectors and the rest of the world. Chapter 3 deals with institutional units in their role as holders or issuers of financial assets, and focuses consequently on the classification and sectoring of their accounts in the financial system. The residency of institutional units involved determines the foreign/domestic breakdown of assets and liabilities of the FCs sector. Similarly, the grouping of resident institutional units into institutional sectors and subsectors allows presenting the FCs' claims on and liabilities to the different sectors of the domestic economy. The recommended analytical framework for compiling monetary statistics and financial statistics (Chapters 7 and 8, respectively) requires, for each asset category, a breakdown by institutional sector and subsector of counterparts, where applicable, in accordance with the sectoring principles discussed in Chapter 3.

4.202 For countries where the FCs sector has significant exposure to nonresidents, it is useful to identify broad institutional sectors of nonresident counterparts. For example, FCs and nonfinancial sectors may be further divided into general government sector and nongovernment sectors.[58] A breakdown of nonresident counterparts into financial and nonfinancial corporations for selected financial instruments is included as a memorandum item in the sectoral balance sheets/SRFs (see Appendix II).

[58] Interbank positions with nonresident affiliates are included in memorandum items in the sectoral balance sheets.

B. Cross-Classification by Currency of Denomination

4.203 The breakdown of assets and liabilities in the sectoral balance sheets of FCs between those denominated in foreign currency and those in domestic currency is relevant for understanding the growth in money and credit aggregates as well as vulnerabilities to movements in exchange rates. Therefore, for all financial assets and liabilities it is recommended to provide a cross-classification into domestic currency denomination and foreign currency denomination.

4.204 For some analysis, it may also be useful to identify main financial assets and liabilities denominated in foreign currency by major foreign currencies. For example, in *BPM6*, reserve assets are recommended to be further identified as held in currencies in the SDR basket and those not in the SDR basket, which is the minimum breakdown.

4.205 The currency composition of financial assets and liabilities is determined by characteristics of their currency of denomination. Foreign currency instruments are those denominated in a currency other than the domestic currency. Foreign-currency-linked instruments are those payable in domestic currency but with the amounts payable linked to a foreign currency and, therefore, are considered to be denominated in foreign currency. Domestic currency instruments are those denominated in the domestic currency and not linked to a foreign currency. Domestic-currency-linked instruments are those payable in a foreign currency but with the amounts payable linked to a domestic currency. For monetary statistics purposes, domestic-currency-linked instruments are classified, by convention, as denominated in foreign currency, not domestic currency. This treatment reflects the recognition that domestic-currency-linked instruments have exposure to the availability of foreign exchange for making the payment in foreign currency. For debt instruments with interest payable in a foreign currency, but principal payable in a domestic currency, or vice versa, only the present value of the amounts payable in a foreign currency should be classified as a foreign currency instrument.

4.206 A special case arises when an economy does not issue domestic currency and uses as legal tender

a currency issued by a monetary authority of another economy (e.g., the U.S. dollar) or of a common currency area to which the economy does not belong (e.g., the euro). While according to the definition in paragraph 4.26 this currency is classified as foreign currency, it has some of the attributes of a domestic currency, because domestic transactions are settled in this currency. For these dollarized economies (discussed also in Chapter 6), in monetary statistics the unit of the foreign currency used as legal tender in the economy is classified as the domestic currency unit of account for compiling sectoral balance sheets. In the sectoral balance sheets of FCs subsectors in these countries, the distinction is made for all financial assets and liabilities with resident counterparts (where applicable) between those in domestic currency unit (i.e., the foreign currency used as legal tender in the economy) and foreign currencies other than the foreign currency used as legal tender. Thus, in this *Manual*, foreign currency that is a legal tender in an economy is included under domestic currency category for all domestic positions.[59]

C. Cross-Classification of Monetary Liabilities

4.207 Deposits (both transferable and other) and debt securities on the liability side of the sectoral balance sheets of the central bank and ODCs are also cross-classified by their inclusion in or exclusion from monetary base[60] (only for the central bank sectoral balance sheet/SRF) and broad money.[61] These cross-classifications are necessary to support the compilation of the monetary base and broad money in the respective analytical surveys, as discussed in Chapters 6 and 7.

V. Supplementary Classification of Financial Assets and Liabilities

4.208 Even though the cross-classification of financial assets and liabilities by type, counterparty, and currency of denomination in the sectoral balance sheets provides the complete set of data necessary for the compilation of surveys and financial accounts, in some countries more disaggregated categories of the DCs' liabilities may be needed to provide data for money aggregates that are more narrowly defined than in this *Manual*. Additional breakdowns of data are also needed for macroeconomic and financial stability analysis. This section discusses examples of supplementary classifications of financial assets and liabilities by maturity, type of interest rates, and other.

A. Classification by Maturity

4.209 Maturity is relevant for financial vulnerability analysis; both from a liquidity viewpoint (e.g., in estimating the value of liabilities falling due in the short term) and from an asset/liability mismatch perspective (e.g., in estimating the effect of changes in interest rates on profitability). For the supplementary classification by maturity, debt financial assets and liabilities[62] are classified as short-term or long-term in this *Manual* as follows:

a. *Short-term* is defined as payable on demand or with a maturity of one year or less. (Payable on demand refers to a decision by the creditor; an instrument where the debtor can repay at any time may be short- or long-term.)

b. *Long-term* is defined as having a maturity of more than one year or with no stated maturity (other than on demand, which is included in short-term).

4.210 Maturity may relate to:

a. Original maturity, that is, the period from issue until the final contractually scheduled payment.

b. Remaining maturity, that is, the period from the reference date (balance sheet date) until the final contractually scheduled payment.[63] This is also called residual maturity.

4.211 Currency is included in short-term maturity. Because of the nature of the relationship between the parties, when the maturity is unknown, all intercompany lending (as defined in *BPM6*, paragraph 6.26)

[59] This approach is reconcilable with *BPM6* and the *External Debt Statistics: Guide for Compilers and Users* (2013); both classify the "legal tender foreign currency" as a foreign currency and recommend separate identification of the "legal tender foreign currency" from other foreign currencies in presenting data.

[60] Monetary base is defined in paragraph 6.93 and is relevant to the central bank sectoral balance sheet only.

[61] Broad money is defined in paragraph 6.11 and is relevant to both the central bank and ODCs sectoral balance sheets.

[62] This is in addition to identifying separate categories for debt securities and loans with an original maturity of one year or less in the memorandum items to the sectoral balance sheets/SRFs.

[63] For debt instruments repaid in installments, until the contractual dates of payments of individual installments.

may be classified as of long-term maturity, by convention. Insurance reserves, pension entitlements, and standardized guarantee provisions can potentially be classified by maturity; if data are not available, a convention can be adopted that they are all long-term. When debt securities contain an embedded option with a date on which or after which the debt can be put (sold) back to the debtor by the creditor, the maturity is determined without reference to these embedded put options. Although not debt instruments, financial derivatives could also be classified according to maturity.

B. Classification by Type of Interest Rate

4.212 For supplementary classification of financial assets and liabilities by type of interest rate, debt instruments may be classified as either *variable-rate* or *fixed-rate*. This breakdown may be useful for some analysis, in that variable-rate instruments are subject to fluctuation in income flows in response to changes in market conditions; fixed-rate securities are more subject to changes in prices.

4.213 Variable-rate debt instruments are those for which interest is linked to a reference index—for example, LIBOR (London interbank offered rate), or the price of a specific commodity, or the price of a specific financial instrument that usually changes over time in a continuous manner in response to market conditions. All other debt instruments should be classified as fixed-rate. An interest rate that is adjusted, but only at intervals of more than a year, is considered to be fixed. Interest rates that are adjusted each year, or at less frequent intervals, are considered to be variable.

4.214 Interest on debt that is linked to the credit rating of another borrower should be classified as fixed-rate, because credit ratings do not change in a continuous manner in response to market conditions. Interest on debt that is linked to a reference price index should be classified as variable-rate, provided that the prices that are the basis for the reference index are market-determined.

4.215 The classification by interest rate can change over time, for example, if the financial instrument switches from fixed- to variable-rate interest. In the period when a fixed rate is applied, the financial instrument is to be classified as fixed-rate debt. After the rate switches to variable, the financial instrument is classified as variable-rate debt.

4.216 Indexed instruments are classified as variable rate. For these instruments, the principal or coupons or both are indexed to some variable, for example, to a general or specific price index. Because indexed instruments have variable aspects, an instrument is classified as variable-rate if the indexation applies to the principal or coupons, or both. A foreign-currency-linked instrument is treated as denominated in the foreign currency, rather than indexed.

4.217 If interest is linked to a reference index, commodity price, or financial instrument price, but is fixed unless the reference index or price passes a particular threshold, it should be regarded as fixed-rate. If, thereafter, interest becomes variable, then it should be reclassified as a variable-rate instrument. Alternatively, if interest is variable-rate until it reaches a predetermined ceiling or floor, the instrument becomes fixed-rate debt when that ceiling or floor is reached. If the income stream of a variable-rate instrument is swapped with the income stream of a fixed-rate instrument, the swap is recorded as giving rise to a financial derivative, while the classification of the original debt instruments is unchanged.

4.218 IPSGS are usually expected to be classified as variable rate instruments. This is based on the fact that the rates that apply to these debt instruments are not fixed in advance between the parties: insurance reserves and defined contribution pension liabilities are based on the return on funds invested, while defined-benefit pension liabilities and provisions for calls under standardized guarantee schemes are based on the discount rate used to calculate promised benefits or expected calls.

C. Other Classifications

4.219 For some analysis, additional cross-classifications of financial assets and liabilities may be useful. Such classifications may include: (1) loans broken down by economic activity (according to standard industry classification); (2) loans to households by purpose (such as for mortgage, or education, or vehicle, or other durable goods); (3) loans to nonresidents by jurisdiction (including individual country or region); (4) debt and equity securities distinguished between listed ones and unlisted ones; (5) investment fund shares distinguished between listed and unlisted; and (6) asset composition of investment funds

(including debt securities, equity, commodity-linked investments, real estate, shares in other investment funds, and structured assets).

VI. Contingencies

4.220 Many types of contractual financial arrangements between institutional units do not give rise to unconditional requirements either to make payments or to provide other economic assets. These arrangements, which are often referred to as *contingencies* (or off-balance sheet exposures) are not defined as financial assets or liabilities and should not be recorded in the balance sheets of FCs. For example, guarantees of payment by third parties are contingencies, because payment is only required if the principal debtor defaults. Lines of credit provide guarantees that funds will be made available, but no financial asset (i.e., loan) is created until funds are actually advanced. Letters of credit are promises to make payment only when certain documents specified by contract are presented. Note issuance facilities provide guarantees that parties will be able to sell short-term securities (notes) that they issue and that the FC providing the facility will purchase any notes not sold in the market. Only if the FC providing the facility makes funds available will it acquire an actual asset, to be recorded in its balance sheet.

4.221 Even though excluded from monetary and financial statistics, it is encouraged that data on contingent liabilities be reported to the compilers of monetary and financial statistics because they can have a potential impact on the exposure of the entity. Standards for measuring contingent liabilities are still evolving because these liabilities are complex arrangements and no single measurement approach can fit all situations.[64] Nonetheless, monitoring and measurement of contingent liabilities are encouraged, with a view to enhancing transparency.

[64] The *Public Sector Debt Statistics: Guide for Compilers and Users* (2013), paragraphs 4.23–4.26, and the *External Debt Statistics: Guide for Compilers and Users* (2013), paragraphs 9.20–9.46, discuss some techniques for measuring contingent liabilities and recommend reporting or disclosure of selected measures.

ANNEX

4.1 Examples of Debt Securities Issued through Securitization

4.222 Asset-backed securities (ABSs) and collateralized debt obligations (CDOs) are arrangements under which payments of interest and principal are backed by payments on specified assets or income streams. ABSs may be issued by a holding unit or vehicle to raise funds to pay the originator for the underlying assets. Typically, a CDO is backed by a diversified pool of loan and bond instruments, either purchased in the secondary market or from the balance sheet of a commercial bank. The diversified nature of the instruments differentiates a CDO from an asset-backed security, which is backed by a homogeneous pool of instruments.[65] ABSs and CDOs are classified as debt securities because the security issuers have an obligation to make payments, while the holders do not have a claim on the residual value of the underlying assets.

4.223 Pass-through securities are backed by a package of assets. A pass-through security derives its name from the fact that the payments arising from the underlying assets are passed straight through to the holders of the debt security. Pass-through securities that are backed by fixed-rate mortgage loans are a prominent type of ABSs. An FC that originates residential mortgage loans may pool some of these assets and sell portions of the mortgage loan pool to investors. The assets acquired by the investors are the mortgage-backed securities. The interest and principal payments made by the mortgage borrowers within the pool are directly passed through to the investors.

4.224 Collateralized mortgage obligations (CMOs) are a type of mortgage-backed security designed to attract investors who have differing preferences for prepayment risk. The distinguishing feature is that the securities issued as a CMO are divided into different classes—for example, Class A, Class B, and Class C—which provide progressively less protection against prepayment risk. All prepayment from the CMO mortgage loan pool are channeled to the Class C securities until those in Class C are fully repaid. Subsequent prepayments are passed through to the Class B securities investors. Prepayments are passed through to the Class A securities holders only after all Class B securities have been retired. The bonds pay guaranteed or fixed coupon rates that vary across classes. The Class A coupon rate is lower than the Class B rate, which is lower than Class C rate—thereby rewarding Class C securities holders for the highest risk of prepayments and, to a lesser extent, rewarding the Class B securities holders for assuming a prepayment risk that is greater than for Class A securities.[66]

4.225 CDOs. Although both CMOs and CDOs are designed with tranches for investors with different preferences for risk, CDO is a structured financial product that pools cash flow-generating assets and repackages the asset pool into discrete tranches for sale to investors. Distinct from CMOs prepayment risk, the investors in each CDO tranche contract for a portion of the credit risk, which is allocated to CDO tranches in the same manner that prepayment risk is allocated to CMO classes.

4.226 A mortgage-backed bond (MBB) is an asset-backed instrument that differs from pass-through securities and CMOs with respect both to the treatment of cash flows and to the institutional arrangements. MBBs are backed by mortgage loans that provide collateral, but no direct linkage exists between the cash flows from the mortgage loans and the principal and interest payments on the MBBs. The mortgage loans remain on the MBB-issuing FC's balance

[65] See the *External Debt Statistics: Guide for Compilers and Users* (2013), page 187.

[66] CMOs sometimes have Z or R Classes. For Z-Class bondholders, all cash flows—coupon and principal payments plus accrued interest—are received as lump sums after all other classes are retired. Investors in RClass (i.e., residual-class) CMOs receive whatever principal and reinvestment income remains in a CMO trust, after all other classes have been retired.

sheet, but in a segregated portfolio that is monitored by a trustee, who assures that the market value exceeds the principal amount of the MBBs. In contrast, pass-throughs and CMOs are often originated by selling a mortgage loan portfolio to a trust or other type of vehicle company[67] that issues the ABSs.

4.227 Credit-linked notes (CLN) are debt securities backed by reference assets, such as loans and bonds, with an embedded CDS allowing credit risk to be transferred from the issuer to investors. Repayment of principal and interest on the notes is conditional on the performance of the reference assets. If no default occurs during the life of the note, the full redemption value of the note is paid to investors at maturity. If a default occurs, then investors receive the redemption value of the note minus the value of the default losses. The CDS is regarded as an integral part of the bond and is not separately classified and valued.

4.228 A covered bond is a debt security with a claim on the issuer and, if the issuer defaults, on a cover pool of high-quality collateral (which the issuer is required to maintain). Covered bonds are issued under specific legislation (or contracts that emulate this). The recourse to the pool of collateral and consequent reduction in credit risk transfer distinguishes covered bonds from ABSs.

4.229 As a general rule, securitized debt instruments (e.g., loans or debt securities) should be included in the liabilities on the balance sheet of the ABSs issuer (i.e., the debt-instrument originator or a vehicle company to which the debt instruments were sold) irrespective of whether the holders of ABSs have a direct or indirect claim on the cash flows from the securitized assets. The financial assets (e.g., the mortgage loans or debt securities) that back the securities continue to be shown on the asset side of the balance sheet either of the original owner of the backing assets or of the vehicle company, depending on the type of securitization scheme. An exception may apply to stripped securities discussed in the next paragraph.

4.230 Stripped securities are securities that have been transformed from a principal amount with coupon payments into a series of zero-coupon bonds with maturities matching the coupon payment date(s) and the redemption date of the principal amount(s). They are also called *strips*. The function of stripping is that investor preferences for particular cash flows can be met in ways different from the mix of cash flows of the original security. Stripped securities may have an issuer different from the original issuer. There are two cases of stripped securities:

a. The payments on the original securities are stripped and separately marketed by the issuer or through agents (such as strip dealers) acting with the issuer's consent with no new funds raised.

b. When a third party acquires the original securities and uses them to back the issue of the stripped securities. New funds have been raised and a new financial instrument is created.

4.231 In the example of (b), FCs purchase bonds or similar instruments, strip the coupon payments, and sell the future cash flows to separate investors (i.e., the principal-only claim is sold separately from the coupon-only claims). The principal-only- and coupon-only-strip investors receive the cash flows from the bonds on a pass-through basis. The FC that is the issuer of the strip records liabilities (classified under debt securities) for the cash flows that were stripped and sold. FCs are purchasers, as well as originators, of principal-only and coupon-only strips.

4.232 Principal-only and interest-only strips are also created through securitization of mortgage-loan pools in a special form of a CMO. The interest-only-strip investors receive cash flows from the periodic interest payments received from the mortgage loan pool, and the principal-only-strip investors receive the principal portions of the periodic payments. The cash flows and yields for the principal-only and interest-only strips, similar to those for other pass-through securities backed by mortgage loans, reflect the pattern of the loan payments.

4.233 When the issuer of the original security creates principal-only and coupon-only strips, the original security issuer retires the original securities or leaves them in a repository (e.g., a settlement or clearing facility) on a "dormant basis" until such time when the securities are reissued or redeemed. The strip-like securities replace the original securities to avoid double counting of the issuer's liabilities.

[67] Trusts and other types of vehicle companies—often called special purpose vehicles—are described in Chapter 3 (see paragraphs 3.31–3.38 and 3.183-3.185).

ANNEX

4.2 Accounts with the IMF

Introduction

4.234 This annex describes the recommended treatment of accounts with the IMF (the Fund) in monetary and financial statistics. This subject warrants particular attention because of the special characteristics of member countries' financial relations with the Fund and the special accounting treatment used by member countries for recording their financial positions with the Fund in the context of domestic legal arrangements or financial reporting standards.

4.235 The IMF is an international financial institution with nearly universal membership. It plays a central role within the international financial architecture. Its policies and activities are guided by its charter, known as the Articles of Agreement of the IMF (the Articles). The key activities of the IMF can be classified under three areas—lending, surveillance, and the provision of capacity-building services.[68]

4.236 The Fund maintains a large pool of resources from which it can draw funds to help finance temporary imbalances in the balance of payments of its members. These resources are of a revolving character and are derived from quota payments made by member countries at the time they join the Fund or when their quota subscriptions are increased subsequently. The Fund can supplement these resources temporarily by borrowing from its members and their institutions, including through issuance of debt instruments (such as IMF notes).

4.237 The use of Fund resources under non-concessional terms often takes place within the framework of a Stand-By Arrangement (SBA) or an Extended Fund Facility (EFF) between the member and the Fund.[69] In such cases, a member acquires Fund resources by using its currency to purchase SDRs or currency of another member from the Fund.[70] To repay its obligations to the Fund, a member repurchases its currency from the Fund using SDRs or currency of another member. All accounts and transactions of the Fund are denominated in SDRs.

4.238 More recently (in 2009 and 2011, respectively), in response to the global financial crisis, the IMF introduced new arrangements in the form of credit lines, such as the Flexible Credit Line (FCL) and the Precautionary and Liquidity Line (PLL). FCL arrangements are for countries with very strong fundamentals, policies, and track records of policy implementation, and are approved for countries meeting pre-set qualification criteria at the member country's request. PLL arrangements are for countries with sound fundamentals and policies that face moderate vulnerabilities and may not meet the FCL qualification standards. The Rapid Financing Instrument was introduced to replace and broaden the scope of the earlier emergency assistance policies.

4.239 The Fund also maintains a range of concessional financial arrangements, including the Poverty Reduction and Growth Trust (PRGT), formerly called the Enhanced Structural Adjustment Facility (ESAF), in which it technically acts as trustee. New concessional facilities for low-income countries (LICs) became effective in 2010 under the PRGT as part of a broader reform to make the Fund's financial support more flexible and better tailored to the diverse needs of LICs. These new facilities include the Extended Credit Facility (ECF) that succeeds the Poverty

[68] For a detailed discussion of the Fund's financial organization and operations, see *IMF Financial Operations*.

[69] The full list of IMF lending instruments and their descriptions can be found at www.imf.org/external/np/exr/facts/howlend.htm.

[70] In practice, members have always purchased a freely usable currency. For the definition of freely usable currency see *IMF Financial Operations*, footnote 19.

Reduction and Growth Facility (PRGF), the Standby Credit Facility, and the Rapid Credit Facility.

4.240 On three occasions (1970–72, 1979–81, 2009), the Fund has acted as a source of additional international liquidity through the creation and allocation to its members of SDRs, which are reserve assets that can be transferred among Fund members and other authorized holders including the Fund.[71]

4.241 The financial transactions and operations of the IMF are conducted through the General Department, the SDR Department, the Administered Accounts, and the IMF Managed trust accounts. The bulk of transactions between member countries and the IMF take place through the General Resources Account (GRA), which is part of the General Department. This account handles the receipt of quota subscriptions, purchases and repurchases, receipt and refunding of charges, payment of interest on members' loan claims and of remuneration on creditor positions in the Fund, and receipt of borrowed resources from and principal repayment to the Fund's lenders. The assets held in the GRA comprise currencies of Fund member countries and the Fund's own holdings of SDRs and gold. The SDR Department records all transactions and operations involving SDRs. The Administered Accounts and IMF Managed Trust Accounts are legally and financially separate from all other accounts of the Fund. They represent resources that have been contributed by members, the Fund, or third parties and held by the Fund for purposes that are consistent with the Articles, such as financial and technical assistance.

Recording of IMF Accounts[72]

4.242 The principles relating to sectoring, classification of financial instruments, and valuation that this *Manual* recommends apply equally to the treatment of IMF accounts. Thus, the central bank's SDR-denominated positions with the IMF should be valued (in domestic currency) at market exchange rates, and assets and liabilities should be recorded on a gross basis, except for netting the quota subscription and Fund holdings of member's currency for the net presentation of the reserve tranche position (see footnote 13 in this chapter). All transactions with the IMF are classified as transactions with nonresidents denominated in foreign currency, because principal and interest are indexed to the SDR.

4.243 The following section describes the procedures in the monetary statistics when all IMF accounts are recorded in the central bank balance sheet. This is followed by a discussion of the statistical treatment of Fund accounts for countries in which positions and transactions with the Fund are shared between the central bank and the government.

Case 1: The Central Bank's Balance Sheet Includes All Fund Accounts

4.244 In the majority of member countries, the central bank has been designated as a depository and fiscal agency for the country's financial relationship with the Fund,[73] and so is the sole institution that transacts with the Fund. In such cases, the central bank records all of the member's transactions with the Fund and the member's balances in the various Fund accounts, except when the Fund provides resources to the central government for budget support and they are recorded as a liability of the central government.

Basic presentation in the central bank balance sheet

4.245 The balance sheet of the central bank will then usually include the following:

On the assets side:

a. SDR holdings, which can be acquired through allocations by the Fund or through transactions with the Fund or other holders.

b. Claims on the IMF arising from: (1) the country's payment of its total quota subscription in both reserve assets and domestic currency; (2) loans to the Fund; and (3) holdings of IMF Notes (see paragraph 4.246e).

[71] A special one-time allocation of SDR 21.5 billion took effect in September 2009, bringing the total cumulative allocation to about SDR 204 billion.

[72] Stock and flow data for *SDR holdings/allocation* and the *IMF No. 1* and *No. 2 Accounts* (and securities substituted for *No. 1 Account*) are provided to member countries by the IMF's Finance Department and, upon request, by the IMF's Statistics Department, as well as are posted monthly on the Internet (see www.imf.org/external/np/fin/tad/exfin1.aspx). These data should be reconciled with the accounting records of the country authorities.

[73] Each member designates a fiscal agency (ministry of finance, central bank, or similar entity) to conduct financial transactions with the IMF and a depository (central bank or similar agency) to maintain the accounts of the IMF.

c. Claims on the IMF managed trusts arising from the loans made by the member to the IMF managed trusts.

On the liabilities side:

a. Deposits of the IMF at the country's central bank are maintained in the *IMF No. 1* and *No. 2 Accounts*[74] and, in some cases, in the *IMF Securities Account*,[75] which are accounts in domestic currency but fully indexed to the SDR. Balances in *IMF No. 1* and *IMF Securities Accounts* are created by (1) the payment of the domestic currency component of the quota subscription, and (2) purchases of the Fund's resources (usually in the form of SDRs or convertible foreign currency) in exchange for domestic currency. Such purchases are conducted through the GRA. They can include the use of the country's reserve tranche (discussed below) and use of Fund credit under various Fund facilities, principally SBA and EFF.

b. Loans received from the IMF provided through accounts administered by the Fund; loans through the PRGT are the principal example.

c. SDR allocations provided by the Fund to member countries that are participating in the SDR Department.

d. Revaluations, recorded in the *Valuation adjustment* account under *Equity liability [MS]*, reflect the counterparts to changes, positive or negative, in all of the preceding positions with the Fund that are due to changes in the market exchange rate between the member's currency and the SDR.

Analytical presentation in the central bank survey

4.246 A country's financial position with the Fund can also be presented in an analytic format that focuses on the components of IMF-related assets that are considered to be reserve assets and IMF-related liabilities that arise from the use of Fund credit (UFC) and loans. Positions with the Fund in the analytic format are used in the compilation of the central bank survey recommended in this *Manual* (see Central Bank Survey in Appendix III). These positions, shown in Table 4A.2, identify the following IMF-related positions:

a. SDR holdings. This item can be directly identified in the balance sheet of the central bank.

b. Reserve tranche position in the IMF (RTP). The RTP in the Fund is an international reserve asset that represents a member's automatic (unconditional) drawing right on the Fund upon representation of a balance of payments need, created by the payment of the foreign exchange component of the quota subscription and capable of being expanded by the Fund's use of the member's currency in its transactions with other member countries.[76]

   Reserve tranche position in the IMF can be calculated by using the relationship between a country's claims on and liabilities to the IMF. *RTP* is equal to the *IMF Quota* minus the Fund's holdings of the member's currency (the balances in the *IMF No. 1, No. 2,* and *Securities Accounts*) that are **not subject to exclusion**.[77] A member's RTP cannot be constructed directly from information in the sectoral balance sheet of the central bank; detailed accounting records of the country's transactions with the Fund are required to identify separately the components of IMF holdings of the member's currency that are needed for the calculation. In particular, data on the *UFC* are required for the computation of the *RTP*.

[74] The *IMF No. 2 Account* is used for the IMF's administrative expenses and receipts (such as from sales of IMF publications) in the member's currency and within its territory.

[75] A member may establish an *IMF Securities Account* in order to substitute parts of holdings in the *IMF No. 1 Account* with nonnegotiable, non-interest-bearing notes, or similar instruments payable to the IMF on demand when the currency is needed for the IMF's transactions.

[76] A member's RTP increases when the IMF uses its currency to lend to other members, and decreases when borrowing members use the currency to make repayments.

[77] *IMF No. 1 Account and IMF Securities Account* balances **not subject to** exclusion are liabilities to the Fund used to cover the country's IMF quota subscription. Balances subject to exclusion are liabilities that are the contra-entries to a country's use of IMF resources (that is, purchase of SDRs or other foreign exchange) through the IMF's GRA. Balances in the *IMF No. 2 Account* that are less than 1/10 of 1 percent of the member's quota are also subject to exclusion.

Table 4A.1 IMF-Related Assets and Liabilities—Analytical Presentation

Assets	Liabilities
Claims on Nonresidents	Liabilities to Nonresidents
Official Reserve Assets	(i) Use of Fund credit
(i) SDR holdings	(ii) Loans from the IMF
(ii) Reserve tranche position in the IMF	(iii) SDR allocations
(iii) Loans to the IMF (Official reserve assets)	
(iv) Debt securities, IMF (Official reserve assets)	
(v) Loans to IMF managed trusts (Official reserve asset)	
Other Foreign Assets	
(i) Loans to IMF (Other)	
(ii) Debt securities, IMF (Other)	
(iii) Loans to IMF managed trusts (Other)	

Note: SDR = Special Drawing Rights.

c. Loans to the IMF. The central bank's loans to the IMF in the GRA can be identified directly in the balance sheet of the central bank. These loans give rise to a claim on the IMF. If the claim is readily encashable to meet the balance of payments financing need, the loan should be classified in *Loans, IMF (Official reserve assets)*. All other loans should be classified in *Loans, IMF (Other)*.[78]

d. Loans to the IMF managed trusts (MTs). The central bank loans to the IMF MTs can be directly identified in the balance sheet of the central bank. The loans that give rise to a claim that is readily encashable to meet the balance of payments financing needs should be classified in *Loans, IMF-MTs (Official reserve assets)*. All other loans should be classified in *Loans, IMF-MTs (Other)*.

e. Holdings of IMF notes. IMF notes are issued by the IMF as means of supplementing its resources for providing financial assistance to its members. The central bank's holdings of the IMF notes can be directly identified in the balance sheet of the central bank. These notes give rise to a claim on the IMF. If the claim is readily encashable to meet balance of payments financing needs, the note should be classified in *Debt securities, IMF (Official reserve assets)*. All other notes should be classified in *Debt securities, IMF (Other)*.

Classification of *Loans to the IMF*, *Loans to the IMF MTs*, and the *IMF notes* in accordance with their encashability to meet the balance of payments financing needs is important. It is essential for the compilation of the analytical accounts shown in Tables 4A.1 and 4A.2. It also promotes consistency of monetary data with the data for *International Reserves and Foreign Currency Liquidity* (2013). For this purpose, Table 4A.3 provides guidance on classifying *Loans to the IMF*, *Loans to the IMF MTs*, and the holdings of *IMF notes* in the central bank sectoral balance sheet/SRF-1SR consistent with the treatment recommended in the *International Reserves and Foreign Currency Liquidity: Guidelines for a Data Template* (2013).

f. Use of Fund credit (UFC). This item measures the member's outstanding purchases of Fund resources through the GRA, the counterparts of which are increases in the member's domestic currency liabilities to the Fund. Outstanding purchases of Fund

[78] Classification of loans to the IMF and holdings of notes issued by the IMF in the official reserve assets is discussed in the *International Reserves and Foreign Currency Liquidity: Guidelines for a Data Template* (2013), Appendix VIII.

Table 4A.2 IMF Accounts: Balance Sheet and Analytical Presentation for a Central Bank Designated as Fiscal and Depository Agency

Balance sheet presentation (in domestic currency)

Assets	142.0	Liabilities	207.1
Quota subscription in the IMF	120.0	IMF No. 1 Account	60.0
SDR holdings	7.0	IMF No. 2 Account	0.1
Loans to the IMF	5.0	IMF Securities Account	100.0
Loans to the IMF (Official reserve assets)	3.0	Loans from the IMF (for example, PRGT)	15.0
Loans to the IMF (Other)	2.0	SDR allocations	32.0
IMF Notes	6.0		
IMF Notes (Official reserve assets)	6.0		
IMF Notes (Other)	0.0		
Loans to IMF managed trusts	4.0		
Loans to IMF managed trusts (Official reserve assets)	0.0		
Loans to IMF managed Trusts (Other)	4.0		

Calculation of Reserve Tranche Position in the IMF:

RTP = Quota subscription in the IMF – Fund's holdings of the member's currency that are not subject to exclusions

Fund's holdings of the member's currency that are not subject to exclusions = Total holdings – Exclusions

Fund's holdings of the member's currency (total) = IMF No. 1 Account + IMF No. 2 Account + IMF Securities Account = 60.0 + 0.1 + 100.0 = 160.1

Fund's holdings of the member's currency that are subject to exclusions = Holdings arising from UFC + IMF Account No. 2 if less than 1/10 of 1 percent of the Quota in the IMF

Given the data on UFC = 50, obtained from the IMF (also available from the IMF website at www.imf.org/external/np/fin/tad/exfin1.aspx) or the detailed records at the central bank, if available:

Fund's holdings of the member's currency that are subject to exclusions = 50.0 + 0.1 = 50.1

Therefore, Fund's holdings of the member's currency that are not subject to exclusions = 160.1 – 50.1 = 110.0

Then, RTP = 120.0 – 110.0 = 10.0

Analytical presentation (in domestic currency)

Assets		Liabilities	
Claims on Nonresidents	**32.0**	**Liabilities to Nonresidents**	**97.1**
Official reserve assets	*26.0*	Use of Fund credit and Loans outstanding	65.0
Reserve position in the Fund	19.0	Use of Fund credit	50.0
Reserve tranche position in the IMF	10.0	Loans from the IMF	15.0
Loans to the IMF (Official reserve assets)	3.0	SDR allocations	32.0
IMF notes (Official reserve assets)	6.0	IMF No. 2 Account	0.1
SDR holdings	7.0		
Loans to IMF managed trusts (Official reserve assets)	0.0		
Other foreign assets	*6.0*		
Loans to the IMF (Other)	2.0		
IMF notes (Other)	0.0		
Loans to IMF managed trusts (Other)	4.0		

Note: SDR = Special Drawing Rights; PRGT = Poverty Reduction and Growth Trust; RTP = Reserve tranche position in the IMF; UFC = Use of Fund credit.

resources through the GRA are equal to all purchases minus repurchases, excluding transactions within the reserve tranche. Detailed records of the member's transactions with the IMF are required to identify the components of the Fund's holdings of the member's currency that arise from the UFC.

g. Loans from the IMF. This item measures loans from the IMF managed trusts (e.g., a PRGT loan) and can be directly identified in the balance sheet of the central bank.

4.247 Table 4A.2 shows the balance sheet records at the central bank for the IMF accounts and their transition to the analytical presentation.

4.248 Table 4A.3 provides guidance on classifying *Loans to the IMF*, *Loans to the IMF MTs*, and the holdings of *IMF notes* in the central bank sectoral balance sheet/SRF-1SR consistent with the treatment recommended in the *International Reserves and Foreign Currency Liquidity: Guidelines for a Data Template* (2013), Table A8.1.

Case 2: Fund Accounts Are Included in the Balance Sheets of the Central Bank and the Ministry of Finance

4.249 In a number of countries, not all transactions with the Fund are undertaken by the central bank. In most of these countries, the Ministry of Finance has been designated as the fiscal agency for the country's financial relationship with the Fund and undertakes transactions with the IMF without direct central bank involvement, which typically is designated as the depository agency. The central bank's balance sheet may record only partial balances in the *IMF Quota* subscription, *IMF No. 1*, *No. 2* and *Securities Accounts*, while all other positions with the Fund are financial assets and liabilities of the government. A typical example of such a situation would have the quota subscription, SDR holdings and allocations, and balances in the *IMF Securities Account* outside the balance sheet of the central bank.

4.250 In such situations, consideration could be given to compile monetary authorities accounts[79] in order to present a member's financial relationship with the Fund. It should be noted that, while the central bank's accounting presentation for this case differs from that in the previous section, the analytical format (as shown in Table 4A.4) for the monetary authorities accounts would be the same.

4.251 The inclusion of IMF account positions of the government in the monetary authorities accounts expands the gross foreign assets and liabilities recorded in those accounts and enables them to be linked directly to the changes in Fund-related international reserve assets and reserve-related liabilities that are recorded in the external sector statistics. It also creates a need for contra-entries in the monetary authorities accounts to ensure the integrity of the double-entry accounting system. For example, when a country's quota position in the IMF and the associated balances in the *IMF No. 1* and *Securities Accounts* are moved from the balance sheet of the Ministry of Finance to the monetary authorities accounts, the monetary authorities acquire a foreign asset (the *RTP*) and a corresponding liability to the government. Similarly, when the monetary authorities acquire from the government liabilities to the Fund arising from the UFC or the IMF loans, they acquire a liability to nonresidents and a corresponding claim on the government.

4.252 One way of recording the contra-entries arising from the inclusion of the government's positions into the monetary authorities accounts is to record the contra-entries on a net basis in a separate government account ("Fund consolidation account") on the asset side, either as a component of net credit to government or as a separate asset category.

4.253 In compiling monetary authorities accounts that include government positions with the Fund, care should be taken to avoid the introduction of valuation and other adjustments that could distort, among other things, the measurement of net claims on government. (For a more complete description on how the monetary authorities accounts are compiled, refer to paragraphs 7.65–7.69 and Table A3.6 in Appendix III.)

4.254 Even when the central bank has been designated as a depository and fiscal agency, the Fund may provide resources to the central government for budget support, which are liabilities of the central government. In such situations, consideration should also be given to compile monetary authorities accounts.

[79] See paragraph 7.65.

Table 4A.3 IMF Accounts: Loans and Notes

Claim or commitment to lend	For information: statistical treatment in the *International Reserves and Foreign Currency Liquidity Data Template*	Statistical treatment in the central bank sectoral balance sheet/SRF-1SR
bilateral Loan Agreements (BLAs; undrawn amounts) for loans that would be readily available to meet balance of payments (BOP) financing needs	Do not report in the Reserves Data Template. (They should not be reported as contingent drains in Section III.4.)	Excluded
Loans (readily available to meet a BOP financing need) drawn by the IMF under BLAs	Increase in reserve position in the Fund (RPF) in Section I.A.	*Loans, IMF (Official reserve assets)*
BLAs (undrawn amounts) for loans that would not be readily available to meet BOP financing needs	Do not report in the Reserves Data Template	*Excluded*
Loans (not readily available to meet a BOP financing need) drawn by the IMF under BLAs	Do not report in the Reserves Data Template	*Loans, IMF (Other)*
Note Purchase Agreements for Series A notes (readily available to meet BOP financing needs)	Do not report in the Reserves Data Template. (They should not be reported as contingent drains in Section III.4.)	Excluded
Holdings of Series A notes (available to meet BOP financing needs)	Increase in RPF in Section I.A.	*Debt securities, IMF (Official reserve assets)*
Note Purchase Agreements for Series B notes (not readily available to meet balance of payments financing needs)	Do not report in the Reserves Data Template	*Excluded*
Holdings of Series B Notes	Do not report in the Reserves Data Template, because the notes do not qualify as reserve assets	*Debt securities, IMF (Other)*
Lending to IMF managed trust accounts (readily available to meet balance of payments financing needs)	Include in other reserve assets (item I.A.(5))	*Loans, IMF managed trusts (Official reserve assets)*
Lending to IMF managed trusts (not readily available to meet balance of payments financing needs)	Do not report in the Reserves Data Template, because these loans do not qualify as reserve assets	*Loans, IMF managed trusts (Other)*
Commitments under the General Arrangements to Borrow (GAB) and New Arrangements to Borrow (NAB)	Do not report in the Reserves Data Template	Excluded
Drawings under the GAB and NAB	Increase in RPF in Section I.A.2.	*Loans, IMF (Official reserve assets)*
Special Drawing Right (SDR) holdings	Report in Section I.A.3, SDRs	*SDR holdings*
SDR allocations	Do not report in the Reserves Data Template	*SDR allocations*
SDR accrued interest	The preferred reporting treatment is to omit accrued interest on holdings from Section I.A.3, and to report the net amount of interest receivable or payable in future periods either as a pre-determined outflow (if negative) or inflow (if positive) in Section II.1. Alternatively, it is acceptable to include accrued interest on holdings in Section I.A.3, and to report the gross amount of interest that will be payable in future periods on allocations in Section II.1, as an outflow of interest.	Accrued interest should be incorporated in *SDR holdings* and, for statistical purposes only, accrued charges (interest) should be incorporated in *SDR allocations.*

Table 4A.4 IMF Accounts and Related Entries: Monetary Authorities Accounts (in domestic currency)

Assets		Liabilities	
Claims on Nonresidents	**32.0**	**Liabilities to Nonresidents**	**137.1**
Official Reserve Assets	*26.0*	Use of Fund Credit and loans outstanding	105.0
Reserve Position in the Fund	19.0	Use of Fund Credit	50.0
Reserve tranche position in the IMF	10.0	Loans from the IMF	55.0
Loans to the IMF (Official reserve assets)	3.0	of which: for budget support	40.0
IMF Notes (Official reserve assets)	6.0		
SDR holdings	7.0	SDR allocations	32.0
Loans to IMF Managed Trusts (Official reserve assets)	0.0		
Other Foreign Assets	*6.0*		
Loans to the IMF (Other)	2.0		
IMF notes (Other)	0.0		
Loans to IMF managed trusts (Other)	4.0		
Claims on Central Government	**40.0**	**Liabilities to Central Government**	**40.0**
Contra-entry to liabilities to IMF of central government	40.0	Central government deposits (proceeds from budget support loan from the IMF)	40.0

Note: SDR = Special Drawing Rights.

4.255 Table 4A.4 illustrates an example of monetary authorities accounts, combining the central bank's (as presented in Table 4A.2) and the central government's positions vis-à-vis the IMF on the transaction date. In this example, the central bank is the fiscal and depository agency, and the central government has received a loan for budget support from the IMF equivalent to 40 domestic currency units, and deposited them at the central bank (with the corresponding increase in the central bank's claims on nonresidents, which is not shown in the table).

ANNEX

4.3 Islamic Financial Institutions and Instruments

4.256 This annex describes how Islamic financial institutions (IFIs) operate under the Islamic principles (*Shariah*) and how instruments they use differ from conventional financial instruments.[80] For the purpose of compiling monetary statistics, various types of Islamic financial instruments are discussed in comparison with those of conventional financial institutions.

Islamic Financial Institutions

4.257 The Islamic financial system refers to a financial system or financial activity that follows the principles of *Shariah*. *Shariah,* which denotes the Islamic law that governs the entire framework of activities in Islam, includes law regulating economic and financial activities in order to ensure fair transactions as well as social economic justice. Even though *Shariah* principles have existed throughout Islamic history, the application of *Shariah* principles in the modern Islamic financial system began with the establishment of Egypt's Mitt Ghamar Savings Bank in 1963, followed by the formation of the Islamic Development Bank (IDB) in 1973 and the Dubai Islamic Bank in 1975.

4.258 The Islamic financial standard setting bodies, such as the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI)[81] and the Islamic Financial Services Board (IFSB), have made efforts to develop standards for IFIs, which include standards on accounting, audit, ethics, governance, *Shariah,* regulatory framework, capital adequacy, and risk management framework. These efforts are aimed at ensuring a safe and sound Islamic financial system (*Shariah* compliant) and to effectively integrate and harmonize the Islamic financial system and practices within the international financial system.

4.259 Although both IFIs and conventional financial institutions are for-profit entities, their philosophy and operations are different, in that for IFIs *Shariah* prohibits financial transactions associated with: (1) interest (*Riba*) for lending and borrowing; (2) excessive uncertainty (*Al-Gharar*)—no contracts or contingents on the occurrence or non-occurrence of an uncertain future event; (3) speculation or gambling (*Al-Maisir*)—conversely, trading or transactions entailing a chance of gain or risk of loss are allowed. Commercial trade and investment for profit are acceptable and encouraged. IFIs use either trading models or profit and loss sharing models in financing customer's needs, participate in investments that meet *Shariah* principles, and earn fees for services rendered. For example, IFIs offer investors/depositors participation in risk-bearing, open-ended, mutual fund-type packages or profit and loss sharing investment accounts, rather than fixed interest on deposits. In addition, *Shariah* prohibits financial transactions associated with businesses that produce goods and services considered contrary to its principles, like tobacco, alcohol, gambling, vulgar entertainment, etc.

4.260 Several special types of deposits accounts and other financial instruments permit IFIs to engage in most of commercial banking activities although in a manner different from conventional financial corporations. Generally, any risk-bearing instrument reflecting a real asset and earning a rate of return tied

[80] This annex draws on Iqbal and Mirakhor (1987); Hanif (2014); and Accounting Standards of the Accounting and Auditing Organization for Islamic Financial Institutions.

[81] The AAOIFI is a standard-setting body for Islamic finance, which develops accounting, auditing, and *Shariah* standards. It was established in 1991 and is based in Manama, Bahrain. The IFSB, which is based in Kuala Lumpur, Malaysia, is a global standard-setting body for Islamic finance, which prepares prudential standards and guidelines for the regulation of Islamic banking, Islamic insurance (*Takaful*), and Islamic capital markets. It was officially inaugurated in November 2002, and started operations in March 2003.

to the performance of the asset is considered to be consistent with *Shariah*. Use of financial instruments with returns specified before investment is not permitted, but sharing of the returns by a pre-determined formula after the fact is acceptable. Some financial activities may have an established rate of return that could be created, for example, by the purchase and resale of goods at trade margins (cost plus profits) with deferred payments as a way of financing acquisition (called *Murabaha*). Generally, *Murabaha* is a dominant model of short-term financing in the portfolios of IFIs due to its easiness and low risk as compared with profit and loss sharing models of financing, even though other modes of financing such as leasing (*Ijarah*) and *Diminishing Musharaka* are also gaining more prominence.

4.261 The functions of IFIs can be divided into the safeguarding of deposits and the partnership of financial institutions with shareholders and depositors (called investment account holders) in profit-making ventures. Demand deposit facilities (called *Qard, Wadiah,* or *Amanah* deposits) are similar to the safekeeping and transferable deposit functions performed in standard commercial banking. The *Qard*, *Wadiah*, or *Amanah* deposits pay no returns, and the IFI is obligated to preserve or guarantee the nominal value of the deposit. For purposes of compiling monetary statistics, Islamic deposit facilities should be treated in the same way as standard deposits in depository corporations (DCs).

4.262 On the asset side, the activities of IFIs range from sale-based contracts to leasing and limited partnerships. The IFIs also make investments in equities, mutual funds, and medium- to long-term projects. To a large extent, IFIs act similarly to conventional intermediaries by issuing deposit-like instruments (such as profit and loss sharing deposits, unrestricted investment accounts, and profit sharing investment accounts (PSIA)) to the public in order to raise funds to finance commercial activity. The financing and investment activities of the IFIs are designed to expose both the investment account holders (IAH) and the IFIs to real economic activities on the ventures (profits or losses). Thus, the investments—of which many are negotiable and known by names such as "participation term certificates," "profit and loss sharing (PLS) certificates," and "investment deposit certificates"—have properties similar to those of shares in a company or a mutual fund.

4.263 An IFI serving as an intermediary may act as a partner or as a provider of services in profit-making ventures and thus has some characteristics in common with mutual funds, financial leasing companies, or brokers. The restricted investment accounts offered by IFIs are quite similar to mutual funds. Because of the joint participation between an IFI, shareholders, and IAHs in real economic activities, the IFI per se is not exposed to similar risks as is a conventional financial intermediary. In addition, the structure of the balance sheet of an IFI may differ from that of a standard conventional financial institution. For example, the equity capital base of an IFI may be larger than that of a conventional financial institution as it would also include the equity portion of IAHs in a separate component of equity; an IFI's financing portfolio may be concentrated in short-term trade instruments; and the nature of banking strategies and risks may differ.

4.264 The prevailing statistical practice is to classify IFIs that have liabilities in the form of deposits or financial instruments that are close substitutes for deposits in the ODCs subsector. The implication of this practice is that most *PSIA* are treated in the same way as regular deposits for statistical reporting purposes. The participation of many IFIs in bank clearing systems and a concentration of financing activity in traditional, short- to medium-term commercial and trade financing are practices that tend to reinforce this classification.

4.265 IFIs that are not primarily involved in deposit-taking activities are classified as OFCs. IFIs investing mainly as long-term partners in business ventures are akin to non-money market investment funds, and are therefore classified within OFCs. IFIs mainly engaged in *Takaful* schemes, which is Islamic insurance, are classified as insurance corporations.

Sources of Funds

4.266 As financial intermediaries, IFIs—like conventional ODCs—issue deposits (current, savings, and fixed-term deposits) or deposit-like instruments as their sources of funds. The following list details sources of funds for IFIs.

a. Qard, Wadiah, and Amanah deposits can be withdrawn on demand, at par, without penalty or restriction, and are generally usable for making payments by check, draft, giro order, or other direct payment facilities. These types of deposits

are not linked to any profit-making ventures and are not part of the profit and loss sharing schemes, hence IFIs have the flexibility to use the funds but are required to guarantee the nominal value of the deposits. With the foregoing characteristics, these deposits usually offer no (or very small) returns to the depositors on the basis of gift (*hibah*). In the context of compiling monetary statistics, *Qard, Wadiah*, and *Amanah* deposits are classified as *Transferable deposits* if such deposits are directly usable for making payments by check, draft, giro order, direct debit, or direct payment facility. Otherwise, these deposits are classified as *Other deposits*.

b. A Mudaraba, also known as PSIA, is a contract between investors and an IFI that, as a silent partner, invests the deposits in a commercial venture. Profit sharing of the venture is pre-determined on the basis of risk and return, and the IFI and investors share any profit generated from the venture. A *Mudaraba* can be entered into for a single investment or on a continuing basis with the IFI acting as a fiduciary. There are two types of *Mudaraba* investment accounts according to the *AAOIFI FAS No. 27* (*Investment Accounts*), namely *Unrestricted Mudaraba* and *Restricted Mudaraba*. *Unrestricted Mudaraba* is where the investor fully authorizes an IFI to invest the funds without restrictions as to where, how, and for what purpose the funds should be invested as long as it is deemed appropriate. Mixing of funds from other sources (including shareholders' funds) is permitted and separate disclosure in the financial statement is therefore required. *Restricted Mudaraba* is where the investor restricts the manner as to where, how, and for what purpose the funds are invested. No mixing of funds is allowed from other sources to ensure proper management and accountability of the funds. A separate disclosure (off-balance sheet) in the form of *Statement of Restricted Mudaraba* is required to be kept by the IFIs. Similar to the case of deposits at conventional financial institutions, *Unrestricted Mudaraba* can be divided into the following types:

   - *Mudaraba* accepted without a time frame (not fixed). The investors are free to withdraw their money at any time, and hence this type of *Unrestricted Mudaraba* is similar to those of savings deposits at conventional financial institutions and is classified as *Other deposits*.
   - *Mudaraba* accepted for a fixed period that provides opportunity for IFIs to invest in more profitable long-term projects. This type of *Unrestricted Mudaraba* is similar to time deposits at conventional financial institutions and usually generates higher profits in comparison to the former type. For compiling monetary statistics, this type of *Unrestricted Mudaraba* is classified as *Other deposits*.
   - *Mudaraba* accepted for fixed terms and arranged through negotiable instruments (called investment deposit certificates or *Mudaraba* certificates). This type of *Unrestricted Mudaraba* has characteristics similar to those of debt securities and is classified as a *Debt security* unless it provides a claim on the residual value of the issuing entity, in which case it is classified as *Equity*.

c. Qard-hasan deposits are return-free deposits voluntarily placed by depositors, to participate in the financing for needy individuals or for social purposes. This type of deposit is classified as *Other deposits* in the compilation of monetary statistics.

d. Zakah funds, according to the *AAOIFI FAS No. 9* (*Zakah*), are special funds that are maintained by IFIs, used for social purposes, and financed by contributions from depositors and IAHs. *Zakah* funds are not part of the financial institution's sources of funds for financial intermediation, and are usually recorded as off-balance sheet items by IFIs. If *Zakah* funds are collected and organized as separate nonprofit institutions (NPIs), for example "Zakah houses," these institutions will record *Zakah* funds on their balance sheets, and should be classified as nonprofit institutions serving households (NPISHs), if they are not controlled by government. By their nature, "Zakah houses" are nonmarket NPIs because they do not charge for their services. If controlled by government, these *Zakah* funds should be classified as government units.

e. Participation term certificates are long-term investment instruments that entitle the holder

to a share of a corporation's profit. These certificates should be classified as *Other deposits* if the certificates are treated as debt liabilities of an IFI, and as *Equity* if part of the capital base.

f. Profit and loss sharing certificates and investment deposit certificates, such as *Mudaraba* certificates, are investors' deposits that somewhat resemble shares in a company but do not provide a claim on the residual value of the IFI and participation in its governance. These instruments should be classified as *Other deposits*. If *Mudaraba* certificates are negotiable, they should be classified as *Debt securities*.

g. Sukūk, also known as Islamic bonds and considered as alternative to conventional bonds, are investment certificates issued by IFIs as a way to obtain funding. According to the *IFSB-15* (*Revised Capital Adequacy Standard for Institutions Offering Islamic Financial Services*), *Sukūk* (plural of *sakk*) are certificates, with each *sakk* representing a proportional undivided ownership right in tangible and intangible assets, monetary assets, usufruct, services, debts or a pool of predominantly tangible assets, or a business venture (such as *Mudaraba* or *Musharaka*). These assets, which must be clearly identifiable, may be related to a specific project or investment activity in accordance with *Shariah* rules and principles. Issuance of *Sukūk*, including the utilization of funds raised through such issuance, should not involve any elements of interest (*Riba*), excessive uncertainty (*Gharar*), or activities prohibited by *Shariah*. The following three types of *Sukūk* contracts are the most prominent: (1) *Sukūk Ijarah*, (2) *Sukūk Musharaka*, and (3) *Sukuk Murabaha*, which are all negotiable instruments, except that *Sukūk Murabaha* becomes negotiable only when certain conditions are met. In recent years, *Sukūk* have become very popular as an alternative means of raising funds for government through sovereign issues. A distinguishing feature of *Sukūk* is that the holders are entitled to share revenues generated by the *Sukūk* assets and are entitled to a share in the proceeds of the realization of *Sukūk* assets. Hence *Sukūk* holders claim an undivided beneficial ownership in the underlying assets. Governments, central banks, financial or nonfinancial corporations, and supranational organizations can issue *Sukūk*. For the purpose of compiling monetary statistics, *Sukūk* should be classified as *Debt securities*, unless the owner of the security has a claim on the residual value of the issuing entity. For further details on the classification of *Sukūk* by type of underlying contract, see Annex 3 in the *Handbook on Securities Statistics*.

Uses of Funds

4.267 On the assets side, IFIs invest money collected from investors in some commercial ventures by using either trading models or profit and loss sharing models. The following list covers the primary types of financing provided by IFIs:

a. Qard-hasan is a return-free financing that is made to needy individuals or for some social purpose. *Qard-hasan* financing is usually extended on a goodwill basis, and the debtor is required to repay only the principal amount of the financing. The debtor may, however, at his or her discretion, pay an extra amount beyond the principal of the financing (without promising it) as a token of appreciation to the creditor. *Qard-hasan* financing is classified as *Loans*.

b. Murabaha financing, according to the *AAOIFI FAS No. 2* (*Murabaha and Murabaha to the Purchase Orderer*), is defined as a sale of goods at cost plus an agreed profit margin. A *Murabaha* sale in the preceding context means the selling of a product owned by the seller at the time of entering into a contract. In a *Murabaha* contract, an IFI purchases goods upon the request of a client, who makes deferred payments that cover costs and an agreed-upon profit margin for the IFI. The IFI handles payments to the supplier including direct expenses incurred (delivery, insurance, storage, fees for letter of credit, etc.). Operating expenses of the IFI are not included. Under *Murabaha* contracts, disclosure of cost of the underlying goods is necessary. *Murabaha* contracts resemble collateralized loans of the conventional financial institutions, in which the underlying goods, such as properties or automobiles, are registered under the customer's name and are used as collateral. In compiling mon-

etary statistics, *Murabaha* should be classified as *Loans*.

c. A Bai Muajjal is a type of financing provided by an IFI to its client by supplying desired commodities or services with deferred payments. In compiling monetary statistics, a *Bai Muajjal* is classified as *Loans* given that the supplied commodities or services are from third parties.

d. A Bai Salam financing, according to the *AAOIFI FAS No. 7* (*Salam and Parallel Salam*), is a short-term agreement in which an IFI makes full prepayments (spot payment) for future (deferred) delivery of a specified quantity of goods on a specified date. In practice, farmers usually need money to purchase seeds and fertilizers. An IFI and farmers in this case may engage in a *Bai Salam* contract, in which farmers agree to sell their crops to the IFI prior to harvesting. Generally, the agreed spot price is less than the future price of the commodities, in order for the IFI to make profits. A *Bai Salam* should be classified as *Loans*, given that the produced crops are not for the IFI's own use.

e. An Istina'a financing, according to the *AAOIFI FAS No. 10* (*Istisna'a and Parallel Istisna'a*), is a partnership between an IFI and an enterprise, usually manufacturer or construction company, in which the IFI places an order and provides financing to the enterprise to manufacture/construct and or supply certain goods or buildings. Upon or before the delivery of the order, IFIs usually engage into a contract with another party (the ultimate purchaser) at a price higher than the original contract of the *Istisna'a*, thus generating profits for the IFI. As a matter of practice, an *Istisna'a* is classified as *Loans*, given that the produced goods or constructed buildings are not for the IFI's own use, but for the ultimate purchaser. If the goods or buildings are for the IFI's own use, an *Istisna'a* is classified as *Trade credit and advances* within *Other accounts receivables*.

f. An Ijarah is a lease-purchase contract in which an IFI purchases capital equipment or property and leases it to an enterprise. The IFI may either rent the equipment or receive a share of the profits earned through its use. According to the *AAOIFI FAS No. 8* (*Ijarah and Ijarah Muntahia Bittamleek*), there are two types of *Ijarah*, namely *Operating Ijarah* and *Financing Ijarah* (*Ijarah Muntahia Bittamleek* or *Ijarah Wa Iktina*). Under *Operating Ijarah,* the title for the underlying asset is not transferred to the client (lessee), and ownership risks of the assets are borne by the IFI; expenses related to the use of the assets are the responsibility of the client. A *Financing Ijarah* involves two contracts (i.e., a lease over the lease period and transfer of ownership at the end of the contract). For compiling monetary statistics, an *Operating Ijarah* should be treated in the same way as a conventional operating lease. *Financing Ijarah,* which resembles a conventional financial lease, should be classified as *Loans*.

g. A Musharaka financing, according to the *AAOIFI FAS No. 4* (*Musharaka Financing*), is a partnership between an IFI and an enterprise in which both parties contribute to the capital (*rab al maal*) of partnership. In a *Musharaka* partnership, the IFI and client agree to share any profits generated from the venture according to the pre-agreed ratio; a loss is shared according to the ratio of contribution. In the context of compiling monetary statistics, a *Musharaka* financing is classified as *Loans*, provided the IFI does not acquire a claim on the residual value of the enterprise.[82]

h. A Mudaraba financing, according to the *AAOIFI FAS No. 3* (*Mudaraba Financing*), is a partnership between an IFI and a client in which the IFI provides capital (*rab al maal*) and the client provides skillful labor. *Mudaraba* financing is a type of partnership whereby skill and money are brought together to conduct business. Profits generated from the business are shared according to the agreement, while losses are borne fully by the IFI as the capital provider, except when losses were due to misconduct, negligence or violation of the agreed conditions by the client. In the context of compiling monetary statistics, a *Mudaraba* financing is classified as *Loans*. Although

[82] *Musharaka* financing can be structured in two possible ways according to Islamic scholars: (1) *Musharaka* financing offered as a loan where the IFI provides financing in the form of working capital to an entity but does not have a claim on the residual value of the debtor entity; and (2) *Musharaka* financing offered as equity participation.

Mudaraba financing has features of equity, it has a fixed-term nature and therefore represents a fixed-term claim on the client rather than a claim on any residual value.

Takaful as a Form of Insurance

4.268 A Takaful is Islamic insurance that has emerged to complement IFIs, as an alternative form of conventional insurance. *Takaful* was invented as an Islamic way of mutual assistance to deal with uncertainties (*Al-Gharar*). As in the case of conventional insurance, *Takaful* deals with both life and nonlife (general) insurance.

4.269 *Takaful* undertakings and Islamic societies in different parts of the world are now practicing *Takaful* schemes based on the concept of pooling risks, which does not contradict the *Shariah* principles. *Takaful* helps participating members in sharing financial responsibilities to assist each other. The compensation to the unfortunate member and group responsibility are not only accepted, but also encouraged in Islam. The growth of *Takaful* companies not only would serve as the vehicle of risk pooling, but also as alternative means of investment.

4.270 In the context of compiling monetary statistics, if a *Takaful* company meets the definition of insurance corporations as described in paragraph 3.189, it should be classified as an *insurance corporation*. Its claims and liabilities related to *Takaful* (i.e., participants' contributions, or *Tabarru*), *Re-Takaful* contributions, and claims or compensations related to the *Takaful* policies, should be classified as insurance (included in the financial instrument *Insurance, pension, and standardized guarantee schemes*).

5 Stocks, Flows, and Accounting Rules

I. Introduction

5.1 This chapter discusses financial stocks and flows, and the accounting rules for the compilation of monetary and financial statistics. The stock and flow concepts and accounting rules follow the *System of National Accounts 2008* (*2008 SNA*) and other statistical manuals. The framework used is a consistent system that, in principle, measures each financial flow or stock position identically for the parties involved, using the same accounting rules. The framework is also an integrated system in which changes in stocks of financial assets and liabilities account for all flows in a period. It divides flows into *transactions*, *revaluations (holding gains and losses)*, and *other changes in the volume of assets* (OCVA).

5.2 In addition to the characteristics of stocks and flows and the accounting rules, this chapter presents the principles of aggregation, netting, and consolidation. Four annexes and five boxes focus on special issues and provide numerical examples.

II. Stocks and Flows

5.3 This section deals with recording and valuation of stocks and flows as defined within the framework of the *2008 SNA*, focusing mainly on financial assets and liabilities.

5.4 ***Stocks refer to holdings of assets and liabilities at a point in time. Flows refer to economic actions and effects of events within an accounting period.***

5.5 ***Economic flows***[1] ***reflect the creation, transformation, exchange, transfer or extinction of economic value within a period of time.*** They involve changes in the volume, composition, or value of an institutional unit's assets and liabilities during the accounting period, thus constituting the difference between the opening stock position and the closing stock position. Flows consist of transactions between institutional units and *other flows* that in turn consist of revaluations and OCVA during the period of time.

5.6 ***A transaction is an interaction between institutional units by mutual agreement or through the operation of the law and involves an exchange of value or transfer, or an action within an institutional unit that is analytically useful to treat like a transaction, often because the unit is operating in two different capacities. Other flows are changes in the volume, value, or classification of assets and liabilities that do not result from transactions.***

5.7 ***A revaluation (holding gain/loss or valuation change) of assets and liabilities occurs whenever an asset increases/decreases in monetary value or a liability decreases/increases in monetary value because of a change in their prices and/or the exchange rate.***

5.8 ***The OCVA account records the changes in assets and liabilities between opening and closing stocks that are neither due to transactions nor to valuation changes.***

5.9 The terms used in the framework in which changes in stocks account for all flows in a period are as follows:[2]

a. Opening stock (OS). The value of the outstanding position in, or holdings of, assets or liabilities at the beginning of an accounting period.

b. Transactions (T). Flows that constitute transactions as defined in paragraph 5.6.

c. Revaluations or valuation changes (VC). Flows arising from changes in the prices of assets and

[1] "Flows" is used as a short term for "economic flows" in the rest of this *Manual*.

[2] These terms also apply to nonfinancial assets.

liabilities, including changes in the exchange rates.

d. OCVA. Examples of OCVA are write-offs of claims, reclassification of assets, and monetization or demonetization of gold (see paragraph 5.21).

e. Closing Stock (CS). The value of the position in, or holdings of, assets or liabilities at the end of an accounting period. CS equals the value of the opening stock plus flows arising from transactions, revaluations, and OCVA.

5.10 Table 5.1 provides an example for recording stocks and flows for an asset or liability. The total flow during the period is divided into three components: *transactions, valuation changes,* and *OCVA*.

A. Adding-up Identities

5.11 The stock and flow framework for monetary statistics has both *vertical* and *horizontal adding-up identities,* which can either be used for quality control purposes or to derive data residually (see Table 5.2). The vertical adding-up identities (vertical check) are that total assets should equal total liabilities including equity.

5.12 The horizontal adding-up requirements use the stock/flow identity, where the sum of the opening stock, transactions, revaluations, and OCVA during the reporting period is equal to the closing stock for each category of assets and liabilities (see Table 5.1):

$$(5.1) \quad CS \equiv OS + T + VC + OCVA$$

5.13 Each category of assets and liabilities requires the collection or estimation of separate data for OS, CS, OCVA and, if possible, for at least one of the remaining flows—either T or VC. In this case, the data for either T or VC can be obtained residually, using the horizontal adding-up requirement.

B. Flows

5.14 Flows discussed in the context of monetary and financial statistics mostly constitute the flows in financial assets and/or liabilities. This *Manual* recommends compiling data on stocks and on each of the three separate flow components—transactions, revaluations, and OCVA. Detailed flow data facilitate a more thorough analysis for monetary policy and other macroeconomic policy purposes, and fosters consistency between the monetary and financial statistics on one side and the national accounts, external sector statistics, and government finance statistics on the other side, which also contain detailed flow data.

Transactions

5.15 Every transaction is either a monetary or nonmonetary transaction. ***A monetary transaction is one in which one institutional unit makes a payment (receives a payment) or incurs a liability (acquires an asset) stated in units of currency. A nonmonetary transaction is one that is not initially stated in units of currency.*** Monetary and financial statistics are concerned mostly with monetary transactions, as the focus is on transactions in financial instruments (see Table 5.3).

5.16 ***Interest is a form of investment income that is receivable by the owners of certain kinds of financial assets, namely deposits, debt securities, loans, and other accounts receivable for putting the financial assets at the disposal of another institutional unit. Income on Special Drawing Rights (SDR) holdings***

Table 5.1 Stocks and Flows for a Financial Asset or Liability Category

	OS	T	VC		OCVA	CS
			Due to exchange rate changes	Due to other price changes		
Asset/liability	100	+10	+3	–2	–5	106

Note: OS = opening stock; T = transactions; VC = valuation changes; OCVA = other changes in the volume of assets; CS = closing stock.

Table 5.2 Stock and Flow Data: Adding-up Requirements

	OS	T	VC	OCVA	CS	CS – OS = T – VC – OCVA
Assets						
Asset 1						0
Asset 2						0
. . .						. . .
Asset *m*						0
Total Assets (*TA*)						**0**
Liabilities, including equity						
Liability 1						0
Liability 2						0
. . .						. . .
Liability *n*						0
Total Liabilities (TL)						**0**
Vertical check: *TA – TL*	**0**	**0**	**0**	**0**	**0**	**0**

Note: OS = opening stock; T = transactions; VC = valuation changes; OCVA = other changes in the volume of assets; CS = closing stock.

and allocations is also included in interest. Interest may be a predetermined sum of money, or a fixed or variable percentage of the principal outstanding. For financial assets and liabilities, interest can (and usually does) accrue on the principal amount, resulting in an interest cost for the debtor (and a corresponding income for the creditor), which is recorded as a transaction. When this cost is paid periodically, as commonly occurs, it is known as an interest payment. All other payments by the debtor to the creditor that reduce the principal amount outstanding are known as principal payments.

Revaluations

5.17 Revaluations result from price changes and can accrue on almost all economic assets held for any length of time during a reporting period. Revaluations may be unrealized or realized.

5.18 An unrealized revaluation is one accruing on an asset that is still owned or a liability that is still outstanding at the end of the reporting period. The values of the assets and liabilities in the closing balance sheet incorporate the unrealized revaluations.

5.19 A revaluation is realized when an asset is sold, redeemed, used or otherwise disposed of, or a liability incorporating a revaluation is repaid. The value of transactions includes the value of realized revaluations. In other words, unrealized holding gains are realized when transactions take place.

5.20 The asset and liability categories that are subject to revaluation in the methodology of this *Manual* are shown in Table 5.4.

Other changes in the volume of assets

5.21 Separate entries for the financial flows arising from OCVA should be shown for all categories of assets and liabilities included in monetary statistics, as described in Chapter 7, and in the financial statistics as described in Chapter 8. The circumstances that result in entries in the OCVA account are grouped into six categories, most of which have several subcategories.[3] The following are the categories and subcategories that are relevant for the financial corporations (FCs) sector in most countries, and are relevant to the compilation of monetary and financial statistics (see Table 5.5).

a. Economic appearance and disappearance of assets. The following two subcategories are more relevant for FCs:

[3] For more detailed descriptions of OCVA categories see Chapter 12 and the subheading "Other flows" in Annex 1 (page 553) of the *2008 SNA*.

Table 5.3 Main Transactions by Asset/Liability Category for Financial Corporations

Asset/Liability	Transactions
Monetary gold (central bank asset)	Purchases *less* sales (between monetary authorities and international financial institutions only) *Plus* accrued interest on unallocated gold accounts with nonresidents that give title to claim the delivery of gold
SDR holdings (central bank asset)	New SDR allocation *less* SDR cancellation Purchases of SDRs *less* sales of SDRs[1] *Plus* accrued interest on SDR holdings *Plus* remuneration receipts in SDRs from the IMF on the reserve tranche position *Plus* IMF purchases and loan receipts in SDRs *Plus* interest receipts in SDRs on lending to the IMF *Less* IMF repurchases and loan repayments in SDRs *Less* payments of charges in SDRs to the IMF
SDR allocations (central bank liability)	New SDR allocation *less* SDR cancellation *Plus* accrued interest (charges) on SDR allocation
Domestic currency holdings (other than central bank)	Net acquisition of currency
Domestic currency (central bank liability)	Change in currency in circulation (see paragraph 6.22)
Foreign currency holdings	Purchases *less* sales
Deposits—assets or liabilities	Deposit placements/receipts *less* withdrawals *Plus* accrued interest for the period
Debt securities—assets	Purchases *less* sales, redemptions and interest payment[2] *Plus* accrued interest for the period
Debt securities—liabilities	Issuances *less* redemptions, purchases of own debt securities, and interest payments[2] *Plus* accrued interest for the period
Loans—assets	Loan extensions *less* loan principal and interest payments[2] *Plus* accrued interest for the period
Loans—liabilities	Loan receipts *less* loan principal and interest payments[2] *Plus* accrued interest for the period
Equity and investment fund shares—assets	Purchases and new contributions *less* sales and withdrawal of capital
Equity—liabilities	New funds contributed by owners *less* outflow from dividends when shares go ex-dividend and withdrawal of capital *Plus/minus* inflow or outflow of retained earnings for foreign direct investment enterprises only *Plus/minus* profit or loss from corresponding transactions
Investment fund shares—liabilities	Sales *less* redemptions and/or buy-backs
Insurance, pension and standardized guarantee schemes—assets	Prepayments of insurance premiums and net fees for standardized guarantees *Plus/minus* change in claims of pension funds on pension managers for any underfunding/overfunding

Table 5.3 Main Transactions by Asset/Liability Category for Financial Corporations (*Continued*)

Asset/Liability	Transactions
Insurance, pension and standardized guarantee schemes—liabilities	Amounts of estimated obligations to beneficiaries and holders accrued during the period[3] *less* payments to beneficiaries from reserves and provisions
Financial derivatives—assets	Purchases *less* sales and settlements *Minus* receipts of nonrepayable margins
Financial derivatives and employee stock options—liabilities	Sales *less* settlements *Minus* payments of nonrepayable margins
Other accounts receivable/payable	Transactions in trade credit and advances, etc.
Nonfinancial assets	Acquisitions less disposals *Less* consumption of fixed assets

[1] Transactions also include SDRs obtained from a new SDR allocation or disposed of because of SDR cancellation.
[2] Includes redemptions/repayments arising from debt reorganization, including debt cancellation by mutual agreement (debt forgiveness).
[3] For more details see paragraphs 5.185, 5.190, 5.197, and 5.199.
Note: SDR=Special Drawing Rights.

Changes in the value of goodwill and marketing assets. FCs may show assets in the form of *purchased goodwill* on their balance sheets. The value of goodwill and marketing assets is the difference between the value paid for an enterprise as a going concern and the value of its assets less the value of its liabilities (excluding equity). Goodwill that is not evidenced by a sale/purchase is not considered an economic asset and, therefore, does not enter the monetary and financial statistics. The value of purchased goodwill is calculated at the time of sale, entered as a nonfinancial asset in the books of the seller in the OCVA account and then recorded as a transaction in nonfinancial assets (sale of goodwill) with the purchaser. Thereafter, the purchased goodwill is classified as a nonfinancial asset in the books of the purchaser and is written down via entries in the OCVA account (*2008 SNA*, paragraph 12.34).

Appearance and disappearance of financial assets and liabilities. Included in this subcategory are write-offs of bad debts by creditors. ***Debt write-off is a unilateral cancellation of debt by the creditor***. Recognition by a creditor that a financial claim can no longer be collected due to bankruptcy or other factors and the consequent removal of the claim from the balance sheet of the creditor should be accounted for here. Write-downs, which are partial write-offs, are also accounted here.

b. Catastrophic losses. The volume changes recorded as catastrophic losses in the OCVA account are the result of large-scale, discrete, and recognizable events that may destroy assets within any asset category. Such events include natural disasters, acts of war, riots, and technological accidents. Catastrophic losses most commonly apply to nonfinancial assets but may also apply to the loss of financial assets and, in particular, the loss of currency (for instance, if currency held by an FC is destroyed) and other bearer-type financial assets, as well as to those cases when the written records evidencing ownership over financial assets are destroyed.

c. Uncompensated seizures. Governments or other institutional units may take possession of (confiscate) assets of other institutional units, including units owned by nonresidents, without full compensation for reasons other than the nonpayment of taxes, fines, or similar levies. If the compensation for such seizures falls substantially

Table 5.4 Revaluations by Asset/Liability Category for Financial Corporations

Asset or Liability	Exchange rate changes	Other price changes
Monetary gold (central bank asset)	√	√
SDRs (central bank asset)	√	
Domestic currency		
Foreign currency	√	
Deposits		
In domestic currency		√
In foreign currency	√	√
Debt securities		
In domestic currency		√
In foreign currency	√	√
Loans		
In domestic currency		√
In foreign currency	√	√
Equity and investment fund shares (assets)		
In domestic currency		√
In foreign currency	√	√
Equity (liabilities)[1]		√
Investment fund shares		
In domestic currency		√
In foreign currency	√	√
Insurance, pension, and standardized guarantee schemes (assets)	√[2]	√
Insurance, pension, and standardized guarantee schemes (liabilities)	√[2]	√
Financial derivatives and employee stock options		
In domestic currency		√
In foreign currency	√	√
Other accounts receivable/payable	√	
Nonfinancial assets		√

[1] Financial statistics only. For financial statistics, liabilities in the form of equity are valued at market or fair value.
[2] Applies to components denominated in foreign currency.
Note: SDR = Special Drawing Rights.

short of the market or fair value of the assets as shown on the balance sheet, the difference should be recorded in the OCVA account as a decrease in the assets of the institutional unit losing the assets. Foreclosures and repossession of goods by creditors are not treated as uncompensated seizures. They should be treated as transactions (i.e., disposals by debtors and acquisitions by creditors) because, by explicit or general understanding, the agreement between the debtor and creditor provided this avenue of recourse.

d. Other changes in volume not elsewhere classified. This category comprises the following items:

   Corrections in the calculation of consumption of fixed capital. This subcategory covers entries in the OCVA account arising from the impact of unexpected events (other than catastrophic losses) not anticipated when allowances were specified for the consumption of fixed capital or the assumptions underlying the calculation of consumption of fixed capital were mistaken.

Table 5.5 Other Changes in the Volume of Assets by Asset/Liability Category

Asset or Liability	Economic appearance of assets, catastrophic losses (assets only), and uncompensated seizures (assets only)	OCVA not elsewhere classified, including provisions[1] and accounting entries	Changes in classification
Monetary gold (central bank asset)	√		√
SDRs (central bank)			
Domestic currency	√		√
Foreign currency	√		√
Deposits	√		√
Debt securities	√		√
Loans	√		√
Equity and investment fund shares (assets)	√		√
Equity and investment fund shares (liabilities)		√	√
Insurance, pension and standardized guarantee schemes (assets)	√	√	
Insurance, pension, and standardized guarantee schemes (liabilities)	√	√	
Financial derivatives and employee stock options	√		
Other accounts receivable/payable	√	√	√
Nonfinancial assets	√	√	√

[1] In monetary statistics, OCVA entries for provisions are shown in *Other accounts payable [MS]* and in *Equity liability [MS]* (as a reduction in *Current year result*). The entry for nonfinancial assets in this category relates to the corrections in the calculation of consumption of fixed capital.
Note: SDR = Special Drawing Rights; OCVA = other changes in the volume of assets.

Life insurance and annuities entitlements. For an annuity, the relationship between premiums and benefits is usually determined when the contract is entered into, taking account of mortality data available. Any subsequent changes in the underlying relationship will affect the liability of the annuity provider towards the beneficiary and the consequences are recorded in OCVA.

Pension entitlements. For defined benefit pension plans, an entry in the OCVA account captures changes in the actuarial-determined liability that results from changes in the benefits structure—for example, changes in the benefits formula and reductions in the pensionable age. Thus changes to pension entitlements as a result of changes in model assumptions are shown as other changes in volume, whereas changes negotiated between the parties are recorded as transactions.

Provisions for calls under standardized guarantee schemes. When an institutional unit underwrites a standardized guarantee scheme, a provision should be entered in its accounts for the expected excess of calls under the scheme over any fees received, investment income, or recoveries made. Changes to these provisions are recorded as OCVA whenever a new scheme is introduced or a significant change to the expected level of calls is recognized, beyond what will be recovered.[4]

[4] See also *Government Finance Statistics Manual 2014* (*GFSM 2014*), Appendix 4, paragraphs 4.78–4.79.

e. Changes in classifications. This category comprises the following events:

Changes in sector classification and structure. Changes in the activities, legal status, and/or organizational structure of institutional units can result in their sectoral reclassification. Reclassifying an institutional unit from one sector to another transfers its entire balance sheet.[5] Entries in the OCVA account can also arise from changes in structure—for example, when a corporation disappears as an independent legal entity by virtue of its being absorbed by another corporation or when a corporation is split into more than one institutional unit.[6] It is recommended that sectoral reclassifications of FCs be recorded as if these events occurred at the beginning of the reporting period. In particular, the asset prices (or fair values) and exchange rates that prevailed at the beginning of the period should be used to calculate the amounts for the OCVA entries. A special case arises when the institutional coverage in monetary and financial statistics is expanded. Ideally, it is expected that the accounts of all FCs are covered for all periods, but this is not always the case in practice, especially for OFCs. In such cases, changes in a period in assets and liabilities of the FCs subsector arising from the expansion of coverage of the subsector are to be recorded as OCVA and shown separately.

Changes in classification of assets and liabilities. Because of changes in its characteristics or in the purpose for which it is used, an asset or liability may be classified differently in the opening and closing balance sheets. For example, loans may be reclassified as debt securities in accordance with the guidance that loans that become negotiable (i.e., marketable) should be reclassified as debt securities. Deposits can be reclassified as (1) "included in broad money" for deposits that are newly included in broad money, and (2) "excluded from broad money" for deposits of ODCs under liquidation and excluded from broad money. Furthermore, when a central bank purchases gold bullion as a reserve asset from a counterparty that is not a monetary authority or an international financial institution, a transaction in nonmonetary gold—that is, an increase in nonfinancial assets of the central bank and a decrease in nonfinancial assets of the seller—is recorded. Then a reclassification from nonfinancial to financial assets (valuables to monetary gold) is recorded in the OCVA account (monetization) by the central bank. To demonetize gold (in preparation for sale to a counterparty other than a monetary authority or an international financial institution), the central bank would record OCVA entries for a gold reclassification—that is, a negative entry in the monetary gold category and a positive entry in nonfinancial assets of the central bank (see also *2008 SNA*, paragraph 12.36, and the sixth edition of the *Balance of Payments and International Investment Position Manual (BPM6),* paragraph 9.18). In determining the amounts for OCVA entries arising from reclassification of financial assets and liabilities, the asset prices (or fair values) and exchange rates that prevailed on the date of the reclassification should be used.

5.22 In reference to changes in classifications, the OCVA account is used to record changes in the classification of institutional units or assets and liabilities, but not corrections of data that were misclassified in

[5] For example, if an FC is newly authorized to accept liabilities included in the definition of broad money, it would be reclassified from other financial corporations (OFCs) to other depository corporations (ODCs). Other examples of events that result in changes in sector (or subsector) classification are the privatization of public nonfinancial corporations (from a public nonfinancial corporation to an other nonfinancial corporation); divestitures within an institutional unit, resulting in the creation of two or more units with separate financial accounts and operating in different sectors; and changes in the institutional units within an economy or a currency union arising from changes in economic territory when countries are unified into a single nation, new countries join a currency union, or when one country is divided into two or more countries.

[6] When a corporation is absorbed by one or more other corporations, all claims and liabilities between the acquired corporation and the acquiring corporation disappear at the level of the data reported for macroeconomic statistics. Symmetrically, when a corporation is split into more than one institutional unit, new claims and liabilities between the new corporations may appear. The disappearance and appearance of the claims and liabilities between these institutional units lead to entries in the OCVA account.

earlier periods. It is important to trace the origins of data misclassification and to correct all current and historical data on stocks and flows. If this is not possible, a clear indication of the break in series should be provided.

III. Accounting Rules

5.23 This section discusses the accounting rules for monetary and financial statistics. Time of recording and general valuation principles are first presented. Then the treatment of transactions costs and financial service fees are discussed, followed by the principles of aggregation, netting, and consolidation.

A. Time of Recording

Recording on an accrual basis

5.24 ***Accrual accounting records flows and changes in the corresponding stocks at the time economic value is created, transformed, exchanged, transferred, or extinguished.*** Accrual recording is used in macroeconomic statistics as a general principle. This means that flows and stocks are recorded when a change of economic ownership (see paragraph 4.9) takes place. The effects of economic events are thus recorded in the period in which they occur, irrespective of whether payment was made. In principle, the two parties to a transaction should record it at the same time. However, in practice adjustments may be needed so that the same transaction date is applied to the data for both parties.

5.25 The change of economic ownership is central in determining the time of recording on an accrual basis for transactions in financial assets. A change in economic ownership means that the majority of risks, rewards, and rights and responsibilities of ownership in practice are transferred.

5.26 In practice, it is not always possible to determine the exact time when the economic ownership has changed, leading the parties to record the same transaction at different times. In particular, differences may arise from delays in mail delivery or differences in the time zones where the parties operate, as well as from differences in the time-of-recording conventions (see also the next subsection). It is important to make timing adjustments in cases in which major divergences occur from the required basis. In choosing among source data, compilers are encouraged to use those sources that most closely match the needs of accrual accounting. For example, records of drawings on loans are preferable to sources that quote authorization dates or program dates that may not be realized. Information on interest from either the payments records or debt service schedule may not be appropriate for accrual recording. For deriving accrued interest, the data on positions and contractual interest rates can be used.

5.27 For some financial instruments, the debtor does not make any payments to the creditor until the financial instrument matures, at which time a single payment discharges the debtor's liability; the payment covers the amount of funds originally provided by the creditor and the interest accumulated over the entire life of the financial instrument. The interest accruing in each period prior to maturity should be recorded as a financial transaction representing a further acquisition of the financial asset by the creditor and an equal incurrence of a liability by the debtor.

Trade date and settlement date accounting

5.28 A transaction in financial assets is recorded on the trade date (i.e., the time of change in ownership of a financial asset) rather than on the settlement date (i.e., the time of delivery of the financial asset). If settlement of a financial transaction occurs after the ownership has changed, this gives rise to accounts receivable/payable.

5.29 When the transaction date is in one reporting period and the settlement date is in the next reporting period, the recording entries for an asset purchase are:

a. First reporting period. The asset purchase is included in transactions (T), and any revaluation of the asset from the transactions date to the end of the first reporting period is included in valuation changes (VC). An accounts payable is recorded due to the time lag between the trade and settlement dates.

b. Second reporting period. When settled, the accounts payable is extinguished and currency and deposits are reduced.

5.30 Adjustment to a transaction-date basis should be made for transactions that are recorded on a settlement-date basis, but for which settlement

does not take place until the next reporting period. Data adjustment relies on data availability and the reporting system. Restatement of asset transactions—from settlement date accounting to transaction date accounting—is illustrated with numerical examples in Annex 5.4. In general, a successful adjustment for time of recording and valuation depends on granular data availability and a good information technology (IT) system.

B. Transaction Costs and Financial Service Fees

General principles

5.31 Transactions in financial assets and liabilities should be recorded at the prices at which they were bought and sold (see paragraph 5.39) excluding any transaction costs: that is, service charges, fees, commissions, taxes, etc. should be recorded separately from the transaction in the financial asset and liability. The latter is because both debtors and creditors should record the same amount for the same transaction in a financial asset/liability. Transaction costs include service charges, fees, commissions, taxes, and similar payments whether charged explicitly, included in the purchaser's price, or deducted from the seller's proceeds.

5.32 Transaction costs can be divided into two types—explicit and implicit transactions costs:

a. Examples of explicit type of transaction costs are service charges, fees, commissions, such as a brokerage commission, and domestic taxes expressed as a fixed amount per transaction or as a percentage of the value of an asset purchase or sale.

b. Examples of the implicit type are transaction costs that are built into the bid-ask price spreads for financial assets. A market specialist stands ready to buy a financial asset at the quoted bid price and, at the same time, is prepared to sell the same financial asset at an asked price (that is, offer price) that is above the bid price. The spread between the bid and ask price—the profit margin of the market specialist—is a measure of transaction costs incurred by the buyer and seller combined. Paragraphs 5.35–5.36 provide guidance on the treatment of the transaction costs embedded in the bid-ask spreads.

5.33 Explicit commissions, service charges, and fees that buyers and sellers pay as transaction costs are treated as payments for services.[7] Taxes and similar compulsory payments are transfers. Transaction costs are excluded from the valuation of financial transactions, and end-period stocks. Transaction costs reduce/increase *Equity liability [MS]* through current-year results for payers/payees, for the period in which the financial asset is acquired/provided.

5.34 When source data include some or all types of transaction costs in the amounts of asset purchases or sales, the explicit and implicit charges would need to be excluded.

Bid and ask prices

5.35 Transactions are to be recorded at the prices at which financial assets are bought and sold excluding transaction costs. Transaction data should, therefore, be adjusted to take account of the transaction costs embedded in the buying bid and selling ask prices. In acquiring securities in the secondary market, a FC usually pays the ask (or offer) price in the secondary market and records the securities transaction in the full amount paid—that is, ask price per security times number of securities acquired. The transaction should be valued at the mid-price between the bid-offer prices, with the difference with the offer price recorded as a transaction cost. Subsequent revaluation of the securities position should also be based on the mid-price.

5.36 Flows and stocks in foreign–currency-denominated financial instruments are also recorded at the relevant midpoint exchange rate.

C. Valuation of Stocks and Flows

5.37 This subsection discusses the general principles for the valuation of flows and stocks of financial assets and liabilities. A detailed discussion on the valuation of stocks and flows for each type of financial asset and liability is presented in Section IV in this chapter. Annexes to this chapter provide numerical examples.

5.38 The main valuation principle in this *Manual* is that flows and stocks should be measured at market prices. ***Market prices refer to current exchange value,***

[7] IFRSs recognize some fees, which are an integral part of the effective interest rate of a financial instrument, as an adjustment to the interest rate.

that is, the value at which nonfinancial and financial assets are exchanged or else could be exchanged for cash (currency or transferable deposits).

5.39 ***Market prices for transactions are defined as amounts of money that willing buyers pay to acquire something from willing sellers; the exchanges are made between independent parties and on the basis of commercial considerations only, sometimes called "at arm's length."*** According to this definition, a market price refers only to the price for one specific exchange under the stated conditions.

5.40 ***Stocks should be valued at market prices, that is, as if they were acquired in market transactions on the balance sheet reporting date.*** Many financial assets are traded in markets on a regular basis and can be valued by using the price quotations from these markets. If the financial markets are closed on the balance sheet date, the market prices that should be used in the valuation are those that prevailed on the closest preceding date when the markets were open.

5.41 Nominal values are used for recording deposits, loans, and other accounts receivable/payable, given all these financial instruments are not tradable by definition. Nominal valuation requires that accrued interest be included in the outstanding amount of the underlying instrument, and not as part of miscellaneous assets/liabilities.

5.42 All these general valuation principles are consistent with the *2008 SNA* and other statistical manuals. However, the valuation of *Equity liability [MS]* at book value[8] is a feature of monetary statistics and, although it is not the preferred valuation method in the *2008 SNA*, it can be reconciled with the SNA concepts (see Figure 2.2) and is consistent with one of the alternative valuation methods (to approximate the market value of unlisted shares) called *own funds at book value* (see paragraph 5.160e and *2008 SNA*, paragraphs 13.71 and 13.88).

5.43 In the source data, the valuation of stocks may be based on commercial, supervisory, tax, or other accounting standards that do not fully reflect the market values. In such cases, the data should be adjusted to reflect, as closely as possible, the market value of the financial assets and liabilities, except when they are to be recorded at nominal or book values. The difference in valuation between the source data and the market value recorded in the monetary statistics is reflected in *Equity liability [MS]* as a valuation adjustment.

Fair values

5.44 ***The fair value of a financial asset or liability is a market-equivalent value defined as the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction.*** It thus represents an estimate of what could be obtained if the creditor had sold the financial claim.

5.45 Two general methods for establishing fair values involve use of either:

a. Relative valuation: Market prices of financial assets and liabilities that are market-traded, but otherwise similar to the nontraded or infrequently traded financial assets and liabilities that are being valued; or

b. Absolute valuation: Discounted present values of future cash flows.

5.46 Relative valuation involves estimating the fair value of nontraded or infrequently traded financial assets and liabilities using the market price of a similar but market-traded financial instrument. For example, the fair-value price of an infrequently traded bond with five-year remaining maturity might be given by the market price of a publicly traded five-year bond having a comparable risk. In other cases, it may be appropriate to use the market price of a similar financial instrument, but with some adjustment in the fair value to account for differences in liquidity and/or risk level between the traded and nontraded instruments. For example, the fair value of unlisted equity shares held by an FC may be based on the market price of equity shares of another similar corporation that has traded shares. Furthermore, the fair value may need to be adjusted for differences in the scale of operations, number of outstanding shares, and other factors that are perceived as differentiating the values of the nontraded and traded shares.

5.47 In some cases, the financial asset or liability may possess some characteristics of each of several other

[8] For cases where adjustments by compilers are made to reflect market values of some assets and liabilities (other than liability equity), the associated contra-entry adjustments are reflected in *Equity liability [MS]*. See paragraph 5.43.

financial instruments, even though its characteristics are not generally similar to any one of these instruments. In such cases, information on the market prices and other characteristics (e.g., type of instrument, issuing sector, maturity, credit rating) of the traded instruments should be considered in estimating the fair value of the nontraded instrument.

5.48 Absolute valuation involves valuing financial assets and liabilities based on the present or time-discounted value of future cash flows. This is a well-established approach to valuation, in both theory and practice (see Box 5.1).

Other valuations

5.49 It is important to clearly distinguish between various valuation terms. *Market values*, *fair values* (explained previously), *nominal values,* and *book values* should be distinguished from such notions as *amortized values*, *face values*, and *historic cost*, explained as follows.

a. Nominal value refers to the outstanding amount at any moment in time the debtor owes to the creditor. It reflects the sum of funds originally advanced, plus any subsequent advances, plus

Box 5.1 Fair Valuation Using the Present Value of Future Cash Flows

The fair value of a financial asset or liability is calculated as the sum of the net present value of all future cash flows, as shown in the following equation:

$$\text{Fair value} = \sum_{t=1}^{n} \frac{(\text{cash flow})_t}{(1+i)^t}$$

where $(\text{cash flow})_t$ denotes the cash flow in a future period (t), n denotes the number of future periods for which cash flows are expected, and i denotes the discount rate that is applied to discount the future cash flow in period t. A single discount rate, i, is used in this approach to discount the cash flow in all future periods.

The method is relatively easy to apply in valuing any financial asset or liability if (1) the future cash flows are known with certainty or can be estimated and (2) a discount rate can be estimated for the life of the financial asset. Market interest rates, current or expected, are often used as the discount rates, based on the assumption that these market interest rates are most representative of the cost of acquiring funds in the financial markets.

The recommended discount rate is the pre-tax effective yield (i.e., yield to maturity) on actively traded securities for which the risk is approximately the same as those of the securities for which the future cash flows will be discounted. The range of securities issued in some countries may be so narrow that the discount rate may need to be represented by the yield on government securities or other actively traded securities that have similar duration,[1] but lower risk (such as credit, liquidity, or other risks) than the securities to be valued. The yield (relevant market interest rates) on the actively traded securities should be used as the discount rate, without adding a risk premium, unless evidence is available to substantiate the estimate of a risk premium.

A more complex approach to estimate the present value (that is, fair value) of a financial instrument (a bond) is, instead of applying a single discount rate, to apply time-variant discount rates to the future cash flows—that is, by using:

$$\text{Fair value} = \sum_{t=1}^{n} \frac{(\text{cash flow})_t}{(1+i_t)^t}$$

where i_t denotes the discount rate in period t, which in general may differ from the discount rate in other time periods. Forward rates could be used as the discount rates, i_t ($t = 1, 2, \ldots, n$), which are the rates at various maturities along a *zero-coupon yield curve* (or simply *zero curve*) for which bond yields on a zero-coupon basis have been estimated from the yields of bonds with coupons.

This approach is more difficult to implement than the single discount-rate approach described herein because of the data requirements—that is, yields on short-, medium-, and long-term securities in the same risk class as the securities that are to be fair valued—are required.

[1] Duration is the weighted average term to maturity of a debt security. It can be used to measure the impact on the value of a debt security that will result from a one percentage point change in interest rates. Duration takes into account the schedule of interest and principal payments that occur throughout the life of the debt security.

any interest that has accrued, less any repayments (which includes any payments covering accrued interest). For debt instruments indexed to a "narrow" index (such as a commodity price, stock price, or gold price), the nominal value can also include holding gains and losses arising from movements in the index (see also paragraph 5.58). Nominal value of a financial asset or liability denominated in foreign currency also includes holding gains or losses arising from exchange rate changes. At any specific point in time, the nominal value of traded financial assets may deviate from their market values due to revaluations arising from market price changes. For financial instruments such as deposits, loans, and other accounts receivable/payable, the lack of generally available market values means that these instruments are recorded using their nominal value.

b. Amortized value reflects the amount at which the financial asset or liability was measured at initial recognition minus the principal repayments and excluding accrued interest.[9] On the date of each scheduled payment (after the scheduled payment is made), amortized value is the same as nominal value, but it may differ from the nominal value on other dates because nominal value includes interest that has accrued and not been paid.

c. Face value is the undiscounted amount to be paid to the holder of a debt security at or before maturity. It is also known as "par value" or simply "par." Before maturity, the market value of a debt security may be greater or lower than face value, depending on the interest rate payable and the perceived risk of default. As debt securities approach maturity, market value approaches face value. At maturity, the market value is equal to the face value.

d. Book value generally refers to the value recorded in the entity's records. Book values may have different meanings because their values are influenced by the timing of acquisition, company takeovers, frequency of revaluations, and tax and other regulations. Book value is used in this *Manual* to value *Equity liability [MS]*.

e. Historic cost reflects the cost at the time of acquisition and sometimes it also may reflect occasional revaluations.

Instruments denominated in foreign currency

5.50 The standard unit of account for monetary and financial statistics is the domestic currency unit. Thus it is necessary to convert all foreign-currency-denominated stocks and flows into domestic currency amounts using market exchange rates. Flows in foreign-currency-denominated instruments are converted into the domestic currency unit using the market exchange rate prevailing at the time the flow takes place. Stocks denominated in foreign currency should be converted into domestic currency values at the market exchange rate prevailing at the balance sheet date. The midpoint between the buying and selling rate of exchange should be used for both flows and stocks so that any service charge is excluded (see paragraph 5.36).

5.51 Market exchange rate quotations in major world markets such as the foreign exchange market in London or New York should be used for convertible currencies.[10] For nonconvertible currencies, it may be necessary to use exchange rate quotations from regional or other specialized foreign exchange markets. If the exchange rate for the last day of the reporting period is unavailable, the rate quotation for an earlier date (as near to the end of the reporting period as possible) should be used for converting stock data to domestic currency units.

5.52 Institutional units sometimes apply exchange rates that differ from market rates in converting stocks and flows into domestic currency units. If the conversion to domestic currency units is based on a single *official exchange rate* or on an exchange rate from an *official multiple exchange rate system,*[11] the data should be adjusted to a market-rate basis, to the

[9] Amortized value described here is different from the concept of valuation at amortized cost described in IFRSs in that the IFRSs takes into account the accrued interest, premiums or discounts, and the impairment and noncollectability of an asset.

[10] Rate quotations for weekend days and holidays should be the exchange rates that prevailed at the close of the preceding business day.

[11] Official multiple exchange rate systems are schedules of official exchanges rates used to apply separate exchange rates to various categories of transactions and/or transactors.

extent possible. The market exchange rate is defined as an exchange rate determined by market forces; an *official exchange rate* is an exchange rate determined on an administered basis by the national authorities. Official exchange rates may be administered to keep them closely aligned with market exchange rates or, at the other extreme, may differ substantially from market exchange rates for extended periods of time.

Indexed financial instruments[12]

5.53 Indexed financial instruments are those for which the amounts of the interest payments (interest) or the principal outstanding or both are linked to an index. The indexation links the amount of the outstanding principal and/or interest to changes in a general price index, a specific price index, the price of a commodity, or an exchange rate index. The recording (separating out) of transactions and valuation changes depends on the type of index used to adjust the level of principal to which the interest is linked and on the currency in which the interest and principal are denominated.

5.54 The values of the price indicators are not known in advance. For financial instruments with indexation of the amount to be paid at maturity, they may be known only at the time of repayment. As a result, interest flows are uncertain before repayment and cannot be determined up front. For estimating interest accruals before the values of the reference indicators are known, some proxy measures will have to be used. In this regard, it is useful to distinguish the following three arrangements:

a. Indexation of interest payments only with no indexation of amount to be paid at maturity.

b. Indexation of the amount to be paid at maturity with no indexation of interest payments.

c. Indexation of both the amount to be paid at maturity and interest payments.

5.55 When only interest payments are indexed, the full amount resulting from indexation is treated as interest accruing during the period covered by the coupon. It is most likely that by the time data are compiled for a reporting period, the date for the interest payment would have been passed and hence the value of index is known. When the date for the interest payment has not been passed, the movement in the index during that part of the reporting period can be used to calculate the interest accrual.

5.56 When the amount to be paid at maturity is index-linked, the calculation of interest accruals becomes uncertain because the redemption value is unknown. In some cases, the maturity time may be several years in the future.

5.57 When the amount to be paid at maturity is linked to a general or broad price index, the change in the value of the principal outstanding between the opening and closing stocks due to the movement in the relevant index is treated as interest accruing (transaction) in that period, in addition to any interest accruing from the coupon. In this case, interest accruing in an accounting period due to the indexation of the amount to be paid at maturity may be calculated as the change in the value of the amount outstanding between the end and beginning of the accounting period due to the movement in the relevant index.

5.58 When the amount to be paid at maturity is indexed to a specific, narrowly defined price index that includes a holding gain motive, the preferred approach is for interest accrual to be determined by fixing the rate of accrual at the time of issue. Accordingly, interest is the difference between the issue price and the market expectation, at inception, of all payments that the debtor will have to make, which is recorded as accruing over the life of the instrument. This approach records as income the yield-to-maturity at issuance, which incorporates the results of the indexation that are foreseen at the moment the instrument was created. Any deviation of the underlying index from the originally expected path is treated as holding gains or losses (valuation changes) that will not usually cancel out over the life of the instrument.

5.59 Financial instruments with both the amount to be paid at maturity and interest payments indexed to a foreign currency are treated as though they are denominated in that foreign currency. Thus, interest, other flows, and stock levels for these instruments should be calculated using the same principles

[12] See also *2008 SNA* (paragraphs 17.274–17.282), *BPM6* (paragraphs 11.59–11.65), and *GFSM 2014* (paragraphs 6.75–6.77).

that apply to foreign-currency-denominated instruments.[13] Interest should accrue throughout the period using the foreign currency as the currency of denomination, with the flows converted to the domestic currency using midpoint market exchange rates. Similarly, the amount outstanding should be valued using the foreign currency as the unit of account, with the end-of-period exchange rate used to determine the domestic currency value of the instrument (including any accrued interest).

D. Aggregation, Netting, and Consolidation

Aggregation

5.60 ***Aggregation is the summation of stocks or flows across institutional units.*** For example, for sectors and subsectors, financial assets and liabilities are aggregated into major categories—loans classified by debtor sectors and deposits classified by creditor sectors. Similarly, monetary and credit aggregates are the sum of major financial assets or liabilities across various sectors. Sectoral balance sheets—the underlying data sets for the monetary statistics described in Chapter 7—should be compiled as aggregated data of institutional units in the same subsector of the FCs sector.

Gross and net recording

5.61 Individual units may have the same kind of financial instrument both as an asset and as a liability—for example, a claim and a liability in the form of a debt security. ***Aggregation in which assets and liabilities are shown for their full values is referred to as gross recording.***

5.62 This *Manual,* consistent with the *2008 SNA* and other statistical manuals, follows gross recording for stocks. Specifically, claims on a particular institutional unit or group of units should not be netted against the liabilities to that unit or group. For example, a DC might have an outstanding loan to a customer who is also one of its depositors. The DC's asset (i.e., the loan claim) should not be netted against the liability (i.e., the deposit of the borrower). Compilation on a net basis may be necessary due to the unavailability of source data on a gross basis. The need to resort to such netting is expected to be relatively rare for most categories of assets and liabilities in the FCs' sector.

5.63 On the other hand, recording transactions on a purchases-*less*-sales basis (i.e., net acquisition of a specific category of financial assets or liabilities) should be used. For example, the amount of a particular category of debt securities purchased should be netted from the amount redeemed or sold during the period.

5.64 Further, some derived analytical measures in the analytical surveys described in Chapter 7 are presented on a net basis. The general principle for such presentation is that assets and liabilities are shown separately on a gross basis and net values are shown for analytical purposes. For example, the depository corporations survey (DCS) in Chapter 7 shows *net foreign assets* and *net claims on central government*. It also shows separately the stock and flow data for the asset and liability components that are being netted. The DCS shows *claims on nonresidents* and *liabilities to nonresidents* as the separate components of net foreign assets.

Debt defeasance

5.65 *Debt defeasance* allows a debtor (whose debts are in the form generally of debt securities and loans) to remove certain liabilities from the balance sheet by pairing irrevocably assets of equal value to the liabilities. This may be carried out either by placing the paired assets and liabilities in a trust account within the institutional unit concerned, or by transferring the paired assets and liabilities to another institutional unit. In the former case, no entry is recorded for defeasance and the assets and liabilities will not be excluded from the balance sheet of the unit. In the latter case, the assets and liabilities in question are moved to the balance sheet of the second unit as long as this unit is recognized as a separate institutional unit.

Consolidation

5.66 ***Consolidation is a method of presenting statistics for a set of units as if they constituted a single unit. Consolidation eliminates stocks and flows between institutional units, which are grouped into the same sector or subsector.*** Consolidation entails

[13] Specific examples of such instruments are the IMF-related accounts in the balance sheet of a central bank that are denominated in domestic currency but are linked to SDR (*IMF quota subscription, IMF No. 1 Account, No. 2 Account,* and *Securities Account*).

the "canceling out" of stocks and flows that arise from financial claims and corresponding liabilities between the institutional units within the financial sector or subsector covered by a particular survey.

5.67 An institutional unit consisting of a headquarters office and branch offices within the same economy should report stocks and flow data consolidated across all resident entities of the institutional unit. Financial flows and positions between institutional units should be reported on a gross basis for monetary and financial statistics. For sectors and subsectors, flows and stocks between constituent units should not be consolidated, as a matter of principle, at the level of data compilation and reporting. The sectoral balance sheets for the FCs subsectors and the FCs sector as a whole, in Chapter 7, are based on aggregated rather than consolidated data.

5.68 For analytical purposes, the survey data of the FCs subsectors and the financial corporations survey (FCS), as shown in Chapter 7, consolidate the data in the sectoral balance sheets. Intra-sectoral positions are consolidated in the respective surveys of FCs subsectors, while positions between FCs subsectors are consolidated in the FCS. The DCS in Chapter 7 is thus obtained by canceling out all financial flows and outstanding claims and liabilities between all DCs. The data presented are thus all stocks and flows of DCs that are claims on and liabilities to: (1) FCs subsectors other than the DCs subsector, (2) other domestic sectors, and (3) nonresidents. The DCS is compiled from the data in the central bank survey (CBS) and the other depository corporations survey (ODCS), which are compiled from the sectoral balance sheets for the central bank and the ODCs, respectively. To facilitate data consolidation at the survey level, the sectoral balance sheets and surveys underlying the DCS must contain comprehensive data on financial flows between DCs and the financial assets and liabilities that are outstanding among them.

IV. Compilation of Stocks and Flows

A. Estimating Flows

5.69 An important issue when compiling flows in monetary and financial statistics is the distinction between transactions, revaluations (valuation changes), and OCVA. The recommendation is that, to the extent possible, data on flows for each category of financial assets and liabilities should be obtained directly from the accounting or other recording systems of the FC. Derivation or estimation of data should be limited to those categories of financial assets or liabilities for which the appropriate data cannot be obtained from the FC's recording system.

5.70 This *Manual* recommends, in order of preference, the following alternatives for obtaining data on flows, given that the opening and closing stocks are available for each category of financial assets and liabilities:

a. Collect the data for all three flow components directly from the accounting or other recording systems of the FC.

b. When the accounting records of the FC provide the needed data only for two of the flow components, derive the third component on the basis of equation 5.1.

c. When the accounting records of the FC provide the needed data only for one of the flow components, estimate the data for the other two components on the basis of equation 5.1 with appropriate assumptions for each category of assets and liabilities.

5.71 Availability of data on the flow components will depend on the national financial reporting standards that are applicable to an FC and the extent to which the accounting system can be expanded, if necessary, to provide data for monetary and financial statistics.

Transactions

5.72 The transactions for each category of assets and liabilities can be derived residually, if data are available for OS, CS, VC, and OCVA. Transactions for the asset or liability category are then given by:

$$T = CS - OS - VC - OCVA. \quad (5.2)$$

5.73 OCVA entries are unlikely for most financial asset and liability categories. Additionally, some financial assets and liabilities are not affected by revaluations. For these cases where $OCVA = 0$ and $VC = 0$, transactions are the only source of period-to-period change in the stocks; that is, $T = CS - OS$.

Revaluations

5.74 Assets and liabilities valued at market prices (or fair values) and/or denominated in foreign currency

(Table 5.4) are expected to have non-zero values for revaluations. Market price changes affect negotiable instruments such as securities. Revaluations for each category of assets and liabilities can be derived residually based on equation 5.1, if data are available for OS, CS, T, and OCVA:

$$(5.3) \quad VC = CS - OS - T - OCVA.$$

5.75 When using equation 5.3 to estimate revaluations for specific categories of securities, compilers need to be aware that the final results will depend on the valuation and other reporting practices. For example, the estimated revaluations may vary depending on the specific parameters used for calculating fair values.

5.76 The estimation method recommended in this *Manual* for foreign-currency-denominated financial assets and liabilities is a practical approach for approximating the revaluations that arise exclusively from exchange rate movements—specifically, for foreign-currency-denominated financial assets and liabilities that are measured at nominal value when expressed in the foreign currency units. Transactions and revaluations must be estimated whenever data are available for the sum of T and VC, but not for T and VC separately.

5.77 In the absence of direct data sources, foreign-currency-denominated transactions and valuation changes can be estimated on a currency-by-currency basis using the daily average exchange rate between the domestic currency and each foreign currency.[14] If daily exchange rates are not available for all days in the period, the exchange rate or exchange rate average that is thought to most closely approximate the daily average for the period should be used.

5.78 Opening and closing stocks in domestic currency for a specific financial instrument are first converted into each foreign currency using market exchange rates on the balance sheet dates. Transactions are then calculated in foreign currency units as a difference between opening and closing stocks less any OCVA. The resulting transactions in foreign currency units are then converted into domestic currency units using the daily average market exchange rates for the period. Revaluations are estimated as a residual on the basis of equation 5.1.

5.79 Annex 5.1 provides detailed guidance and numerical examples on the estimation of transactions and revaluations from exchange rate movements. Two cases are discussed: (1) estimation in the absence of OCVA, and (2) estimation in the presence of OCVA.

Other changes in the volume of assets

5.80 Data for some OCVA entries should be available from an FC's accounting records. The OCVA entries for an individual FC can be separated into those arising from extraordinary or infrequent events and those that are usually recorded on a regularly recurring basis. Many FCs are likely to experience few, if any, extraordinary events that give rise to asset losses that are to be posted to OCVA. In addition, an FC would be expected to have relatively infrequent OCVA entries that result from financial assets or liabilities being reclassified across financial instrument categories.

5.81 Concerning a change in a subsector classification of an FC, several sets of OCVA entries are needed (see also paragraph 5.21e). If an OFC is reclassified to the ODC subsector because it begins to issue liabilities that are included in the definition of broad money, OCVA entries arise in the accounts of the reclassified FC, as well as in the accounts of all FCs that have claims on (or liabilities to) the reclassified FC. These financial positions need to be reclassified as due from (or due to) an ODC, rather than an OFC. Reclassification from an OFC to an ODC is likely to occur relatively infrequently in most countries. When such reclassification occurs, the data for the OCVA entries should be directly available from the accounting records of the reclassified FC (see also paragraphs 7.38–7.39).

5.82 OCVA entries would also arise through the transfer of the reclassified FC's data from the sectoral balance sheet of OFCs to the sectoral balance sheet of ODCs. These OCVA entries are made when the data reported by the individual FCs are aggregated into the sectoral balance sheets as part of the monetary statistics compilation that is described in Chapter 7 and, therefore, do not appear in the compilation of the data for the individual FC.

5.83 A special case of changes in sector classification of FCs and changes in classification of assets and liabilities

[14] The daily average should be the average of exchange rates for all days of the period.

arises in the context of currency union statistics when new countries join the union. For monetary statistics at the union level, the inclusion of data for entire FCs subsectors of a new member is recorded as OCVA. In addition, OCVA entries arise in the accounts of all the FCs of the monetary union countries that have claims on (or liabilities to) the residents of the new member country. All these financial positions need to be reclassified as due from (or due to) the appropriate sector of the union residents, rather than nonresidents.[15]

5.84 The main types of OCVA entries that FCs record on a regularly recurring basis are:

a. Transfer of profit or loss from current year result to retained earnings within the liability account for equity and investment fund shares.

b. Transfer (that is, appropriation) of retained earnings to general and special reserves within the liability account for equity and investment fund shares.

c. Provisions (also referred to as allowances) for losses on financial assets (see paragraph 5.231).

d. Write-offs of loans, securities, or other types of impaired financial assets.

5.85 It should be noted that although the treatment of the recurring types of OCVA in general is consistent with the *2008 SNA*, OCVA entries discussed in the first three items of the preceding paragraph are specific to FCs and monetary statistics because of the different measurement of equity on the liability side of the balance sheet, and are not discussed in the *2008 SNA* (see paragraph 5.167).

B. Stocks and Flows by Financial Assets and Liability Categories

5.86 This subsection covers specific compilation issues for asset and liability categories to which these issues pertain. The asset and liability categories and the FCs that hold the assets or issue the liabilities are shown in Table 5.6.

Monetary gold (central bank asset)

5.87 Holdings of both monetary and nonmonetary gold (nonfinancial assets) should be valued on the basis of the market price of gold prevailing on the balance sheet date, and revaluations should reflect changes in the value of monetary and nonmonetary gold. Monetary gold is to be valued at the price established in organized gold markets. In the world market, gold is priced by troy ounce. It is recommended that the midpoint between the bid-offer prices[16] in the London gold market be used to value the closing stocks of gold. Gold prices quoted in U.S. dollars or another major currency should be translated into domestic currency units using the midpoint of the bid–offer spread for the market exchange rate. As the price of monetary gold is usually quoted in U.S. dollars or another major currency, the value of monetary gold is subject to holding gains and losses through changes in the exchange rate as well as the price of the gold.

5.88 Valuation of monetary gold at prices other than market prices or revaluation at longer than monthly frequency may be the practice used in source data. Supplementary data on the physical quantity of monetary gold should be provided to the compilers of monetary statistics so they can determine the gold prices used in the national valuation and can adjust the valuation, if necessary, to a market-price basis.[17] Further, if for any reason monetary gold is not valued at market prices in monetary statistics, supplementary data should be disseminated on the physical quantity of monetary gold, including gold held in allocated gold accounts and unallocated gold accounts with nonresidents that give title to claim the delivery of gold.

5.89 Transactions in monetary gold should be valued at the actual prices at which the gold is bought or sold. A central bank sale (purchase) of monetary gold to (from) another central bank (or international financial institution such as the IMF) is recorded by both parties as a transaction in monetary gold. Transactions in gold bullion, excluding those among monetary authorities and international financial institutions, are treated as transactions in nonfinancial assets (nonmonetary gold). Transactions in nonmonetary gold are treated as acquisitions less disposals of nonfinancial assets.

[15] For the case of the euro area, see European Central Bank (2012), Box 1.1.

[16] World gold price quotations are widely available in U.S. dollars, British pound sterling, and euros. The valuation can be based on the morning or afternoon price quotation for the London gold "fix"—a price that is established through competitive interactions among the five members of The London Gold Market Fixing Ltd.

[17] The *International Reserves and Foreign Currency Liquidity: Guidelines for a Data Template* (2013) (see Appendix 2) requires the dissemination of the volume of gold held in fine troy ounces.

Table 5.6 Assets and Liabilities of Financial Corporations

	Balance sheet	
Asset and Liability categories	**Assets**	**Liabilities**
Monetary gold and SDRs		
Monetary gold	Central bank	
SDR holdings	Central bank	
SDR allocations		Central bank
Currency		
Domestic currency	FCs other than the central bank	Central bank
Foreign currency	FCs	
Deposits		
Transferable deposits	FCs	DCs
Other deposits	FCs	DCs and other financial intermediaries except ICPF[1]
Debt securities	FCs	FCs
Loans	DCs, other financial intermediaries except ICPF; and captive financial institutions and money lenders[2]	FCs
Equity and investment fund shares	FCs	FCs
Insurance, pension, and standardized guarantee schemes		
Nonlife insurance technical reserves	FCs	Nonlife insurance corporations
Life insurance and annuities entitlements		Life insurance corporations and pension funds[3]
Pension entitlements		Pension funds[4]
Claims of pension funds on pension manager	FCs	FCs
Provisions for calls under standardized guarantees	FCs	FCs
Financial derivatives and employee stock options		
Financial derivatives	FCs	FCs
Employee stock options		FCs
Other accounts receivable/payable	FCs	FCs
Nonfinancial assets	FCs	Not applicable

[1] Captive financial institutions and money lenders, insurance corporations, pension funds, or financial auxiliaries may accept relatively small amounts of deposits that are incidental to their operations, rather than for financial intermediation.
[2] In addition, life insurance corporations often extend policy loans. Other insurance corporations, pension funds, and financial auxiliaries may also extend relatively small amounts of loans that are incidental to their operations.
[3] Some ODCs may also provide life insurance and annuity services, in addition to their core business.
[4] When an FC administrates a nonautonomous pension fund for its employees, it will have pension entitlements as a liability.
Note: SDR = Special Drawing Rights; FC = financial corporation; DC = depository corporation; ICPF = insurance corporations and pension funds.

5.90 When a monetary authority purchases gold bullion from institutional units other than monetary authorities or international financial institutions for inclusion in reserve assets the gold is *monetized*, resulting in a reclassification (OCVA) of gold bullion from a nonfinancial to a financial asset (monetary gold). If the monetary authority sells gold bullion that is part of reserve assets to institutional units other than monetary authorities or international financial institutions, the gold is *demonetized*, resulting in a reclassification of gold bullion from a financial asset to a nonfinancial asset before the transaction in nonfinancial assets is recorded (see also paragraph 5.21e).

SDR holdings (central bank asset) and SDR allocations (central bank liability)

5.91 SDR holdings of a central bank and SDR allocations received are denominated in SDRs, a unit of account created in 1969 by the IMF. The SDR exchange rate (usually referred to as the SDR rate)—the exchange rate between the SDR unit and the U.S. dollar—is determined daily by the IMF (and posted daily on the Internet at www.imf.org/external/data.htm#exchange) by summing the U.S. dollar value, based on market exchange rates, of a basket of four currencies (the euro, Japanese yen, pound sterling, and U.S. dollar).[18]

5.92 SDRs are considered to be foreign currency in all cases, including for the economies that issue the currencies in the SDR basket. Any other currency units issued by an international organization, except in the context of a currency union, are considered foreign currency (see *BPM6*, paragraph 3.97).

5.93 The domestic currency value of stocks and flows for the SDR holdings/allocations are determined by converting the SDR amounts into U.S. dollar equivalents, using the SDR rate, followed by conversion of the U.S. dollar equivalents into domestic currency units, using the market exchange rate that prevailed between the domestic currency and the U.S. dollar at the end of the reporting period and on the date of the transaction.[19]

5.94 Main transactions in SDR (holdings and/or allocations) arise from (1) SDR purchases and sales between qualified SDR holders; (2) a new allocation or cancellation of SDRs by the IMF—a very infrequent event; (3) accrued interest receivable/payable on SDR holdings/allocations;[20] (4) member country payments of charges in SDRs to the IMF; (5) remuneration receipts in SDRs from the IMF on the reserve tranche position; (6) IMF purchases/repurchases and loan receipts/repayments in SDRs; and (7) interest receipts in SDRs on lending to the IMF.[21] Stock and transaction data for SDR holdings/allocations should be available from the accounting department of the central bank (if the central bank is the designated fiscal agency) and need to be converted into the unit of account (see also Annex 4.2).

5.95 Valuation changes for SDR holdings/allocations can be derived residually from the data for opening and closing stocks and transactions. The holdings and allocations should be shown gross, rather than netted.

Currency

5.96 Domestic currency notes and coins are held by all FCs. The stock of domestic currency holdings of FCs is valued in nominal amount; therefore, revaluations are not applicable. OCVA for domestic currency holdings of an FC are rare, arising in exceptional circumstances such as when currency is destroyed during events such as wars, riots, or confiscation of an FC's assets. Given $VC = 0$ and $OCVA = 0$, transactions are equal to the period-to-period changes in the stock of currency in circulation—that is, $T = CS - OS$.

5.97 Domestic currency appears as a liability, currency in circulation, in the sectoral balance sheet of the central bank. The central bank holds currency that, subsequent to issuance, has returned to the central bank by way of transactions with ODCs and possibly other institutional units. For monetary and financial statistics, the central bank accounts show only the liability, currency in circulation, which is defined as the

[18] In late 2015, the IMF Executive Board decided to include the Chinese renminbi in the SDR basket as of October 1, 2016.

[19] In particular, the valuation of stocks or flows should *not* be based on the representative rate—an exchange rate between the domestic currency and the SDR that is used in the IMF's accounting for its financial relationship with a member country—as that rate is realigned with market exchange rates on an infrequent basis.

[20] A member country receives interest on its SDR holdings and pays "charges" on its SDR allocation. A single rate, the *SDR interest rate*, applies to both interest on SDR holdings and charges on SDR allocations. The SDR interest rate is determined weekly (and posted on the Internet at www.imf.org/external/np/fin/data/sdr_ir.aspx).

[21] For the IMF's currency purchase, creditor members receive remuneration in SDRs, and debtor members pay charges in SDRs.

currency outside the central bank.[22] A related concept is currency outside DCs, defined as currency in circulation *less* ODCs' holdings of domestic currency (cash in vaults).

5.98 Foreign currency holdings of FCs should be recorded at nominal value when expressed in foreign currency units and should be converted to domestic currency units on the basis of the market exchange rate prevailing on the balance sheet date.

5.99 Transactions in foreign currency are recorded at the exchange rate prevailing on transaction dates. For estimating revaluations, the approach explained in paragraph 5.78 should be applied. Transactions data on foreign currency holdings should be available from the foreign exchange records in the recording systems of FCs.

Deposits

5.100 Deposits (assets and liabilities) denominated in domestic currency are recorded at nominal value—that is, the amount of the outstanding deposit balance *plus* any accrued interest. The use of nominal values rather than market values is influenced by pragmatic concerns about data availability and the need to maintain symmetry between debtors and creditors. Another factor is because deposits are not intended for negotiability: without an active market, estimating a market price can be somewhat subjective. Nominal value is also analytically useful because it shows actual legal liability.

5.101 Transactions in deposits are recorded in the amount of net deposits (deposit placements *less* withdrawals) *plus* the accrued interest for the reporting period. Given that valuation changes do not apply to domestic-currency-denominated deposits, the amount of transactions in domestic currency equals the period-to-period change in deposits *less* any OCVA.

5.102 Stocks and flows of foreign-currency-denominated deposits are converted into domestic currency units as described in paragraph 5.50. If data are unavailable for both transactions and valuation changes, the daily average market exchange rate for the period can be used to estimate valuation changes, and provided there is no OCVA, transactions are the residual.

Debt securities

5.103 Stocks in debt securities are valued at market prices on the balance sheet date. Transactions in debt securities on the asset side of the balance sheet consist of: (1) securities purchases, *less* (2) securities sales, redemptions and interest payment receipts, *plus* (3) accrued interest earned in the period. Transactions in debt securities on the liability side consist of: (1) new securities issuances, *less* (2) securities redemptions (including partial redemptions) and interest paid,[23] *plus* (3) accrued interest incurred in the period. Stocks and transactions in foreign-currency-denominated securities follow the same valuation principles as explained in paragraph 5.50.

5.104 In source data, some debt securities may be valued at nominal rather than at market value. In the International Financial Reporting Standards (IFRSs), for example, all debt securities holdings are valued at market or fair values except for securities classified as held-to-maturity investments, which are valued at amortized cost using the effective interest method.[24] Liabilities in the form of debt securities are also valued at amortized cost, except for those designated as financial liabilities at fair value (including at market value) through profit or loss (see International Accounting Standard (IAS) 39.47 and IFRS 9, paragraph 4.2.1).

5.105 For monetary and financial statistics, assets and liabilities in debt securities (other than short-term) not valued at market price, need to be restated at market price. The difference in valuation between the source data and the market value recorded in monetary statistics is reflected in *Equity liability [MS]* as a valuation adjustment (see paragraph 5.43). Fair values need to be applied to the valuation of those debt securities that are traded infrequently, or are traded only in over-the-counter (OTC) markets for which market price quotations are not available on a regular basis. Fair value methods are discussed in paragraphs

[22] Central bank holdings of unissued currency are classified as nonfinancial assets in its balance sheet.

[23] Redemption usually occurs through settlement at maturity, but it can occur through issuers' purchase of their own securities prior to maturity.

[24] Effective interest rates used for different approaches to measure interest for debt securities are discussed in the subsection *Accrued interest calculations for debt securities* in this section.

5.44–5.48 and Box 5.1. Determination of fair value using the present value method should be possible for nearly all types of debt securities. However, contractual terms of some securities may be so complex (for example, with respect to multiple embedded derivatives features) that reasonable estimation of future cash flows and/or selection of a representative discount rate is impossible. It is recommended that these securities should be valued at acquisition price or amortized cost (if calculable). If market values for short-term securities are not available, nominal value could be considered an approximation of fair value, provided the market interest rates on these or similar securities have not changed significantly since their issuance.

5.106 Nominal value is recommended as a memorandum item for debt security liabilities to support consistency with debt measures.[25]

Impaired debt securities

5.107 Under IAS 39, debt securities are deemed to be impaired if the creditor has reliable information that the debtor may default on the obligation to pay the interest and principal in accordance with the schedule of future cash flows for the securities.[26] IFRS 9 introduces a material revision of reporting impairment for financial instruments from an incurred loss to an expected loss model. This requires entities to estimate future losses of financial instruments thus creating prospective buffers for losses.

5.108 The statistical treatment for impaired debt securities depends on whether market-price data are available for such securities. If available, the impaired security should be recorded using its market price. If a market price is not available because the impaired security is not traded or is traded infrequently, a fair value should be estimated.

5.109 Valuation of impaired securities by the present value method is complicated because of uncertainties involved. In some cases, OTC price quotations may be available at prices that are heavily discounted from their pre-impairment prices, if impaired securities are traded in the market. The future cash flow(s) must be estimated, even though the cash flows are highly uncertain with respect to both amount and timing. The present value method should be applied in such a way as to avoid creditor overstatement of fair value. The difference between the pre- and post-impairment values represents a holding loss on the securities (revaluation).

Accrued interest calculations for debt securities

5.110 It should be noted that for debt securities, the value of purchase, sale, and redemption and valuation of positions in the balance sheets do not depend on the method used for the calculation and recording of accrued interest. This is because purchases and sales of debt securities are recorded at transaction prices, and the positions are recorded at market prices or fair values. The treatment of accrued interest only affects the extent to which financial flows are allocated to transactions in accrued interest rather than to holding gains or losses.

5.111 Bonds and similar instruments (such as large-denomination negotiable certificates of deposit and preferred stock) pay a fixed or variable coupon. At the time of issuance, bonds may be priced at par (at face value), below par (at a discount), or above par (at a premium). A bond usually sells at a discount or premium in the secondary market, depending on whether the market interest rates (and, therefore, yields on newly issued bonds) have risen or declined since the bonds were issued. So the accrued interest on a bond is calculated using the effective yield at the time of issuance, purchase, or the beginning of the period, and can be split into two components: the amortization of the discount or premium vis-à-vis the value to be paid at maturity, and the coupon that is earned but not yet paid.

5.112 While debtors have obligations to settle according to the terms and conditions set at the inception of the debt instruments, holders of securities acquired in the secondary markets may not know the interest rate at issuance (which is directly linked to the original

[25] See *Public Sector Debt Statistics: Guide for Compilers and Users* (2013), paragraph 2.116, and *External Debt Statistics: Guide for Compilers and Users* (2013), paragraph 2.33.

[26] Disappearance of an active market for securities, or lowering of the credit rating of the issuer, does not necessarily imply impairment. As indicated in IAS 39.60, "The disappearance of an active market because an entity's financial instruments are no longer publicly traded is not evidence of impairment. A downgrade of an entity's credit rating is not, of itself, evidence of impairment, although it may be evidence of impairment when considered with other available information."

issue price). There are three approaches for defining and measuring interest for debt securities:[27]

a. Debtor approach. The debtor approach is the perspective of the unit issuing the security. Interest is equal to the amounts the debtors will have to pay to their creditors over and above the repayment of the amounts advanced by the original creditors. Interest accrual on a debt instrument is determined for the entire life by the conditions set at inception of the instrument. The effective yield, established at the time of security issuance, is used to calculate the amount of accrued interest in each period to maturity.

b. Creditor approach. The creditor approach is the perspective of the unit holding the security. Under this approach, the effective yield used to compute accrued interest on the securities is updated (that is, recalculated) in each period to reflect current market rates.

c. Acquisition approach. Interest is the income that follows from applying the discount rate implicit in the cost at which the instrument was acquired. The accrual of interest under this approach reflects market conditions and expectations at the time of acquisition. Interest is determined using the remaining yield-to-maturity at the time the debt instrument is acquired. The effective interest rate will change only if the security is resold.

5.113 ***The debtor approach is the approach to record interest accrual on debt securities in this*** **Manual,** ***in accordance with the*** **2008 SNA** ***methodology.***[28]

5.114 The secondary-market purchasers' lack of information on the amounts of funds provided to the debtors is an obstacle to the application of the debtor approach by such purchasers. It should be emphasized, however, that the debtor and creditor approaches converge when the changes in market price during the life of a security are not large.

5.115 In applying the acquisition approach, the interest accrues from the time that ownership changes hands in the same manner as was described for securities acquired at the time of issue. For the creditor approach as well, the interest accrues from the time that ownership changes hands, but the effective yield is continuously updated to reflect current market rates. The amortization of the discount (or premium) by the acquisition or creditor approach may differ significantly from the amortization by the debtor approach if market interest rates have changed appreciably since the time of issuance.

5.116 In the secondary market, a bond has two prices: the so-called *dirty price* and the *clean price.* The dirty price of a debt security is its market price, which includes the accrued but not yet paid coupon. To separate out the effect of coupon payment, the accrued interest between coupon dates is subtracted from the dirty price to arrive at the clean price. The creditor (that is, secondary market purchaser) records the dirty price as the acquisition cost of the bond. When the coupon is paid, the accrued interest that was included in the dirty price (that is, acquisition cost) is recorded in the creditor's accounts as a reduction in principal.

5.117 Box 5.2 presents examples of accrued interest calculations for different types of debt securities.

5.118 Many countries' accounting standards for accrued interest on debt securities contain a combination of the debtor and acquisition approaches.[29] In IAS 39, accrued interest on securities holdings is based, in effect, on either the debtor approach or the acquisition approach, depending on whether the securities were acquired when issued or later in the secondary market. In IAS 39 and the national financial reporting standards in many countries, accrued interest on securities issued (liabilities) is based, in effect, on the debtor approach, which is consistent with the recommendation in this *Manual* (see paragraph 5.113).

5.119 Where the accounting data have been compiled in accordance with either the creditor or the acquisition approach and reported to the compiler by the FC, supplementary data should be reported for debt securities purchased in the secondary market to allow the compiler to adjust the accrued interest data to the debtor approach, if feasible. Ideally, supplementary data would be reported to the compilers of monetary and financial statistics on a security-by-security (s-b-s) basis[30]

[27] See also *2008 SNA*, paragraphs 17.261–17.262, and *BPM6*, paragraphs 11.52–1153.
[28] See *2008 SNA*, paragraph 17.263.
[29] *Debtor approach* and *acquisition approach* are terms that are not used in the IFRSs or national financial reporting standards.
[30] See Annex 4 of the *Handbook on Securities Statistics*.

Box 5.2 Accrued Interest for Different Types of Debt Securities

For a coupon-based debt security issued at par (that is, the issue price is equal to the face value), the accrued interest (under the debtor approach) is the accrued coupon.

For a fixed coupon bond issued at a discount from its face value, the yield is set at a constant rate on the issue price (face value less discount). This rate is the discount rate that equalizes the net present value of the future cash flows of the bond with its issue price. The discount bond accrues interest at the set constant rate on its nominal value (principal plus accrued and not paid interest), part of which is paid in the form of the coupon, with the difference increasing the nominal value of the bond. At the end of the life of the bond, its face value is repaid together with the last coupon. The paid-at-maturity discount is recorded as interest.

For a fixed-coupon bond issued at a premium over its face value, the yield is set at a constant rate in the same way as for a discount bond. Interest accrues at the set constant rate on the nominal value of the bond (including the premium paid) during its lifetime. Because the coupon payments are higher than the interest accrued on the nominal value, they should be considered a prepayment of principal and should be discounted from the nominal value.

For a variable-rate bond or similar security issued at face value, the accrued coupon can be calculated by taking into account that the coupon rate, though variable between coupon periods, is reset at the beginning of each coupon period and remains unchanged throughout the coupon period.[1] Suppose an entire reporting period were within a particular coupon period. The accrued coupon earnings for the reporting period would be a prorated share of the coupon. Alternatively, suppose the first coupon period ended after n_1 days of the reporting period, and a different coupon rate applied for the second coupon period, extending through the remaining n_2 days of reporting period (and into subsequent reporting periods). The accrued coupon for the reporting period is an n_1-day share of the first coupon plus an n_2-day share[2] of the second coupon minus the first coupon payment.

For a variable-rate bond issued at a discount (or premium), accrued interest can be calculated as the accrued coupon *plus* the amortization of the discount (or *minus* the amortization of the premium). The amortization of the discount (or premium) for variable-rate securities is the same as for fixed-coupon securities.

For securities with indexed interest and/or principal, the accounting for accrued interest follows the same principles as those for accrued interest on variable-coupon securities. However, different treatments for the recording of accrued interest are recommended depending on the type of index used to adjust the level of principal to which the interest is linked and on the currency in which the interest and principal are denominated. (See paragraphs 5.53–5.59 on the treatment of indexed financial instruments).

For securities with embedded derivatives such as call, put, or equity conversion options, the accounting for accrued interest is the same as for securities that do not have such features. For all periods leading up to the exercise of the option, the interest accrual is unaffected by the presence of the option. When the embedded option is exercised, the securities are redeemed, and accrual of interest—both coupon flow and amortization of discount or premium—ceases.

[1] The resetting of the coupon may be affected by an embedded derivative such as a rate cap, collar, or floor. If so, the amount of the new coupon rate, though affected by the embedded derivative, is still known at the beginning of the coupon period when the rate is reset, and accrued interest calculations are not further complicated.

[2] The shares are based on time proportions of n_1/p_1 for the first coupon period and n_2/p_2 for the second coupon period, where n_1 and n_2 are the number of calendar days in the first and second segments of the reporting period, and p_1 and p_2 are the total number of calendar days in the first and second coupon periods.

for all securities for which the acquisition or creditor approach had been applied in the accounting data (see Box 5.3). This approach could be implemented for an FC that held only a few securities purchased in the secondary market. However, large FCs' portfolios may contain hundreds of securities that were acquired in the secondary market. It is recommended that supplementary data be provided for only those securities for which the accrued-interest adjustment arising from recalculation by the debtor approach would be material—such as securities whose price has changed significantly since issuance.

Security-by-security databases

5.120 For the purpose of monetary statistics, data on securities held and issued have been traditionally collected on an aggregated basis from reporting FCs. In practice, compilers receive total figures (possibly broken down by sector, maturity, and currency), which are calculated by reporting FCs based on individual holdings/issues. Recently, compilers in some economies have introduced the possibility (or, in some cases, the obligation) for FCs to report statistical data on securities on an s-b-s basis, which can be used to support the compilation of monetary and financial statistics. Box 5.3 presents the details of s-b-s systems.

Box 5.3 Security-by-Security Data Collection

Security-by-security (s-b-s) reporting entails the collection by statistical compilers of information on each individual security issued and/or held by the reporting FC. The basic principle of s-b-s reporting is that reporting FCs provide statistical data on securities on a granular basis and compilers calculate the balance sheet totals and breakdowns as required, using the reported data.

The metadata collected for each security generally include basic information such as security identifier (e.g., ISIN code),[1] issuer name/code, nominal amount held/issued, acquisition date and price. Additional details that may be collected on the individual securities include original/remaining maturity, sector of the issuer/holder, original denomination, etc.

Some s-b-s collection systems are set alongside a reference database containing information on all traded securities and related attributes (outstanding nominal amount, maturity, issuer, issuer sector, etc), some of which may be obtained from commercial data providers while others are filled in by data reporter and/or compilers of statistics (e.g., the institutional sector of the issuer). An example of such a database is the Centralized Securities Database (CSDB) of the European Central Bank (ECB), which contains all securities with an ISIN code and relevant attributes. Reporting institutions using the s-b-s system need to provide to compilers only the ISIN code and the quantity of each security held, whereas all the remaining information can be derived by the compiler from the CSDB. (A non-technical description of the CSDB can be found in the publication *The Centralised Securities Database in Brief*, available on the ECB's website at www.ecb.europa.eu).

The development of a s-b-s collection system carries significant benefits for monetary statistics. Centralizing the aggregation process performed on individual holdings/issues ensures that statistical classifications are carried out using a common methodology across the reporting population. In this context, harmonizing the calculation of valuation adjustments and transactions represents one of the main improvements.

Furthermore, shifting the aggregation process to compilers usually implies more flexibility in terms of aggregating the data along different dimensions (e.g., counterparty sector, maturity brackets). These different aggregations can be performed for the full s-b-s database by defining common rules that apply throughout, without a need for additional effort on the part of reporting FCs. This benefit is particularly relevant in an environment where data users often require new data breakdowns or aggregations, which can be provided using the s-b-s system with a much shorter delay and at a lower cost, as compared to the traditional collection system in which reporting FCs would have to implement the amended requirements.

Finally, the availability of a database containing individual positions in the FCs' security portfolios carries an added benefit from the financial stability analysis perspective, as an obvious source for assessing risk exposures.

The major challenge in setting up a s-b-s collection system lies in the initial investment, mainly to be borne by the compilers. This relates to the need to set up and maintain a very large database containing the data on individual securities. Moreover, the statistical compiler needs to set up the appropriate IT infrastructure for aggregating the individual data as required. In particular, a significant part of this initial investment is attributable to the setting up of the reference database containing the relevant attributes for each security.

[1] ISIN code is an International Securities Identification Number (ISIN) that uniquely identifies a security.

Memorandum items for debt securities

5.121 This *Manual* recommends including the following debt security-related data in memorandum items: (1) total accrued interest on debt securities for both assets and liabilities; (2) debt securities with maturity of one year or less by currency and by counterpart sector for both assets and liabilities; (3) debt securities assets issued by nonresident FCs and debt securities liabilities held by nonresident FCs; and (4) total amount of debt securities at nominal value for liabilities. Whereas the valuation method for debt securities is the market value, the nominal value of debt securities is an analytically useful measure of the legal liability from the viewpoint of the debtor, because at any moment, it is the amount that the debtor owes to the creditors.

Loans

5.122 Loans are outstanding from the time when funds are disbursed from the creditor to the debtor until the time when they mature or are liquidated prior to maturity—for example, because of early repayment or default by the debtor. Stock data for domestic-currency-denominated loans (assets or liabilities) are recorded at nominal value—that is, the creditor's outstanding claim (equal to the debtor's obligation), which comprises the outstanding principal amount including any accrued but not yet paid interest.

5.123 Like deposits, the use of nominal values is influenced by pragmatic concerns about the need to maintain symmetry between debtors and creditors. Loans also are by definition not traded and therefore estimating a market price can be subjective. Further, the nominal value of the loan is analytically useful because it represents the legal liability of the debtor. However, it is recognized that nominal value provides an incomplete view of the financial position, particularly when some loans are nonperforming. It is recommended that data on expected loan losses (disaggregated by debtor sector) be included as memorandum items accompanying the sectoral balance sheets described in Chapter 7. The expected realizable value of loans may be calculated based on the reported gross amounts of loans and expected loan losses (see also paragraph 5.142).

5.124 Loan transactions comprise the amount of new loans extended or received *plus* accrued interest on loans *less* loan principal and interest payments. Transactions in loans denominated in domestic currency are equal to the period-to-period change in loans outstanding (that is, *CS – OS*) *less* OCVA (such as arising from loan write-offs). The case of loan repayment after the loan has been written-off is discussed in paragraph 5.231c.

5.125 Stocks and transactions of foreign-currency-denominated loans are converted to domestic currency units as described in paragraph 5.50. Using the data for opening and closing stocks and OCVA, data for the sum of transactions and valuation changes (arising from exchange rate changes) can be derived residually (see Annex 5.1).

5.126 The entire loan portfolio is to be valued at nominal value when presenting the loan data in the sectoral balance sheets described in Chapter 7. In particular, outstanding loans should not be adjusted for provisions for loan losses. A loan portfolio is adjusted downward only when: (1) loans are written off as uncollectible (OCVA), or (2) when the outstanding amount of a loan has been reduced through formal debt reorganization (revaluation or a transaction if it is debt forgiveness, as explained in the next paragraph).

5.127 For domestic-currency-denominated loans, valuation changes arise in the exceptional cases of debt refinancing or debt swaps (e.g., for debt for equity swaps), or when a loan is sold at below (or above) its nominal value.[31] Revaluation is recorded for the debt being replaced prior to its replacement by a new instrument such as: (1) a new loan to the original debtor (loan refinancing); or (2) securities issued by the original debtor (loan swap for securities) or by a new debtor (combination of a loan assumption and swap). In other words, debt refinancing and debt swaps transactions are recorded at the value of the new instrument, with revaluation recorded for the original instrument equal to the difference between the value of the new instrument and the value of the instrument being replaced. An exception arises for nonmarketable debt owed to official creditors when the difference in value is intended to convey a benefit to the debtor—the difference in value is then recorded as a debt forgiveness transaction (see subsection *Recording of Debt Reorganizations* in this section and *BPM6*, Appendix 2).

[31] See *2008 SNA*, paragraph 22.115, and *BPM6*, paragraphs 9.33 and A2.29–A2.30.

5.128 When a loan is sold at below (above) nominal value, the transaction is recorded at the transaction value and the position is recorded at nominal value. To account for the inconsistency between the market valuation of transactions and nominal valuation of positions, the seller records a revaluation during the period in which the sale occurs, equal to the difference between the nominal and the transaction value, while the buyer records an opposite amount as a revaluation.[32] Such revaluations directly impact *Equity liability [MS]* through valuation adjustment.

5.129 The transaction date (trade date) for a loan is the date on which the funds are disbursed from the creditor to the debtor, even though the loan agreement may be signed on an earlier date. The trade date and settlement date are the same in this case.[33]

5.130 For loans to finance specific projects, loan disbursements can take the form of:

a. Advances to the borrowing entity—to be recorded when the lender advances funds to the borrower.

b. Direct payment by the lender to suppliers of goods and services—to be recorded when the lender pays the supplier.

c. On a reimbursement basis after the borrower has already paid the suppliers—to be recorded when the lender makes reimbursements to the borrower.

5.131 Loans that have become negotiable (i.e., marketable) in secondary markets should be reclassified as debt securities (see paragraph 4.59), and should be valued on the basis of market prices in the same way as other types of debt securities.

5.132 For loan participations, transactions comprise the principal amount of new participations *less* principal and interest payments *plus* accrued interest. For mortgage loans, transactions are recorded in the amount of new loans *less* principal and interest payments *plus* accrued interest. Principal payments for mortgage loans include the principal components of the scheduled payments during the term of the loan, as well as prepayments—repayment of loans prior to maturity.[34]

5.133 Financial lease payments are treated as interest and principal payments on a loan extended by the lessee. Financial leases are often structured similar to the interest and principal payment schedules for a loan that calls for periodic payments in equal amounts over the term of the loan. The rate of interest equates the present value of the total amount payable in installments over the life of the lease (including any value to be repaid at maturity) with the market value of the asset at the time the lease is initiated.

5.134 Unlike a mortgage or installment loan, a financial lease may stipulate that (1) the first lease payment is to be made at the inception of the lease, (2) the periodic payments are not all of equal amount, and/or (3) a lump sum payment is required at the termination of the lease, if the lessee is to acquire the asset. If the lessee acquires the legal ownership of the leased asset, the payment for the residual value is included in the last lease payment. If the lessee returns the asset to the lessor at the end of the lease, this is recorded as a transaction in the amount of the residual value of the asset (the final payment by the lessor under the lease arrangement) and an acquisition (lessor)/disposal (lessee) of a nonfinancial asset. Most financial leases are *net leases* in which the lessee pays any operating expenses and property tax and agrees to maintain and insure the asset.

5.135 For those loans (or deposits) for which the contract requires the accrual of interest during the grace period (i.e., the relevant interest rate that applies to the grace period is greater than zero), the accrual of interest should be recorded as increasing the value of the principal. On the other hand, if the debtor can repay the same amount of principal at the end of the grace period as at the beginning (i.e., the relevant interest rate that applies to the grace period is zero), no interest costs accrue during the grace period. This treatment applies to loans and deposits but not to debt securities.[35]

[32] The same principles apply for deposits and other accounts receivable that are sold at below (above) nominal value.

[33] A loan agreement may stipulate that an *N*-period loan has a principal amount, A $(= A_1 + A_2 + \ldots + A_{N-1})$, that is to be disbursed in tranches (that is, installments). The borrower receives A_1 at *time 1*, when the loan goes into effect, and $A_2, \ldots, A_{N-1}$ at periodic intervals (at *time 2*, *time 3*, . . ., *time N-1*) during the life of the loan. The loan agreement legally or effectively represents a *master agreement* for a *series of loans* that should be recorded on separate trade dates—*time 1, time 2, time 3, . . ., time N-1*.

[34] Homeowners may be entitled to repay mortgage loans without incurring prepayment penalties.

[35] See also *External Debt Statistics: Guide for Compilers and Users* (2013), paragraphs 2.97–2.98 and Box 2.4.

5.136 Box 5.4 further elaborates on statistical treatment of different types of loans.

Nonperforming loans and interest arrears

5.137 Nonperforming loans (NPLs; defined in paragraph 4.100) indicate potential losses and may result in actual losses for the FC. The recommendation is that NPLs should continue to be recorded at nominal value and entries in the amount of the provisions for loan losses be included in *Other accounts payable–other [MS]* (see paragraph 5.231).

Box 5.4 Statistical Treatment of Different Types of Loans

Commercial loans are loans to business enterprises contracted on a fixed- or variable-rate basis. Payment of all interest at maturity is standard for many short-term loans, whereas periodic interest payments are common for long-term loans. Accrued interest is included within the transactions and closing stock for the loan. The recommendation is to calculate the accrued interest on a compound basis for long-term loans for which all interest is paid at maturity or at intervals that exceed one year.[1]

A *loan participation* (described in Chapter 4) should be recorded at the nominal value of the financial corporation's participation in the loan. The nominal value is equal to the acquisition cost for the loan participation (excluding fees or commissions) *plus* accrued interest.

Mortgage loans (residential or commercial), *home equity loans*, and *consumer installment loans* for purchases of automobiles or other durable goods call for interest and principal payments at regular intervals (usually monthly) over the life of the loan. The periodic payments for a fixed-rate loan are equal in amount (called a *fully amortized* loan), but the share of interest payment and principal repayment in each payment varies over the life of the loan. As the loan matures, a progressively larger share of each payment is principal repayment, and a declining share represents interest payment. For adjustable-rate mortgage loans, the interest rate is adjusted up or down at specified intervals over the life of the loan, in response to upward or downward movements in a market interest rate to which the loan rate is indexed. When the loan rate is adjusted, the interest and principal repayment schedule is revised to account for the new loan rate and the remaining principal. Accrued interest can be calculated on a time proportion basis—that is, the total amount of the next interest payment *divided* by the number of days between payments *times* the number of days since the start of the most recent recording period.

The statistical treatment of *financial leases* is designed to move away from the legal arrangements to capture the economic reality of such arrangements, by treating assets under a financial lease as if they were purchased and owned by the user. Financial leases should be valued at nominal value. The financial lease payments are treated as interest payments and principal repayments (see paragraph 5.133).

At inception, the lessor and lessee should record a loan transaction in the amount of the lessor's net investment in the lease, which should equal the market or fair value of the leased property. The residual value of the leased property must be taken into account in calculating the cash flows and recording the lease. Financial leases often stipulate that, at the end of the lease term, the lessee has the right to acquire the legal ownership of the leased property upon the fulfillment of agreed conditions (sometimes called hire purchase contracts). It is recommended that the present value of the lessee payment for the residual value of the asset should be included in the valuation of the lease, whether or not the lessee is expected to acquire the asset at the termination of the lease.

For the lessee's accounts, the contra-entry to recording the loan is a nonfinancial asset, recorded as if title to the leased property had been conveyed to the lessee—that is a change of economic ownership of the property from the lessor to the lessee. For the lessor's account, the contra-entry depends on the way in which the leased asset has been acquired:

- *Asset previously recorded in lessor's accounts*. A decrease in nonfinancial assets is recorded, taking into account the residual value of the leased property.
- *Asset acquired expressly for the lease*. The leased asset is acquired directly from the manufacturer or some other seller and is conveyed to the lessee. The lessor records the acquisition and the disposal of a nonfinancial asset, an increase in liabilities/reduction in assets (to pay for the acquisition of the nonfinancial asset), and an increase in loan assets (claim on the lessee). If the acquisition and disposal of the nonfinancial assets occur in the same period, only the financial transactions are recorded.

Box 5.4 Statistical Treatment of Different Types of Loans (*Continued*)

- *Sale and lease back*. The lessee sells the asset to the lessor and then leases the asset from its new owner. The lessor records a cash outflow in the amount of the asset purchase. The lessee records a corresponding increase in cash from the asset sale.[2]

Financial leases that become nonperforming are treated in the same way as nonperforming loans (see paragraphs 5.137–5.140). As with foreclosure for a secured loan, the lessor can repossess the asset if the lessee fails to make the lease payments. The present value of the proceeds expected from the repossession of the asset should be deducted in calculating the expected loss on an uncollectible lease.

A *securities repurchase agreement* (or a securities lending or gold swap arrangement that has cash collateral) should be valued at the nominal amount of the funds supplied by the cash provider to the cash taker (that is, securities or gold provider). The market quotation for a repurchase agreement is an interest rate rather than a purchase and repurchase price, and represents the annualized yield that the cash provider earns from the agreement.

For a securities repurchase agreement the amount of the "loan" at inception is generally less than the market value of the securities (or gold) that are to be sold and repurchased, because the cash provider requires a *haircut* (also called *initial margin*). Accrued interest, which should be included in the stock and transactions data for the securities repurchase agreements, will be relevant for only a subset of the agreements.

The securities repurchase (or a securities lending) agreement may stipulate that, if the market value of the securities falls by a specified amount, the securities provider (that is, cash taker) is required to provide additional margin by supplying more securities as collateral. The provision of additional margin in the form of securities (as in the case of the original margin in the form of securities) is not reflected in the stock and flow data recorded by either the cash provider or cash taker, but rather is recorded off-balance sheet by both parties to the agreement.

In some atypical securities repurchase (or securities lending) agreements, the cash provider may be required to provide additional cash during the term of the agreement, particularly if the market price of the contracted securities has increased appreciably. The additional cash is provided in the form of a repayable margin deposit[3] rather than as an augmentation to the cash collateral that was conveyed at the inception of the agreement. The valuation and interest accrual of the repurchase agreement (within loans) is, therefore, unaffected by the depositing of repayable margin. Posting of repayable margin is a separate deposit transaction. If the margin deposit is interest-bearing, any accrued interest is reflected in the deposit account, rather than in the loan account for the securities repurchase (or securities lending) agreement.

For securities repurchase (or securities lending) agreements denominated in foreign currency, the valuation approach is the same as for foreign-currency-denominated loans.

[1] Explanation and examples can be found in the *External Debt Statistics: Guide for Compilers and Users* (2013), Chapter 2.
[2] Sale and lease-back are motivated by a lessee's desire to obtain funds at a lower borrowing rate than would be obtainable in the loan or securities markets.
[3] This mechanism is the same as the provision of repayable margin for financial derivative contracts.

5.138 Interest should be shown accruing until a nonperforming loan is repaid or the principal is written off, even if interest arrears are being accumulated. An interest arrear—that is, interest overdue for payment—is included in the value of the outstanding asset/liability. The same approach is taken for principal arrears. Interest and principal arrears data should be reported in the memorandum items that accompany the sectoral balance sheets. If there is recognition that the interest and/or principal may not be received in the future, an additional provision for expected loss should be made by the creditor as an OCVA flow (provision for expected loss) and reported in *Other accounts payable-other [MS]*, with a contra-entry in *Equity liability [MS]* through *Current year result*.

5.139 In the source data for FCs, interest arrears may be recorded on balance sheet or off-balance sheet. The recording approach underlying the source data needs to be taken into account for proper application of the recommended recording of interest arrears.

5.140 Arrears in interest and principal payments on loan liabilities of FCs typically arise when FCs are experiencing financial difficulties. For a central bank, interest and principal arrears on loan liabilities may arise from its inability to make payments for loans that require payment in foreign exchange that is not readily available.

Impaired loan trading

5.141 This *Manual* recommends that a nonperforming or otherwise impaired loan that has been purchased at a fraction of its nominal value should continue to be recorded as a loan if the purchase is a one-off transaction (see also paragraph 5.126). Additionally, it is advantageous to retain the loan classification for these assets to facilitate the future posting of provisions for loan losses, when necessary (see paragraph 4.101).

Memorandum items for loans

5.142 This *Manual* recommends including the following loan-related data in memorandum items in sectoral balance sheets to allow calculating the aggregate amount of loans based on different valuations: (1) total accrued interest on loans for both assets and liabilities; (2) total amount of interest and principal arrears on loan assets and liabilities; and (3) expected loan losses disaggregated by economic sector of debtor. Furthermore, this *Manual* recommends including the following loan-related data in memorandum items: (1) loans with maturity of one year or less by currency and by counterpart sector for both assets and liabilities; and (2) loans extended to nonresident FCs and loans received from them.

5.143 Data on interest and principal arrears should include all overdue payments that are past due. For some FCs, interest and principal arrears are likely to arise mainly from their loans to nonfinancial corporations (NFCs) and/or to households. It is recommended that FCs report interest and principal arrears on loan assets disaggregated by borrowing sector.

5.144 Expected loan losses should be disaggregated by economic sector of debtor. The accounting data on provisions for loan losses can be directly used in estimating the expected loan losses, if these data reflect, to a reasonable degree, the total expected losses on nonperforming loans. *Specific provisions* are provisions against expected and identifiable losses on loans. *General provisions* are provisions against the possibility of unidentifiable losses that may arise within a portfolio of loans,[36] even though the individual loans that may become uncollectible cannot be identified. To be directly useful in estimating expected loan losses, the data for general, as well as for specific, provisions for loan losses must be disaggregated by economic sector of the debtor.

5.145 In cases where source data on provisions do not reasonably reflect the total expected losses on NPLs, compilers of monetary statistics might attempt to report in memorandum items a more accurate measure of expected losses, as discussed below.

5.146 Expected loan losses include three categories that are based on the secured or unsecured nature of the loan and the prospects for full or only partial loss of the nominal value of the loan:

a. Full loss on unsecured (that is, uncollateralized) loans. The expected loss on an unsecured loan is the entire nominal value of the loan, if the creditor expects no future cash flows from the loan.

b. Partial loss on unsecured loans. The expected loss on an unsecured loan is less than the nominal value of the loan, because the lending institution expects some future cash flow through recourse to its creditor claim on the assets of an enterprise that will be liquidated.

c. Partial loss on secured (that is, collateralized) loans. The expected loss on a secured loan is the nominal value of the loan *less* any recovery that results from possession and subsequent sale of the assets that were collateral for the loan.

5.147 The expected loan loss is the difference between the nominal amount and the recoverable amount—that is, the present value of the expected cash flows to be obtained from the borrower or through liquidation of collateral. The principles for the measurement of

[36] The calculation of general provisions is based on national practices, as established by the lenders or as imposed within the national accounting or supervisory standards. General provisions can be calculated in various ways—for example, as a percentage of (1) total assets (to provision both loan and non-loan assets), (2) total loans, or (3) loans other than those covered by specific provisions.

the recoverable amount for impaired assets are consistent with IAS 39.63–65:

a. The discount rate to be used in calculating the present value of expected cash flow is the *original yield to maturity* on the loan.[37]

b. If the loan has a variable interest rate, the discount rate for measuring the recoverable amount should be the *current yield to maturity*.[38]

c. The estimated cash flows from secured loans should be based on the expected net proceeds from the sale of the assets used as collateral;[39] costs incurred in acquiring, storing, or maintaining the collateral should be netted from the proceeds of the asset liquidation, or should be treated as negative cash flows, in calculating the present value of the expected cash flows.

5.148 The data for both outstanding loans and expected loan losses are disaggregated by economic sector so that the realizable value of loans to each sector can be derived by deducting expected loans losses from the nominal value of loans.

Equity

5.149 In the financial statistics, equity and investment fund shares—whether held as assets or issued as liabilities[40]—are recorded at market or fair values. The total value of the shares of a corporation is equal to the market price (or fair value) per share *times* the number of shares issued and currently outstanding.

5.150 In monetary statistics, equity and investment fund shares held as assets are recorded at market value, as are investment fund shares issued as liabilities. Equity liabilities of FCs other than investment funds are recorded at their book value, which corresponds to the difference between total assets and total liabilities. This treatment ensures the balance sheet identity between assets and liabilities in the data reported by FCs.

5.151 Equity and investment fund shares held as assets denominated in foreign currency are recorded at the market or fair value expressed in foreign currency and are converted to domestic currency units as described in paragraph 5.50.[41]

5.152 Transactions in shares (equity securities) assets are reported on a purchases-less-sales basis. Transactions in shares on the liability side of an FC's balance sheet consist of the proceeds from owners' contributions, including issuance of new shares,[42] *less* any outflow of dividends when shares go ex-dividend.

5.153 Transactions in other equity (defined in paragraph 4.126) are principally in the form of owners' net additions to the equity of quasi-corporations—that is, funds or other resources (including fixed or other assets) that the owners provide for capital investment by quasi-corporations *less* withdrawals, where the withdrawals are proceeds from the sale of fixed or other assets, transfers of fixed or other assets, and funds taken from accumulated savings and reserves for the consumption of fixed capital. For quasi-corporations, all equity (including retained earnings and reserves) is assumed to be held by the owners.[43] Equity withdrawals exclude current withdrawals from the income of quasi-corporations.

5.154 For their foreign branches, FCs may inject significant financial support in certain circumstances. Such financial support may take various forms and its economic substance may also vary. These payments should be recorded as transactions in financial instruments used to provide financial support. In

[37] The original yield to maturity is *original effective interest rate* in IAS terminology.

[38] The current yield to maturity is *current effective interest rate* in IAS terminology—the discount rate that equates the current nominal value of the loan to the present value of the future principal and interest payments that would be received if the loan were not impaired.

[39] See IAS 39, AG84 for more information on estimating cash flows for collateralized loans.

[40] *Equity and investment fund shares* are designated as a liability in the methodology of this *Manual*, consistent with the *2008 SNA* (paragraphs 11.81–11.102) and other major statistical manuals. In accounting and finance literature (including the IFRSs), *equity and investment fund shares* is designated as *equity* and is treated as separate from liabilities.

[41] With few exceptions, shares are denominated in the domestic currency of the issuer.

[42] Including shares from the exercise of stock options or bond conversions into shares, but excluding shares arising from stock splits or stock dividends. A stock split or a stock dividend does not affect the corporation's cash flow or the proportion of these cash flows attributed to each shareholder.

[43] Owners sometimes may provide quasi-corporation financing through the extension of loans, placement of deposits, or purchase of debt securities issued by the quasi-corporation, or other accounts payable. The owners and the quasi-corporations should record such transactions as loans, deposits, etc., rather than as equity.

cases where there is no clarity on the type of financial instrument used, the payments could be recorded as transactions in loans.

5.155 Transactions in shares are valued at the price agreed between the institutional units involved in the transaction. New shares are recorded at issue value. Transactions in foreign-currency-denominated shares and other equity are converted to domestic currency units at the market exchange rates prevailing at the time of the transaction.

5.156 Current and capital transfers[44] received and provided by FCs are treated as transactions affecting *Equity liability [MS]*.[45] The receipt of a current or capital transfer is recorded as a transaction: an increase in currency or deposits (or nonfinancial assets) on the asset side of the FC's balance sheet, or as a reduction in a liability (in case of debt forgiveness). The contra entry is an increase in *Equity liability [MS]* of the FC in *Current year result*. The provision of a current or capital transfer is also recorded as a transaction: a decrease in currency or deposits (or nonfinancial assets) on the asset side of the FC's balance sheet, with a contra-entry in *Equity liability [MS]* in *Current year result*.

Purchase of own shares

5.157 Corporations sometimes purchase or buy back their own shares. In financial statistics, the total value of an FC's equity shares is equal to the market price per share *times* the number of outstanding shares other than those reacquired and held by the FC. In monetary statistics, reacquired shares (called *treasury shares*) should be recorded as a transaction in *Equity liability [MS]* at the market value, with contra-entries recorded as a reduction in currency or deposit holdings, as shown in Table 5.7.[46]

[44] For definitions of current and capital transfers see *BPM6*, paragraphs 12.7 and 12.12–12.15.

[45] In the national accounts, net worth would be affected to the extent that the market value of equity is unaffected by these transactions.

[46] In accounting terms, no gain or loss should be recognized on the sale, issuance, or cancellation of treasury shares in *Funds contributed by owners*—consistent with IAS 32.33 and IAS 32.AG36, and national financial reporting standards in many countries—but a reduction (by the amount of the difference between the market and book values of the reacquired shares) should be recorded in one of the other (than *Funds contributed by owners*) components of equity.

Listed shares, unlisted shares, and other equity

5.158 Listed shares are regularly traded on stock exchanges or other organized financial markets and should be valued in the balance sheets at their current market prices. For monetary statistics, however, shares on the liability side are recorded at book value.

5.159 Market price quotations are usually available on a daily basis for listed shares and, in some cases, on a daily or less frequent basis for OTC shares.[47] For listed shares valued at market price, a representative mid-market price observed on the stock exchange or other organized financial markets should be used for valuation.

5.160 Fair values need to be estimated for nontraded or infrequently traded shares, which collectively are referred to as unlisted or unquoted shares (see *2008 SNA*, paragraphs 13.71–13.71 and *BPM6*, paragraph 7.16). Consistent with the *2008 SNA* and other statistical manuals, a flexible approach is recommended for the valuation of unlisted shares in the absence of a quotation or a recent transaction price. The following six alternative methods for approximating the market value of unlisted shares are distinguished:

a. Recent transaction price. Recent (e.g., within the past year) transaction prices of unlisted shares may be used to the extent that market conditions have not changed substantially. This method can be used as long as there has been no material change in the corporation's position since the transaction date. As time passes and conditions change, old transaction prices become increasingly misleading.

b. Net asset value (NAV).[48] Appraisals of untraded equity may be conducted by knowledgeable management or directors of the corporation, or provided by independent auditors to obtain total assets at current/market value less total liabilities (excluding equity) at market value. Valuations should be recent.

c. Present-value approach (PVA)/price to earnings ratios. The present value of unlisted equity can be estimated by discounting the forecast

[47] For example, daily price quotations are available for shares sold on the New York Stock Exchange, as well as for those sold in OTC markets such as the Nasdaq.

[48] Use of NAV for the valuation of the shares of open-end investment pools is covered in paragraphs 5.171–5.176.

Table 5.7 Recording of Reacquired Shares in Monetary Statistics: An Example

(In domestic currency units)	OS	T	VC	OCVA	CS
Assets					
Transferable deposits	1,500.0	–225.2[2]			1,274.8
Liabilities					
Equity liability [MS]					
Funds contributed by owners[1]	750.0	–60.0[3]			690.0
Retained earnings	400.0	–165.2[4]			234.8

[1] Funds contributed by owners represent the book value of 500 shares at 1.5 per share.
[2] Buy-back of 40 shares at a market price of 5.63 (5.63*40 = 225.2).
[3] Buy-back of 40 shares at book value of 1.5 (1.5*40 = 60.0).
[4] The difference between the market and book values of the reacquired shares (225.2 – 60.0 = 165.2).
Note: OS = opening stock; T = transactions; VC = valuation changes; OCVA = other changes in the volume of assets; CS = closing stock.

future profits. At its simplest, this method can be approximated by applying a market or industry price-to-earnings ratio to the (smoothed) recent past earnings of the unlisted corporation to calculate a price. This method is most appropriate where there is a paucity of balance sheet information but earnings data are more readily available.[49]

d. Market capitalization method (MCM). Book values reported by corporations can be adjusted at an aggregate level by monetary statistics compilers using ratios based on suitable price indicators, such as the ratio of market capitalization to book value for listed corporations in the same economy with similar operations.[50] Alternatively, assets that enterprises carry at cost (such as land, plant, equipment, and inventories) can be revalued to current period prices using suitable asset price indices.

e. Own funds at book value. This method for valuing equity uses the value of the enterprise recorded in the books of the enterprise, as the sum of all the components of equity. The more frequent the revaluation of assets and liabilities, the closer the approximation to market values. This method is used to value *Equity liability [MS]* in monetary statistics (see paragraphs 5.167–5.168).

f. Apportioning global value. The current market value of a global enterprise group can be based on the market price of its shares on the exchange on which its equity is traded, if it is a listed company. Where an appropriate indicator may be identified (e.g., sales, net income, assets, or employment), the global value may be apportioned to each economy in which it has direct investment enterprises, on the basis of that indicator, by making the assumption that the ratio of net market value to sales, net income, assets, or employment is a constant throughout the transnational enterprise group. (Each indicator could yield significantly different results from the others.)

5.161 In cases where none of the preceding methods or a combination of MCM and PVA[51] is feasible, less

[49] The dividend discount model approach to the estimation of the fair value of a corporation's shares discounts the stream of future dividend payments by the corporation. Derivation of the formulas can be found in corporate finance textbooks. For example, see Bodie, Kane, and Marcus (2002), pp. 565–576.

[50] An equivalent statement of the market capitalization formula (unadjusted for relative liquidity of the shares) is:

$$\textit{Fair value of Corporation } A = \frac{(\textit{MV of Corporation } B) * (\textit{BV of Corporation } A)}{(\textit{BV of Corporation } B)}$$

where *MV* represents market value, calculated as the quoted price per share times the total number of outstanding shares, and *BV* denotes the total book values of the equity of each corporation, respectively.

[51] Use of both methods may be feasible on an infrequent basis for unlisted shares that are held for relatively long periods. Comparing the two valuations, the most conservative estimate of the fair values may be chosen. It is also recommended that the estimates be analyzed periodically to compare the (1) fair-value estimate, (2) book value of the shares, and (3) original or recent (if any) transaction price of the unlisted shares.

suitable source data may need to be used as inputs. For example, cumulated flows or a previous balance sheet adjusted by subsequent flows may be the only sources available. Because these sources use the prices of previous periods, they should be adjusted for subsequent price developments, for example, by using aggregate share price or asset price indexes and by taking into account exchange rate movements, where relevant. The use of unadjusted summing of past transactions is not recommended.

5.162 The means through which equity can be generated may take various forms, such as share issues, equity injections without any commensurate issue of shares (sometimes called "contributed surplus" or "share premiums"),[52] capital contributions, accumulated retained earnings and general and special reserves, or revaluation. These categories should be taken into account when cumulated flows are used to measure the value of equity and no method of estimating market value is available.

5.163 If the current market price is not directly observable, the decision about the methods to adopt should take into account the availability of information as well as judgments as to which available method best approximates market values. Different methods may be suitable for different circumstances and a standard ranking of the alternative methods is not proposed. Compilers should be transparent and should state clearly the method(s) used.

5.164 *Other equity* covers equity in any corporation or quasi-corporation that is not in the form of securities (see paragraphs 4.126–4.128). Other equity should be valued using the NAV method.

Depository receipts

5.165 The basic tenets of accounting for depository receipts (DRs) are (1) avoidance of double counting of ownership of the underlying instruments, debt securities and equity shares; and (2) revaluation that reflects the market price or fair value of the DRs which, in turn, reflects the market value of the underlying shares. The owner of DRs records the DRs as if these were the underlying equity shares or debt securities of the corporate issuer. If issued by a nonresident, the DRs are included in the *Nonresident* subcategory within the asset category of *Equity and investment fund shares* or *Debt securities* in the accounts of the DR holder (ultimate investor or dealer). The underlying equity shares or debt securities *do not* appear in the balance-sheet accounts of the FCs involved in the creation of the DRs. An exceptional balance-sheet entry arises if DRs are issued before the FC arranging the issue has acquired the underlying instruments in the custodial account. To avoid double counting, the FC would record a negative holding of the underlying shares, given that the purchaser of the DRs would have reflected the equity ownership through the DR recording in the purchaser's account.

5.166 The DRs traded in active markets should be revalued on the basis of the market price quotations for the DRs. Those for which market price quotes are unavailable can be revalued on the basis of the market price at which the underlying shares are traded in the country of issuance, converted into domestic currency units at the market exchange rate.[53]

Equity liability [MS]

5.167 As discussed in Chapter 4 (paragraphs 4.131–4.132) this *Manual* recommends that equity (except MMF and non-MMF investment fund shares) is valued on the liability side at book value. This measure—*Equity liability [MS]*—is closer to accounting standards (capital and reserves), the basis of the data sources commonly used for monetary statistics, but can be reconciled with other national accounts-based methodologies as follows. For quasi-corporations, the measure of *Equity liability [MS]* is consistent with the valuation method *own funds at book value* in the *2008 SNA*; for FCs with quoted shares, *Equity liability [MS]* plus *Provisions for losses on financial assets* is consistent with the market value of equity plus net worth (see Figure 2.2 in Chapter 2). The addition of provisions to *Equity liability [MS]* is needed for the reconciliation with the national accounts concepts

[52] When shares are sold at higher than par value, the excess amount received is considered as "contributed surplus" or "share premiums."

[53] Differences between the selling prices of DRs and the underlying shares can induce a brokerage house to buy more shares in the domestic market of the issuer for use as shares to back the issuance of additional DRs in the foreign market, thereby causing the market prices of the DRs and the shares to move toward parity. The process can also work in reverse through "cross-border trading" of the DRs in the country of the issuer of the shares. DRs are canceled by the FC in the foreign market, and the shares are released from the custodian bank and delivered back to the brokerage house in the country of issuance.

because provisions for losses on assets, while recorded as liabilities in monetary statistics, are not recognized as liabilities in the *2008 SNA*.

5.168 Flows for *Equity liability [MS]* of FCs (except MMF and non-MMF investment fund shares) in the monetary statistics framework include:

a. Funds contributed by owners are transactions valued based on the amount of proceeds from the issuance of new corporate shares (less own shares purchased and retired); and for quasi-corporations, the inflow and outflow of other equity.

b. As a principle, retained earnings inflow or outflow is recorded as an OCVA. However, transactions in retained earnings are recorded for foreign direct investors' equity in their direct investment enterprises. In these cases, retained earnings are imputed as being payable to the owners and reinvested as an increase in their equity.[54] Transactions are also recorded for dividends when shares go ex-dividend (outflows).[55,56] The valuation is based on the amount of retained earnings inflow or outflow.

c. Current year result represents the accumulation of the current profit or loss, recorded as transactions, valuation changes, or OCVA depending on whether the flows originating the expense/income are transactions, valuation changes, or OCVA.

d. General and special reserves should be valued based on the nominal amount appropriated from retained earnings. This appropriation is recorded as an OCVA. Transactions are not recorded.

e. Valuation adjustment is the net amount of asset and liability (other than equity liabilities) revaluations for the period, excluding the gains and losses posted to current year result.

5.169 Adjustments to the commercial accounting data source may be needed to meet the valuation requirements of this *Manual*. Any valuation adjustments to the source accounting data are reflected both in the relevant asset or liability and in *Equity liability [MS]*, through *Valuation adjustment*.

Memorandum items for equity liability [MS]

5.170 This *Manual* recommends including the market value of a FC's shares (liability side) in memorandum items classified by holding sector, if possible. Reporting the market valuation of shares on the liability side as a memorandum item allows harmonizing the monetary statistics data with the financial statistics, with the *2008 SNA,* and with the International Investment Position data on external liabilities. It is further recommended to include in memorandum items data on equity assets issued by nonresident FCs and equity liabilities held by nonresident financial corporation.

Investment fund shares or units

5.171 Traditionally, MMF shares maintained a constant share price (equal to the invested amount), irrespective of the market value of their underlying portfolio. The rule was changed in 2014, requiring a floating NAV for institutional prime MMFs, with the daily share prices of these MMFs fluctuating along with changes in the market value of their portfolio, and establishing liquidity fees and redemption gates.[57]

5.172 Changes in value of an investor's equity holding in an MMF are usually reflected by variation in the number of shares held, rather than through changes in the price per share. These changes in value are recorded as revaluation flows within a period. Most MMFs have their share values fixed at one unit of currency. Capital gains or losses and changes in the interest returns on the asset portfolio of the MMF are taken into account by increasing or decreasing the number of fixed-value (one currency unit) shares owned by the investor. The manager of the MMF is responsible for monthly statements that show the investor's current share holdings.

5.173 Holdings of listed shares of non-MMF investment funds should be valued using the market price of the share, and unlisted shares should be valued according to one of the preceding methods for unlisted equity.

[54] See *BPM6*, paragraph 9.32.

[55] Depending on national financial reporting standards, this transaction could be attributed to the current year result.

[56] For corporations with only one shareholder and with shares that are not traded publicly, the dividends are recorded at the time they are payable. (See *BPM6*, paragraph 3.48, and *GFSM 2014*, paragraphs 5.111–5.112.)

[57] These changes do not affect the intrinsic nature of MMF shares or units, but are intended to bring more transparency to the underlying value of the assets backing MMFs.

5.174 Closed-end investment fund shares usually are traded in OTC markets, and market price quotation are obtainable from current sources. If so, the current value of an investor's holding in a closed-end pool is equal to the market price per share (as of the reference date) *times* the number of shares held; while the value of the total equity of the investment fund is equal to the market price per share *times* the fixed number of shares outstanding. In circumstances in which market price quotations are unavailable, it is recommended that the fair value of the shares be determined on the basis of the NAV of the shares, the valuation method used for open-end investment pools. The NAV-based valuation should be adjusted upward or downward if it is known that, if available, market price quotations would indicate that value of the shares would reflect a substantial premium above, or discount below, the NAV.

5.175 Shares in an open-end investment fund are purchased directly from, or sold directly back to, the investment fund, which stands ready to redeem outstanding shares or sell additional shares at the current value of shares. Through issuance and redemption of shares, the total number of shares in the investment fund is open-ended. Given the absence of exchange or OTC trading outside the fund, the share price quotation of the investment fund is based on the NAV of a share.

5.176 For a mutual fund that has no liabilities (other than its equity), the NAV of each share is equal to the market value of the investment fund's asset portfolio divided by the number of shares outstanding. Investment funds' asset portfolios usually are revalued to the current market value on a daily basis. To obtain the NAV per share of an investment fund that has liabilities in the form of securities or other debt instruments, the value of its liabilities is deducted from the market value of its asset portfolio before dividing by the number of shares outstanding. The fund (or its agent that manages the fund) is responsible for the calculation of the NAV on a daily basis. For valuing their shares, investors can obtain the NAV quotations from the account statements provided by the investment fund and, for many investment funds, from price quotations in the financial press.

5.177 Investment funds are designated as *load funds* and *no-load funds*, where a *load* refers to an up-front commission or other sales charge attached to the purchase of fund shares. The load should be recorded separately as an expense, rather than included in the shareholding—in accordance with the general principle that transaction costs are to be excluded from the outstanding amount of the financial asset.

Insurance, pension, and standardized guarantee schemes

5.178 The liabilities of insurance, pension, and standardized guarantee schemes (IPSGS) and their counterpart assets should be valued in principle at market value. The specific methods of valuing these liabilities are described below. Reinsurance should be treated in the same way as direct insurance. Although under the IFRSs and national financial reporting standards data adjustment may be required for the valuation of some types of pension plan assets, compilers of monetary statistics need to adjust the data to reflect market or fair values of all respective financial assets that should be market-valued.

5.179 Liabilities in the form of life insurance, and annuities and pension entitlements are measured as the present value of amounts expected to be paid out (based on actuarial assumptions for defined benefit arrangements). Measurement of life insurance and pension plan benefits both involve assumptions of an actuarial nature. Most insurance corporations and pension funds have in-house actuarial capabilities for the estimation of life insurance entitlements and post-employment benefits.

5.180 In some countries, expected post-employment (pension) obligations are revalued on a relatively infrequent basis (e.g., every three years or even less frequently). This *Manual* recommends that revaluation should occur at least annually, including for life insurance entitlements.

Nonlife insurance technical reserves

5.181 The amount of nonlife insurance technical reserves recorded in the balance sheet covers the prepayments of net nonlife insurance premiums (paid but not earned as of the balance sheet date) and reserves to meet outstanding nonlife insurance claims. Prepayments of insurance premiums should be recorded on a nominal basis, using straight-line prorating of the premium payment over the period

covered by the prepayment. Most insurance premiums for short-term insurance coverage are often paid on a semi-annual basis but sometimes monthly, quarterly, or annually.

5.182 When the reserves for nonlife insurance and standardized guarantee schemes are denominated in domestic currency, there are generally no holding gains and losses. Exceptionally, if a value for a claim outstanding has been agreed and indexed pending payment, there may be a nominal holding gain or loss recorded due to indexation.

5.183 The insurance premium prepayment may include a deposit component. If unbundled from the insurance contract, the deposit component is classified within the deposit accounts (on a non-prorated basis), and only the remainder—prepayment *minus* the deposit component—is included in prepayment of insurance premiums (on a prorated accrual basis).

5.184 Reserves to meet outstanding nonlife insurance claims should be recorded at the present value of the amounts expected to be paid out in settlement of claims, including disputed claims and an allowance for claims to cover incidents that have occurred but not yet been reported. The discount rate used in calculating the present value should be a market interest rate of a maturity that reflects the average period over which the claims are expected to remain outstanding.

5.185 The recorded transactions for nonlife insurance technical reserves are the amounts of estimated obligations to beneficiaries and holders accrued during the period (that are not due to changes in model assumptions) less those obligations from previous periods that have been paid. For reinsurance, the transactions between the direct insurer and the reinsurer are recorded as an entirely separate set of transactions and no consolidation takes place between the transactions of the direct insurer as the issuer of policies to its clients on the one hand and the holder of a policy with the reinsurer on the other (see also Chapter 4). This non-consolidation is referred to as gross recording on the part of the direct insurer. (See subsection D of *Accounting Rules* in this chapter for descriptions of consolidation and gross recording.)

Life insurance and annuities entitlements

5.186 Life insurance and annuities entitlements represent the financial claims policyholders have against a corporation offering life insurance or providing annuities.[58] The amount to be recorded in the balance sheet for life insurance and annuities entitlement consists of reserves of life insurance companies and annuity providers for prepaid premiums and accrued liabilities to life insurance policyholders and beneficiaries of annuities.

5.187 Life insurance and annuities entitlements should be recorded in the amount of the net present value of all expected future benefits of holders of life insurance (excluding term life insurance, which is treated similar to nonlife insurance) policies and annuities, based on actuarial techniques that are standard for life insurance corporations. Adjustment of data to a net-present-value basis is likely to be required, given that many national financial reporting standards still embody the measurement of insurance corporations' liabilities on an undiscounted basis.

5.188 The discount rate to be used should be determined by reference to market yields (at the balance sheet date) on high-quality long-term corporate bonds or, if corporate bond yields are unavailable, by reference to market yields on government bonds, consistent with the currency denomination of the liabilities.

5.189 For an annuity, the relationship between premiums and benefits is usually determined when the contract is entered into, taking account of mortality data available at that time. Any subsequent changes in life expectancy will affect the liability of the annuity provider towards the beneficiary and the resulting change is recorded as an OCVA.[59]

5.190 Transactions for life insurance and annuity entitlements to be recorded are the amounts of estimated obligations to beneficiaries and holders accrued during the period.

Pension entitlements

5.191 The amounts recorded for pension entitlements depend on the type of pension scheme—one where the formula determining the amount of the pension is agreed in advance (as under a defined benefit scheme) and one where the amount of the pension depends on the performance of financial assets acquired with the future pensioner's contributions (a defined contribution

[58] See also *2008 SNA*, Part 1 of Chapter 17, for the recording of annuities.
[59] See, *2008 SNA*, paragraph 12.59.

scheme). For both types of schemes, pension entitlements of the participants are recorded as they build up.

5.192 For a defined benefit scheme, an actuarial estimation of the liabilities of the pension provider is used. Pension entitlements of households are calculated in two steps: using actuarial techniques to reliably estimate the amount of post-employment benefits that employees have earned in return for their service in current and prior periods, and discounting those benefits to determine the present value of the defined benefit obligations. Implementation of these steps requires a number of assumptions and projections, such as mortality rates; rates of employee turnover, disability, and early retirement; the proportion of plan members who will select each form of payment option available under the plan terms; the discount rate for calculating the present value; and benefit levels and future salary.

5.193 Regarding the choice of the discount rate, the recommendation is the same as for life insurance and annuities entitlements—market yields on high-quality long-term corporate or government bonds. The currency and maturity should be consistent with the currency denomination and estimated term of the pension entitlements.

5.194 For a defined contribution scheme, the recorded liability of the pension provider is the current market value of the financial assets held by the pension fund on behalf of the beneficiaries.

5.195 This *Manual* recommends that, if feasible, pension entitlements should be recorded for the full amount of the present value of estimated pension obligations. Employment-related pension entitlements are contractual engagements that are expected to be enforceable. Therefore, they should be recognized as liabilities towards households, irrespective of whether the necessary assets exist in segregated schemes or not. Actuarial-based estimates of the present values of liabilities for future payments from fully funded, partially funded, and unfunded defined benefit pension funds are recorded on the balance sheets of employers. Further, when an obligation to pay pensions passes from one unit to another, this should be recorded as a transaction in pension liabilities.

5.196 Special consideration is given to corporations for whom additions to pension entitlements would result in negative book values for total equity in the corporations. The reporting of a zero or negative book value of equity (which constitutes technical insolvency of a corporation) may not be permitted by law or national regulatory/supervisory standards. In such circumstances, it is recommended that ongoing additions should be made to pension entitlements in accordance with national regulatory/supervisory policy with the objective of transitioning to full accounting for obligations arising from pension funds.

5.197 The changes in the volume of reserves for pension entitlements apply to defined benefit schemes. No such adjustments are needed for defined contribution schemes where the benefits are determined solely in terms of the investment earnings on contributions fed into the scheme. As a general rule, changes in pension entitlements negotiated between the parties are transactions, whereas changes in model assumptions give rise to OCVA for insurance reserves, pension entitlements, and provisions for standardized guarantee schemes.[60] Any change in the value of the pension entitlements because of a change in the interest rate used to discount the future benefits should be recorded as a revaluation.

Claims of pension funds on the pension manager

5.198 When the pension manager is a unit different from the administrator (see paragraphs 4.150–4.151), the pension fund has a claim on the manager if the assets of the pension fund do not cover the pension entitlements. Conversely, the value of the claim of the defined benefit pension fund on the pension manager is negative if the pension fund has investments of greater value than pension entitlements, in which case the difference is a claim of the manager of the pension scheme on the pension fund.

Provisions for calls under standardized guarantees

5.199 Provisions for calls under standardized guarantees consist of prepayments of net fees and provisions to meet outstanding calls under standardized guarantees. The transactions for provisions for calls under

[60] See also the *2008 SNA*, part 2 of Chapter 17, and *BMP6*, paragraph 9.24.

standardized guarantee schemes are the same as for nonlife insurance. The value to be entered in the balance sheet for provisions for calls under standardized guarantees is the expected value of claims under current guarantees less any expected recoveries.

Financial derivatives and employee stock options

5.200 This section contains the principles and approaches for the valuation of the most common types of financial derivatives. Financial derivative contracts with more complex features—including those often called *exotic*—can be valued through modification or extension of the derivative pricing approaches described in this section.

5.201 For a more detailed discussion of the recording of financial derivatives, including different pricing models, see Annex 5.3. In practice, compilers are constrained to values as reported by the respondents based on their own accounts, who in calculating fair values of financial derivatives often use model-based valuation methods.

5.202 The following principles should be followed in the recording and valuation of financial derivatives in monetary and financial statistics:

a. Recognize the exchange of claims and obligations at the inception of a derivative contract as a financial transaction creating asset and liability positions that usually have, at inception, zero value if the instrument is a forward and a value equal to the premium if the instrument is an option.

b. Treat any changes in the market or fair values of derivatives as valuation changes (holding gains or losses).

c. Record secondary market transactions in traded derivatives, such as options, as transactions.

d. Record any payments made at settlement as transactions in financial derivative assets or liabilities.

e. Record, in the sectoral balance sheets, stock positions in financial derivatives at market or fair values.

5.203 Based on the preceding principles, financial derivatives (both exchange-traded and OTC) and employee stock options (ESOs) are valued at market prices prevailing on balance sheet recording dates, whenever a price quotation in a liquid market is available for the reference date. Fair value methods (such as present values or option models) need to be applied whenever market price quotations for the financial derivatives are unavailable or unrepresentative of a liquid market.[61]

5.204 Positions of the same type of financial derivative held as both a financial asset and a liability are presented gross on the asset and liability sides, respectively, of the FCs' balance sheet. Gross asset and gross liability data should be compiled by summing, respectively, the values of all individual contracts in asset positions and the values of all individual contracts in liability positions. This should not be understood as recording the notional amounts of the underlying assets.

5.205 Some options and forwards operate with margin payments, such as futures, where gains or losses are settled daily. In these cases there will not be any entries for financial derivatives at the end of each day in the balance sheets, as the value of financial derivatives will be zero. However, transactions to settle the daily gain/loss will be recorded.

5.206 Commissions and fees paid—at inception or during the lives of derivatives—to banks, brokers, and dealers are classified as payments for services. These payments are for services provided within current periods and are independent of asset and liability relationships created by the derivatives.[62]

5.207 A key characteristic of many derivative contracts is that the counterparties make commitments to transact, in the future and at agreed prices, in underlying items. The present value (or market price) of a financial derivative is derived from the difference between the agreed contract price of an underlying item and the prevailing market price (or the market price expected to prevail), appropriately discounted, for that item. Different recording and valuation principles of the two broad types of financial derivatives—*forward-type contracts* and *options*—stem from their basic characteristics.

[61] Some OTC derivatives, though not exchange-traded, may have price quotations provided by financial derivatives dealers who specialize in the contracts and that can be used in place of fair value estimates.

[62] This treatment does not apply to periodic fees swapped under credit default swap (CDS) contracts, as these fees are part of the derivative.

5.208 The exchange of claims and obligations at the inception of a derivative contract, as well as secondary market transactions in financial derivatives are recorded as transactions, including any payments made at settlement (see also paragraph 5.202) and receipts/payments of nonrepayable margins. For transactions in foreign-currency-denominated financial derivatives the same principles as explained in paragraph 5.49 apply.

Forward-type contracts

5.209 A forward-type contract usually has zero value at inception, because the parties exchange risk exposures of equal market value.[63] As the price of the underlying item changes during the life of the forward contract, the market value of each party's risk exposure will differ from zero and, therefore, a debtor/creditor relationship will be established. Even without changes in the value of the underlying assets and interest rates, the value of the contract will change as time elapses and the cash flows are discounted for a shorter period. When a change in the price of the underlying item occurs, an asset (creditor) position is created for one party, and a liability (debtor) position is created for the other. The market value of a forward-type contract can switch from an asset position to a liability position (and vice versa) for the same party between reporting dates. When a switch in position occurs (and there are no settlement payments), the market value of the gross asset (or liability) position is revalued to zero, and the gross liability (or asset) position is revalued from zero to the market value.

5.210 The value of a swap contract is derived from the difference, appropriately discounted, between expected gross receipts and gross payments. When a contract requires ongoing servicing (such as an interest rate swap, where each party meets the servicing obligations that were originally held by the other) and a cash payment is received, there is a decrease (increase) in a financial derivative asset (liability) if, at the time of the payment, the contract is in an asset (liability) position. If compilers are unable to implement this approach because of market practice, all cash receipts should be recorded as reductions in financial assets, and all cash payments should be recorded as decreases in liabilities.

5.211 The recording of a futures contract involves the recording of flows—transactions and valuation changes—in the category of financial derivatives and any associated transactions in margin deposit accounts. For the reporting period in which the contract is settled (on the delivery date or earlier), the settlement is recorded as a transaction. Changes in value over time are recorded as valuation changes.

Options

5.212 For options, the writer of the option is considered to have incurred a counterpart liability representing the cost of buying out the rights of the option holder. The market value for an option (including warrants) is recorded at the current value of the option—that is, the prevailing market price. In the absence of a prevailing market price, the estimated cost of buying out the rights of the option holder should be used. For a warrant, the counterpart liability of the issuer is the current outlay required to buy out the exercise rights of the holder.

5.213 The recorded market or fair value at inception of the call or put option equals the premium paid (option purchase) by the purchaser or premium received (option written) by the seller. The buyer records the full price of the premium as the acquisition of a financial asset, and the seller records it as the incurrence of a liability. Sometimes, a premium is paid after the inception of a derivative contract. In such cases, the option purchaser records the value of the premium payment as an asset that was financed by a trade credit within accounts payable from the option writer at the time the derivative was purchased. The trade credit is extinguished when the premium is paid. After the initial recording, the asset or liability position should be valued at the current market price or fair value at the end of each reporting period.

5.214 The value of the option depends on the potential price volatility of the underlying instrument, the time to maturity, interest rates, and the difference between the strike price and the market price of the underlying item.

[63] The treatment of forward-type contracts that have a nonzero value at inception as a result of having forward prices calculated differently from current market values (off-market swaps), is described in paragraphs 4.174. The loan component of the off-market swap is valued at nominal value and the derivative component at market or fair value.

5.215 The value of an option has two components: an *intrinsic value* and a *time value*. The intrinsic value of an option is the value of the option if exercised immediately. The time value of an option is the value that derives from the potential for favorable movements in the price of the underlying asset during the remaining life of the option. For a call option, the intrinsic value is the maximum of the market value of the underlying asset (S) *minus* the strike price (K) at which the option holder can exercise an in-the-money option; or zero, if the current market value of the underlying asset is below the strike price (i.e., $S - K < 0$). For a put option, the intrinsic value is the maximum of K *minus* S, or zero if the option is currently out of the money (i.e., $K - S < 0$). As expiration approaches, the time value of an option declines due to shrinkage of the time remaining for favorable movements in the market value of the underlying asset. At expiration, only the intrinsic value—either an in-the-money payoff or a zero value—remains.

5.216 The recording entries for options begin when a call or put option is purchased (an asset) or sold (a liability). When options are traded, a transaction is recorded in the financial derivatives account with a contra-entry for the cash (currency or deposit) received. The asset or liability position in the option is removed from the asset and liability accounts when the option is sold (asset transaction only), exercised (transaction), or expires on an out-of-the-money (unexercised)[64] basis (revaluation).

5.217 Most option contracts, if exercised, are settled by a cash payment, rather than by delivery of the underlying assets or commodities to which the contract relates. *Net settlement payments* for financial derivatives are financial transactions that are similar to the transactions recorded when other financial instruments mature:

a. When a financial derivative is settled in cash, a transaction equal to the cash value of the settlement is recorded for the derivative. No transaction in the underlying item is recorded. When a cash settlement payment is received, a reduction in a financial derivative asset is recorded with a counterpart increase in cash and deposits. When a cash settlement payment is made, a reduction of a financial derivative liability is recorded with a counterpart decrease in cash and deposits.

b. When an underlying instrument is delivered, two transactions occur, and both are recorded. The transaction in the underlying item is recorded at the market price prevailing on the day of the transaction. The transaction in the derivative is recorded as the difference, multiplied by the quantity, between the prevailing market price for the underlying item and the strike price specified in the derivative contract.

c. When more than one contract is settled—in cash, at the same time, and with the same counterparty—some of the contracts being settled may be in asset positions and some may be in liability positions. It is recommended that the transactions are recorded on a gross basis (i.e., the transactions in assets are recorded separately from those in liabilities). Recording the transactions on a gross basis is preferred to recording them on a net basis—that is, after the sum of the liability flows is subtracted from the sum of the asset flows, the result is recorded as a single amount.[65]

5.218 The recording of flows for credit derivatives is similar to those for forward-type and option-type contracts. As noted in paragraph 4.180, credit derivatives take the form of both forward-type (total return swaps) and option-type contracts (CDSs). Under a total return swap there is a swap of payments (see paragraph 4.181) that are to be recorded similarly to other swap contracts. Under a CDS, premiums are paid in return for a cash payment in the event of a default by the debtor of the underlying instrument (see paragraph 4.182). Periodic fee (similar to the premium for options) and other payments under CDSs and secondary market purchases/sales of CDSs are recorded as transactions in credit derivatives. The settlement and exercising of contracts are also recorded as transactions.

Fair values for nontraded or infrequently traded financial derivatives

5.219 For fair valuing nontraded or infrequently traded financial derivatives, interest rates used in

[64] See Table 4.3.

[65] The net basis is, however, recommended for transactions in financial derivatives classified as reserve assets. (See *BPM6*, paragraph 6.91.)

Box 5.5 Compounding and Discounting at Continuously Compounded Rates

Definitions

The *future value (FV)* of an amount *C* invested today (*T = 0*) for *N* years, at a continuously compounded rate *R*, at time T = N is:

$$FV = Ce^{RN},$$

where e^{RN} is the *compounding factor and N* = (days until the cash flow)/(days in a year). For example, *N* = 0.25, *N* = 0.37, *N* = 1, *N* = 2.31.

The *present value (PV)* today (*T* = 0) of a cash flow *C* at time T = N discounted at a continuously compounded rate *R* is:

$$PV = Ce^{-RN},$$

where e^{-RN} (or expressed as $1/e^{RN}$) is the *discounting factor*.

Conversions between a continuously compounded rate (R_c) and an *m*-times-per-year-compounded rate (R_m) and vice versa are made using:

$$R_m = m(e^{R_c/m} - 1) \quad \text{and} \quad R_c = m\ ln[1+(R_m/m)].$$

Examples

Combining forward rates in successive periods

Using continuously compounded rates, the average interest rate for a period (e.g., annual) is the arithmetic average of the successive forward rates within the period. Suppose one- and two-year forward rates of 10.5 percent are followed by a third-year forward rate of 11.4 percent. Then, the three-year forward rate, *R*, is 0.108 = (0.105 + 0.105 + 0.114)/3. The three-year (N = 3) compounding factor is $e^{RN} = e^{(0.108)(3)} = 1.383$ and the corresponding discounting factors is $e^{-RN} = 0.723$.

Present value formulations

- A three-year zero-coupon bond with a face value of 1,000

$$PV = Ce^{-RN} = 1{,}000 * 0.723 = 723$$

- A three-year 10 percent coupon bond with a face value of 1,000 using time-variant discount rates

$$\begin{aligned} PV &= C_1e^{-R_1t_1} + C_2e^{-R_2t_2} + \ldots + C_Ne^{-R_Nt_N} \\ &= 100e^{-(0.105)(1)} + 100e^{-(0.105)(2)} + 1{,}100e^{-(0.114)(3)} \\ &= 965.91 \end{aligned}$$

compounding or discounting cash flows are on a continuously compounded basis, as used in valuation models for financial derivatives. Compounding and discounting at continuously compounded rates are described in Box 5.5.

5.220 Conversion to domestic currency values of all foreign-currency-denominated financial derivatives is the same as for other financial instruments. The market or fair values of financial derivatives positions are calculated in foreign currency units and then converted to domestic currency as explained in paragraph 5.50.

Employee stock options

5.221 ESOs are usually nontradable and must be fair-valued by reference to the price (or fair value) of the underlying shares. Fair values of ESOs can be measured from a market value of equivalent options or according to an options-pricing model, such as the binomial-tree or the Black-Scholes model (see Annex 5.3).

5.222 ESOs should be recognized on the balance sheet. Before the option is exercised, the arrangement between the employer and employee has the nature of a financial derivative and is shown in the accounts of both parties (see *2008 SNA*, paragraphs 17.388–17.394). The entry appears in the liability category of financial derivatives in the accounts of the FC that has written the option. There is no entry for ESO in asset categories of FCs accounts, because ESOs are generally assets only of households.[66] The estimate of the value of the ESO should be made at the "grant date." If this is not possible, the value of the option should be recorded at the "vesting date." In principle, any change in value between the grant date and the vesting date should be treated as part of the compensation of employees; any change in value between vesting

[66] In some cases, stock options may be provided to suppliers of goods and services to the enterprise.

date and exercise date is treated as a holding gain or loss. For pragmatic reasons, the whole of the increase between "grant date" and "exercise date" is treated as a holding gain or loss. An increase in the value of the share price above the strike price is a holding gain for the employee and a holding loss for the employer and vice versa.

5.223 At the time of granting an ESO, the employer records a liability in ESO, with the contra-entry a decrease in *Equity liability [MS]* reflecting an expense for compensation of employees (reducing *Current year result*).

5.224 After the initial recording, the liability position in the ESO in the FCs balance sheet should be valued at fair value at the end of each reporting period with a contra-entry in *Equity liability [MS]* through valuation adjustment. When the option is exercised and is settled in cash, a redemption transaction in the ESO liability (reduction) is recorded at the fair value of the ESO (a value that reflects the difference between the market price of the equity and the price that the buyer would have paid for the equity), along with a transaction in currency and deposits assets (reduction). When the option is exercised and the underlying shares are delivered, a redemption transaction in the ESO liability (reduction) is recorded at the fair value of the ESO, along with a transaction in currency and deposits assets (increase) in the amount paid by the employee (at the strike price), and a transaction in *Equity liability [MS]* (increase) in the amount of the difference. The entry in *Equity liability [MS]* is recorded in *Funds contributed by owners* at the book value of shares and in one of the other (than *Funds contributed by owners*) components of equity in the amount of the difference between the market and book values of the issued shares.

5.225 When an employee of a subsidiary is issued a stock option in the parent company, the subsidiary is shown as acquiring an option from the parent with a corresponding ESO liability to the employee because the parent is not the employer. Such instances might arise when the subsidiary is resident in a different economy than the parent (see *BPM6*, paragraph 8.41).

Other accounts receivable/payable

Trade credit and advances

5.226 Trade credit and advances should be valued at nominal value for both creditors and debtors, which is the outstanding amount that debtors are contractually obliged to pay the creditors when the obligation is extinguished (see also *2008 SNA*, paragraphs 11.13–11.15).

5.227 When a discount is offered to the debtor for early payment, this is reflected in the value of the goods and services. If payment is not made within the discount period, the discount is recorded as interest.

5.228 Special treatment arises in the exceptional cases of long-term trade credits. For trade credits of longer maturity, the treatment in the *2008 SNA* (paragraph 3.144) is to be applied, as follows. When the time gap (billing period) becomes "unusually long"[67] and the amount of trade credit extended is very large, the conclusion may be that interest has been implicitly charged. In such cases, the value of the trade credit should be adjusted (valuation change), so interest can accrue at the appropriate discount rate over the period to the final payment date.[68]

Other accounts receivable/ payable—other

5.229 Nominal value is used to value most subcategories, including settlement accounts, items in the process of collection, and most categories of miscellaneous asset and liability items. The *IMF quota subscription* (applicable to the central bank only) should be valued on the basis of market exchange rates at the balance sheet dates, and for monetary statistics revaluations should be recorded in *Equity liability [MS]* (valuation adjustment). *Provisions for losses on assets* included in *Other accounts payable[MS]–other* are valued at book value.

5.230 Interest due on other accounts receivable or payable, if any, is included here. Interest accrued on financial assets and liabilities other than *Other accounts receivable/payable* should not be included

[67] What constitutes an unusually long time in this context will depend on the circumstances. For instance, for any given time period, the higher the level of interest rates, the greater is the opportunity cost of delayed payment (see the *External Debt Statistics: Guide for Compilers and Users* (2013), paragraph 2.39).
[68] See also *GFSM 2014*, paragraph 3.118.

here but should be included in the outstanding amount of the financial asset or liability.

Provisions for losses on assets and write-offs

5.231 The *2008 SNA* framework does not contain accounts for provisions for losses on loans and other financial assets because changes in the value of a financial asset that are imposed solely to meet regulatory, supervisory, or accounting requirements are not recorded in the SNA. Provisions for losses on assets are treated as bookkeeping entries that are internal to the corporation and do not appear in the *2008 SNA*, except in the case of expected losses on NPLs that appear as memorandum items in the balance sheets. In the monetary statistics, on the other hand, such a provision is classified under *Other accounts payable[MS]—other* and is treated as the precursor of a loan (or other asset) write-off and, like loan write-offs, is treated as an OCVA flow. OCVA entries and contra-entries for these categories are:

a. Provisions for losses on financial assets. An OCVA entry in the amount of the provision created during the reference period is posted to *Provisions for loan losses* (a subcategory of *Other accounts payable [MS]—other*). The OCVA contra-entry is a reduction in *Equity liability [MS]* (*Current year result*).[69]

b. Financial asset (loan) write-offs. An asset (loan) write-off is shown as an OCVA reduction in the outstanding amount of the financial asset (loan). The OCVA contra-entry is a reduction in *Provisions for loan losses* within *Other accounts payable [MS]—other*. If the full amount of the financial asset (loan) write-off has been provisioned, the negative OCVA entry for the reduction in the amount of the financial asset (loan) is matched with the OCVA entry for a reduction in *Provisions for loan losses* (a liability account), and the adding-up condition is maintained for the OCVA column shown in Table 5.2. No provision for loss may have been made for the financial asset (loan), or the provision for loss may have been insufficient to cover the entire amount of the financial asset (loan) loss that is written off. In such instances, all or part of the OCVA contra-entry is posted as a reduction in *Equity liability [MS]* (*Current year result* or *General and special reserves*).[70]

c. Reversal of provisions for financial asset (loan) losses. Financial asset (loan) recoveries—that is, unexpected repayment of impaired financial assets (loans)—sometimes occur prior to write-off. Whereas the repayment is recorded as a transaction (an increase in currency or other financial asset and a reduction in financial assets), an OCVA entry in the amount of the financial asset (loan) recovery is also made to reverse the earlier provisioning for financial asset (loan) loss, and an OCVA contra-entry is posted as an increase in *Equity liability [MS]* (*Current year result*) to reverse the previous entry that was posted when the provision for loss was made. The recovery may be the full amount or only part of the principal and interest of the financial asset (loan). In exceptional cases, financial asset (loan) repayment may occur after the write-off. If this is the case, an OCVA increase in the respective financial asset (loan) is first recorded with a contra-entry increase in *Equity liability [MS]* (*Current year result*), thereby reversing the earlier entries in the amount of the loan write-off. The repayment is then recorded as a transaction reducing the financial asset (loan), and a contra-entry is made for the cash or other form of payment from the defaulted borrower.

Nonfinancial assets

5.232 Stock positions and flows of financial assets and liabilities of FCs are the primary focus of monetary and financial statistics. Nonetheless, accurate data on nonfinancial assets (as defined in Annex 8.1, paragraphs 8.102–8.104) are required for completing the stock and

[69] The positive entry in *Provisions for loan losses* and negative entry in *Equity liability [MS]* preserve the adding-up requirement for the OCVA column (see the stock and flow illustration in Table 5.2).

[70] The permissibility of using special and general reserves to absorb all or part of the loan write-off would depend on the national accounting standards, the supervisory regulations for the maintenance and use of special and general reserves, and the financial circumstances of the FC. As part of a major clean-up of its loan portfolio, an FC may have loan write-offs that exceed its retained earnings. The corporation may be permitted to charge part of the loan write-offs against special and general reserves, in conjunction with a workout plan for rebuilding such reserves in the future.

flow data in the balance-sheet framework of monetary statistics. The recommendation is that the valuation of produced and nonproduced nonfinancial assets should be at market value on the balance sheet date consistent with SNA principles.

5.233 In practice, source data as compiled in accordance with national financial reporting standards often use other methods of valuation. In the national financial reporting standards of many countries, depreciation allowances are not representative of the consumption of fixed capital, which is the economically meaningful concept that the *2008 SNA* specifies for the estimated opportunity costs of using fixed assets. Depreciation allowances for fixed assets may be based primarily on tax and economic policy considerations, rather than on the useful lives of the nonfinancial assets and their replacement costs.

5.234 Accurate data on the production, acquisition, disposal, and consumption of nonfinancial assets are needed for analysis of the linkages between the financial account and the other accounts (in particular, the capital account) of the *2008 SNA*. In addition, stock data for nonfinancial assets are needed for the *2008 SNA* sectoral balance sheets that contain accounts for both financial and nonfinancial assets (see Chapter 8). Nonfinancial assets should be valued in monetary and financial statistics consistent with the needs of the national accounts, which may be difficult in practice given that in the source data for monetary and financial statistics, nonfinancial assets are usually recorded at acquisition cost rather than at market or fair value.

C. Recording of Debt Reorganization

5.235 ***Debt reorganization (also referred to as debt restructuring) is defined as arrangements involving both the creditor and the debtor (and sometimes third parties) that alter the terms established for servicing an existing debt.*** There are four main types of debt reorganization described in the *2008 SNA*: (1) debt forgiveness, (2) debt rescheduling or refinancing, (3) debt conversion, and (4) debt assumption.[71]

[71] See *2008 SNA*, paragraphs 22.104–22.130. See also *BPM6*, Appendix 2 *Debt Reorganization and Related Transactions; Public Sector Debt Statistics: Guide for Compilers and Users* (2013), Chapter 4, subsection *Debt Reorganization*; and *External Debt Statistics: Guide for Compilers and Users* (2013), Chapter 8.

5.236 Debt forgiveness refers to a reduction in the amount of, or the extinguishing of, a debt obligation by the creditor via a contractual arrangement with the debtor. Debt forgiveness is distinguished from debt write-off by the agreement between the parties and the intention to convey a benefit, rather than unilateral recognition by the creditor that the amount is unlikely to be collected. Debt forgiveness is a voluntary cancellation of a creditor's claim and a debtor's obligation by mutual agreement, which is recorded as a transaction in the form of a capital transfer from the creditor to the debtor. In the balance sheet, the debtor's liability and creditor's asset are reduced by the amount of debt that is forgiven, with a counterpart increase in equity of the debtor and reduction in equity of the creditor. Valuation of the amount of the debt forgiven is at market prices for flows and stocks, except for loans where the nominal value is used.

5.237 Debt rescheduling or refinancing is an agreement to alter the terms and conditions for servicing an existing debt, usually on more favorable terms for the debtor. Debt rescheduling involves rearrangements on the same type of instrument, with the same principal value and the same creditor as with the old debt. Refinancing refers to the conversion of a debt obligation—a loan or a debt—into a new debt instrument, generally at a different value and may be with a creditor different than that from the old debt.

5.238 The treatment for debt rescheduling in monetary statistics is that the existing contract is extinguished and a new contract created. Typically, debt rescheduling should not affect the valuation of a loan because the outstanding amount of the loan is the same before and after rescheduling; only the schedule for future interest and principal payments has been affected. The market value or fair value of a debt security would usually be affected by rescheduling, because lengthening of maturity and postponement of debt servicing would be expected to reduce the discounted present value of the security. Transactions are valued at the value of the new debt with any difference recorded as a revaluation.

5.239 The treatment of debt refinancing is similar to debt rescheduling to the extent that the debt being refinanced is extinguished and replaced with a new financial instrument or instruments, with transactions valued at the value of the new debt. The balance

sheet reflects the transactions extinguishing the old debt instrument and the creation of the new debt instrument along with any revaluation for the old debt recorded in the valuation adjustment. The exception is non-marketable debt owed to official creditors, where the old debt is extinguished at its original value and the difference in value with the new instrument is recorded as debt forgiveness.

5.240 Debt conversion (swap) and prepayments. Debt conversion is an exchange of debt—typically at a discount—for a non-debt claim such as equity, or for counterpart funds that can be used to finance a particular project or policy. This includes *debt-for-equity swaps* among other arrangements. Debt swaps often call for writing down, or discounting, the value of the original debt instrument before the conversion to equity. Any holding loss from writing down the value of the original debt is recorded in the revaluation account.

5.241 Debt prepayments consist of a repurchase, or early payment, of debt at conditions that are agreed upon between the debtor and the creditor (i.e., debt is extinguished in return for a cash payment agreed upon between the debtor and the creditor). When a discount is involved relative to the nominal value of the debt, prepayments are referred to as "buybacks," and any difference in value is recorded as a valuation change.

5.242 Debt assumption occurs when one unit assumes responsibility for another unit's outstanding liability to a creditor. It involves three parties—the creditor, the original debtor, and a new debtor who assumes the debt obligation. The recording depends on the assumptions under which the debt-assuming party acquires or does not acquire a claim on the original debtor. In all cases, the debt-assuming party records the creation of a new liability to the creditor (financial account entry).[72]

5.243 Different is the case of debt repudiation. Debt repudiation refers to a unilateral cancellation of a financial claim by a debtor and is therefore not recognized in macroeconomic statistics.

[72] For a fuller discussion of the recording of debt assumption, see *BPM6*, paragraph 8.45, and *Public Sector Debt Statistics: Guide for Compilers and Users* (2013), paragraphs 4.56–4.57.

ANNEX

5.1 Estimation of Transactions and Valuation Changes from Exchange Rate Movements

5.244 Equations for estimating transactions (T) and valuation changes (VC) are presented for two cases: a category of foreign-currency-denominated deposits that has no other changes in the volume of assets (OCVA) entry for the period, and a category of foreign-currency-denominated loans that has an OCVA entry arising from a provision for loan losses. The derivation of the estimation equations and numerical examples of the calculations for T and VC in each case are presented in the next sections of this annex.

5.245 Suppose that T and VC are to be estimated for a single category of deposits of an other depository corporation (ODC)—namely, those denominated in a single foreign currency and constituting liabilities to NFCs. In the methodology of this *Manual*, each transaction should be valued at the exchange rate that applied to the transaction—that is, the exchange rate that prevailed at the time of the transaction. If data on the amount and timing of the transactions are unknown, it is necessary to choose a single exchange rate as representative of all transactions, even though the transactions actually occurred at various exchange rates during the reporting period.

5.246 The recommendation in this *Manual* is that *the daily average exchange rate (the midpoint between the buying and selling rate) for the period—denoted as e_m—should be used to represent the single exchange rate for all transactions during the period.*[73] e_m is viewed as the most representative exchange rate for a category of financial assets or liabilities for which transactions are conducted on a day-to-day basis throughout the reporting period.

Estimation in the Absence of OCVA

5.247 T and VC for the deposit category can be estimated by using the data on exchange rates, the *opening stock denominated in foreign currency (S_0)*, and the *closing stock denominated in foreign currency (S_1)*. *Foreign-currency-denominated transactions* constitute the total flow in foreign currency units at nominal value—that is, the difference between S_1 and S_0, or $S_1 - S_0$. Transactions expressed in domestic currency units are estimated by applying the daily average exchange rate (e_m) to the *foreign-currency-denominated flow* for the period:

$$T = e_m(S_1 - S_0). \tag{5.4}$$

5.248 The VC expressed in domestic currency units can be calculated from the exchange rates (e_0 and e_1) and opening and closing stocks in foreign currency units:

$$\begin{aligned} VC &= e_1S_1 - e_0S_0 - e_m(S_1 - S_0) \\ &= (e_1 - e_m)S_1 - (e_0 - e_m)S_0. \end{aligned} \tag{5.5}$$

5.249 Equivalently, estimates for T and VC can be calculated from the data for stocks translated into domestic currency units: $OS = e_0S_0$ and $CS = e_1S_1$. Substituting for S_0 and S_1 in equations (5.4) and (5.5), the T and VC estimates are:

$$T = (e_m/e_1)CS - (e_m/e_0)OS \tag{5.6}$$

and

$$VC = [1 - (e_m/e_1)]CS - [1 - (e_m/e_0)]OS. \tag{5.7}$$

[73] The exchange rates refer to the number of units of domestic currency per unit of foreign currency.

5.250 T and VC can be estimated from equations (5.4) and (5.6) and the stock data in foreign currency units, or from equations (5.5) and (5.7) and the stock data in domestic currency units. Alternatively, the VC can be derived—that is, can be obtained—from $VC = CS - OS - T$, where T is the transaction estimate from equation (5.4) or (5.6).

Numerical Example

5.251 Suppose transactions and valuation changes are to be estimated for deposits denominated in a single foreign currency, the euro (€). The exchange rate is expressed as domestic currency units, *N*, per euro. For example, *N*2/€ is an exchange rate of two units of domestic currency per euro.

Opening stock in foreign currency, S_0: €112
Closing stock in foreign currency, S_1: €122

Beginning-of-period exchange rate, e_0: *N*2.10/€
End-of-period exchange rate, e_1: *N*2.20/€

Opening stock in domestic currency, *OS*: *N*235.20 [= (*N*2.10/€)(€112)]
Closing stock in domestic currency, *CS*: *N*268.40 [= (*N*2.20/€)(€122)]

Daily average exchange rate, e_m: *N*2.18/€

OCVA = 0

Transactions estimate

T = (2.18) (€122 – €112)
= *N*21.80 (see equation (5.4))

T = (2.18/2.20) (*N*268.40) – (2.18/2.10) (*N*235.20)
= *N*21.80 (see equation (5.6))

Valuation-change estimate

VC = (2.20 – 2.18) (€122) – (2.10 – 2.18) (€112)
= *N*11.40 (see equation (5.5))

VC = [1– (2.18/2.20)](*N*268.40)
– [1 – (2.18/2.10)](*N*235.20)
= *N*11.40 (see equation (5.7))

VC = *N*268.40 – *N*235.20 – *N*21.80
= *N*11.40 (derived)

Estimation in the Presence of OCVA

5.252 T and VC for the loan category for which an OCVA entry for a provision for loan losses is applicable can also be estimated from the stock data denominated in foreign currency (S_0 and S_1) or, equivalently, from the stock data translated into domestic currency units (*OS* and *CS*). Each equation includes OCVA denominated in foreign currency. The equations for estimating T and VC from the data for the foreign-currency-denominated stocks are:

$$T = e_m(S_1 - S_0 - OCVA), \tag{5.8}$$

and

$$\begin{aligned} VC &= e_1S_1 - e_0S_0 - e_1OCVA - e_m(S_1 - S_0 - OCVA) \\ &= (e_1 - e_m)S_1 - (e_0 - e_m)S_0 - (e_1 - e_m)OCVA. \end{aligned} \tag{5.9}$$

5.253 The equations for estimating T and VC from the stock data converted into domestic currency units are:

$$\begin{aligned} T &= (e_m/e_1)e_1S_1 - (e_m/e_0)e_0S_0 - e_mOCVA \\ &= (e_m/e_1)CS - (e_m/e_0)OS - e_mOCVA, \end{aligned} \tag{5.10}$$

and

$$\begin{aligned} VC &= (1 - e_m/e_1)e_1S_1 - (1 - e_m/e_0)e_0S_0 \\ &\quad - (e_1 - e_m)OCVA \\ &= [1 - (e_m/e_1)]CS - [1 - (e_m/e_0)]OS \\ &\quad - (e_1 - e_m)OCVA. \end{aligned} \tag{5.11}$$

5.254 Alternatively, the valuation change can be derived residually from the horizontal adding-up requirement—that is, from $VC = CS - OS - OCVA - T$, where T is the transaction estimate from equation (5.8) or (5.10).

5.255 The estimation method can be applied to foreign currency holdings and any category of foreign-currency-denominated assets or liabilities that are recorded at nominal value when expressed in foreign currency units—principally, foreign-currency-denominated deposits and loans.[74] Extensive data disaggregation is required for FCs that have several categories of assets and liabilities that are denominated in various foreign currencies. Separate estimation is applied to the data for each foreign currency of denomination and each economic sector that is an issuer or holder of the foreign-currency-denominated assets or liabilities in each financial asset/liability category.

[74]Quantitatively less-significant categories include foreign-currency-denominated prepayments of insurance premiums and trade credit and advances, which usually would arise from transactions with nonresident corporations.

5.256 The accuracy of the *T* and *VC* estimates depends on the extent to which the daily average exchange rate, e_m, is representative of the actual exchange rates applied to the individual transactions. In general, the estimates are likely to be more reliable when deposit or loan activity is characterized by a large number of transactions that are relatively uniform in amount and are spread across the reporting period. The estimates are likely to be less reliable when the exchange rate has been subject to considerable fluctuation, or the exchange rate has depreciated or appreciated sharply during the period.

5.257 The accounting system may specify that accrued interest is to be posted to loan and/or deposit accounts on a daily basis, thereby spreading the accrued-interest transactions across the reporting period. Daily posting of the accrued interest is compatible with the use of the daily average exchange rate (e_m) in estimating *T* and *VC*, because the accrued-interest transactions are spread evenly across the period. At the other extreme, the accounting system may specify that all accrued interest is to be posted at the end of the period. The end-of-period exchange rate (e_1) is the exchange rate that is applicable to the end-of period postings of accrued interest, possibly suggesting that e_1 should be used in place of e_m in estimating *T* and *VC*. The recommendation in this *Manual* is to use the daily average exchange rate in the estimation and implicitly treat the accrued interest as if it had been posted on a daily basis throughout the period.

5.258 In principle, an exchange rate quotation for a single day or the average exchange rate for a specific week could be used in the estimation, if it were known that most of the transaction volume had occurred in a single day or week during the reporting period. Use of the average exchange rate (e_m) is recommended to standardize the estimation method across asset and liability categories, reporting periods, and FCs. Availability of data on the timing and amount of transactions would indicate that a FC probably has the capacity for developing the direct collection of transactions data, eliminating the need to estimate both *T* and *VC*.

Numerical Example

5.259 T and VC are to be estimated for euro-denominated loans for which an OCVA—for example a loan write-off—has been posted for the period:

Opening stock in foreign currency, S_0: €152
Closing stock in foreign currency, S_1: €137

Beginning-of-period exchange rate, e_0: *N*2.10/€
End-of-period exchange rate, e_1: *N*2.20/€

Daily average exchange rate, e_m: *N*2.18/€

Opening stock in domestic currency, *OS*: *N*319.20 [= (*N*2.10/€)(€152)]
Closing stock in domestic currency, *CS*: *N*301.40 [= (*N*2.20/€)(€137)]

OCVA = –€13

Transactions estimate

T = (2.18) (€137 – €152 + €13)
= – *N*4.36 (see equation (5.8))

T = (2.18/2.20) (*N*301.40) – (2.18/2.10) (*N*319.20)
– (2.18) (–€13)
= – *N*4.36 (see equation (5.10))

Valuation-change estimate

VC = (2.20 – 2.18) (€137) – (2.10 – 2.18) (€152)
– (2.20 – 2.18) (–€13)
= *N*15.16 (see equation (5.9))

VC = [1 – (2.18/2.20)] (*N*301.40)
– [1 – (2.18/2.10)] (319.20)
– (2.20 – 2.18) (–€13)
= *N*15.16 (see equation (5.11))

VC = *N*301.4 – *N*319.2 – (–*N*4.36)
– (2.20) (–€13) = *N*15.16

ANNEX

5.2 Valuation, Recording, and Numerical Examples for Specific Types of Debt Securities

Valuation and Recording of Specific Types of Debt Securities

5.260 Market valuation is the key principle adopted by international statistical standards for valuing transactions and stocks in debt securities. At any specific point in time, the market value of a debt security may deviate from its nominal value due to revaluations arising from market price changes. Movements in market prices arise from general market conditions, mainly due to changes in the market interest rates. Beyond that, market prices also reflect specific circumstances, such as changes in the perceived creditworthiness of the issuer, the demand for a particular debt security, or changes in general market liquidity.

Fair Values for Infrequently Traded Debt Securities

5.261 Fair value methods need to be applied to the valuation of those securities that are traded infrequently, or are traded only in over-the-counter (OTC) markets for which market price quotations are not available on a regular basis. An exception to the fair value method may be applicable to securities for which price quotations are available earlier in the reporting period, but not for the end of the period. It is recommended that the earlier price quotation should be applied for end-of-period security valuation, only if the market prices of securities of comparable maturity and credit risk—traded in active markets—have been relatively stable in the intervening period.

5.262 Calculation of the present value requires data on future cash flows and an appropriate discount rate (see Box 5.1). Cash flow data are readily available for zero-coupon and fixed-coupon securities, given that the amount and timing of coupon payments (for fixed-coupon securities) and the redemption amounts are known. Data on market interest rates (yields) for securities in various classes of credit risk are available to be used as the discount rates in the denominators of the present value formulations. The challenging task is to select an interest rate (yield) that is the most appropriate representation of the discount rate to be applied to the specific securities that are to be valued. Numerical examples are presented later in this annex for different types of fixed-coupon securities.

Perpetuities

5.263 Some bonds or similar instruments are securities that have no stated maturities, but offer a fixed-coupon payment for each year (or at some other periodic interval) to perpetuity. They are called *perpetuities*. The present value (PV) of a perpetuity is equal to the cash flow from the coupon payment (C) divided by the discount rate (r)—that is, $PV = C/r$. The recommended discount rate is the effective yield on a conventional bond with a long remaining term and credit risk similar to the perpetuity. Some perpetual securities include call or convertibility options, but unless the issuer is likely to exercise these options in the foreseeable future the calculation of present value is the same as if the options did not exist.

Variable-rate Bonds

5.264 Variable-coupon bonds and similar securities are one of several types of securities for which future cash flows are uncertain.[75] Features of variable-rate bonds include:

[75]These medium- or long-term instruments are given various names—for example, variable-rate or adjustable-rate securities, variable-coupon bonds, floating-rate notes, and capital notes. In

a. Reference rate. A market interest rate—for example, the London interbank offered rate (LIBOR)—to which the interest rate for the securities is linked.

b. Variable-rate specification. The relationship between the bond rate and the reference rate—for example, LIBOR *plus* 200 basis points.[76]

c. Reset period. The frequency (for example, quarterly, semiannually, or annually) and exact dates for the periodic revisions in the variable rate. The bond rate is subject to revision at the beginning of each reset period but, after the reset, remains unchanged for the duration of the reset period.

d. Interest/principal indexation. Linkage of the amount of future cash flows—interest payments and/or principal repayments on the securities—to a market price variable such as a general price index (e.g., consumer price index), a specific price index, (e.g., the price of a commodity), or some other market price variable.

5.265 The recommendation in this *Manual* is that when a market price is not available and future cash flows are uncertain, the fair values for securities should be based on the discounted values of expected cash flows. In a low-inflation environment the variation in the interest rate often has a relatively minor effect on the fair value of a variable-rate security for which the credit risk has not changed.

5.266 When estimating interest payments for variable-rate securities, any *cap*, *floor,* or *collar* imposed on variation in the interest rate (or total interest payments) for the securities should be taken into account. A *cap* imposes an upper limit; a *floor* sets a lower limit; and a *collar* specifies upper and lower bounds on the floating-rate payments.

5.267 Some securities have interest rates that are linked to both a reference rate and the credit rating of the issuer. Credit-rated securities are often traded in active markets and, if so, can be valued on the basis of market price quotations. Any deterioration in the securities issuer's credit rating would lead to an increase in the issuer's payments during the life of the securities or at maturity.

Securities with Embedded Derivatives (Not Closely Related to the Host Securities)

5.268 Embedded derivatives take a multitude of forms. Among the most prevalent types are:

a. Call option. The right of early redemption of the securities at the option of the issuer.

b. Put option. The right of early redemption of the securities at the option of the holder.

c. Conversion option. The right to exchange the debt securities for a specified number of equity shares of the corporation that issued the securities. Conversion may be at the option of the holder or, less often, at the option of the issuer.[77]

5.269 It is recommended that the total value of the securities, inclusive of the values of the embedded derivatives, should be recorded as a single instrument within debt securities, regardless of the national financial reporting standards for valuation and asset classification. Further, the host security and the embedded derivative should be valued in accordance with the national financial reporting standards, even if the accounting standards specify that the underlying security component and the embedded derivative are to be valued and recorded separately. Taken together, these recommendations preserve the classification of an embedded derivative as inseparable from the host instrument and provide flexibility for the valuation.

5.270 A major advantage of the composite valuation approach—that is, a method for estimating the total values of securities (that is, inclusive of the embedded derivatives components)—is its compatibility with the method for estimation of accrued interest on securities with embedded derivatives, as recommended later in this section.

---

the International Financial Reporting Standards (IFRS) 9.B4.3.8 (corresponding to IAS39.AG33), the variable-rate feature is designated as an embedded derivative that is *closely related* to the economic characteristics and risks of the host instrument, which means that the variable interest rate does not need to be accounted for as a separate derivative.

[76] An add-on risk premium is typical, but multiplicative specifications—for example, LIBOR *times* 1.05—have been used. A special category is *reverse floating-rate bonds* for which the bond coupon rate is inversely related to the reference rate—for example, 1,000 basis points *minus* LIBOR.

[77] Conversion to equity shares at the option of the security holder is often combined with a security call option that can be exercised by the security issuer. If the issuer exercises the call option, the security holder is entitled to convert the security to equity within a specified period (for example, a month), This mechanism—called *forced* conversion—is the most common type of convertibility available to issuers.

5.271 Estimation of fair value for securities with indexed interest and/or principal. The same principles as described for indexed financial instruments in this chapter apply (see paragraphs 5.53–5.59 for general principles). Both the creditor and debtor must estimate the future cash flows, as determined by the indexation, and must select an appropriate discount rate. Numerical examples on index-linked securities and foreign currency indexed securities are provided later in this annex. Securities with coupon and principal that are indexed to a foreign currency are treated as though they are denominated in that foreign currency.

Nonparticipating Preferred Stocks

5.272 This subsection discusses the valuation of nonparticipating preferred stocks or shares that pay a fixed income but do not provide for participation in the distribution of the residual value of an incorporated enterprise on dissolution, and so are classified as debt securities.

5.273 Fair values for preferred shares are estimated by the preceding methods for debt corporate bonds, taking into account that preferred stock may have some cash flow characteristics that are not associated with bonds. Preferred stock offers fixed (or sometimes variable) dividends that are similar to bond coupon payments, with one major exception. Whereas the schedule for bond coupon payments is predetermined, the timing of dividend payments on preferred shares may be at the discretion of the issuer, subject to the requirements that skipped dividend payments are cumulative and that all accumulated dividends on preferred shares must be paid before the corporation is entitled to declare a dividend on common shares. Preferred shares are classified as debt securities unless preferred shares convey a right to residual value upon liquidation of the issuing firm.[78] Some preferred shares do not have a final repayment date; others have a retirement date, or option for repurchase (that is, call) at a specified share price, or an option for conversion into a specified number of common shares.

5.274 To estimate the fair value of not-actively traded preferred shares, assumptions are needed concerning whether dividends will be paid as scheduled or will accumulate and, where applicable, if and when the preferred shares are likely to be called or converted into common shares. The recommendation is to assume that dividends will be paid on schedule unless skipped dividends are already present and appear likely to persist, or objective information—for example, expectation of weak or negative earnings performance of the preferred-share-issuer corporation—indicates that preferred stock dividends are likely to be skipped. If dividends have accumulated (or are likely to accumulate), the amount and timing of the expected cash flows from the eventual payment of the dividends need to be predicted. The recommendation for the discount rate to be applied to the expected cash flows is the effective yield on actively traded preferred shares that are deemed to have the same credit risk and about the same expected maturity as the preferred shares to be valued. If necessary, however, the discount rate can be specified as the effective yield on actively traded corporate bonds that are of comparable credit risk[79] and have a maturity that approximates the expected term to maturity, call, or conversion of the preferred shares.

5.275 Preferred stock that has no stated maturity and no embedded call or convertibility options is similar to a bond that is a perpetuity. The fair value of the preferred stock is calculated using the same formula as for perpetuities, where the coupon payment is replaced by the stream of cash flows from the dividends. The recommended discount rate is the effective yield on similar but actively traded preferred shares or, if necessary, on actively traded long-term bonds.

Mortgage Pass-through Securities

5.276 Forecasting the future cash flows from pools of mortgage pass-through securities is relatively complex because of the inherent uncertainty about the future prepayment of mortgage loans in a pool.[80] FCs that securitize mortgage loan pools and issue pass-through securities use sophisticated models for the

[78] This approach is consistent with IAS 32.18(a) which states that "a preference share [that is, preferred share] that provides for mandatory redemption by the issuer for a fixed or determinable amount at a fixed or determinable future date, or gives the holder the right to require the issuer to redeem the instrument at or after a particular date for a fixed or determinable amount, is a financial liability [rather than equity]."

[79] The discount rate can be specified as the effective yield on the corporate bonds without adjusting for differential credit risk, even though preferred shareholders' claims are usually subordinated to those of bondholders.

[80] Mortgage-backed securities and related instruments—in particular, mortgage pass-throughs, collateralized mortgage obligations (CMOs), and mortgage pass-through "strips"—are described in Chapter 4.

initial pricing and ongoing valuation of these securities, taking into account the expected prepayments. The best-known models include:[81]

a. *PSA model.* An empirical prepayment model developed by the Public Securities Association (PSA)—a trade organization of brokers, dealers, and underwriters[82] —to estimate the average rates of monthly prepayment for specific types of mortgage loan pools using current and past data.

b. *Proprietary PSA-type models*. FCs that issue, trade, or deal in pass-through mortgage securities have developed their own in-house models for estimating prepayments.

c. *Options-pricing models*. Based on options-pricing theory, these models treat the prepayments as equivalent to the exercise of a call option—an option written by the holders of the pass-through securities and owned by the debtors. The estimated yield on the mortgage pass-through securities is the sum of the yield on securities that are otherwise similar, but not subject to prepayments, *plus* the estimated yield on the "call option" that was "written" (that is, provided) by the pass-through securities holders.

5.277 The FCs that originate and sell the pass-through securities are responsible for providing a monthly statement that shows the current value of the investor's holdings of pass-through securities and the related cash flows—the interest payments and principal repayments (including prepayments) for the reporting period.

Stripped Securities

5.278 An FC sometimes purchases bonds or similar instruments, *strips* the coupon payments, and sells the future cash flows to separate investors—that is, the claim on the principal is sold to one set of investors, and the claim on the coupon payments is sold to other investors. Market price quotations for the strips may be available, or the strips may need to be valued using the present value method.

[81] These models are described in Saunders and Million (2003), Chapter 28, Securitization.

[82] The PSA was later renamed as the Bond Market Association (BMA), which was the international trade association for the bond market industry. On November 1, 2006, the BMA merged with the Securities Industry Association to form the Securities Industry and Financial Markets Association (SIFMA).

Numerical Examples of Valuation and Recording of Different Types of Securities

5.279 As an approximation to their market value, the examples in this section use the fair value of these securities, calculated as the sum of the present values of all future cash flows, discounted at the market interest rate as shown in the first equation in Box 5.1. All calculations are done following the debtor approach. For these examples, the prevailing market interest rate is used to discount all future cash flows. Semi-annual accrued interest is calculated on a compound basis.

5.280 Four types of securities are presented: (1) a fixed-interest-rate bond issued at par; (2) a fixed-interest-rate bond issued at a discount; (3) a fixed-interest-rate bond with principal linked to the consumer price index; and (4) a fixed-interest-rate bond with principal linked to a foreign currency. All four types of securities are issued in domestic currency, have an original maturity of three years, pay a coupon at the end of each year, and the principal is fully paid in one installment at maturity. Table 5A.1 presents the conditions under which the securities are issued.

5.281 Table 5A.2 presents the market developments observed at issuance of the securities and at the end of each semester.

5.282 The following subsections present, for each type of security, the calculations of fair value and corresponding revaluations for each semester during the life of the bonds. These subsections also present the recording of flows at the end of each semester split into transactions, revaluations, and OCVA, whereby the latter are assumed to be zero.

Fixed-Interest-Rate Bond Issued at Par

5.283 Because the bond pays a coupon (10 percent) equivalent to the market interest rate, its face, nominal, and market value at issuance are all equal to 1,000. Interest accrues on the bond throughout the year and is recorded as being reinvested in the bond, increasing its nominal value from 1,000 to 1,100 at the end of the year, before the coupon is paid to the bondholder. The coupon payment of 100 by the debtor at the end of the year is treated as (partial) redemption of the bond, reducing its nominal value from 1,100 to 1,000.

5.284 To illustrate the relationship between market and nominal value, Table 5A.3 presents the

Table 5A.1 Parameters of Issuance

	Par bond	Discount bond	CPI linked bond	Foreign currency- linked bond
Face value (in domestic currency)	1,000	1,000	1,000	1,000
Issue price (in domestic currency)	1,000	900	1,000	1,000
Coupon, %	10.00	5.98	5.00	10.00
Indexation	No	No	Principal to CPI	Principal to US$

Note: CPI = consumer price index.

Table 5A.2 Market Developments

	End-Year 0	Mid-Year 1	End-Year 1	Mid-Year 2	End-Year 2	Mid-Year 3	End-Year 3
Market interest rate, %	10.0	10.0	7.0	9.0	11.0	12.0	12.0
CPI - Base end t_0 = 100	100.0	103.0	104.5	107.4	111.3	113.4	117.0
Exchange rate (domestic currency × US$)	10.00	9.00	8.50	9.50	10.00	10.50	11.00

Note: CPI = consumer price Index.

Table 5A.3 Fixed-Interest-Rate Bond Issued at Par: Stocks and Flows

	End-Year 0	Mid-Year 1	End-Year 1	Mid-Year 2	End-Year 2	Mid-Year 3	End-Year 3
Nominal Value							
Before coupon payment	1,000.0	1,048.8	1,100.0	1,048.8	1,100.0	1,048.8	1,100.0
After coupon payment		1,048.8	1,000.0	1,048.8	1,000.0	1,048.8	1,000.0
Accrued interest		48.8	51.2	48.8	51.2	48.8	51.2
Coupon payments			–100.0		–100.0		–100.0
Market Value (dirty price)	1,000.0	1,048.8	1,154.2	1,062.4	1,091.0	1,039.4	1,100.0
Market Value (clean price)	1,000.0	1,000.0	1,054.5	1,013.6	991.0	990.6	1,000.0
Revaluations arising from market price changes (semi-annual changes)		0.0	54.2	–40.7	–22.6	–0.4	9.4
Revaluations arising from market price changes (accumulated)		0.0	54.2	13.6	–9.0	–9.4	0.0

semi-annual stocks and flows during the life of the bond.

5.285 Because there is no change in the market interest rate during the first semester, the only change in the market price of the bond is the accruing of interest due to the coupon. Therefore, the dirty price of the bond corresponds to its nominal value (face value of 1,000 plus accrued and not paid interest of 48.8) and its clean price equals its face value. With changes in the market interest rate in the following periods, the market price of the bond reflects not only the accrued coupon, but also valuation changes due to changes in the discounted cash flow.

5.286 For example, with a market interest rate of nine percent at the end of the first semester of year 2, the

discounted cash flow of the bond is 1,062.4, which includes accrued interest for 48.8 and a revaluation change of 13.6. At the end of the life of the bond, its market value equals its nominal value, irrespective of the prevailing market interest rate.

Recording entries

5.287 The following entries will be recorded for monetary statistics in the accounts of an FC that holds such par bond.

At inception/purchase	OS	T	VC	OCVA	CS
Assets					
Debt securities	0.0	1,000.0			1,000.0
Deposits		–1,000.0			

First semester year 1	OS	T	VC	OCVA	CS
Assets					
Debt securities	1,000.0	48.8	0.0		1,048.8
Equity Liability [MS]					
Interest income		48.8			
Valuation adjustments[1]		0.0	0.0		

Second semester year 1	OS	T	VC	OCVA	CS
Assets					
Debt securities	1,048.8	–48.8	54.2		1,054.2
Deposits		100.0			
Equity Liability [MS]					
Interest income		51.2			
Valuation adjustments			54.2		

Second semester year 3 (before Redemption)	OS	T	VC	OCVA	CS
Assets					
Debt securities	1,039.4	–48.8	9.4		1,000.0
Deposits		100.0			
Equity Liability					
Interest income		51.2			
Valuation adjustments			9.4		

Flows for the three-year period after the purchase of debt securities	OS	T	VC	OCVA	CS
Assets					
Debt securities	1,000.0	0.0			1,000.0
Deposits		300.0			
Equity Liability [MS]					
Interest income		300.0			
Valuation adjustments[2]			0.0		

Redemption	OS	T	VC	OCVA	CS
Debt securities	1,000.0	–1,000.0			Account closed
Deposits		1,000.0			

[1] The contra-entry will be recorded either in *Valuation adjustment* if the security is held to maturity, or in *Current year result* (transferred to *retained earnings*) if it is designated for trade; in accordance with national practices. In the national accounts, the contra-entry is recorded as a change in net worth.

[2] Valuation adjustments, recorded throughout the life of the bond, cancel each other when the debt security is held to maturity, as is the case in these examples.

Note: OS = opening stock; T = transactions; VC = valuation changes; OCVA = other changes in the volume of assets; CS = closing stock.

Fixed-Interest-Rate Bond Issued at Discount

5.288 The second example is also a bond with the same characteristics as the previous one, but which pays an annual coupon of only 5.98 percent per year. With a market interest rate at inception of 10 percent, the fair value of this bond can be calculated as follows:

$$\text{Fair value}_0 = \frac{59.8}{(1+0.1)} + \frac{59.8}{(1+0.1)^2} + \frac{1{,}059.8}{(1+0.1)^3} = 900$$

5.289 Under normal circumstances, the nominal and the market value of the bond are equal at inception. Therefore, this bond is issued below par, at 900, with the discount of 100 accruing throughout its life and being paid at maturity when the principal of 1,000 is cancelled. Both the coupon payments and the difference between the issue price and the redemption price determine the rate at which interest accrues.

5.290 Table 5A.4 presents the semi-annual stocks and flows during the life of this discount bond.

5.291 The bond accrues interest of 10 percent per year on its nominal value, which is the yield that the original buyer will receive for the investment, and it is equal to the market interest rate at the time of issuance. At the end of the first year, 90 of interest were accrued on the issuing nominal value of 900. Part of it (59.8) was paid as coupon, and the difference (30.2) was added to the nominal value, increasing it

Table 5A.4 Fixed-Interest-Rate Bond Issued at Discount: Stocks and Flows

	End-Year 0	Mid-Year 1	End-Year 1	Mid-Year 2	End-Year 2	Mid-Year 3	End-Year 3
Nominal Value							
Before coupon payment	900.0	943.9	990.0	975.6	1,023.2	1,010.5	1,059.8
After coupon payment	900.0	943.9	930.2	975.6	963.4	1,010.5	1,000.0
Accrued interest (coupon)		29.5	30.3	29.5	30.3	29.5	30.3
Accrued interest (discount)		14.5	15.7	15.9	17.3	17.6	19.0
Coupon payments		0.0	–59.8	0.0	–59.8	0.0	–59.8
Market Value (dirty price)	900.0	943.9	1,041.3	988.5	1,014.6	1,001.4	1,059.8
Market Value (clean price)	900.0	900.0	951.3	912.9	891.3	890.9	900.0
Revaluations arising from market price changes (semi-annual changes)		0.0	51.3	–38.4	–21.6	–0.4	9.1
Revaluations arising from market price changes (accumulated)		0.0	51.3	12.9	–8.7	–9.1	0.0

to 930.2. During the second year, interest accrues for 93.0, out of which 59.8 are paid as coupon and 33.2 are added to the nominal value of the discount bond.

5.292 As in the case of the previous example, changes in the market interest rate will inversely affect the market value of the bond. The increase in the market interest rate to 12 percent at the end of the first semester of year 3 reflects in a drop in the market value of the bond to 1,001.4. This market value corresponds to the dirty price of the bond, because it includes accrued and not paid interest on the annual coupon of 29.5 and also the accrued discount of 81.0 during the first five semesters of the life of the bond. The clean price (without accrued interest) of the bond is 890.9, which reflects an accumulated revaluation loss of 9.1, compared with the original issue price of 900.

Recording entries

5.293 The following entries will be recorded for monetary statistics in the accounts of an FC that holds such discount bond.

At inception/purchase	OS	T	VC	OCVA	CS
Assets					
Debt securities	0.0	900.0			900.0
Deposits		–900.0			

Second semester Year 1	OS	T	VC	OCVA	CS
Assets					
Debt securities	943.9	–13.7	51.3		981.5
Deposits		59.8			
Equity Liability [MS]					
Interest income		46.0			
Valuation adjustments			51.3		

First semester Year 3	OS	T	VC	OCVA	CS
Assets					
Debt securities	954.8	47.0	-0.4		1,001.4
Equity Liability [MS]					
Interest income		47.0			
Valuation adjustments			-0.4		

Second semester Year 3 (before redemption)	OS	T	VC	OCVA	CS
Assets					
Debt securities	1,001.4	–10.5	9.1		1,000.0
Deposits		59.8			
Equity Liability [MS]					
Interest income		49.3			
Valuation adjustments			9.1		

Flows for the three-year period after the purchase of debt securities	OS	T	VC	OCVA	CS
Assets					
Debt securities	900.0	0.0			1,000.0
Deposits		179.4			
Equity Liability [MS]					
Interest income		279.4			
Valuation adjustments			0		
Redemption	**OS**	**T**	**VC**	**OCVA**	**CS**
Debt securities	1,000.0	–1,000.0			Account closed
Deposits		1,000.0			

Note: OS = opening stock; T = transactions; VC = valuation changes; OCVA = other changes in the volume of assets; CS = closing stock.

Fixed-Interest Bond Linked to a General Index

5.294 The third example refers to a three-year bond that pays annual coupons of 5 percent, but with the principal indexed to the consumer price index (CPI). For the calculation of the fair value of this bond, it is assumed that the inflation observed during the past 12 months will prevail in the future. Considering that the inflation of the past year was 5.24 percent, the fair value of this bond at inception can be calculated as:

$$\text{Fair value}_0 = \frac{50.0}{(1+0.1)} + \frac{50.0}{(1+0.1)^2} + \frac{1{,}000^{*}(1+0.0524)^3 + 50.0}{(1+0.1)^3} = 1{,}000$$

5.295 Based on its fair value at inception, the bond will be issued at par, with an expected redemption value of 1,165.6, which includes the face value (1,000) and the expected revaluation due to increases in the CPI (165.6). Because the bond is linked to a general price index, the revaluation is recorded as a transaction due to accrued interest.

5.296 The nominal value of the security for the next periods will include—besides its face value—the accrued and not-yet-paid coupon, plus the actual inflation during the past periods. Furthermore, the computation of the fair value for the periods following issuance will need to recalculate the expected redemption price based on the evolution of the CPI during the past 12 months. Because the bond is linked to a narrow index, revaluations of principal will be recorded as accruing of interest (i.e., as transactions).

5.297 Table 5A.5 presents the semi-annual stocks and flows during the life of this CPI-linked bond.

5.298 During the first year, the CPI increased 4.5 percent, bringing the nominal value of the bond, after coupon payment, to 1,045.0. Because of the drop in the inflation rate, compared with its value at inception, the expected redemption price fell from 1,165.6 to 1,141.2. The market interest rate, however, dropped from 10 percent to seven percent.

5.299 Using the fair value formula and taking into account the change in market interest rate, as well as the change in the expected redemption price because of inflation, the fair value of the security at the end of the first year, after the coupon has been paid, is 1,087.1. This is the dirty price of the bond, which includes accrued interest for 45.0 due to the indexation of principal. The clean price is 1,042.1, a valuation change of 42.1 compared with the issue price.

Table 5A.5 Fixed-Interest Bond Linked to the CPI: Stocks and Flows

	End-Year 0	Mid-Year 1	End-Year 1	Mid-Year 2	End-Year 2	Mid-Year 3	End-Year 3
Nominal Value							
Before coupon payment	1,000.0	1,054.7	1,095.0	1,098.2	1,163.0	1,158.2	1,220.0
After coupon payment	1,000.0	1,054.7	1,045.0	1,098.2	1,113.0	1,158.2	1,170.0
Accrued interest (coupon)		24.7	25.3	24.7	25.3	24.7	25.3
Accrued interest (indexation)		30.0	15.0	28.5	39.5	20.5	36.5
Coupon payments		0.0	–50.0	0.0	–50.0	0.0	–50.0
Market Value (dirty price)	1,000.0	1,071.2	1,137.1	1,095.5	1,162.9	1,147.8	1,220.0
Market Value (clean price)	1,000.0	1,016.6	1,042.1	997.3	1,000.0	989.6	1,000.0
Revaluations arising from market price changes (semi-annual changes)		16.6	25.5	–44.8	2.7	–10.4	10.4
Revaluations arising from market price changes (accumulated)		16.6	42.1	–2.7	0.0	–10.4	0.0

Recording entries

5.300 The following entries will be recorded for monetary statistics in the accounts of an FC that holds this CPI-linked bond.

Fixed-Interest-Bond Linked to a Foreign Currency

5.301 The last example is a bond with a fixed coupon of 10 percent per year paid on its face value in domestic

At inception/purchase	OS	T	VC	OCVA	CS
Assets					
Debt securities	0	1,000.0			1,000.0
Deposits		–1,000.0			

Second semester Year 1	OS	T	VC	OCVA	CS
Assets					
Debt securities	1,071.2	–9.7	25.6		1,087.1
Deposits		50.0			
Equity Liability [MS]					
Interest income		40.3			
Valuation adjustments			25.6		

First semester Year 3	OS	T	VC	OCVA	CS
Assets					
Debt securities	1,113.0	45.2	–10.4		1,147.8
Equity Liability [MS]					
Interest income		45.2			
Valuation adjustments			–10.4		

Second semester Year 3 (before redemption)	OS	T	VC	OCVA	CS
Assets					
Debt securities	1,147.8	11.8	10.4		1,170.0
Deposits		50.0			
Equity Liability [MS]					
Interest income		61.8			
Valuation adjustments			10.4		

Flows for the three-year period after the purchase of debt securities	OS	T	VC	OCVA	CS
Assets					
Debt securities	1,000.0	170.0	0		1,170
Deposits		150.0			
Equity Liability [MS]					
Interest income		320.0			
Valuation adjustments			0		
Redemption	**OS**	**T**	**VC**	**OCVA**	**CS**
Debt securities	1,170.0	–1,170.0			Account closed
Deposits		1,170.0			

Note: OS = opening stock; T = transactions; VC = valuation changes; OCVA = other changes in the volume of assets; CS = closing stock.

currency, but with its principal linked to a foreign currency (US$). It is assumed that the spot exchange rate will prevail in the future. Because of this assumption, the fair value of the foreign currency indexed bond will be the same as the fair value of the first example (i.e., 1,000) and the security will be issued at par.

5.302 In this example, changes in the spot exchange rate will affect the nominal value of the security when its face value is converted into domestic currency using the market exchange rate. They will also affect its market value through the impact that changes in the expected redemption price will have on its fair value.

5.303 Because the bond is linked to a narrow index, changes in valuation due to movements in the exchange rate are recorded as valuation changes and not as transactions (accrued interest) as was the case in the previous example. Only coupon accruals will be recorded as transactions.

5.304 Table 5A.6 presents the semi-annual stocks and flows during the life of this foreign-currency-linked bond, taking into account changes in the market interest rate and the exchange rate.

5.305 At the end of the first semester of the first year, the exchange rate dropped to 9 units of domestic currency per US$, while the market interest rate stayed at 10 percent per year. The nominal value of the bond fell from 1,000 to 948.8, corresponding to an expected redemption price of 900 plus accrued and not paid interest of 48.8 (10 percent of 1,000).

5.306 The fair value of the bond can be calculated as follows:

$$\text{Fair value} = \frac{100.0}{(1+0.1)^{1/2}} + \frac{100.0}{(1+0.1)^{3/2}}$$

$$+ \frac{1{,}000 * (9/10) + 100.0}{(1+0.1)^{5/2}} = 970.0$$

5.307 This market value corresponds to the dirty price, because it includes accrued interest for 48.8. The clean price of the bond would be 921.2, which reflects a drop in its expected redemption value (from

Table 5A.6 Fixed-Interest Bond Linked to a Foreign Currency: Stocks and Flows

	End-Year 0	Mid-Year 1	End-Year 1	Mid-Year 2	End-Year 2	Mid-Year 3	End-Year 3
Nominal Value							
Before coupon payment	1,000.0	948.8	950.0	998.8	1,100.0	1,098.8	1,200.0
After coupon payment		948.8	850.0	998.8	1,000.0	1,098.8	1,100.0
Accrued interest (coupon)		48.8	51.2	48.8	51.2	48.8	51.2
Coupon payments		0.0	–100.0	0.0	–100.0	0.0	–100.0
Market Value (dirty price)	1,000.0	970.0	1,023.2	1,018.5	1,091.0	1,086.6	1,200.0
Market Value (clean price)	1,000.0	921.2	923.2	969.7	991.0	1,037.8	1,100.0
Accumulated revaluations		–78.8	76.8	–30.3	–9.0	37.8	100.0
Holding gains and losses		–100.0	–150.0	–50.0	0.0	50.0	100.0
Other market price changes (incl. disc. holding gains/losses)		21.2	73.2	19.7	–9.0	–12.2	0.0
Revaluation (semi-annual change)		–78.8	2.0	46.4	21.3	46.8	62.2

1,000 to 900) partly compensated by the discount rate (the loss will be realized only after five semesters). The revaluation loss for the semester amounts to –78.8.

5.308 The same approach can be used to calculate nominal value, clean and dirty market prices, and revaluations for other periods. For example, at the end of the second year the nominal value before coupon payment is 1,100.0, the dirty price of the bond is 1,091.0, its clean price is 991.0, and the revaluations during the semester were 21.3.

Recording entries

5.309 The following entries will be recorded for monetary statistics in the accounts of an FC that holds this foreign-exchange-linked bond. Contrary to the previous three examples, revaluation gains do not necessarily cancel each other if the bond is held to maturity, because any difference in domestic currency between the issue price of 1,000 and the redemption price due to foreign exchange changes will be recorded at maturity.

At inception/purchase	OS	T	VC	OCVA	CS
Assets					
Debt securities	0	1,000.0			1,000.0
Deposits		–1,000.0			

Second semester Year 1	OS	T	VC	OCVA	CS
Assets					
Debt securities	970.0	–48.8	2.0		923.2
Deposits		100.0			
Equity Liability [MS]					
Interest income		51.2			
Valuation adjustments			2.0		

First semester Year 3	OS	T	VC	OCVA	CS
Assets					
Debt securities	991.0	48.8	46.8		1,086.6
Equity Liability [MS]					
Interest income		48.8			
Valuation adjustments			46.8		

Second semester Year 3 (before redemption)	OS	T	VC	OCVA	CS
Assets					
Debt securities	1,086.6	–48.8	62.2		1,100.0
Deposits		100.0			
Equity Liability [MS]					
Interest income		51.2			
Valuation adjustments			62.2		

Flows for the three-year period after the purchase of debt securities	OS	T	VC	OCVA	CS
Assets					
Debt securities	1,000.0	0.0	100.0		1,100
Deposits		300.0			
Equity Liability [MS]					
Interest income		300.0			
Valuation adjustments			100.0		
Redemption	**OS**	**T**	**VC**	**OCVA**	**CS**
Debt securities	1,100.0	–1,100.0			Account closed
Deposits		1,100.0			

Note: OS = opening stock; T = transactions; VC = valuation changes; OCVA = other changes in the volume of assets; CS = closing stock.

ANNEX

5.3 Valuation and Recording of Financial Derivatives with a Numerical Example for Forward Contracts

Forward Contracts

5.310 In a forward contract, the counterparties agree to exchange, on a specified date, a specified quantity of an underlying asset (real or financial) at an agreed-upon contract price (the strike price). Separate, but similar, valuation methods are used depending on whether the underlying assets, during the life of the forward contract, provide: (1) no cash flow, (2) discrete cash flow (for example dividends), or (3) cash flow that is continuously compounded or yield (for example a debt security).

5.311 Notation in the valuation equations for forward contracts[83] includes:

- N: *Time until delivery or cash settlement* of a forward-type contract, or if option, time to expiration of the contract (in years)
- S_0: *Spot price* (that is, current price) of the underlying asset
- F_0: Forward price of the underlying asset
- K: *Delivery price* for the underlying asset
- r: *Risk-free rate of interest* per annum, which represents the continuous-compounded rate of return on a risk-free investment of N-year maturity.

5.312 The relationship between the forward price (F_0), current (spot) price (S_0), and risk-free rate of interest (r) is:

a. Forward price of an asset with no cash flow:

$$F_0 = S_0 e^{rN};$$

b. Forward price of an asset with one or more cash flows:

$$F_0 = (S_0 - CF)\, e^{rN};$$

where CF denotes the *present value* of all cash flows through N; *and*

c. Forward price of an asset with a known yield:

$$F_0 = S_0 e^{(r-q)N};$$

where q denotes *average* yield per annum with continuous compounding.

5.313 The *fair value of a forward contract*—denoted by f—is determined by relating the *forward price* (F_0) to the *delivery price* (K) in the forward contract. The *value of a long-forward contract* (f_L)—that is, a forward purchase of an asset—and the *value of a short-forward contract* (f_S) for the forward sale of an asset are:

$$f_L = (F_0 - K)e^{-rN} \quad \text{and} \quad f_S = (K - F_0)e^{-rN}.$$

5.314 Usually, forward contracts at inception have a zero value, because the forward value of the underlying asset is equal to the delivery price ($F_0 = K$).

5.315 Inserting the equations for the forward prices (F_0), the *fair values of long-forward contracts* in investment assets depend on the income payments (if any) and are:

a. Value of a long-forward contract for an asset with no cash flows:

$$f_L = S_0 - Ke^{-rN};$$

b. Value of a long-forward contract for an asset with one or more cash flows:

$$f_L = S_0 - CF - Ke^{-rN}; \text{ and}$$

[83] The model formulations and most notations are taken from Hull (2015).

c. Value of a long-forward contract for an asset with cash flows continuously compounded:

$$f_L = S_0 e^{-qN} - Ke^{-rN};$$

where q denotes the *average* annual yield.

5.316 The fair values of f are the same in amount, but opposite in sign, for long- and short-forward positions—reflecting that the asset position of one party to the contract is the liability position of the other party.

5.317 For a *forward contract on currencies*, S_0 and F_0 denote the spot exchange rate and forward exchange rate of a foreign currency (both expressed in number of units of currency A per unit of currency B). Because both currencies can be used to purchase risk-free interest-bearing assets denominated in currency A and currency B, yielding rates of return of r_A and r_B, respectively, the relationship between the forward price (F_0) and the spot price (S_0) is:

$$F_0 = S_0 e^{(r_A - r_B)N};$$

which is the well-known *interest rate parity theorem*. This is a specific case of the relationship between F_0 and S_0 for an investment asset with a known yield; $F_0 = S_0 e^{(r-q)N}$, where $r \equiv r_A$ and $q \equiv r_B$. The relationship is often shown with noncompounded rates; for example, for a forward contract for a U.S. dollar purchase of British pounds in one year: $F_0 = S_0[(1 + r_{US})/(1 + r_{UK})]$, where r_{US} and r_{UK} are noncompounded annual rates of return on dollar- and pound-denominated investments.

5.318 The values of a long-forward contract and short-forward contract on currencies are:

$$f_L = S_0 e^{-r_B N} - Ke^{-r_A N} \text{ and } f_S = Ke^{-r_A N} - S_0 e^{-r_A N}.$$

5.319 At origination of a forward contract, the delivery price (K) is set equal to the forward price (F_0) so that f is initially equal to zero for both the long forward (purchase) and short forward (sale) position. Over the life of the forward contract, the *value of the forward contract* (f) changes due to changes in (1) the spot price (S_0), (2) the discount factor (e^{-run}), and (3) the present value of income flows (if any) from the underlying asset. The value of f becomes positive (an asset) for the long- or short-forward position, and negative (a liability) for the other side of the contract. At any time during the life of the contract, the value recorded as an asset of one party should equal the value recorded as a liability by the other party.

5.320 The change in the forward contract value for each reporting period is recorded as *VC*. In the balance-sheet data, the underlying contra-entry in profit or loss is reflected in *Current year result*. For each reporting period, the *CS* shows a financial derivative asset (if $f > 0$) or liability (if $f < 0$) as follows:

a. When the change in the forward contract value does not lead to a switch from an asset position to a liability position or vice versa, the recording is:

$$CS = OS + VC$$

b. When the change in the forward contract value in the recording period leads to a switch from an asset position to a liability position, a valuation change (VC_A) is recorded to close out the asset position, and the remaining valuation change is recorded as a liability-account valuation change (VC_L):

Asset position: $CS_A = OS_A + VC_A = 0$, where $VC_A = -OS_A$.

Liability position: $CS_L = VC_L$, where $VC_L = -(VC - VC_A)$. The minus sign preceding $(VC_2 - VC_A)$ converts a "negative asset" to a "positive liability."

The same accounting rules apply to a switch from a liability to an asset:

Liability position: $CS_L = OS_L + VC_L = 0$, where $VC_L = -OS_L$.

Asset position: $CS_A = VC_A$, where $VC_A = -(VC - VC_L)$.

c. When the contract is settled through a cash payment on the delivery date, which is the usual practice, the settlement amount is equal to the difference between the spot price of the asset (S_0) and the delivery price (K) as specified in the contract. The holder of the long-forward position receives a payoff of $(S_0 - K)$ if the spot price is above the delivery price, or provides a payoff $(K - S_0)$ if K is larger than S_0. The recipient and provider each record a transaction (T) in the amount of the payoff (with a contra-entry for the cash receivable/payable) and a valuation change in the amount of the difference between the payoff and the opening

stock (with a contra-entry in profit or loss). The adding-up requirement for the asset and liability positions of the respective parties are:

$CS = OS + T + VC = 0,$

where $VC = T - OS = (S_0 - K) - OS.$

A Numerical Example of Foreign Currency Forward Contracts

5.321 The two parties to a currency forward contract agree to buy and sell, respectively, foreign currency at a specified price, at a specified quantity, and on a specified future date. The party obligated to sell enters into a short-forward contract and the party obligated to buy enters into a long-forward contract. The value of the foreign currency forward contract is the difference between the discounted present value of the future payment in domestic currency, calculated based on the foreign currency amount and the forward exchange rate, and the discounted present value of the future payment in foreign currency, calculated based on the foreign currency amount and the spot exchange rate.

5.322 The contract is usually structured so that at inception its fair value is zero (0). Suppose Bank A and Bank B enter into a three-months currency forward contract on June 30, whereby Bank A commits to sell and Bank B commits to purchase $10,000 on September 30 at a specified exchange rate, called a forward exchange rate. Usually, the forward exchange rate is set according to the uncovered interest rate parity, which says that the difference in interest rates between the two currencies is equal to the expected change in exchange rates between the two currencies. Say, on June 30 the spot exchange rate (S) is 1.250 units of domestic currency per U.S. dollar, the interest rate for the U.S. dollar is three percent, and the interest rate for domestic currency is five percent, then the forward exchange rate would be:

$$F = S\frac{(1+r_{NC})^t}{(1+r_{FC})^t} = 1.250 * ((1+0.05)^{3/12}/(1+0.03)^{3/12}) = 1.256$$

5.323 The fair value measured in domestic currency of a forward contract is calculated in the same way as the forward exchange rate at inception, except the prevailing market interest rates and spot exchange rate is used rather than the rates at the time of the inception of the contract. That is, the fair value is the difference between the contractual forward exchange rate (e.g., 1.256) discounted at the domestic currency interest rate (e.g., five percent) and the spot exchange rate discounted at the foreign currency interest rate (e.g., three percent) times the contractual amount (e.g., $10,000).

Accounting

5.324 In the first period (July), suppose that the domestic currency depreciates to 1.278 at end-July, while the interest rates remain unchanged. The fair value of the forward is:

$$\textit{Fair value}\ (\textbf{\textit{Bank A}}) = FC\,(F\,(1+r_{NC})^{-t} - S\,(1+r_{FC})^{-t}) = 10{,}000 * ((1.256 * (1+0.05)^{-2/12} - 1.278 * (1+0.03)^{-2/12}) = -258.9$$

$$\textit{Fair value}\ (\textbf{\textit{Bank B}}) = 258.9$$

5.325 The following will be recorded for MFS purposes at the end of the first month:

First period (July)	OS	T	VC	OCVA	CS
Bank A					
Liabilities					
Financial derivatives	0	-	258.9	-	258.9
Current year result (loss)			–258.9		
Bank B					
Assets					
Financial derivatives	0	-	258.9	-	258.9
Liabilities					
Current year result (profit)			258.9		

Note: OS = opening stock; T = transactions; VC = valuation changes; OCVA = other changes in the volume of assets; CS = closing stock.

5.326 In the second period (August), suppose that the exchange rates and both interest rates remain unchanged. The fair value of the forward is:

$$\textit{Fair value } \textbf{\textit{(Bank A)}} = 10.000((1.256(1+0.05)^{-1/12} - 1.278(1+0.03)^{-1/12}) = -239.5$$

$$\textit{Fair value } \textbf{\textit{(Bank B)}} = 239.5$$

5.327 In this case, although nothing has changed in terms of exchange rates and interest rates, there has been a change in the value of the contract because as time elapses a shorter period is used to discount the future cash flows. The following will be recorded for MFS purposes at the end of the second month.

Second period (August)	OS	T	VC	OCVA	CS
Bank A					
Liabilities					
Financial derivatives	258.9	-	–19.4	-	239.5
Current year result (profit)			19.4		
Bank B					
Assets					
Financial derivatives	258.9	-	–19.4	-	239.5
Liabilities					
Current year result (loss)			–19.4		

Note: OS = opening stock; T = transactions; VC = valuation changes; OCVA = other changes in the volume of assets; CS = closing stock.

5.328 For the last period (September), suppose that at the settlement date the exchange rate appreciates to 1.267, then the fair value is simply the difference between the forward exchange rate agreed and the spot rate, times the amount in the contract:

$$\textit{Fair value } \textbf{\textit{(Bank A)}} = 10{,}000\ ((1.256(1+0.03)^{-0/12} - 1.267(1+0.05)^{-0/12}) = -110$$

$$\textit{Fair value } \textbf{\textit{(Bank B)}} = 110$$

5.329 The following entries will be recorded for MFS purposes.

Third period (September)	OS	T	VC	OCVA	CS
Bank A					
Assets					
Currency and deposits in foreign currency		–12,670.0			
Currency and deposits in domestic currency		+12,560.0			
Liabilities					
Financial derivatives	239.5	–110.0	–129.5	-	Account closed
Current year result (profit)			+129.5		
Bank B					
Assets					
Financial derivatives	239.5	–110.0	–129.5	-	Account closed
Currency and deposits in foreign currency		+12,670.0			
Currency and deposits in domestic currency		–12,560.0			
Liabilities					
Current year result (loss)			–129.5		

Note: OS = opening stock; T = transactions; VC = valuation changes; OCVA = other changes in the volume of assets; CS = closing stock.

5.330 The entries under currency and deposits reflect that domestic currency and dollars are delivered by Bank A and B, respectively.

Futures Contracts

5.331 Market price quotations for futures contracts are generally available as they are traded on organized exchanges. Price quotations for futures contracts often cover the (1) commodity or financial asset and delivery month, (2) exchange where traded, (3) contract size, (4) pricing unit, (5) opening price for the day, (6) highest and lowest price for the day, (7) settlement price (a representative price near the end of the day), (8) change (in price) for the day, (9) highest and lowest price over the life of the contract, and (10) open interest (number of outstanding contracts).

5.332 The opening and closing stocks for futures contracts are always zero, given that the futures contract value at inception is zero and that any change in the value of the futures contract is settled on a daily basis by margin payments (settlements). The change in daily value of futures contracts is recorded as a valuation change in profits and loss, with a contra-entry in transactions (currency and deposits) to settle the open position.

Forward Rate Agreements (FRAs)

5.333 An FRA is an OTC agreement to apply a specified interest rate to a notional principal (L) for a specified future period from time N_1 to time N_2. Notations for the interest rates used in the valuation of an FRA are:

- R_K Interest rate to be applied, as specified in the FRA
- R_F Forward LIBOR interest rate for the time interval between N_1 and N_2
- R Actual LIBOR interest-rate observed at future time N_1 for a maturity N_2
- R_2 LIBOR zero (that is, zero-coupon) rate for a maturity N_2.

The compounding frequency for R_K, R_F, and R corresponds to the term to maturity ($N_2 - N_1$), whereas R_2 is a continuous-compounded rate.

For the recipient of the payment based on R_K, the value of the FRA is:

$$V_{FRA} = L(R_K - R_F)(N_2 - N_1)e^{-R^2N^2}.$$

For the provider of the payment based on R_K, the value of the FRA has the opposite sign:

$$V_{FRA} = L(R_F - R_K)(N_2 - N_1)e^{-R^2N^2}.$$

5.334 An FRA can also be valued by assuming that the forward rate will be realized—that is, by assuming that $R = R_F$—and by substituting R for R_F in the preceding equations. Using this approach, an FRA can be treated as equivalent to an interest-rate swap that has only one exchange of fixed-rate payment for floating-rate payment—that is, $R_F{*}L$ swapped for $R{*}L$.

5.335 An FRA usually has zero value at inception, because R_K is set equal to the forward rate (R_F) at the outset of the contract. As R_F changes over the life of the FRA, the V_{FRA} equations are used to calculate the current value of the FRA. The end-of-period value of V_{FRA} is recorded as a valuation change (VC) that constitutes the closing stock (CS) for the FRA: that is, $CS = VC = V_{FRA}$.

5.336 An FRA is usually settled at time N_1, when the settlement amount can be determined. At time N_1, the actual LIBOR rate (R) for a LIBOR loan of ($N_2 - N_1$) maturity can be used to calculate the FRA cash flows at time N_2 and to discount the cash flows back to time N_1. The cash settlement received or paid is recorded as a transaction (T) with a contra-entry for the cash received or paid. The closing stock for the reporting period is:

$$CS = OS - T - VC = 0,$$

and VC is the amount of the change in V_{FRA} in the pre-settlement period within the reporting period.

Interest-Rate Swap Contracts

5.337 An *interest-rate swap* is an agreement through which fixed-rate based payments by one party are swapped for variable-rate based payments by the other party. The notional principal, L, is the amount to which a fixed rate and a variable rate is applied for calculating the cash flows—that is, the amount of the swapped payments.

5.338 Notation in the valuation formulas for interest rate swaps includes:

- L *Notional principal* in the swap agreement
- t_i *Time* until the *i*th payments ($i = 1, \ldots, n$) are exchanged
- r_i *LIBOR zero rate* (that is, zero-coupon rate)[84] corresponding to time t_i
- k *Amount of fixed payment* at the end of each payment period
- k_i^* *Amount of floating-rate payment* at the end of the *i*th payment period, which is a known amount as of the beginning of the i*th* period.

5.339 For valuation purposes, an interest-rate swap can be viewed as a long position in one bond and a short position in another bond. One party is viewed as having a long position in a fixed-rate bond and a short position in a floating-rate bond, and the other party is viewed as having the opposite positions in the two bonds. For the provider of fixed-rate based payments (and variable-rate based payment recipient), the value of the swap (V_{swap}) is equal to the difference between the floating-rate bond value (B_{fl}) and the fixed-rate bond value (B_{fix}):

$$V_{\text{swap}} = B_{fl} - B_{fix},$$

and for the party with the opposite position,

$$V_{\text{swap}} = B_{fix} - B_{fl}.$$

The fair value of the swap can be calculated as the discounted values of the two bonds' cash flows.

5.340 The accounting entries for the interest-rate swap depend on whether payments have been exchanged during the reporting period and/or whether V_{swap} has switched from a positive value (asset position) to a negative value (liability) or vice versa.

5.341 Suppose the interest-rate swap did not switch from an asset to a liability position, or vice versa, during the reporting period. The accounting entries for the reporting period are:

a. *If no payments have been exchanged* during the reporting period, V_{swap} as of the end of the period is recorded as the closing stock (CS), and the valuation change (VC) is the amount by which V_{swap} changed during the period (i.e., $VC = \text{CS} - \text{OS}$) given that $T = 0$.

b. *If payments have been exchanged* during the reporting period, the total flow for the period is divided into a transaction (T) for the net swap payment/receipt (with a contra-entry to cash) and a valuation change (VC) to account for the post-payment change in V_{swap} in the latter part of the reporting period, after the net swap payment/receipt. VC can be derived residually, using $VC = CS - OS - T$.

5.342 Suppose V_{swap} switched from a positive value (asset) to a negative value (liability) or vice versa during the reporting period. The same accounting principles as described for a forward contract that switched from an asset to a liability (or vice versa) would apply for an interest rate swap.

Currency Swaps

5.343 The valuation principles for a fixed-for-fixed currency swap and an interest-rate swap are similar in that the value of the swap can be derived as the difference between the values of two bonds. For a currency swap, two *actual principals*—one on each side of the contract—are exchanged at the beginning and end of the swap contract, whereas an interest rate swap has a single *notional principal*.

5.344 Currency swaps usually are structured so that, at inception, V_{swap} is equal to zero. At the outset of the contract, the principals are exchanged, and each party records the resulting increase/reduction in currency holdings.

5.345 At inception, the parties exchange the underlying currencies at prevailing market exchange rates. At the time of settlement, there may be a difference between the agreed and the prevailing exchange rate of the swapped currencies, and therefore in the total amount of the swapped currencies. This difference is allocated to a transaction in a financial derivative. The underlying swapped currencies are valued at the prevailing market exchange rate at the time of the settlement and recorded as transactions in the underlying currencies.

5.346 For the first reporting period, the change in the value of currency swap is recorded as a valuation

[84] Swap agreements can be based on variable rates other than LIBOR, but swapping fixed-rate based payments for LIBOR-based payments is prevalent and, therefore, is used in the exposition.

change (*VC*) with a contra-entry in profit or loss. Assuming $V_{swap} = 0$ at inception and that no payments (other than the initial principal exchange) were made during the first reporting period, the adding-up requirement is:

$$CS = VC\ (= V_{swap}).$$

For subsequent reporting periods, the adding-up requirement is:

$$CS = OS + T + VC,$$

where *T* denotes the net amount from the exchange of payments.

5.347 Over its life, the currency swap is likely to switch from a positive value (asset) to a negative value (liability) or vice versa. If V_{swap} switches signs during the reporting period, the accounting entries are analogous to those for an interest-rate swap or forward contract that switches from an asset to a liability, or vice versa.

Pricing Models for Valuing OTC Options Contracts

5.348 The valuation of options contracts that are exchange traded is based on the market prices for the contracts. Similarly, options dealers provide market-price quotations for some types of OTC options contracts. For other OTC options, pricing models cannot be covered fully in this *Manual*. In the absence of market-price data, empirical models are needed for valuing options contracts in several categories—stock options, bond options, futures options, caps and floors, exotic options, etc. Within these categories, valuation of call and put options is addressed separately in the empirical modeling. For stock options, separate models are needed for the valuation of options on non-dividend and dividend-paying corporate shares.

5.349 Two of the most widely used empirical methods for valuation of options contracts are:

a. Black-Scholes options pricing model. The best-known empirical model for options pricing, the basic Black-Scholes model,[85] applies directly to the pricing of European and American call options and European put options on nondividend-paying corporate shares. Variants of the Black-Scholes model have been developed for the pricing of dividend-paying stock options, bond options, and many other types of European and American options.

b. Binomial-tree model.[86] This model is an extension of the two-state binomial model—an options-pricing model in which it is assumed that, over any short period, a stock price will move to one of only two possible values. The two-state binomial model has been extended in a multi-period framework in which the price of an option can take many possible paths (that is, follow different branches of a pricing "tree") during the many short periods over the life of the option.

5.350 Users of this *Manual* may wish to consult one or more textbooks or other references on options pricing and analysis.[87] FCs that are counterparties to options contracts that need to be fair-valued, as well as brokers who arrange the contracts, may be able to provide option price estimates, options valuation software, or other useful support.

---

[85] See Black and Scholes (1973) and Merton (1973).

[86] See Cox, Ross, and Rubinstein (1979).

[87] In addition to valuation methods, the textbooks contain substantial coverage of investment decision making, hedging strategies, etc. The materials on options pricing models and valuation methods for other types of over-the-counter derivatives are directly applicable in the context of monetary and financial statistics.

ANNEX

5.4 Settlement Date and Transaction Date Accounting

5.350 Separate examples for purchase and sale of a financial asset are presented in this annex. The *IAS 39—Implementation Guidance (IG)*, Section D.2.1, presents an example of entries for settlement-date and transaction-date (trade-date) accounting for the purchase of a financial asset. In this annex, a modified and expanded version of the example in IAS 39 IG D.2.1 is used to illustrate the settlement-date and transaction-date accounting for either purchase or sale of securities other than shares. The principles apply to the purchase or sale of any financial asset recorded at market or fair value.

Example 1: Purchase of Debt Securities

5.351 On December 29 (trade date), Financial Corporation A (FCA) acquires debt securities that are denominated in domestic currency (NC) at a price of NC 1,000. The settlement date for the transaction is January 4 of the next year. NC 1,002 is the market value of the securities at the end of the first reporting period—that is, as of December 31. The market value of the securities on the settlement date is NC 1,003, and the market value at the end of the second reporting period—that is, as of January 31 of the next year—is NC 1,005. In the IAS 39 IG example, the securities are marked to market (that is, are revalued) at NC 1,003 on the settlement date. In the following examples, securities are revalued within the period, whereas the methodology in this *Manual* requires only end-of-period revaluation. The end-of-period value of NC 1,005 has been added to the IAS 39 IG example.

5.352 Using settlement-date accounting for the securities purchase, the accounting records are:

First period (December)	OS	T	VC	OCVA	CS
Debt Securities	0		2		2
Other entries					
Current year result (change through profit or loss)			2		

Second period (January)	OS	T	VC	OCVA	CS
Debt Securities	2	1,000	3		1,005
Other entries					
Current year result (change through profit or loss)			3		
Deposits: payment for securities (January 4)		–1,000			

Note: OS = opening stock; T = transactions; VC = valuation changes; OCVA = other changes in the volume of assets; CS = closing stock.

5.353 Using transaction-date (trade date) accounting for the securities purchase, the accounting records are:

First period (December)	OS	T	VC	OCVA	CS
Debt Securities	0	1,000	2		1,002
Other entries					
Current year result (change through profit or loss)			2		
Other accounts payable: securities settlement account		1,000			1,000

Second period (January)	OS	T	VC	OCVA	CS
Debt Securities	1,002		3		1,005
Other entries					
Current year result (change through profit or loss)			3		
Deposits: payment for securities (January 4)		–1,000			
Other accounts payable: securities settlement account	1,000	–1,000			

Note: OS = opening stock; T = transactions; VC = valuation changes; OCVA = other changes in the volume of assets; CS = closing stock.

Example 2: Sale of Debt Securities

5.354 The securities transaction in the first example is used for Example 2, but from the other side of the transaction. In Example 2, Financial Corporation B (FCB) sells the securities on December 29 and uses settlement-date accounting to record the sale. The opening balance for the securities, as of December 1 is NC 996.

5.355 Using *settlement-date accounting* for the *securities sale*, the accounting records are:

First reporting period (December)	OS	T	VC	OCVA	CS
Debt Securities	996		4		1,000
Other entries					
Current year result (change through profit or loss)			4		

Second reporting period (January)	OS	T	VC	OCVA	CS
Debt Securities	1,000	–1,000			Account closed
Other entries					
Deposits: received for securities (January 4)		1,000			

Note: OS = opening stock; T = transactions; VC = valuation changes; OCVA = other changes in the volume of assets; CS = closing stock.

5.356 Using *trade-date accounting* for the *securities sale*, the accounting records are:

First reporting period (December)	OS	T	VC	OCVA	CS
Debt Securities	996	–1,000	4		Account closed
Other entries					
Current year result (change through profit or loss)			4		
Other accounts receivable: securities settlement account		1,000			1,000

Second period (January)	OS	T	VC	OCVA	CS
Debt Securities	Account closed				
Other entries					
Deposits: received for securities (January 4)		1,000			
Other accounts receivable: securities settlement account	1,000	–1,000			

Note: OS = opening stock; T = transactions; VC = valuation changes; OCVA = other changes in the volume of assets; CS = closing stock.

Example 3: Purchase or Sale of Debt Securities: Settlement and Transaction Dates in the Same Reporting Period

5.357 The data for the reporting period do not need to be adjusted if the settlement and transaction dates occur in the same reporting period.

5.358 Suppose that, on December 15 (trade date), FCA acquires securities other than shares at a price of NC 1,000. The settlement date for the transaction is December 19. FCB, seller of the securities, shows a market value of NC 996 for the securities at the beginning of the period (December 1). The market values on the settlement date (December 19) and at the end of the period (December 31) are NC 1,002 and NC 1,005, respectively.

5.359 Using *settlement-date* or *trade-date accounting* for the *securities purchase* by FCA, the relevant data for the reporting period are:

FCA: Reporting period (December)	OS	T	VC	OCVA	CS
Debt Securities	0	1,000	5		1,005
Other entries					
Deposits: payment for securities (December 19)		–1,000			
Current year result (change through profit or loss)			5		

Note: FCA = Financial Corporation A; OS = opening stock; T = transactions; VC = valuation changes; OCVA = other changes in the volume of assets; CS = closing stock.

5.360 Using *settlement-date* or *trade-date accounting* for the *securities sale* by FCB, the relevant data for the reporting period are:

FCB: Reporting period (December)	OS	T	VC	OCVA	CS
Debt Securities	996	–1,000	4		Account closed
Other entries					
Deposits: received for securities (December 19)		1,000			
Current year result (change through profit or loss)			4		

Note: FCB = Financial Corporation B; OS = opening stock; T = transactions; VC = valuation changes; OCVA = other changes in the volume of assets; CS = closing stock.

6 Money, Liquidity, Credit, and Debt

I. Introduction

6.1 This chapter covers concepts and definitions that should be used in constructing money, liquidity, credit, and debt aggregates. It first covers broad money in two sections, then dedicates one section to monetary base (also called base money or reserve money) and another section to liquidity aggregates. The final section discusses credit and debt aggregates. Six annexes focus on currency-union currency, dollarized economies and co-circulation, reserves requirements, seasonal adjustment of economic time series, debt securities issued by economic sector, and on Divisia money. This chapter also sets the stage for Chapter 7, which presents the statistical framework for the compilation of monetary statistics in accordance with the methodology of this *Manual*.

6.2 Concepts and definitions applied in this chapter are in line with those discussed in Chapter 3 as regards the sectoring of institutional units and in Chapter 4 as regards classification of financial instruments[1] as they underlie and support the specific concepts and definitions relevant for the aggregates covered in this chapter.

6.3 The *System of National Accounts 2008* (*2008 SNA*) does not define broad money, although it contains several references to broad money and money aggregates. This *Manual* provides a definition of broad money that was also absent in the *Monetary and Financial Statistics Manual* (*MFSM*).

6.4 In describing the money aggregates, this chapter classifies financial instruments on the liability side of FC's sectoral balance sheets into included-in or excluded-from broad money, and splits institutional sectors/subsectors into money-issuing, money-holding, and money-neutral sectors. These classifications are carried out to support the three basic dimensions of broad money, which are: (1) the financial instruments that are components of broad money; (2) the institutional sectors that are money issuers; and (3) the institutional sectors that are either money holders or money neutral.

6.5 The definition of broad money in this *Manual* is intended to help monetary statistics compilers determine the scope of broad money taking account of their own national circumstances. A precise coverage of broad money, as well as monetary base, liquidity aggregates, and credit aggregates is determined by national compilers in accordance with the structure and other features of the financial system in their economy and against the concepts and definitions set in this chapter. The coverage of financial instruments included in broad money determines, in particular, which units in the financial corporations (FCs) sector are classified as depository corporations (DCs) and constitute the money issuing sector.

6.6 DCs are the only money issuers in most countries; in some countries, broad money may include liabilities issued by institutional units outside the FCs sector—in particular, by the central government or public nonfinancial corporations (PNFCs). When some liabilities issued by sector(s) other than the FCs sector meet the definition of broad money, these liabilities are combined with those included in the Depository Corporation Survey (DCS) which, as described in Chapter 7, covers the broad money liabilities issued only by FCs.

A. Basic Functions of Money

6.7 Money has four basic functions:

a. Medium of exchange—a means for acquiring nonfinancial assets (goods, merchandises,

[1] Within this chapter, the term "financial instrument" is used to relate to both assets and liabilities from the perspective of their holders and issuers, respectively. The use of this term is for convenience only and does not imply an extension of the coverage of assets and liabilities to include contingent financial instruments, as described in paragraph 4.2.

equipment, etc.), services, and financial assets without resorting to barter.

b. Store of value—a means of holding wealth.

c. Unit of account—a standard for denominating the prices of goods and services, and the values of financial instruments and nonfinancial assets, thereby providing a means for comparisons of values and for preparation of financial accounts.

d. Standard of deferred payment—a means for settling liabilities and, in this way, of relating current and future values in financial contracts.

B. Rationale for Compiling a Money Aggregate

6.8 Money plays an important role in an economy and is a component of the transmission mechanism from monetary policy to economic activity and inflation. Conceptually, the notion of money has been linked to the formulation of monetary policy and the need for money growth to be in line with the desired real growth rate of the economy and level of inflation, given an assumption on the velocity of money. Changes in the volume of money can also impact asset prices in an economy. Money aggregates measure the money available to money-holding sectors in the economy for making purchases of goods and services that contribute to the gross domestic product (GDP), or for investing in other assets. Thus, money aggregates are closely monitored by the central bank when making decisions that affect the short-term policy interest rate and/or the level of the monetary base.

6.9 In a number of countries, the change in the money aggregates is one of the intermediate objectives that facilitate the achievement of price stability (monetary targeting). In this type of framework, a target is set for the desirable level of change in a money aggregate during a certain period, based on the expected growth in GDP and the desired price level. For economies applying other types of monetary policy frameworks (such as inflation targeting, interest rate targeting, or exchange rate targeting), monitoring the changes in money aggregates contributes, together with a series of macroeconomic variables, to the determination of the policy actions to be taken by the central bank.

II. Broad Money

A. Definition

6.10 Money, which takes the form of various types of financial instruments, is mainly held for its usability as medium of exchange, store of value, or both. In defining broad money, therefore, the focus is on these two functions.

6.11 ***Broad money is the sum of all liquid financial instruments held by money-holding sectors that are widely accepted in an economy as a medium of exchange, plus those that can be converted into a medium of exchange at short notice at, or close to, their full nominal value.***

6.12 Broad money encompasses financial instruments that are media of exchange or close substitutes to media of exchange. For inclusion in broad money, it is necessary to evaluate the degree of *moneyness* of financial instruments, focusing on the extent to which each type of financial instrument provides *liquidity* and a *store of nominal value*.

6.13 Liquidity is an important characteristic of the financial instruments that should be included in broad money. The liquidity of a financial instrument subsumes other more specific characteristics such as negotiability, transferability, marketability, or convertibility, as well as divisibility. In terms of markets, liquidity generally refers to the ability to sell assets quickly and in large volume without substantially affecting their price. In terms of financial instruments, liquidity generally refers to those assets that can be converted into a medium of exchange quickly without a significant loss in value. Only highly liquid financial instruments can be considered as close substitutes for the medium of exchange and therefore be included in broad money.

6.14 By definition, all financial assets have value and, therefore, to varying degrees, are stores of value. Financial instruments differ widely in how their nominal or real values are maintained or fluctuate, in response to changes in prices and interest rates in the economy. The extent to which a financial instrument serves as a store of value depends on more than simply preserving its face value, but also on its capacity to maintain its purchasing power (through indexation, interest income, or dividends).

6.15 An important consideration when deciding on the financial instruments to be included in broad

money is their maturity, which influences their degree of liquidity and store of nominal value. Long-term debt securities are less reliable as a store of nominal value, even if tradable in efficient secondary markets, because of their fluctuations in value when interest rates change. Maturity of one to two years at issuance would usually be acceptable as the upper maturity limit for inclusion in broad money (see also paragraphs 6.34 and 6.48). Maturity at issuance rather than remaining maturity is usually used for deposits because the former better reflects the intention of money holders. Conceptually, remaining maturity can be used for debt securities; however because of data source constraints, original maturity is used in practice.

6.16 The definition of broad money should be applied based on domestic circumstances. The instrument coverage of broad money can be informed by an empirical approach that considers the relationship between broad money, and real and other financial variables. Running empirical tests on different measures of broad money may be helpful in deciding where to draw the line, for example with reference to maturities of financial instruments to be included in broad money. Compilers should update these empirical tests as relationships can change over time.

B. Financial Instruments Included in Broad Money

6.17 The most liquid financial instruments are currency and transferable deposits, which can be used as a medium of exchange—that is, they are immediately exchangeable on demand at par, to acquire services, financial or nonfinancial assets. Financial assets other than currency and transferable deposits should possess significant moneyness to be included in broad money.

6.18 In an economy, media of exchange are usually denominated in the domestic currency. Financial instruments denominated in foreign currency can also serve as a medium of exchange in an economy if they are legal tender or are widely accepted for making payments. In such cases, financial instruments denominated in foreign currency that meet the definition of broad money (currency, transferable deposits, and their close substitutes) are included in broad money.

6.19 In determining the components of broad money other than currency and transferable deposits, the following basic characteristics need to be taken into account:

a. Transactions costs. Deposits other than transferable deposits and some types of debt securities can be redeemed without incurring explicit costs in the form of fees or other charges or implicit costs arising from delays in the redemption process. In contrast, conversion of some types of financial assets involves substantial transaction costs or time delays.

b. Divisibility. Differentiation by large and small denomination of a financial instrument is considered both from the perspective of its inclusion or exclusion from broad money and its position within the money hierarchy. Financial instruments with large denominations may be excluded from broad money. Thresholds may vary in practice, depending on national circumstances.

c. Maturity. Maturity is a major determinant of the components of broad money as discussed in paragraph 6.15. In some cases, the hierarchy of a set of money aggregates proceeds from only short-term components to the inclusion of longer-term deposits or debt securities in higher-ordered money aggregates.

d. Yield. In general, the components added to form the progressively higher-ordered money aggregates have higher yields than the interest-earning components of the lower-ordered money aggregates.

6.20 Box 6.1 presents the broad money structure within the money hierarchy with respect to the moneyness of different financial instruments and institutional sectors.

Financial instruments issued by resident depository corporations

Currency and transferable deposits

6.21 Currency and transferable deposits, comprising the most liquid financial assets, meet the definition of broad money. The liquidity of currency and transferable deposits and their use as a medium of exchange arises from the following underlying characteristics:

a. Legal tender or general acceptability. Currency must be accepted for domestic transactions

Box 6.1 Broad Money: Holder and Issuer Sectors, and Financial Instruments

Broad money holders
- Other financial corporations
- State and local government
- Nonfinancial corporations
- Households and nonprofit institutions serving households (NPISHs)

Broad money neutral[1]
- Central government (domestic currency holdings are usually included in broad money)
- Nonresidents (domestic currency holdings are usually included in broad money)

Broad money issuers and broad money liabilities

Issued by resident depository corporations
- Domestic currency (currency outside the depository corporations)[1]
- Transferable deposits[2]
  - Demand deposits (transferable by check, giro order, or similar means)
  - Cashier's checks
  - Traveler's checks (if used for transactions with residents)
  - Deposits otherwise commonly used to make payments[3]
- Other deposits
  - Nontransferable savings deposits
  - Term deposits (i.e., time or fixed deposits)
  - Deposits denominated in foreign currency (except those included in transferable deposits)
  - Other[4]
- Money market funds' shares
- Debt securities
  - Certificates of deposit
  - Commercial paper
  - Other[5]

Issued by sectors other than resident depository corporations
- Domestic currency issued by central government
- Foreign currency (applies to economies in which foreign currency is widely accepted as a medium of exchange)
- Transferable deposits
  - Transferable deposits at the central government or the postal system
  - Traveler's checks issued by units other than depository corporations
  - Other[6]
- Other deposits at the central government or the postal system
- Debt securities
  - Treasury bills
  - Commercial paper
  - Other[7]

---

[1] Due to lack of data, domestic currency holdings of central government and nonresidents are usually included in broad money.

[2] May include deposits denominated in foreign currency.

[3] Includes shares or similar evidence of transferable deposit issued by savings and loan associations, building societies, credit unions, etc.; savings accounts that provide automatic transfer service through which savings account balances are transferred to transferable deposits that would otherwise be overdrawn; electronic money issued by card or otherwise transferable; and other types not classified elsewhere. May include deposits denominated in foreign currency.

[4] Includes shares or similar evidence of nontransferable deposit issued by savings and loan associations, building societies, credit unions, etc.; repurchase agreements included in broad money; sight deposits that are immediately redeemable, but not transferable; and other types. May include deposits denominated in foreign currency.

[5] Any other debt securities issued by resident depository corporations that meet the definition of broad money (e.g., savings certificates or cash certificates, bankers' acceptances traded in efficient secondary markets).

[6] Includes electronic money (including mobile money) issued by units other than depository corporations.

[7] Includes debt securities issued by the central government, such as savings certificates.

because of its status as legal tender; transferable deposits are generally accepted for transactions because of the recipients' confidence in their acceptability as a medium of exchange.

b. Fixed nominal (face) value. The nominal values of currency and non-interest-bearing transferable deposits are fixed, with real values changing inversely with movements in the price level.

c. Transferability. Currency and transferable deposits can be used to make direct payments to a third party.

d. Transaction costs. Payment by currency has no fees or other transaction costs and the use of transferable deposits has no fees or relatively small fees attached.

e. Divisibility. Currency and transferable deposits are the most divisible financial assets available in denominations for making small transactions.

f. Maturity. Currency and transferable deposits do not have maturity and are immediately accessible by their holders.

g. Yield. Currency and transferable deposits earn no or low interest because their usefulness as a medium of exchange compensates the holder for the forgone interest that could have been received by holding other types of financial assets.

6.22 Domestic currency consists of banknotes and coins issued by resident units that are used as a medium of exchange in an economy, as defined in paragraph 4.25. ***Currency in circulation*[2] *is the amount of currency outside the central bank (and any other issuing unit) held by all other resident sectors and nonresidents.***

6.23 ***Currency outside DCs is the domestic currency included in broad money and is compiled as currency in circulation less currency holdings in the vaults of other depository corporations (ODCs).***[3] In the majority of economies, currency issuance is an exclusive right of the central bank, and placement of currency in circulation is mainly or entirely channeled from the central bank through the ODCs to the money-holding sectors of the economy.

6.24 The amount of currency placed into circulation is determined by ODCs' demand for cash in vault and their customers' demand for currency. Currency is placed into circulation when it is transported from the central bank to an ODC,[4] accompanied by the appropriate accounting entries.[5] Currency is only included in broad money when ODCs' customers in the money-holding sectors exchange deposits for currency.[6] This currency is labeled *Currency outside DCs* within broad money liabilities.[7]

6.25 Commemorative coins and gold or precious metal coins, which are held for their numismatic and intrinsic value, are excluded from broad money as they are classified as nonfinancial assets rather than as financial assets. An exception to this treatment is the case of commemorative coins that differ only slightly from the standard coins in circulation, are issued at or near their face value, are fungible with the standard coins in circulation, and for which the issuing authority has a liability to redeem them; such coins are included in broad money within *Currency outside DCs*. (See paragraph 4.27.)

6.26 In a currency union, difficulties arise in estimating the common currency in circulation in its individual member countries because the common currency banknotes and coins circulate as legal tender throughout the union (see Annex 6.1.).

6.27 Transferable deposits held by money-holding sectors are included in broad money. Demand deposits transferable by check, giro order, or similar means constitute in every economy the bulk of transferable deposits. Foreign-currency-denominated transferable deposits held at domestic DCs that can be directly

[2] *Currency in circulation* is reported in the liability section of the sectoral balance sheet for central banks (see Table A2.1 in Appendix II).

[3] *Currency outside DCs* is reported as a liability in the DCS.

[4] Central bank sometimes issues currency in relatively small amounts in direct transactions with institutional units in the money-holding sectors.

[5] The ODC records an increase in *Currency—domestic* and a decrease in its transferable deposit holdings at the central bank. The central bank records the reduction in the ODC's transferable deposits and an increase in *Currency in circulation*.

[6] Upon demand from its customers, an ODC reduces its vault cash in exchange for a reduction in customers' transferable (or savings) deposit holdings at the ODC.

[7] Due to lack of data, domestic currency holdings of central government and nonresidents are typically included in *Currency outside DCs* in broad money.

used to make payments to third parties within the domestic economy are also included in broad money.

6.28 Cashier's checks, banker's drafts, and similar liabilities issued by deposit-taking corporations at the request of a unit in a money-holding sector are included (until their redemption) in broad money within transferable deposits.

6.29 Traveler's checks are expected to be used predominantly abroad, and therefore they should in principle be excluded from broad money. However, there may be circumstances where traveler's checks are used for domestic transactions, in which case, they should be included in broad money.

6.30 All types of electronic money as defined in Chapter 4 (paragraphs 4.38–4.42), issued by resident DCs and that can be used for direct payments to third parties, are included in broad money within transferable deposits.[8]

Other deposits

6.31 Other (nontransferable) deposits issued by DCs, as defined in paragraph 4.43, account for the predominant portion of broad money in many economies.

6.32 Nontransferable savings deposits and sight deposits are redeemable at full value upon request without penalty and fee, although restrictions may apply for requests for withdrawal on very short notice if the holder intends to withdraw more than a certain amount. Savings deposits are both liquid and a reliable store of value and, thus, are included in broad money within other deposits. If equipped with automatic transfer service features, savings deposits are classified as transferable deposits and included in broad money.

6.33 Deposits redeemable at short notice are included in broad money within other deposits if the period of prior notice is short. This *Manual* does not recommend a specific limit for a "short" period of prior notice; country practices set this limit between three to six months.

6.34 Early withdrawal of fixed-term deposits, especially of long-term maturity, usually involves penalties, resulting in such deposits being less liquid. Fixed-term deposits of short-term original maturity are included in broad money within other deposits; longer-term deposits are excluded. This *Manual* does not recommend a particular limit to the maturity for fixed-term deposits to be included in broad money, but considers a range of one to two years acceptable (see paragraph 6.15).

6.35 Other deposits denominated in foreign currency are viewed as having somewhat lower degree of moneyness than similar deposits denominated in domestic currency, because their domestic currency values are subject to change in response to exchange rate movements. However, other deposits denominated in foreign currency that could be drawn upon at short notice to make direct payments to third parties in the domestic economy are included in broad money.

6.36 Repurchase agreements resembling a standard deposit that are liabilities of the money-issuing sector to a money-holding sector are classified as other deposits and included in broad money applying the same maturity limit as for fixed-term deposits (paragraph 6.34). All other repurchase agreements are classified as loans (see paragraphs 4.43j and 4.71–4.73).

Deposits excluded from broad money

6.37 Restricted deposits are defined in paragraph 4.46. Withdrawals from some deposit accounts may be restricted only for short periods (up to one year), and such deposits may still possess sufficient moneyness to be included in broad money. In general, deposits for which withdrawals are restricted for periods of over one year are excluded from broad money.

6.38 Import deposits, defined in paragraph 4.46a, are generally not available to their resident holders and are eventually transferred to nonresident exporters. Thus, import deposits are excluded from broad money.

6.39 Checks or other types of transferable items are posted directly to depositors' accounts, but these are unavailable for use until after the transferable items have been cleared through the central bank or other clearing institution. Such unavailable deposits should be recorded within *other deposits*, but excluded from broad money. Exclusion of such deposits from transferable deposits avoids double counting in broad money, given that these deposits continue to be included in the transferable deposits of DCs on which

[8] The ODCs' transactions with the recipients of the electronic funds are similar to electronic settlements for other types of transferable items.

the items were drawn until the items are collected from these corporations.

6.40 Restricted deposits in the form of compulsory savings deposits are excluded from broad money, unless withdrawal privileges are such to make the deposits liquid. Foreign exchange deposits, such as under foreign exchange repatriation schemes, for which withdrawals are not allowed for protracted periods are excluded from broad money.

6.41 Other forms of restricted deposits, such as escrow accounts, judicial deposits, good-faith deposits for participation in a privatization auction or for a placed bid, are excluded from broad money for it is not possible to determine at inception how long they will be restricted. In the event that the period of restriction is known at inception, such deposits can be treated like fixed-term deposits.

6.42 Deposits with ODCs in liquidation (see paragraphs 3.141–3.143). A special form of deposit restriction arises when an ODC is unable to meet depositors' withdrawal demands for substantial periods, because its operations have been suspended, or are under receivership and deposit liabilities are frozen. In such cases, it is unclear how long depositors will need to wait to access their deposits, or even whether they will eventually be able to redeem all or part of their deposit balances. In the meantime, the deposits are illiquid. Nevertheless, as long as the ODC continues to exist, its liabilities to all depositors and other creditors also exist, and the ODC in liquidation continues to be part of the ODCs subsector. This *Manual* recommends the exclusion from broad money of all deposit liabilities of ODCs in the process of liquidation. This applies to all deposits irrespective of whether they are insured by a deposit insurance scheme or uninsured. Reorganization, sale, or merger of the affected deposit-taking corporations, or reimbursement by the deposit insurance scheme may result in all or part of the deposits eventually becoming available to depositors.

6.43 In the process of liquidation or reorganization, assets and liabilities of these ODCs are frequently repackaged and auctioned or otherwise transferred to other ODCs and emerge as balance-sheet items of the operating ODCs. Efforts should be made to ensure uninterrupted coverage of these assets and liabilities in the monetary statistics throughout the entire restructuring or liquidation process.

6.44 ODCs in the process of liquidation or under receivership are intertwined in creditor/debtor relationships with other ODCs, OFCs, and the central bank. In the absence of direct reporting by ODCs in the process of liquidation, data on their asset/liability positions with the central bank and operating FCs can be obtained from their counterpart data. Each operating FC would be required to report its positions with ODCs in the process of liquidation as memorandum items,[9] in order to enable the monetary statistics compilers to aggregate the data in the sectoral balance sheets of the central bank, ODCs, and OFCs.

6.45 Reserve deposits that nonoperating FCs hold at the central bank may be restricted or frozen for a period. Excess reserves of these corporations can no longer be used to support credit expansion. Deposits held by the nonoperating FCs at the central bank should be excluded from reserve deposits and thus from the monetary base.

6.46 Long-term saving schemes held by households with the view to constituting capital for real estate purchase, for an additional pension income after retirement, or for financing college education for children can usually be redeemed, fully or partly, before maturity. Even if early withdrawals do not entail any loss on the amount initially invested, generally some form of penalty occurs in the form of a less-favorable tax regime, forgone or lower interest, or diminution of financial advantages embedded in the scheme under the provision that it reaches its contractual maturity. Thus, holders will consider early withdrawal only as a last resort because the initial intention has been to use these amounts only over a long time period. Consequently, long-term saving schemes are not included in broad money.

Money market fund shares and debt securities

6.47 In some economies, money market fund (MMF) shares are close substitutes for transferable deposits because they can be used for direct payments to third parties. In other economies, there may be restrictions on the transferability features of MMF shares with respect to minimum amount or maximum number of checks that can be written per period, or there may be no transferability features. In all cases, MMF shares

[9] See memorandum items in the illustrative sectoral balance sheets/SRFs in Appendix II.

are highly liquid and typically a reliable store of value. Thus, all MMF shares held by the money-holding sectors are included in broad money.[10]

6.48 Some types of short-term (original maturity) debt securities issued by DCs that can be converted into currency or transferable deposits at short notice at, or close to, their full nominal value, meet the definition of broad money. Such short-term debt securities include negotiable certificates of deposit and commercial papers issued by ODCs, and are included in broad money when traded in efficient secondary markets.[11] Bankers' acceptances could meet the definition of broad money if traded in efficient secondary markets. Short-term debt securities denominated in foreign currency traded in efficient secondary markets may be included in broad money. Savings certificates or cash certificates that can be converted into currency or transferable deposits at short notice at, or close to, their full nominal value also meet the definition of broad money. For the original maturity limit, this *Manual* recommends applying the same guidance as for fixed-term deposits—that is, a range of one to two years (see paragraph 6.34). This *Manual* recommends also that long-term debt securities be excluded from broad money, even if traded in efficient secondary markets, because of their price uncertainty (fluctuations in value when the market interest rate changes). Annex 6.5 presents ways of estimating the holdings by economic sectors of debt securities issued by FCs, including securities issued and held exclusively within the DC sector, which are to be excluded from broad money.

Financial instruments issued by sectors other than resident depository corporations

Domestic currency issued by central government

6.49 In a limited number of countries, the central government issues currency coins, and may even also issue banknotes. Currency in circulation issued by the central government should be included in broad money.

6.50 Though the central government incurs a liability for issuance of currency, the central bank often has sole responsibility for the placement of currency in circulation. A central government purchases the currency from a domestic or foreign mint (or bureau of engraving) and delivers the currency to the central bank. In the central bank's accounts, the nominal (face) value of the currency is recorded as vault cash (*Currency—Domestic*), along with a corresponding increase in the central bank's liability (*Transferable deposits—In domestic currency*) to the central government.[12]

6.51 Issuance of this currency, although not a liability in the CBS or DCS, enters the monetary statistics as a separate component of broad money (see Box 6.1). In many cases, data are directly available in the central bank's records and these data should be used for monetary statistics purposes.

6.52 When the central government places some of the currency into circulation through direct transactions with institutional units in the money-holding sectors,[13] the central government should provide monthly data on its total currency placed into circulation to compilers of monetary statistics.[14]

Foreign currency

6.53 Foreign currencies can serve as both medium of exchange and store of value, not only in the country of issuance, but in other economies. When a foreign currency is widely accepted as a medium of exchange within an economy, holdings of this foreign currency by resident units other than DCs and central government should be included in the currency component of broad money. This is particularly important for countries in which a foreign currency is the main (or only) currency in use (See Annex 6.2).

[10] Deposits of MMFs held at ODCs are excluded from broad money (see paragraph 6.64) because MMFs are money issuers.

[11] Efficient secondary markets are competitive markets characterized by easy access for participants at relatively low cost with frequent price quotations of traded instruments, such as provided by market makers.

[12] Through this transaction, the central government obtains the *seigniorage* from issuance of the currency—the net revenue equal to the difference between the nominal value of the currency and the cost of acquisition, distribution, and maintenance of the currency.

[13] For example, the central government could distribute the currency banknotes in making cash payments to suppliers of government goods and services. The central government might distribute coins to the household sector, for example, in the course of conducting cash transactions with individuals acquiring licenses or paying other government fees.

[14] The central government's holdings of currency that has already been placed in circulation—whether issued by the central government or the central bank—should be excluded from broad money, if data are available to compilers.

Deposits issued by nonfinancial corporations and central government

6.54 PNFCs (for example, post office or telecommunication units) in some countries accept transferable or other deposits, mainly from households. The deposit-taking service is often provided for the convenience of small savers, particularly those in rural areas that are not served by ODC branches. As explained in paragraph 3.136, if the financial activity of the public nonfinancial corporation,[15] such as the post office, is recorded in a separate set of accounts (assets and liabilities), this financial activity is treated as a separate institutional unit included in the ODCs subsector and its liabilities that meet the definition of broad money are included in broad money. In those cases where financial and nonfinancial activities are intertwined and a separate set of accounts does not exist for financial activities, data compilation depends on the specific characteristics and financial activities of such PNFCs:

a. Deposit pass-through to a DC. In some countries, deposit taking constitutes the only financial service provided by this kind of a public nonfinancial corporation, which maintains a deposit account at a DC (central bank or ODC) where all funds from the collected deposits are re-deposited. Either the deposit liabilities of such a public nonfinancial corporation to its depositors or the deposit of the public nonfinancial corporation at the DC are included in broad money, because the inclusion of both would result in double-counting. Where sufficiently detailed information is made available by the public nonfinancial corporation on its own depositors, it should be used to ensure accurate sector allocation of these broad money deposits.

b. Deposit funding for central government. Funds deposited with the nonfinancial corporation may be channeled directly to the central government for its use, constituting a liability of the central government in the form of deposits. This *Manual* recommends that these deposits be included in broad money within other deposits, applying the same maturity guidance as for fixed-term deposits (paragraph 6.34). Data may be collected directly from the nonfinancial corporation that operates the system.

6.55 The treasury or some other unit of the central government may accept deposits or issue debt securities, such as treasury bills and saving certificates that meet the definition of broad money. The proceeds from issuance of the deposits or debt securities may be used to finance central government expenses, or they may be used for government lending directly to other sectors of the economy. Only deposits and debt securities held by money-holding sectors are included in broad money; the same maturity guidance as for fixed-term deposits for inclusion in broad money is applied (paragraph 6.34). Data on deposits and debt securities may be obtained directly from the treasury or other relevant unit of the central government. For debt securities, data could also be sourced from the centralized securities' depository, if available.

6.56 In some countries, national regulations allow nonfinancial corporations (NFCs) to issue traveler's checks and electronic money (see paragraphs 4.38–4.42), including mobile money, as an ancillary activity, although most issuers are FCs. Traveler's checks and electronic money issued by NFCs that meet the definition of broad money are included in broad money within transferable deposits (issued by sectors other than DCs).[16] If traveler's checks are expected to be used predominantly abroad, they should be excluded from broad money (see paragraph 6.29).

6.57 Some types of (short-term) commercial paper issued by NFCs and traded in efficient secondary markets may be converted into medium of exchange at short notice without incurring a significant loss on the amount initially invested by the current holder, and thus may be considered close substitutes for the medium of exchange. Consequently, such commercial papers of original maturity in the range of one to two years and held by money-holding sectors can be included in broad money. Data on such commercial papers outstanding may be obtained from exchanges where they are traded or directly from the issuer, if available.

[15] In such cases, through their financial operations, the public nonfinancial corporations often engage in financial intermediation, by taking deposits from small savers and lending to farmers and other small-loan customers.

[16] Conceptually, if the payment services become the major activity of a nonfinancial corporation, it should be considered for reclassification as an FC, and more precisely as an ODC if engaged in issuance of broad money liabilities.

Financial instruments excluded from broad money

6.58 The other categories of financial instruments—loans; equity and investment fund shares (except money market fund shares); financial derivatives and employee stock options (ESOs); insurance, pension and standardized guarantee schemes; and other accounts payable/receivable—are excluded from broad money.

6.59 The direct and specific nature of the financial contract between lenders and borrowers makes many types of loans illiquid. As observed in the preceding subsection, some securities repurchase agreements are included in broad money, in which case they are classified as *other deposits*. Other repurchase agreements are classified as loans.

6.60 *Equity and investment fund shares* serve as a store of value and may be converted to cash or transferable deposits through their sale in organized securities exchanges or over-the-counter markets. However, these instruments experience price variability and the sale of such shares involves transaction costs and time delays, resulting in their exclusion from broad money. The nature of MMF shares makes them an exception, as explained in paragraph 6.47.

6.61 *Insurance, pension, and standardized guarantee schemes* are illiquid and are excluded from broad money. *Financial derivatives* may be tradable, but their price variability and lack of use as a store of value precludes their inclusion in broad money. *Other accounts receivable/ payable* lack sufficient liquidity to be included in broad money.

C. Money-Issuing, Money-Neutral, and Money-Holding Sectors

6.62 Once all financial instruments that should be included in broad money have been identified, the compilation of money aggregates and counterparts further requires the classification of all institutional sectors/subsectors—as defined in Chapter 3—into three groups as money issuers, money neutral, or money holders in the broad money framework within the DCS.

Money-issuing sector

6.63 Monetary statistics classifies all FCs that issue broad money liabilities as DCs. Thus, ***the DCs sector constitutes the money-issuing sector by definition***. This *Manual* recommends the compilation of a DCS showing, in a balance sheet format, broad money liabilities of the DCs on one side and the asset counterparts (or sources) of those liabilities on the other side.

6.64 Because DCs are money issuers, their financial claims on other resident DCs are not included in broad money. Such holdings of financial assets are not indicative of their short-term intention of spending, but are rather determined by: (1) regulations enacted by monetary and supervisory authorities; and (2) the need for maintaining working balances in liquid financial assets to be able to satisfy withdrawals from their clients. Intra-DC positions are consolidated in the DCS, as explained in Chapter 7.

6.65 When some broad money liabilities are issued by institutional units other than FCs, it is necessary to combine these liabilities with those included in the DCS in order to compile the total broad money of the economy. Box 6.1 provides such a presentation.

6.66 Many countries compile two or more money aggregates that have progressively broader coverage (see Box 6.2). In such cases, the money-issuing sectors may differ across these money aggregates. As regards broad money issued by DCs, a single aggregate as defined in paragraph 6.11 must be specified in order to construct the DCS described in Chapter 7.

Money-neutral sectors

6.67 Institutional sectors that are neither "money issuers" (except special cases) nor "money holders" are called "money-neutral" sectors. Money-neutral sectors comprise the central government and nonresidents.

6.68 Nonresidents' deposit holdings are excluded from broad money because their deposits are used primarily for international rather than domestic transactions. The potential impact on domestic economic conditions is uncertain, as the predominant center of economic interest of the nonresident lies outside of the domestic economy.

6.69 However, deposits held by migrant workers (see paragraphs 3.89–3.91 for their sectoring) with ODCs in their home countries, which are freely usable by authorized family members or other designated parties in settling transactions in the home coun-

try, should be included in broad money of the home country and not in liabilities to nonresidents.

6.70 Deposits held by cross-border workers at ODCs in an economy where they work should not be included in broad money of that economy, but should be recorded as liabilities to nonresidents. This principle applies as long as cross-border workers do not have a center of predominant economic interest in the economy where they work. (See paragraphs 3.62–3.63.)

6.71 Deposit holdings of central government are always excluded from broad money. The rationale, often empirically based, for such exclusion is that central government deposits do not respond to macroeconomic influences (i.e., changes in economic activity, interest rates, exchange rates, etc.) in the same way, or to the same degree, as the deposits of money-holding sectors. This is because of the unique nature of the central government's financing constraints, spending decisions, and cash management techniques. The balances maintained by the central government on its deposit accounts with DCs do not reflect the short-term intention of spending because central government's spending is not predetermined and constrained by such balances. Further, insufficient tax and other revenue inflows may be supplemented by borrowing at short notice.

6.72 Exclusion of central government deposits from broad money can also be explained on the basis of the analytical approach to monetary and fiscal policy formulation. A major element of such formulation focuses on the amount of central government financing that DCs provide, represented by the net claims on the central government—that is, total claims on the central government *less* the central government's deposits and other liabilities to the central government. The DCS, described in Chapter 7, shows net claims on the central government as a counterpart to broad money, instead of including central government deposits as a component of broad money or as a separate liability category. The link between broad money and the other accounts of the DCs, including net claims on central government, is described in Chapter 7.

6.73 Domestic currency holdings of the central government and nonresidents should be excluded from broad money; efforts to estimate such holdings may not be justified if the amounts are relatively small. Estimation of nonresidents' holdings of the domestic currency, and adjustment of broad money to exclude such holdings, may be warranted if a substantial amount of domestic currency circulates outside the domestic economy and is used as legal tender or is widely accepted as a medium of exchange in other countries.[17]

Money-holding sectors

6.74 ***Money holders are all sectors not previously discussed, that is: (1) OFCs; (2) state and local governments; (3) NFCs; and (4) households and NPISHs.*** Broad money includes all money holdings of these sectors. Thus, broad money represents a particular measurement of the spending capacity or potential purchasing power of money-holding sectors.

Special cases

6.75 The grouping of all institutional sectors into money-issuing, money-holding, and money-neutral sectors is one of the dimensions for defining broad money liabilities in the DCS. The coverage of the DC sector should be kept under continued review as the financial system evolves. In this respect, there are several exceptions as noted previously:

a. Money can be issued by money-neutral sectors, such as central government/treasury issuing coins, treasury accepting deposits from money holders, and foreign currency issued by a nonresident central bank circulating widely in an economy.

b. Money can be issued by money-holding sectors, such as post office accepting deposits from money holders, and NFCs issuing travelers checks or electronic money as an ancillary activity.

[17] For most countries, the major cross-border currency flows arise from the currency holdings of tourists, business travelers, cross-border workers, emigrant workers returning to their home countries, and those engaged in smuggling or other illegal activities. For those countries that use foreign currency as a legal tender, official shipments of foreign currency may be used to augment the currency stock. The records for such shipments can be used to estimate the currency stocks in both countries (i.e., the "importing" and "exporting" countries).

c. Holdings of domestic currency by nonresidents and by central government may not be excluded from broad money measurement because of a lack of reliable source data.

6.76 Some OFCs are mainly engaged in providing intermediation services to ODCs, effectively creating transactions similar to interbank business. Central clearing counterparties (CCPs) are one example. CCPs are classified as OFCs and, consequently, are money holders. However, the deposits of CCPs at DCs reflect their principal line of business of settling transactions among financial market participants rather than the intention of making purchases within the economy. Thus, deposits of CCPs related to their principal line of business should not be included in broad money. To this end, direct collection of data from CCPs on their deposit balances may be necessary if DCs do not identify CCP deposit balances in the report forms used for the compilation of monetary statistics. If feasible, data directly collected from CCPs on their deposit balances should be split between the amount related to their principal line of business and the amount maintained for operating expenses; if available, the latter should be included in broad money.

III. Broad Money and Money Aggregates

A. Money Aggregates and Sub-Aggregates

6.77 This *Manual* distinguishes two levels of broad money as shown in Box 6.1:

a. Broad money issued by DCs only

b. Broad money issued by DCs and other sectors.

6.78 Further, although this *Manual* recommends that compilers focus on broad money,[18] it recognizes that economies may define a range of money aggregates that are usually named in a sequence as follows: M1, M2, M3, etc., with each broader aggregate subsuming the previous one.

6.79 Whereas for almost all countries M1 is the narrowest money aggregate and includes all media of exchange, such as currency and transferable deposits in domestic currency, the content of the other aggregates M2, M3, etc. may differ significantly in concept and coverage across economies. The more encompassing M aggregate usually corresponds to broad money for an economy. Box 6.2 presents examples of national aggregates of broad money and draws out some common characteristics using the three dimensions of broad money: financial instruments (including maturity and domestic/foreign currency), money issuers, and money holders.

B. Broad Money Counterparts or Sources

6.80 Understanding changes in broad money and their causes is important for the conduct of monetary policy. The money aggregates, therefore, need to remain relevant to monetary policy analysis, particularly as financial institutions and markets evolve. As explained before in this chapter, broad money is compiled using data from the sectoral balance sheets of the central bank and ODCs.

6.81 First, monetary statistics compilers identify on the liability side of DCs' sectoral balance sheets all financial instruments meeting the definition of broad money and assemble them together on one side of the DCS.

6.82 Second, all assets held by DCs and all liabilities that are not part of broad money are assembled on the other side of the DCS, which are considered as broad money "counterparts" or "sources." For the broad money counterparts, claims on and liabilities to money-issuing and money-neutral sectors (namely, nonresidents, central government, and DCs) are presented on a net basis (i.e., assets *less* liabilities). As regards money-holding sectors, the broad money counterparts include gross claims of DCs on money holders. DCs' liabilities to money holders not included in broad money are shown separately. Broad money counterparts provide information on the underlying

[18] Compilers sometimes still use the term "quasi-money" because of the focus on "narrow money" in the past. Under this approach, "narrow money" corresponded only to the media of exchange that were then considered "money." Consequently, "quasi-money" included all financial instruments that were not media of exchange, but were substitutes for financial instruments included in "money." This *Manual* does not recommend using the term "quasi-money", but rather focusing on broad money because it covers all financial instruments that constitute money, including those that might have been included in "quasi-money."

sources of broad money growth, such as credit growth to resident units other than DCs.

6.83 Chapter 7 presents in detail the structure of the DCS and the counterparts to broad money. The term broad money "counterparts" refers to the accounting identity between the two sides of the DCS (stocks) while the term broad money "sources" refers to the factors affecting the expansion and contraction of money (flows).

Box 6.2 Standard Components and National Aggregates of Broad Money (at end-September 2015)

Economy–Aggregate	Money issuers	Money holders	Financial instruments
***Broad money in this* Manual**	***Central bank and ODCs (DTCs and MMFs)***	***OFCs; state and local government; public nonfinancial corporations; other nonfinancial corporations; households and NPISHs.***	***Domestic currency in circulation outside DCs; transferable and other deposits in domestic and foreign currency of the money–holding sectors at DCs; MMF shares/units held by money–holding sectors; short-term debt securities issued by ODCs and held by money–holding sectors.***
U.S.–M2	All depository institutions: Federal Reserve System, commercial banks, savings institutions, credit unions, and MMFs.	All US residents except money issuers and federal government. Nonresidents' holdings are excluded, including currency holdings.	In national currency only. Currency outside the U.S. Treasury, Federal Reserve Banks and DTCs; travelers' checks of non-bank issuers; demand deposits, savings deposits, and time deposits (under $100,000) *less* individual retirement accounts (IRA) and Keogh Retirement Plans balances at DTCs; and retail MMF shares, *less* IRA and Keogh Retirement Plans balances at MMFs. Repos and debt securities are excluded. There is no maturity cut-off.
UK–M4; $M4^{ex}$	Banking institutions.	UK private sector residents other than money issuers. From July 2009, Broad Money excludes "intermediate" OFCs ($M4^{ex}$), which specialize in intermediation between banks, for example, CCPs, securitization special purpose vehicles, and covered bond entities.	In national currency only—banknotes and coins in circulation outside the Bank of England and banking institutions in the UK; non-bank private sector sterling deposits (including repos) held with U.K. banking institutions; holdings of certificates of deposit and holdings of other debt securities of up to and including five years' original maturity issued by banking institutions. Non-residents' holdings are excluded.

(*Continued*)

Box 6.2 Standard Components and National Aggregates of Broad Money (at end-September 2015) (*Continued*)

Economy–Aggregate	Money issuers	Money holders	Financial instruments
Japan–M3	The Bank of Japan and the following depository institutions: domestically licensed banks; the Japan Post Bank; foreign banks in Japan; Shinkin banks; Shinkin Central Bank; the Norinchukin Bank; the Shoko Chukin Bank; Shinkumi banks; the Shinkumi Federation Bank; labor banks; the Rokinren Bank; agricultural cooperatives; Prefectural Credit Federations of Agricultural Cooperatives; fishery cooperatives; and Prefectural Credit Federations of Fishery Cooperatives.	Nonfinancial corporations, individuals, and local governments, including municipal enterprises. The entities such as the central government, central bank, depository institutions, insurance companies, bank and insurance company holding companies, government-affiliated financial institutions, securities companies, and tanshi companies (call loan dealers) are excluded from money holders. Nonresidents are also excluded from money holders.	Banknotes and coins held by money holders; demand deposits held by money holders at depository institutions; time and savings deposits and foreign currency deposits held by money holders at depository institutions; CDs issued by depository institutions and held by money holders.
Euro area –M3[1]	MFIs (the Eurosystem and ODCs located in the euro area) and central government (Postal system savings accounts and Treasury Department deposit facilities in some euro area countries).	All non-MFIs resident in the euro area except central government. State and local government, and social security funds are included.	In national and foreign currency. Currency in circulation and overnight deposits; deposits with agreed maturity of up to two years; deposits redeemable at notice of up to three months; repurchase agreements, excluding repurchase agreements with CCPs; MMF shares and money market paper; and debt securities of up to two years.
China–M2	The People's Bank of China (PBC) and banking institutions (including banks, rural credit cooperatives, and finance companies).	Non-bank, non-government sectors.	Currency in circulation (banknotes and coins issued by the PBC less the amount held by banking institutions); demand, time, and savings deposits in national currency of resident non-bank, non-government sectors with banking institutions.

Box 6.2 Standard Components and National Aggregates of Broad Money (at end-September 2015) (*Continued*)

Economy–Aggregate	Money issuers	Money holders	Financial instruments
Korea–M2	The Bank of Korea, commercial banks (including branches of foreign banks in Korea), specialized banks, Korea EXIM banks, mutual saving banks, trust companies, credit cooperatives, credit unions, and postal savings unit.	Households and NPISHs, nonfinancial corporations, other financial corporations, and others.	In national and foreign currency. Currency in circulation (excluding commemorative issues), demand deposits, transferable savings deposits, time deposits with maturity of less than two years; installment savings deposits with maturity of less than two years, MMF shares, beneficiary certificates, certificates of deposits, money in trust with maturity of less than two years, financial debentures with maturity of less than two years, and other deposits with maturity of less than two years.
Brazil–M4	Depository corporations and central government.[2] The depository corporations include: central bank and ODCs. ODCs include: commercial banks; multiple banks; Federal Savings Bank; credit cooperatives; investment and development banks; credit, finance and investment companies; savings and loan institutions; mortgage companies; real estate credit companies; and money market financial investment funds. Exclude exchange banks and financial institutions in liquidation.	Financial institutions that do not issue instruments included in broad money, state and local governments, public nonfinancial corporations, and nonfinancial private sector (companies and households).	Currency held by the public and demand deposits (M1); *plus* time deposits, savings deposits and securities issued by ODCs (M2); *plus* MMF shares and the net position of securities used in repurchase agreement transactions with money holding sectors (M3); *plus* debt securities issued by central government held by money holders (M4).

(*Continued*)

Box 6.2 Standard Components and National Aggregates of Broad Money (at end-September 2015) (*Continued*)

Economy–Aggregate	Money issuers	Money holders	Financial instruments
India–M3	Reserve Bank of India (RBI) and commercial and cooperative banks.	Private sector; quasi government; selected financial institutions, primary dealers; foreign central banks and governments; and international agencies.	Currency outside the banking system (currency banknotes and coin in circulation *less* currency banknotes and coin holdings of the commercial and cooperative banks); demand deposits with the banking system, which include primarily current deposits and the transferable liabilities' portion of savings deposits; "other" deposits with the RBI, which comprise deposits of quasi-government, selected domestic financial institutions, primary dealers, foreign central banks and governments, and international agencies; and time deposits with the banking system, which include fixed deposits an time liabilities' portion of savings deposits.
Mexico–M4, M4A, M4 –National Currency, M4 –Foreign Currency	Bank of Mexico and ODCs: commercial banks, development banks, credit unions, savings and loans associations, investment funds, financial leasing companies, and specialized lending institutions.	Private sector, pension funds, and nonresidents. Also public sector for M4A.	In national and foreign currency. *M4*: Banknotes and coins outside the depository corporations; deposits in checking and current accounts that can be withdrawn through debit cards; demand and time deposits in national and foreign currency of the private sector; debt securities of the public sector held by residents; other instruments held by pension funds; demand and time deposits of nonresidents; debt securities of the public sector held by nonresidents; and deposits of residents and nonresidents in branches abroad of domestic ODCs. *M4A*: M4, *plus* deposits and instruments of the public sector *M4 National Currency*: all instruments denominated in national currency. *M4 Foreign Currency*: all instruments denominated in foreign currency.
Russian Federation –M2	Central Bank of Russia (CBR) and ODCs: commercial banks and Vneshekonombank.	OFCs, public nonfinancial corporations, private nonfinancial corporations, and households.	In national and foreign currency. Currency in circulation and demand, time, and savings deposits in national and foreign currency, including accrued interest on deposits with the CBR and ODCs.

Box 6.2 Standard Components and National Aggregates of Broad Money (at end-September 2015) (*Continued*)

Economy–Aggregate	Money issuers	Money holders	Financial instruments
Saudi Arabia–M3	Saudi Arabian Monetary Authority (SAMA) and commercial banks.	Businesses, individuals, and government entities.	In national and foreign currency. Currency outside banks (banknotes and coins issued by SAMA *less* the amount held by commercial banks); demand deposits in national currency with commercial banks; time and savings deposits; foreign currency deposits; margin deposits for letters of credit; outstanding remittances; and banks' repurchase agreements with the private sector.
South Africa–M3	South African Reserve Bank and ODCs.	Households, local governments, public and private nonfinancial corporations, and other financial corporations.	Banknotes and coins in circulation outside the DCs; check, transferable, other demand, other short- medium-, and long-term deposits; negotiable certificates of deposits and promissory notes; and savings certificates issued by the Postbank.

[1] Some members of the European Union that are not members of the euro area comply with the concepts and definitions of the European Central Bank.

[2] The central government is a money issuer only in the M4 concept.

Note: ODC = other depository corporation; DTC = deposit taking corporation; MMF = money market fund; OFC = other financial corporation; DC = depository corporation; CCP = central clearing counterparty; CD = certificate of deposit; MFI = monetary financial institution; NPISHs = nonprofit institution serving households.

6.84 Table 6.1 presents a summary DCS, highlighting broad money and its counterparts or sources. In the table, sub-components of counterparts carrying a minus sign originate from the liability side of the sectoral balance sheets.

6.85 When broad money includes liabilities issued by institutional units other than FCs, the compilation of counterparts of broad money becomes less straightforward, unless sufficiently detailed balance sheets of these money issuers are available to the monetary statistics compilers. In addition, as issuance of broad money accounts for a marginal part of the balance sheet of these units, and the structure of the balance sheet is quite different from that of DCs, the inclusion of their broad money counterparts may distort the analysis of the factors affecting the expansion and contraction of broad money.

6.86 Consequently, this *Manual* recommends compiling counterparts of broad money within the perimeter of the DCS and not for other measures of broad money that include instruments issued by institutional units other than FCs. Countries may, however, elect to compile counterparts for the added components of broad money issued by units other than FCs. Two approaches may be used:

a. A single contra-entry is recorded for the full amount of the added components. For instance, the contra-entry for currency/deposits/debt securities issued by central government is recorded under *Net claims on central government* and the contra-entry for deposits with the postal system and any other NFC is recorded under *Claims on nonfinancial corporations*.

b. Main counterpart assets, particularly financial assets, acquired by the issuer against the instruments issued, are identified (if possible), with supplemental information obtained from the issuer, and are recorded under the relevant

Table 6.1 Depository Corporations Survey: Broad Money and Counterparts

Counterparts	Broad money
Net foreign assets/Net claims on nonresidents	Currency outside depository corporations
Domestic claims	Transferable deposits included in broad money
Net claims on central government	Other deposits included in broad money
Claims on other resident sectors[1]	Debt securities included in broad money
Other items net	Money market fund shares included in broad money
– Equity of depository corporations	**Liabilities excluded from broad money**
+/– Other (nonfinancial assets, interbank positions net, etc.)	Deposits of money-holding sectors excluded from broad money
	Debt securities issued by depository corporations and held by money-holding sectors, excluded from broad money
Total counterparts	**Total liabilities to money-holding sectors**

[1] "Other resident sectors" include all resident sectors that are money holders, namely other financial corporations, nonfinancial corporations, government units other than central government, households and nonprofit institutions serving households.

Table 6.2 Extended Broad Money (with Components Issued by Nonfinancial Corporations) and Counterparts

Counterparts	Broad money
Net foreign assets/Net claims on nonresidents including, if the economy is partially or completely "dollarized," a contra-entry for the estimated amount of foreign currency	Currency outside depository corporations including coins issued by the treasury and, if the economy is partially or completely "dollarized," estimated amount of foreign currency
Domestic claims	Transferable deposits included in broad money including demand deposits of money-holding sectors with the postal system.
Net claims on central government including a contra-entry for coins issued by the treasury	Other deposits included in broad money, including savings deposits of money-holding sectors with the postal system.
Claims on other resident sectors including a contra-entry for demand and savings deposits of money-holding sectors with the postal system[1]	Debt securities included in broad money
Other items net	Money market fund shares included in broad money
– Equity of depository corporations	**Liabilities excluded from broad money**
+/– Other (nonfinancial assets, interbank positions net, etc.)	Deposits of money-holding sectors excluded from broad money
	Debt securities held by money-holding sectors, excluded from broad money
Total counterparts	**Total liabilities to money-holding sectors**

[1] If the funds collected through deposits of money-holding sectors with the postal system are immediately and entirely channeled to the treasury, this counterpart item must be accounted for in *Net claims on central government* rather than in *Claims on other resident sectors*.

counterpart claims with the residual amount recorded under *Other items net*.

6.87 This *Manual* considers either approach acceptable. For both approaches, components added to broad money and their contra-entries in counterparts should be separately identified for users of monetary statistics.

6.88 Table 6.2 illustrates the first approach for which the following three additional broad money components are added to broad money liabilities presented in Table 6.1: (1) coins in circulation issued by the treasury (a central government unit and, thus, money-neutral); (2) demand and saving deposits of money-holding sectors with the postal system (a nonfinancial public corporation and, thus, money holder); and (3) an estimated amount of foreign currency circulating in the economy issued by a nonresident central bank (money neutral).

6.89 Examples of other additional components of broad money include holdings by money-holding sectors of electronic money and traveler's checks issued by institutional units other than FCs (with a contra-entry in *Claims on other resident sectors*), transferable and saving deposits of money-holding sectors with the treasury (with a contra-entry in *Net claims on central government*), and debt securities issued by the treasury (with a contra-entry in *Net claims on central government)* or by NFCs (with a contra-entry in *Claims on other resident sectors)*.

IV. Monetary Base

6.90 The monetary base[19] comprises central bank liabilities that support the expansion of credit and broad money. The monetary base is also called *high-powered money*, because changes in the monetary base support larger increases in credit and broad money.

6.91 The monetary base is a measure of the funding base that underlies the money aggregates, rather than a money aggregate. The monetary base includes at least two components that are excluded from broad money: (1) ODCs' holdings of deposits with the central bank, and (2) ODCs' holdings of domestic currency.

6.92 The monetary base is calculated exclusively from the liability side of the central bank balance sheet. Thus, the central bank is the sole issuer of the monetary base. Other resident sectors, particularly ODCs, are monetary base-holders. As in the case for broad money, central government and nonresidents are not monetary base-holders (i.e., central bank liabilities to these sectors are excluded from the monetary base, except for their holdings of domestic currency due to lack of reliable data on these holdings (see also paragraphs 6.73 and 6.75c)).

6.93 ***The monetary base is defined as currency in circulation, ODCs' deposit holdings at the central bank, and those deposits of money holding-sectors at the central bank that are also included in broad money.*** It is common practice in many economies that state and local governments, and also PNFCs, hold deposits with the central bank. Not so common are accounts of other NFCs and households with the central bank; in the latter case, they are usually accounts of the central bank's current and former staff. Compilers may include additional components in the monetary base, depending on the types of liabilities issued by the central bank and the analytical use of the monetary base (see Box 6.3 for representative components of the monetary base).

6.94 Central bank deposits that ODCs use to satisfy reserve requirements and for clearing purposes are always included in the monetary base. ODCs' restricted deposits with the central bank that do not qualify for satisfying reserve requirements are excluded from the monetary base. Deposits of ODCs under liquidation should be excluded from the monetary base because they are frozen from use for an indeterminate period of time.

6.95 Deposits in foreign currencies, if any, to satisfy reserve requirements, and for clearing and external payments purposes are also included in the monetary base. In some countries, ODCs collect deposits in foreign currencies from their clients and are required to redeposit all or part of these funds at the central bank. In this case, re-deposited funds are restricted and should, therefore, not be included in the monetary base. Similarly, import deposits in domestic currency held by ODCs at the central bank on behalf of their clients are not to be included in the monetary base, because their use is restricted.

6.96 When a central bank sells securities to ODCs under repurchase agreements the transaction is recorded as a liability to ODCs, accompanied by a reduction in ODC deposits within the monetary base. Inclusion or exclusion from the monetary base of such liabilities to ODCs

[19] Different terms are used for "monetary base," such as reserve money, base money, and central bank money. This *Manual* recommends using the term "monetary base."

Box 6.3 Monetary Base Components

Currency in circulation[1]

Central bank liabilities to ODCs
- Transferable deposits[2]
- Other deposits[3]
- Debt securities issued by the central bank[4]

Central bank liabilities to non-ODCs included in broad money
- Transferable deposits
- Other deposits
- Debt securities issued by the central bank[5]

[1] Comprises currency holdings of all sectors other than the central bank. In particular, the holdings of the central government and nonresidents are usually included along with the holdings of the other sectors for lack of data. The currency component of the monetary base in the CBS, described in Chapter 7, includes only the domestic currency issued by the central bank.

[2] Includes reserve requirements (including any excess reserves) that are based on averaging of reserve holdings (see paragraph 4.37).

[3] Includes reserve requirements (including any excess reserves) that are pre-specified fixed amounts of required reserves (without averaging of reserve holdings). (See paragraph 4.37.) May include repurchase agreements with ODCs.

[4] If holdings of these debt securities can be used in satisfying reserve requirements, they are included in the monetary base. Otherwise, such holdings are included or excluded, depending on the specific formulation and analytical use of the monetary base.

[5] Includes only short-term debt securities issued by the central bank and held by the money-holding sectors that are included in broad money.

Note: ODC = other depository corporation; CBS = central bank survey.

will depend on the central bank's objective in engaging in the securities repurchase agreements. If the objective is to affect liquidity of the ODCs, such central bank's liabilities to ODCs would not count towards reserve requirements and so would be excluded from the monetary base.[20] If the objective is to provide an interest-earning alternative to ODCs' non-interest-bearing reserves in the central bank, whether or not they qualify as a reserve asset of the ODCs, they would be included in the monetary base. Consequently, in the first instance, the monetary base decreases while, in the second instance, the monetary base does not change.

6.97 Long-term securities issued by the central bank that do not qualify for satisfying reserve requirements should not be included in the monetary base. Short-term securities issued by the central bank should not be included in the monetary base if they are used to affect liquidity (open market operations). However, short-term securities held by ODCs that can be used to satisfy reserve requirements are included in the monetary base. Short-term securities issued by the central bank held by money-holding sectors that are included in broad money should also be included in the monetary base.

6.98 Countries can have different definitions of the monetary base, depending on their policy and analytical needs. However, it is expected that the components of the monetary base comply with the principles specified in this *Manual*. These can be compared with the components presented in Box 6.3 that are consistent with the principles specified in this *Manual*. Some compilers include all central bank liabilities to FCs and other domestic sectors (excluding central government holdings of central bank liabilities other than currency), whereas others use narrower definitions of the monetary base that include only currency in circulation and ODCs' deposits used to satisfy reserve requirements (see Box 6.4).

6.99 The category *Liabilities to ODCs* within the *Monetary base* section of the CBS (see Table A3.1 in Appendix III) includes separate lines for *Reserve deposits* and *Other liabilities*. Both lines are applicable in countries that have separate accounts for required reserves and for ODC balances used for clearing purposes. In these countries, an ODC must maintain fixed amounts of reserves throughout the required reserve maintenance period. Other countries' reserve requirements allow the averaging of an ODC's reserve holdings over the reserve maintenance period, and reserves held to satisfy reserve requirements are indistinguishable from reserves that ODCs hold for clearing and/or other liquidity management purposes. For countries that use reserve averaging in the specification of the reserve requirements, only the line for *Reserve deposits* within the *Monetary base* section is applicable. Additional information about required reserves is presented in Annex 6.3 of this chapter.

[20] If they were included within the monetary base, the only effect would be a change in composition of the monetary base, but not in its total amount. The monetary base would then lose its role as an indicator for policy monitoring purposes.

Box 6.4 Standard and National Components of the Monetary Base (at end-September 2015)

Economy	Components of the monetary base		
***Monetary base in this* Manual**	***1) Currency in circulation***	***2) Deposits with the central bank:*** ***- ODCs' deposits*** ***- Money-holding sectors' deposits***	***3) Debt securities issued by the central bank included in monetary base*** ***Note: Excludes central bank liabilities to central government and nonresidents***
U.S.–Monetary base	1) Total reserves	2) Required clearing balances and adjustments to compensate for float at Federal Reserve Banks	3) Currency component of the money stock 4) For all quarterly reporters on the "Report of Transaction Accounts, Other Deposits and Vault Cash" and for all those weekly reporters whose vault cash exceeds their required reserves, the difference between current vault cash and the amount applied to satisfy current reserve requirements. Currency and vault cash figures are measured over computation periods ending on Mondays
UK–M0	1) Banknotes and coin in circulation outside the Bank of England	2) Bankers' operational balances with the Bank of England	
Euro area–Monetary base	1) Currency in circulation	2) Reserves (required and excess) held by counterparties with the Eurosystem	3) Recourse by credit institutions to the Eurosystem's deposit facility. In the Eurosystem's minimum reserve system, counterparties are obliged to hold reserves with the NCBs. Beyond that, credit institutions hold a small amount of excess reserves with the Eurosystem
China–Base money	1) Currency issued by the People's Bank of China (PBC)	2) Deposits of banking institutions with the PBC	
Korea–Monetary base	1) Currency in circulation (excluding commemorative issues)	2) Deposits with the central bank: reserve deposits, and liquidity adjustment deposits (LAD)	3) Debt securities issued by the central bank included in monetary base (if any—none at present)

(*Continued*)

Box 6.4 Standard and National Components of the Monetary Base (at end-September 2015) (*Continued*)

Economy	Components of the monetary base		
Brazil–Reserve money	1) Currency issued	2) Deposits with the central bank: deposits of ODCs including banking reserves, other reserve requirements, and deposits from insufficiency in credit applications, such as the requirements referring to real estate credit, rural, or micro-credits	3) Debt securities issued by the central bank included in monetary base (if any)
India–M0	1) Currency in circulation	2) Bankers' deposits with the RBI comprise: required reserves and excess reserves maintained by banks with RBI	3) Other deposits with the RBI: deposits of quasi-government, selected domestic financial institutions, primary dealers, foreign central banks and governments, and international agencies
Mexico–Base Money	1) Bills and coins outside the Bank of Mexico	2) Demand deposits of commercial and development banks with the Bank of Mexico	
Russian Federation–Broad Monetary Base	1) Currency issued by the Central Bank of Russia (CBR) (excluding cash in its vaults)	2) ODCs' required reserves and correspondent accounts in national currency with the CBR	3) CBR bonds held by ODCs valued at market price 4) Other funds on operations of ODCs with the CBR
Saudi Arabia–Monetary Base	1) Currency in circulation (banknotes and coins issued by Saudi Arabian Monetary Authority (SAMA))	2) Bankers' deposits with SAMA	
South Africa –M0	1) Banknotes and coins in circulation outside the central bank	2) ODC's deposits with the central bank in national currency	

Note: ODC = other depository corporation.

V. Liquidity

6.100 The concept of liquidity is defined and used in several different ways in various contexts. ***This Manual defines the concept of liquidity and liquidity aggregates from the perspective of issuers of financial liabilities included in measures of liquidity. Liquidity aggregates are defined as the sum of broad money liabilities and other liabilities that are somewhat liquid but not included in broad money***. Liquidity aggregates have the same three underlying dimensions as broad money: (1) financial instruments—components of liquidity aggregates, (2) liquidity-issuing sectors, and (3) liquidity-holding sectors. This section presents a nonprescriptive framework on how liquidity aggregates are compiled and what financial instruments are included in liquidity aggregates (see Box 6.5).

Box 6.5 Liquidity Aggregates: Sectors and Liabilities

Liquidity holders
- Central government (inclusion possibly pertains only to domestic currency holdings)
- Other financial corporations
- State and local government
- Nonfinancial corporations
- Households and NPISHs
- Nonresidents (inclusion possibly pertains only to domestic currency holdings)

Broad money liabilities (see Box 6.1)
Plus
Liabilities issued by:[1]

Depository corporations
- Long-term deposits and saving schemes
- Debt securities
- Commercial paper[2]
- Bankers acceptances[2]
- Long-term debt securities
- Traded shares

Other financial corporations
- Long-term deposits and saving schemes
- Commercial paper
- Other debt securities
- Traded shares (including non-MMF investment fund shares)

Central government
- Long-term deposits accepted by the national treasury, etc.[3]
- Short-term securities (for example, treasury bills)
- Savings bonds
- Other debt securities

State and local government
- Municipal debt securities
- Other debt securities

Public nonfinancial corporations
- Long-term deposits accepted by the postal system[3]
- Commercial paper
- Other debt securities
- Traded shares

Other nonfinancial corporations
- Commercial paper
- Other debt securities

Nonresidents[4]
- Transferable deposits
- Other deposits
- Debt securities
- Traded shares (including MMF and non-MMF investment funds shares)

Other[5]

---

[1] Definitions of liquidity aggregates may differ considerably across countries.

[2] If not already included in broad money.

[3] Short-term deposits accepted by these units typically are included in the broad money component of the liquidity aggregate (see paragraph 6.54).

[4] Pertains to holdings by resident liquidity holders of the listed instruments issued by nonresidents.

[5] Liabilities not classified elsewhere, such as repurchase agreements resembling deposits not included in broad money.

Note: NPISHs = nonprofit institutions serving households; MMF = money market fund.

6.101 Recent developments, including the 2007–2009 global financial crisis, demonstrated that broad money may not capture the full range of liquidity-creating mechanisms and instruments, given the increasing importance of OFCs and the substitution between different financial instruments issued by ODCs and other liquidity issuers. Liquidity aggregates—encompassing liabilities issued by ODCs, OFCs, and other issuers of financial instruments—provide a broader measure of the available liquidity in the economy than broad money.

6.102 In recognition of the scope for substitution of financial instruments, liquidity aggregates are broader than broad money with respect to both the types of financial instruments and the issuing sectors covered. Liquidity aggregates include, in addition to broad money liabilities, other liabilities that are also somewhat liquid, but that do not meet the definition of broad money. Box 6.5 illustrates the types of liabilities and holding and issuing sectors that would be considered in constructing liquidity aggregates. All resident sectors, except households and NPISHs, are liquidity issuers; all resident sectors are liquidity holders except DCs and central government.

6.103 One significant difference between financial instruments included in broad money and the additional instruments included in liquidity aggregates is maturity. Liquidity aggregates comprise also financial instruments with longer original maturities than those included in broad money. A longer maturity for tradable debt instruments entails a higher exposure to changes in the yield curves and, consequently, an increased sensitivity of their market value to changes in market interest rates. Their market value may, therefore, fall significantly below the amount initially invested by the current holder.

6.104 Box 6.6 presents an example of measures of liquidity aggregates. Liquidity aggregates compiled by a number of countries are diverse. In many cases, countries compile two or three liquidity aggregates. For instance, a liquidity aggregate L1 could include broad money plus long-term deposits and long-term saving schemes; L2 could further cover long-term debt securities issued by ODCs, debt securities issued by government units and OFCs, and non-MMF investment fund shares; L3 could further cover debt securities issued by NFCs; and L4 could further cover shares of NFCs, and financial instruments issued by nonresidents. Investment fund shares not included in broad money would be included in the appropriate liquidity measure based on the types of financial assets that the fund invests in.

6.105 The main focus of monetary statistics compilers are liquidity aggregates issued by the entire FCs sector that can be derived from the FCs survey (FCS) discussed in Chapter 7. Liquidity aggregates issued by FCs may be grouped in different ways, including into *core liabilities* (i.e., those liabilities of DCs included in broad money) and *noncore liabilities* (all other liabilities of FCs included in liquidity aggregates).[21]

[21] See Chen and others (2012); and Tiffin, Chen, and Raissi (2013).

Box 6.6 Measures of Liquidity Aggregates (an example)

Liquidity	Issuers of liquidity	Coverage
L1	DCs, other issuers of broad money, and OFCs	Broad money plus long-term deposits and long-term saving schemes
L2	All FCs and government units	L1 *plus* short-term and long-term debt securities issued by ODCs (not included in broad money) and debt securities issued by OFCs and government units, as well as non-MMF investment fund shares
L3	All FCs, government units, and nonfinancial corporations	L2 *plus* debt securities issued by nonfinancial corporations
L4	All FCs, government units, nonfinancial corporations, and nonresidents	L3 *plus* shares of nonfinancial corporations, and deposits, debt securities, and shares issued by nonresidents.

Note: DC = depository corporation; OFC = other financial corporation; FC = financial corporation; ODC = other depository corporation.

VI. Credit and Debt

A. Introduction

6.106 Credit and debt can be viewed as two sides of the same concept considered from either the creditor's or debtor's perspective, respectively. However, credit and debt scopes may be different, particularly as regards the financial instruments that should be included in each concept.

6.107 Debt instruments are defined in the *BPM6*, as well as the *Public Sector Debt Statistics: Guide for Compilers and Users* (2013) and the *External Debt Statistics: Guide for Compilers and Users* (2013). The *2008 SNA* provides general definitions for credit and debt.

6.108 This *Manual* uses the term *claims on* to refer to the financial assets held by one unit that are liabilities of another unit, and recommends the measurement of such claims within the framework of the surveys, as presented in Chapter 7, and the stock and flow data for the entire economy, as presented in Chapter 8. The following sections provide guidance for the compilation of credit and debt aggregates.

B. Credit

6.109 ***Credit creation involves the provision of resources by one institutional unit (the creditor or lender) to another unit (the debtor or borrower). The creditor acquires a claim, and the debtor incurs a liability to repay***.

6.110 Measures of credit have the same three dimensions as broad money. Compiling credit measures involves specifying: (1) the financial assets included, (2) the issuing sectors (lenders), and (3) the holding sectors (borrowers). Measures of credit may encompass the total domestic economy or may be limited to specific issuing sectors (e.g., credit issued by DCs). Credit measures may also focus on specific lender/borrower relationships (e.g., central bank credit to central government). The composition and coverage of credit measures should be reviewed periodically to ensure that they reflect the changing use and type of credit instruments and new credit channels such as a greater reliance on securities markets (see Box 6.7), as well as the impact of securitization on the measurement of ODCs' credit to the money-holding sectors.

6.111 Credit is a major link in the monetary policy transmission process. Credit to nonfinancial sectors finances production, consumption, and capital formation. Broad credit aggregates are related to overall economic activity; data on specific types of credit (e.g., mortgage lending, consumer credit, or construction lending) are related to the economic activity of specific sectors or industries.

6.112 Credit measures cover financial assets only and therefore exclude contingent positions such as lines of credit, loan commitments, and guarantees. However, the compilation of supplementary information on such contingent positions may be of value in projecting credit expansion and assessing credit conditions.

Financial assets

6.113 Credit measures may cover all or only a subset of financial assets that constitute forms of credit. Narrow domestic credit measures cover claims in the form of loans, debt securities, and trade credit and advances. Such measures exclude deposits, equity, and other accounts receivable (other than trade credit). Even

Box 6.7 Credit Aggregates: Borrowers, Lenders, and Financial Assets[1]

Borrowers
- Central government
- State and local government
- Public nonfinancial corporations
- Other nonfinancial corporations
- Households and NPISHs
- Nonresidents

Lenders
- Financial corporations
- Central government
- State and local government
- Public nonfinancial corporations
- Other nonfinancial corporations
- Households and NPISHs
- Nonresidents

Financial assets
- Deposits
- Debt securities
- Loans
- Equity
- Trade credits

[1] Definitions of credit aggregates may differ considerably across countries.

Note: NPISHs = nonprofit institutions serving households.

though the placing of deposits is not considered a typical method of providing credit, there are circumstances in which such deposits are viewed as a credit extension—for example, when government units maintain deposits in FCs for the express purpose of funding specific activities of these corporations. In such cases, the financial assets have the legal form of a deposit but have the economic nature of a loan. Financial derivatives, and claims on insurance corporations and pension funds are always excluded from credit measures.

6.114 Broader credit measures encompass most types of financial claims of one unit on another and may include holdings of deposits and equity. Acquisition of equity provides financial resources and a claim on the issuer, but its nature differs substantially from other credit flows from debt instruments, because it only represents a claim on the residual value of the corporation after the claims of all creditors have been met. Institutional, fiscal, and market conditions may affect preferences to use either debt securities or equity instruments as primary means of investing in corporations, and these patterns are reflected in the financial assets to be included in credit measures.

6.115 Credit aggregates can separately identify financial assets denominated in foreign currencies and breakdowns by original maturity. They may also be disaggregated by type of credit instrument, by sector of the lender and borrower, and by purpose of lending.

Lenders

6.116 The lending sectors may be defined narrowly or broadly. Narrow credit aggregates may be defined to include only DCs' claims on other sectors. The DCS presented in Chapter 7 provides the statistical framework for developing credit measures for DCs' financial claims. Broader measures may cover all FCs' claims, as included in the FCS described in Chapter 7, as well as claims of all domestic sectors and nonresidents. (See Box 6.7.)

6.117 Suppliers of credit within the FCs sector are a broader group than the issuers of broad money liabilities. OFCs may provide credit using the same or similar credit instruments as DCs, thereby differing from them only because their funding sources are not financial instruments included in broad money. These other credit suppliers (OFCs) obtain funds by incurring liabilities that are not included in broad money, such as through accepting long-term deposits, the issuance of debt securities, borrowing from DCs, external borrowing, or issuance of equity.

6.118 Government units may provide credit to financial and nonfinancial corporations, and credit measures broadly defined should cover government lending. Government units (and central banks) may obtain financing from abroad for specific domestic uses. The government may incur a direct liability to the nonresident source of funds or may act as an agent or guarantor between the nonresident creditor and the final domestic recipient of the credit. When the government incurs a direct liability and on-lends the funds, these transactions should be recorded as foreign liabilities of the government and as credit provided by the government to the final domestic recipient. When the government acts only as an agent or guarantor between the nonresident and the final recipient, the nonresident should be shown as providing the credit directly to the final domestic recipient.

6.119 A similar situation may arise when government units (or central banks) provide funds to FCs to finance specific types of credit (e.g., credit to agriculture or to other specific industries). If the FC incurs a direct liability to the government and acquires a claim on the final domestic recipient, the credit should be recorded as credit provided by the government to the FC and as credit extended by the FC to the final domestic recipient. When the FC acts only as an agent for the government, credit should be shown as being provided by the government directly to the final domestic recipient.

6.120 Some important types of credit are provided primarily by nonfinancial sectors. Trade credit supplied by NFCs is an example. Nonfinancial units often acquire financial assets for liquidity purposes and, as a result, are significant suppliers of credit to other units. Many NFCs provide credit to affiliated companies. Households and NPISHs can also be credit providers when buying government bonds or NFCs debentures. In particular, trust funds of some NPISHs (universities) have a large portfolio of debt securities.

6.121 Resident units can also acquire credit from nonresidents, particularly from foreign FCs and international financial institutions. As financial liberalization proceeds, residents, including DCs, can borrow from nonresident FCs. Interbank borrowing from

foreign DCs can be an important source of finance, particularly during a period of fast credit expansion in the domestic economy and can be usefully recorded separately within foreign liabilities in the DCS if such a breakdown is available.

Borrowers

6.122 Under broad definitions of credit for an economy, the borrowing sectors are usually defined to include all nonfinancial sectors. Specific credit measures may focus on credit provided to individual sectors or subsectors, or groupings of sectors. Common examples include credit to central government, credit to the total or nonfinancial public sector, credit to NFCs, credit to the nonfinancial private sector, and credit to the household sector. Data on credit to nonresidents are needed to account for total credit provided, and to assess foreign exposure of the FCs sector. The analysis of claims on (i.e., credit to) residents measures the direct impact of residents' borrowing on domestic economic activity. Credit flows between FCs are often excluded from broad credit measures, but credit received by FCs from abroad is needed to assess credit conditions in the domestic economy.

Specific credit measures

6.123 The surveys of the FCs sector presented in Chapter 7 provide data on credit extended by FCs to other domestic sectors. The surveys provide aggregate measures of credit, covering claims on the central government, state and local government, PNFCs, other NFCs, and households and NPISHs. The sectoral balance sheets used to compile these surveys contain data that are used to compile the broad domestic credit aggregate, broken down by sector of borrower, type of financial asset, and currency of denomination (into domestic and foreign).

6.124 In addition to the preceding measure, credit measures that can be important for the formulation of monetary and other macroeconomic policies include the following:

a. Central bank credit. Extension of credit by the central bank to ODCs (and sometimes to OFCs) is important for implementing monetary policy. Such credit may be extended to (1) provide liquidity to fund ongoing operations of ODCs; (2) enable ODCs to respond to seasonal credit demand; (3) influence domestic financial conditions and the amount of broad money; or (4) provide emergency assistance, including equity participation. The central bank can either place deposits in, or extend loans to, FCs. Either method provides ODCs with funds to support expansion of credit, leading to growth of broad money. Central banks regulate the cost at which FCs acquire such funds and attach other terms and conditions to the access to such credit, thereby influencing credit and monetary conditions in the economy.

b. Central government credit. Central governments supply credit to FCs by extending loans or by providing deposits that are intended to be used for credit extension by FCs. Governments also provide credit to nonfinancial sectors to foster public policy goals such as development of specific industries or regions, or to provide emergency aid. Credit from government units is often extended at subsidized (i.e., below-market) interest rates. Comprehensive measures of government credit include lending by the central government and other levels of government.

6.125 The CBS and ODCS, presented in Chapter 7, provide a comprehensive framework for developing credit measures. The FCS, also presented in Chapter 7, provides the appropriate framework for expanding the coverage of measures of credit to encompass the credit provided by OFCs, as well as by DCs.

6.126 Financial statistics, as described in Chapter 8, provide the appropriate framework for compiling measures of inter-sectoral credit, including borrowing from nonresidents, identifying both the lending and borrowing sectors.

C. Debt

6.127 ***Debt instruments are those instruments that require the payment of principal and/or interest at some point(s) in the future.***[22] All debt instruments are liabilities, but some liabilities are not debt. The definition of debt is such that it includes all liabilities recognized in this *Manual* and in other major statistical manuals—except[23] for equity and investment fund

[22] See *2008 SNA*, paragraph 26.103, and *BPM6*, paragraph 5.31.

[23] In this *Manual*, provisions for losses on financial assets are treated as liabilities and included in *Other accounts payable [MS]*, but they are not debt instruments.

shares, and financial derivatives and ESOs. These liabilities, known as *debt liabilities*, comprise the following debt instruments: Special Drawing Rights (SDR) allocations; currency and deposits (including unallocated gold accounts); debt securities; loans; insurance, pension, and standardized guarantee schemes; and other accounts payable, including trade credit and advances. It is useful in all cases to clearly identify the instruments included, as sometimes debt aggregates are presented excluding some types of debt instruments.

6.128 The surveys presented in Chapter 7 provide a comprehensive framework for compiling measures of debt owed to the FCs sector, as well as the debt of FCs to other sectors. Debt of the total economy may be presented as an aggregation of the debt of all domestic sectors, or on a consolidated basis that eliminates all debts that are assets of residents, thereby leaving only liabilities to nonresidents. The latter is referred to as external debt.

6.129 Debt is a natural consequence of economic activity and has a significant impact, both positive and negative, on all resident sectors. On the positive side, borrowing allows funds to be channeled from sectors that are savers to those that need short- or long-term financing, directly or through the FCs sector. From the borrowers' perspective, depending on their economic function, debt provides opportunities such as financing capital investments, smoothing out expenses, and using future income for current needs. For example, for FCs, debt provides the necessary funding for expansion of financial intermediation (leveraging); NFCs often use borrowing to finance their production and capital formation; government units borrow to finance expenses as well as capital investments; and households use debt to finance their current consumption, asset purchases, and production.

6.130 On the negative side, borrowing entails cost—in the form of interest payments—and an obligation to repay. Therefore, debt gives rise to future payment liabilities. As a consequence, high levels of debt liabilities have the potential to create circumstances that render an institutional unit, a sector, and even the whole economy vulnerable to liquidity (including debt rollovers) and solvency risks. For these reasons, there is strong analytical interest in debt measures.

6.131 A key element in debt analysis is maturity structure. For maturity analysis, debt data should be disaggregated, at a minimum, into short- and long-term categories, and more detailed maturity breakdowns are often useful. Data can be compiled on either an original maturity basis (ensuring consistency with other macroeconomic datasets) or a remaining maturity basis (more relevant for analyzing liquidity), or both. Features such as the ability to "call" the debt early may need to be identified in analyzing the maturity of some debt instruments.

6.132 Countries compile a wide range of debt measures, covering specific sectors and subsectors and the entire economy. In many cases, there are credit measures that correspond to specific types of debt (e.g., consumer credit and consumer debt). Some of the more common debt measures are described below.

Household debt

6.133 Household debt is incurred for a variety of purposes. Often, debt is incurred to finance the purchase of specific assets, such as real estate and vehicles, which are pledged as collateral for loans. Households also incur debt to finance current consumption, education or medical expenses, development of small businesses, and purchase of equity or other financial assets. Interest rates, the size of monthly payments for installment loans, expectations regarding future income, and wealth are all factors that affect households' decisions to borrow.

6.134 Household debt may be disaggregated into different types of loans, such as mortgage loans, consumer loans, loans for sole proprietorship, etc. The most common loans received by households include:

a. Loans that ODCs and OFCs (e.g., finance companies) provide directly to their clients such as personal loans for general purposes, mortgage loans, equity loans backed by the net value of real estate, consumers loans for acquiring durables, etc.

b. Trade credit with repayment by installments provided by the sellers of goods and services.

c. Credit card loans.

d. Loans that are provided by insurance corporations and are collateralized by the borrowers' reserves in such entities.

e. Financial leases that permit consumers to use and, eventually, acquire durables through such

arrangements in lieu of conventional loan contracts.

6.135 Because of the difficulty of obtaining data directly from households, data on consumer debt are usually derived from creditor sources.

Business debt

6.136 Corporations and other business entities incur short-term debt to finance current production, acquire inventories, and meet recurring expenses such as tax and interest payments. They also acquire long-term debt to finance capital formation. Corporations may finance these activities by obtaining trade credit, by borrowing from FCs, or by issuing debt securities.

Public sector debt

6.137 Debt data should be compiled for the central government, general government, and the entire public sector. Data on government debt are often disaggregated by debt to residents and to nonresidents. Supplementary data on debt that is incurred by other sectors, but is guaranteed by the government, should be compiled if the amounts of such guarantees are significant.

6.138 The IMF's *Government Finance Statistics Manual 2014* provides international guidelines for the construction of measures of government debt. The inter-agency Task Force on Finance Statistics (TFFS)[24] has published the first *Public Sector Debt Statistics: Guide for Compilers and Users* (2013), which focuses on improving the quality and timeliness of these statistics and promoting a convergence of recording practices.

6.139 Beyond debt statistics, the government's financial balance sheet is an integral part of fiscal risk and sustainability analysis, and should cover the general government and public sector, and include memorandum information on contingent liabilities and arrears, if significant. Information on foreign currency debt of the general government or public sector is important to measure vulnerabilities of the public sector that can be triggered by exchange rate fluctuations.

External debt

6.140 External debt refers to debt liabilities of a country, sector, or unit to nonresidents. External debt statistics, including debt service payments, are used in the analysis of vulnerability to solvency and/or liquidity problems. They are useful for general macroeconomic analysis and for negotiations of debt rescheduling.

6.141 The International Investment Position (IIP) statement described in the *BPM6* covers an economy's stock positions of external financial assets and liabilities, including external debt. The IIP components can be fully reconciled with the financial asset categories of the *2008 SNA*.

6.142 Analysis of the vulnerability of an economy's external debt position requires data beyond that provided by the IIP framework. These other data series include information on the (1) amount actually owed—the nominal value of debt, as opposed to the market value of external debt; (2) debt service schedule; and (3) increasingly, extent to which financial derivatives are used to hedge, or even increase, exposure to risk.

6.143 The TFFS has also published the *External Debt Statistics: Guide for Compilers and Users* (2013), which provides international methodological guidelines for the measurement of external debt, as well as guidance on the analytical use of the data and on the sources and methods for their compilation.

[24] The members of the TFFS are the BIS, the Commonwealth Secretariat, the ECB, Eurostat, the IMF (chair), the OECD, the Paris Club Secretariat, the UNCTAD, and the World Bank.

ANNEX

6.1 Currency-Union Currency

Framework

6.144 In a currency union, the union-wide currency is issued by a supranational central bank such as the European Central Bank (ECB), Eastern Caribbean Central Bank (ECCB), and the two central banks of the CFA franc areas—Banque Centrale des États de l'Afrique de l'Ouest (BCEAO) and Banque des États de l'Afrique Centrale (BEAC). The union-wide currency serves as the medium of exchange and domestic unit of account in each of the member countries of the union. Several actions apply to each country in the currency union at its inception:

a. For the transition to the union currency, a fixed exchange rate between the domestic currency and the union currency is announced.

b. Domestic currency banknotes and coins are withdrawn from circulation, either gradually or within a preannounced period.

c. The financial records of institutional units in all sectors of the economy are translated into union currency units, which is the new standard unit of account.

d. Banknotes and coins denominated in the union currency are placed in circulation by the central banks of the union's member countries.

6.145 The introduction of the union currency in an economy is reflected in the sectoral balance sheets and surveys of the FCs of each union member country.

a. Currency in circulation. This liability account of the national central bank shows the amount of union-currency banknotes and coins issued by (or treated as if issued by) the national central bank, as well as the amount of domestic currency issued earlier by the national central bank and not yet removed from circulation.[25]

b. Union currency banknotes and coins. Union currency banknotes and coins are classified as in *domestic currency.*

c. Financial asset/liability disaggregation by currency. In the sectoral balance sheets/SRFs in Appendix II, deposits are disaggregated into separate categories for *domestic currency* and *foreign currency*. For economies participating in a currency union, the common currency is the domestic currency of all participant countries.

Estimation of Currency-Union Currency

6.146 It is difficult to estimate the amount of union currency in circulation in individual countries belonging to a currency union. The basic problem is the lack of data on cross-border currency flows, which do not appear in FCs' accounts and generally are not reported from other sources to the monetary statistics compilers.

6.147 Estimation and compilation practices for currency in circulation differ across currency unions. For the euro area, each national central bank records euro banknote liabilities in an amount equal to its share of the total euro banknotes issued for the entire currency union. Each country's share is calculated in proportion to the amount of its share in the ECB's

[25] When the period set for exchanging domestic currency for the union-currency lapses, the liability of the national central bank for the issued domestic currency expires, and it records extraordinary revenues for the non-redeemed national currency as an OCVA. In the case of the euro area, domestic currency was reclassified outside of currency in circulation twelve months after the adoption of the union currency.

capital, with eight percent of the issue allocated to the ECB; plus coins issued by the national central bank intended for circulation.

6.148 The ECCB has the exclusive right to issue the common currency banknotes and coins of the Eastern Caribbean Currency Union (ECCU). The ECCU member countries do not have national central banks, and the currency is placed in circulation through the ODCs in these countries. The amount of currency issued in each member country is based on each country's equity share in the ECCU. All currency banknotes and coins are marked with a specific letter to designate the country where they were placed in circulation. Banknotes and coins spent in another member country are eventually repatriated to the member country of issue.

6.149 For countries that are members of BCEAO or BEAC, the currency banknotes issued by a member country are imprinted with an identifying sign, which facilitates the repatriation of banknotes that circulate outside the country of issue.

ANNEX

6.2 Dollarized Economies and Co-circulation

6.150 Foreign currencies can serve three functions in countries other than the country of issuance:

a. Store of value. Foreign currency banknotes, and to a lesser extent coins, that are easily transported into and out of a country are held by all sectors of an economy. Holdings of currency banknotes and coins issued by foreign countries constitute a separate category of claims on nonresidents in the sectoral balance sheets of the FCs, and in the balance sheets of institutional units in the nonfinancial sectors.

b. Foreign unit of account. Institutional units in the various institutional sectors hold foreign-currency-denominated assets—deposits, loans, debt securities, and financial derivatives. DCs in many countries accept foreign currency-denominated deposits and make foreign currency-denominated loans. Corporations and government units sometimes issue foreign-currency-denominated debt securities and may have foreign currency-denominated positions in financial derivatives and other accounts receivable/payable.

c. Medium of exchange. In some countries, a foreign currency serves as the only or widely used medium of exchange, or it is permitted that both domestic and foreign currency serve as media of exchange.

6.151 Foreign-currency-denominated assets and liabilities may be claims on and liabilities to residents or nonresidents. Foreign-currency-denominated deposits that DCs accept from money-holding sectors that meet the definition of broad money are included in broad money. All foreign-currency-denominated claims on and liabilities to nonresidents should be classified as foreign assets and foreign liabilities, respectively, regardless of the functions that foreign currencies serve in the economy.

6.152 In some countries, a foreign currency is the only or principal medium of exchange,[26] and the foreign currency unit is used as the domestic unit of account. These countries are referred to as "dollarized" economies, regardless of whether the U.S. dollar or some other foreign currency (such as the euro) is the foreign currency that serves as the medium of exchange and the domestic unit of account.[27] Dollarization has implications for the measurement of money aggregates in an economy and for the classification of financial assets and liabilities in the sectoral balance sheets of financial corporations (FCs).[28]

6.153 Some countries use their own domestic unit of account, but permit both domestic and foreign currency to serve as media of exchange. These countries are described as having currency co-circulation. Currency co-circulation has implications for the measurement of the money aggregates in an economy, but does not affect the classification of financial assets and liabilities in the sectoral balance sheets of FCs.

[26] The domestic currency in circulation in these countries is limited to coins issued by the central bank or government and, in some countries, old domestic currency banknotes not yet removed from circulation.

[27] The dollarization in Panama is a minor exception. The domestic currency unit is the balboa, which is on a par with the U.S. dollar. The foreign currency unit (that is, U.S. dollar) is tantamount to being the domestic currency unit of Panama. Coins denominated in balboa (but not balboa banknotes) are in circulation.

[28] This *Manual* uses a narrower definition of dollarization than literature in which dollarized refers to any country in which foreign-currency-denominated assets and liabilities are prevalent, even when domestic currency is the legal tender.

Dollarization

6.154 During the transition to a dollarized economy, the following actions are taken:

a. The financial records of institutional units in all sectors of the economy are converted from the domestic unit of account to U.S. dollars (or other foreign unit of account) at an exchange rate announced by the central bank or government.

b. Domestic currency banknotes are withdrawn from circulation, either gradually or within a preannounced period in which currency holders are entitled to exchange the domestic currency for U.S. dollars (or another foreign currency) at the preannounced exchange rate.

6.155 Dollarization of an economy is reflected in the following accounts in the sectoral balance sheets and surveys of the FCs:

a. Currency in circulation. After dollarization is completed, this liability account of the central bank shows only the amount of domestic-currency-denominated coins and old domestic currency banknotes, if any, that are still in circulation.

b. Dollarization currency banknotes and coins. Holdings of the "dollarization currency" are included in the same category as holdings of other foreign currencies and along with other foreign currencies are classified as claims on nonresidents (foreign assets).

c. Financial instrument disaggregation by currency of denomination. In the sectoral balance sheets in Appendix II, all domestic positions in dollarization currency are included under the domestic currency category. Positions in dollarization currency with nonresidents are included under foreign currency. This distinction for a dollarized economy is important for adherence to the definition of official international reserves which includes only *foreign-currency* assets.[29]

Co-Circulation

6.156 In some countries, foreign currency is allowed to co-circulate with domestic currency. The foreign currency serves as a medium of exchange and store of value, and the domestic currency continues to serve as a medium of exchange, store of value, and the domestic unit of account. The circulation of foreign currency (often the currency of a major trading partner) together with circulation of domestic currency is common in regional monetary integrations in which member countries retain their domestic currencies. The currencies are allowed to co-circulate freely within a single economy wherein each currency serves as the medium of exchange, and the domestic currency remains the domestic unit of account. Co-circulation may be legally sanctioned, or may be permitted as an informal practice that is clearly acceptable to the authorities.[30] Co-circulation may involve the use of two or more foreign currencies, along with the domestic currency, as media of exchange.

6.157 Co-circulation of foreign currency does not affect the classification of the accounts in the sectoral balance sheets of the FCs or in the balance sheets of the other institutional units in the economy. The characteristics of currency in these countries are:

a. Unit of account. The financial records in all sectors of the economy continue to be based on the domestic currency as the standard unit of account.

b. Currency in circulation. The central bank's account for currency in circulation shows its liability for the outstanding amount of domestic currency that it has issued. Liabilities for the co-circulating foreign currency appear only in the records of the foreign central bank or central government that issued the currency.

c. Co-circulating banknotes and coins. Holdings of the co-circulating foreign currency continue to be included in the same category as holdings of other foreign currencies, wherein all foreign currency is classified as claims on nonresidents (foreign assets).

d. Financial asset/liability disaggregation by currency of denomination. All financial assets and liabilities denominated in a foreign currency

[29] On reserve assets as *foreign currency assets*, see *BPM6*, paragraph 6.64.

[30] Co-circulation is distinguished from 'parallel market' trading, which involves the buying and selling of foreign currency in violation of national laws or regulations that are enforced.

(whether or not a co-circulating foreign currency) are classified as in *foreign currency*.

6.158 Currency co-circulation may be combined with dollarization, as in the case of the monetary integration arrangement of the Common Market Area (CMA) in southern Africa. The rand is the domestic currency of South Africa, as well as a co-circulating currency in the other CMA countries—Lesotho, Namibia, and Swaziland. Each of these countries has a domestic currency that, along with rand notes and coins, serves as a medium of exchange and the domestic unit of account. Moreover, the domestic currencies (Lesotho loti, Namibian dollar, and Swazi lilageni) have exchange rates that are pegged to the South African rand, which makes the rand akin to a domestic unit of account. Under the monetary arrangements, all CMA members share the seigniorage that South Africa obtains from the issuance of rand banknotes and coins.

Estimation of Dollarization and Co-Circulation Currency

6.159 Various techniques can be used to estimate the amount of foreign currency in circulation in dollarized economies and countries in which currency co-circulation is extensive. Estimation methods can be based on surveys of currency holdings, historical information about currency holdings, and econometric techniques. Similar techniques apply to the estimation of domestic currency outflows from countries that provide the dollarization or co-circulation currency to other countries.

6.160 Collection of survey data on currency flows across the domestic border is a first step in estimating the currency in circulation in a country with co-circulation of currency or a dollarized economy. Surveys typically cover currency transactions within the banking system, or are customs-type reports of currency carried by travelers. In some countries, statistical estimates of international flows of currency are constructed through netting of outflows and inflows associated with balance of payments transactions. Gross outflows associated with tourism, emigrant remittances, and other activities are netted against gross inflows from tourism, bank flows, etc. Some countries have formal customs reports that require reporting of currency taken across borders. In some countries, data for small transactions need not be reported, or are sampled.

6.161 Data on currency shipments are important for estimating the cross-border currency flows. Wholesale shipments of U.S. currency are provided by a few large FCs that specialize in this service. Local financial institutions acquire or repatriate U.S. dollars through wholesale shippers. For large shipments of U.S. currency, the U.S. Customs Department requires that a currency and monetary instrument report be filed by the shipper. The reporting applies only to cross-border currency shipments of $10,000 or more.

6.162 Survey methods can be used to estimate foreign currency holdings of the general population of a country. In addition to amounts of U.S. dollars, euros, and other foreign currencies held, the survey questions can delve into motives for foreign currency holding, identification of currency exchanges frequented by respondents, and their propensities for overseas travel. A general aversion to disclosure of personal or confidential information about currency transactions and holdings undermines the reliability of data from direct surveys of households or businesses.[31]

6.163 A technique for accurate responses is to survey households only about their foreign currency holdings *relative to* their domestic currency holdings. Using survey responses on the ratio of foreign currency holdings to domestic currency holdings with an estimate of households' total domestic currency holdings, the foreign currency holdings of households can be estimated.

6.164 Some insight into currency circulation may be gained by analyzing data on domestic currency holding[32] before the introduction of dollarization or before widespread use of co-circulation. Care must be exercised in extrapolating from historical experience. Data on currency holdings in the period just prior to dollarization may reflect a flight to currency in response to financial and economic instability in the country, which may have provided impetus for the move to dollarization. For a country experiencing an

[31] A significant share of the currency circulation is associated with "non-observed economy," which includes smuggling and the use of cash transactions to avoid the recording of taxable income. Exclusion of participants in these activities would distort the coverage of the survey; inclusion would likely not lead to satisfactory results.

[32] The total amount, or as a proportion of a broad or narrow money aggregate.

evolution from cash-based to deposit-based transactions in the retail market, the propensity for currency holding in periods before dollarization or significant co-circulation may contain information that is not relevant to the present period.

6.165 Estimation of the foreign currency circulation in the co-circulation context can be based on econometric modeling of the demand for money. In these models, the quantity of money—observed deposits and domestic currency *plus* the unobserved co-circulation currency—is specified as dependent on a set of macroeconomic variables (a measure of domestic income, interest rates, expected inflation, etc.). Applying econometric methods, an estimate of the unobserved quantity of the co-circulation currency can be obtained.[33]

6.166 When reliable and frequent estimates of the foreign currency circulation in an economy are available to monetary statistics compilers, the data should be added to broad money (see paragraph 6.88, as well as Table 6.2).

[33] These and other methods of estimating the amount of co-circulating currency are described in Krueger and Ha (1995).

ANNEX

6.3 Reserve Requirements

Reserve Requirements with Averaging of Reserve Holdings

6.167 The following terminology applies:

a. Reservable liabilities. The categories of deposits and, if applicable, debt securities that are subject to reserve requirements.

b. Reserve-computation period. The period over which reservable liabilities are averaged to determine the reservable liability amounts to which the reserve requirements (in percent) are applied. Alternatively, the computations may be based on reservable liabilities as of a single date—for example, end-of-month levels.

c. Reserve-maintenance period. The period over which the specified average amount of required reserves is to be held. In some countries, large ODCs have reserve-maintenance and reserve-computation periods that are different from those for small ODCs.

d. Required reserves. ODC deposit holdings at the central bank[34] (reserves deposits) that are used to satisfy reserve requirements (see paragraph 4.37). In many countries, ODC holdings of domestic currency in vault also qualify as required reserves. In a few countries, foreign currency deposit holdings in the central bank also qualify as required reserves. Required reserves are average holdings during a reserve maintenance period.[35] The reserve holdings may be interest-bearing or non-interest-bearing.

e. Lagged reserve requirements. Required reserve holdings in the reserve-maintenance period are based on the average levels of reservable liabilities in a reserve-computation period that precedes the maintenance period.[36] The reserve-computation period may immediately precede the maintenance period, or may precede the maintenance period by one or more weeks or months.

f. Reserve settlement. The accounting for required reserves at the end of the reserve-maintenance period. Excess reserves arise when the reserve holdings exceed the average amount required for the maintenance period. A reserve deficiency arises when the maintenance-period average holding is less than the required average amount. A reserve deficiency results in: (1) a penalty being applied, (2) an ODC borrowing of reserves from the central bank, or (3) augmentation of the amount of reserves required for the next reserve-maintenance period (if the regulations include a reserve deficiency carry-over provision).

g. Reserve requirements. The average amounts of average reservable liabilities during the reserve computation period are multiplied by the required reserve ratios, usually stated as percentages of reservable liabilities. Many countries have differential reserve requirements—required reserve

[34] An exception in some countries is for some ODCs to hold all required reserves though an ODC that acts as an intermediary in centralizing the reserve holdings.

[35] In some countries, the required amount may be reduced by a lump-sum adjustment. Each ODC is permitted to reduce its required reserve by the lump-sum amount. For a small ODC, the lump-sum adjustment may exceed the total amount of required reserves that it would otherwise be required to maintain.

[36] In principle, the reserve-computation period and the reserve-maintenance period can be specified to overlap, resulting in contemporaneous or quasi-contemporaneous reserve requirements such as those applied in the United States during the 1984–98 and pre-1969 periods.

ratios that differ across categories of ODC liabilities. Deposits and debt securities in broad money may be subject to different reserve requirements. Different reserve ratios may also be applied to: (1) transferable deposits and other deposits, (2) short- and long-term other deposits, (3) household and corporate deposits, and (4) deposits in domestic and foreign currency. A deposit or debt security category may have a zero required reserve ratio (that is, may be excluded from reserve requirements). Some ODCs may be exempt from reserve requirements.[37] Reserve requirements usually apply to broad money components.[38]

6.168 All ODC deposits to be used in satisfying reserve requirements with averaging of reserve holdings (as well as for settlement purposes) are classified as transferable deposits in the sectoral balance sheets of the central bank and ODCs unless they are restricted in their use.

Reserve Requirements without Averaging of Reserve Holdings

6.169 The following additional terminology applies:

a. Reserve-computation date. Reservable liabilities are measured usually as of a particular date (for example, at end-month).

b. Reserve-maintenance period. The period over which a specified level (rather than average amount) of required reserves must be maintained.

c. Reserve settlement. The accounting for required reserves is on a daily basis. The fixed amount of required reserves applies for each day of the reserve maintenance period. Any excess reserves are synonymous with ODCs' other deposits in the central bank. Those used for check clearing and other settlement purposes are classified separately from required reserves.

d. Reserve requirements. The levels of reservable liabilities, as of the reserve computation date, are multiplied by the required reserve ratios.

6.170 ODC deposits that are pre-specified fixed amounts of required reserves (without averaging of reserve holdings) and excess reserves are classified as other deposits (that is, nontransferable deposits) in the sectoral balance sheets of the central bank and ODCs. ODC deposits held in the central bank for settlement purposes are classified as transferable deposits in the sectoral balance sheets of the central bank and ODCs.

[37] For example, an exemption may apply to ODCs that are being liquidated or reorganized.

[38] Exceptions are not precluded. For example, the ECB is authorized to impose reserve requirements against liabilities arising from off-balance-sheet items.

ANNEX

6.4 Seasonal Adjustment of Economic Time Series

General Principles

6.171 Seasonal adjustment of economic time series involves the estimation and removal of fluctuations that recur each year with a broadly similar pattern. They may be linked to public holidays,[39] harvest seasons or other production cycles, model-year changeovers, administrative and legal measures, etc. Seasonal adjustment can be based on mathematical (deterministic) models, econometric (stochastic, or statistical) models, or both. Procedures that combine mathematical and econometric techniques are now widely used.

6.172 Many countries seasonally adjust price statistics, GDP and other national accounts statistics, exports/imports and other balance of payments statistics, monetary and financial statistics, and other macroeconomic time series. Seasonal adjustment is useful for analyzing short-term developments and is applied to both monthly and quarterly data.[40]

6.173 Seasonal adjustments of money aggregates and credit aggregates are the most common applications of seasonal adjustment in monetary and financial statistics. This annex describes the general application of seasonal adjustment methods with emphasis on seasonal adjustment of monthly money aggregates. Quarterly monetary data may also be seasonally adjusted, but seasonally adjusted monthly data are viewed as the most relevant for analytical and policy purposes in most countries. General principles discussed in this annex also apply to series for other economic variables.

Direct and Indirect Seasonal Adjustment

6.174 Economic time series—in particular money aggregates derived from multiple balance sheet items—consist of additive component series. In the case of univariate (single series) seasonal adjustment, aggregate time series and their components can be adjusted either directly or indirectly. The *direct seasonal adjustment* of a series is obtained by applying the chosen adjustment method to the original unadjusted time series. The *indirect seasonal adjustment* of a series is instead obtained as a linear combination of other seasonally adjusted component series or related aggregates.

6.175 From a cost viewpoint, the level of data disaggregation for which seasonal adjustment is calculated increases, in general, the amount of resources needed to maintain the seasonal adjustment of the monetary statistics. In other words, from a cost standpoint, direct seasonal adjustment of main aggregates may be preferable as the procedure is only performed on a few series.

6.176 This *Manual* recommends that, if a cost-effective choice is necessary, the analyst responsible for the seasonal adjustment concentrate on a thorough application of the direct approach on main aggregates, utilizing as many of the diagnostic tools and other advanced features of the seasonal adjustment software as possible.

6.177 Seasonal adjustment is a nonlinear operation on the data and, as such, it is not additive. Therefore, if the seasonally adjusted presentation of the data includes separate time series for an aggregate and

[39] Holidays such as Christmas or New Year occur on a fixed day and month of each year; the dates of holidays such as Chinese New Year, Easter, Ramadan, and Deepavali move from year to year. Seasonal adjustment methods can accommodate both fixed and moving holiday seasons.

[40] Seasonal adjustment has also been applied to weekly and daily data, but with limited success.

its components, a choice must be made as to which series in the balance sheet identity need to be adjusted directly or indirectly (i.e., as a linear combination of other series) in order to preserve the additivity.

6.178 Application of indirect seasonal adjustment can take various forms, depending on the way in which the components of the aggregate are defined and on their time series behavior over time. In particular, the main choice is whether to (1) directly adjust all the components and then indirectly derive the aggregate as sum, or (2) directly adjust the aggregate time series and some components, leaving one component as a residual. For instance, an application of the former to the components of broad money would specify A = currency plus transferable deposits; B = broad money *less* A. Components A and B would be directly seasonally adjusted, and then would be summed to obtain the seasonally adjusted series for broad money. Instead, the second approach would involve direct seasonal adjustment of broad money and *either* A *or* B. Depending on the choice, the remaining component would then be calculated as a difference between the total and the directly adjusted component.

6.179 An unambiguous decision rule for choosing between the direct and indirect methods of seasonal adjustment does not exist. An important consideration is that the indirectly adjusted series are calculated as a residual of the other identity components' direct adjustment. In turn, this implies that a meaningful indirect seasonal adjustment depends on the accuracy of the direct adjustment of the related series. The choice must be made on a case-by-case basis,[41] after experimentation with both methods. For a specific time series, several practical criteria have been recommended. These include: (1) minimization of residual seasonality in the seasonally adjusted series, usually leading to smoother adjusted series;[42] (2) minimization of revision errors; (3) stability of seasonal components; and (4) out-of-sample forecasting accuracy. Informal "rules of thumb" are: (1) the direct adjustment approach has advantages when the components of the aggregate time series are highly correlated; (2) the indirect approach has advantages with respect to minimization of estimation and revision errors when the components have dissimilar stochastic (statistical) properties; and (3) the indirect approach has advantages when the contribution of each component, as a proportion of the aggregate, fluctuates significantly over the estimation period.[43]

6.180 The multivariate approach is not advocated in this *Manual*, because of its computational complexity and software limitations. The most widely used software packages for seasonal adjustment, described later in this annex, are designed exclusively for univariate (single-series) seasonal adjustment. Major advantages of these seasonal adjustment programs include ease of use; diversity of modeling specifications; and breadth of advanced statistical tools for specification of the seasonal adjustment model, estimation of the seasonal components, and diagnostic testing of the time-series output.

Seasonal Adjustment Software Packages

6.181 The most popular seasonal adjustment packages, extensively applied worldwide, are the X-12-ARIMA[44] program of the U.S. Census Bureau and the combination of the TRAMO ("Time-series Regression with ARIMA Noise, Missing Observations and Outliers") and SEATS ("Signal Extraction in ARIMA Time Series") programs developed at the Bank of Spain.[45]

6.182 The ARIMA module (called RegARIMA) in X-12-ARIMA and the TRAMO part of TRAMO/SEATS are similar in that both use time-series regression models to forecast (and "backcast") input data and to detect and correct for outliers, calendar effects, missing observations, etc. The decomposition modules (called X-11) in X-12-ARIMA and SEATS are used to separately identify and estimate the trend-cycle, seasonal, and irregular components of a time series, but using different methods. The X-12-ARIMA method uses an existing set of moving-average filters, whereas the SEATS method uses

[41] X-12 allows formal testing procedures for the indirect-direct choice (revisions history, sliding spans, F-tests on residual seasonality, etc.).

[42] The smoothness criterion is specified in terms of "roughness measures" computed for seasonally adjusted series obtained by each approach. The criterion does not imply that seasonal adjustment is aimed at smoothing a time series, but seasonal adjustment generally leads to a time series with less variability.

[43] For more information, see European Central Bank (2000), pp. 9–10. See also, Burnett (2006) and Thorp (2003).

[44] Bureau of the Census (2011).

[45] For further details, see Gómez and Maravall (1996).

ARIMA-based signal extraction with filters derived from the ARIMA-type modeling.

6.183 The X-12-ARIMA program is used by the IMF to seasonally adjust the monthly data for *Money* and *Broad Money* in the *International Financial Statistics (IFS)* country pages. Application of X-12-ARIMA requires a time series that has a sufficient number of observations. As of end-2013, the requirements have been satisfied for nearly all countries, and data for the *Money, Seasonally Adjusted* and *Broad Money, Seasonally Adjusted* in most *IFS* country pages have been based on X-12-ARIMA techniques.[46] *Money, Seasonally Adjusted* refers to the money supply as narrowly defined.

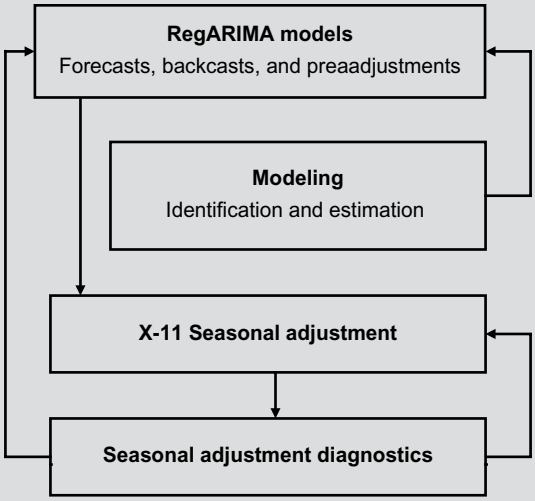
6.184 The X-12-ARIMA program uses a modular structure subdivided into three main stages, which are illustrated in Figure 6A.1.

6.185 In the first stage, referred to as RegARIMA, an ARIMA model with regressors is used to prepare the data input for the actual seasonal adjustment decomposition. An important function of the regARIMA modeling that improves the estimates of the seasonal components, is the extension of the time series with pre-series estimates (backcasts) and post-series forecasts. This procedure enables the use of symmetric moving-average processes in the decomposition of the time series at its extremes.

6.186 In the second stage, referred to as X-11, the algorithm decomposes the time series into trend/cycle, seasonal, and irregular components. This decomposition is performed in two sequential steps. First, the trend in the series is identified and removed by means of a filter, and the series is thus rendered stationary. Secondly, the seasonal component is estimated using symmetrical seasonal moving averages.

6.187 A third stage of the seasonal adjustment process is statistical analysis of the data output of the X-11 module, including the seasonally adjusted time series. The analysis utilizes standard statistical tests and examination of out-of-sample forecasts of the seasonally adjusted data. The seasonal adjustment procedure may need to be an iterative process in which the RegARIMA and X-11 decomposition are repeated until the post-X-11 analysis indicates that the seasonal adjustment is satisfactory.[47]

Figure 6A.1 Structure of the X-12-ARIMA Algorithm



6.188 The X-12-ARIMA and TRAMO/SEATS programs have statistical properties that are worthy of combining. This has prompted the development of the X-13-ARIMA-SEATS program, which is now in use at the U.S. Census Bureau.[48] In particular, the new approach differs from X-12-ARIMA in that the second stage of the algorithm may now use either the X-11 module or the SEATS method. Additionally, X-13-ARIMA-SEATS provides the analyst with a comparison of the seasonal patterns identified using the two different methods. The possibility to choose between X-11 and SEATS in general allows for smoother results, as the two methods perform differently depending on the series being analyzed.

Custom Application of X-12-ARIMA

6.189 For customized time-series models, X-12-ARIMA has capabilities for the three modeling stages: *identification*, *estimation*, and *diagnostic checking*. Use

[46] The IMF employs the automatic options in the X-12-ARIMA program, because of the magnitude of the task and the need to present data for which the seasonal adjustment is consistent across countries. Detailed examination of seasonality in the money series for each country is not feasible. Compilers are encouraged to undertake more detailed investigations in the national context, and more refined results can be reported to the IMF in Form 5SR, and disseminated directly.

[47] Residual seasonality sometimes is found in the adjusted data, leading to further empirical work.

[48] Due to its prevalent use among institutions (including the IMF), this annex discusses the most prominent features of X-12-ARIMA.

of the RegARIMA module requires specification of the regression variables in the model and of the ARIMA model for the regression errors. Specification of the regression variables is based on automatic outlier identification by the program, which can be complemented by user knowledge about events that influenced the time series (e.g., a large reclassification adjustment).

6.190 Identification of the ARIMA model for the regression errors is based on well-established procedures in the Box-Jenkins (1976) analysis, which require examination of sample autocorrelation and partial autocorrelation functions generated by the X12-ARIMA program.[49]

6.191 Parsimony is a fundamental principle of the identification procedures. A model specification might include many parameters, when a simpler specification with fewer parameters would have been adequate. Such over-specification can lead to unnecessarily poor estimation of the time series. For example, specification of a moving-average process with a single parameter may substitute for an autoregressive process that has many parameters, or vice versa.[50]

6.192 Estimation of the parameters of the RegARIMA model is performed by the X-12-ARIMA routine for maximum likelihood estimation using an iterative generalized least-squares algorithm.

6.193 Diagnostic checking involves analysis of the residuals from the fitted model to explore the possibility of model inadequacies. X-12-ARIMA produces several standard residual diagnostics for detecting additive outliers and level shifts in the data. The program also produces forecasts, forecast standard errors, and prediction intervals from the fitted regARIMA model.

Decomposition of an Economic Time Series

6.194 For seasonal adjustment purposes, a time series is decomposed into three major components:

a. Trend-cycle component (T_t): constitutes the underlying path or general direction reflected in the data, combining the long-term trend and business-cycle movements.

b. Seasonal component (S_t^c): comprises *seasonal effects narrowly defined* (S_t) and calendar-related systemic effects that are not stable in timing from year to year, including *end-of-period effects* (TD_t) and *moving-events effects* (ME_t). *Seasonal effects narrowly defined* are calculated as seasonal moving averages of the detrended series. *End-of-period effects* arise from observing the level of the variable on a specific day of the week (e.g., measuring currency in circulation on a Friday may lead to a higher than average value, due to cash hoarding for weekend expenditures). *Moving-events effects* arise from occasions such as moving holidays, paydays for large groups of employees, and pension payments that occur at regular intervals but not at exactly the same time each year.

c. Irregular component (I_t^c): comprises the effects that are unpredictable in the absence of additional information about the timing, impact, and duration of the occurrence. These effects are *irregular effects narrowly defined* (I_t), *outlier effects* (OUT_t), and *other irregular effects* (OI_t).[51] From an analytical perspective, the irregular component contains economically significant information on short-term developments.

6.195 The seasonal adjustment decomposition can be specified in additive or multiplicative form. The default option in the X-12-ARIMA program is the multiplicative form, because that specification has proved to be superior for nonstationary time series. For monetary statistics, this result is linked to the fact that most balance sheet series have an exponential long-run trend. In the multiplicative specification, the absolute size of the components of the series are dependent on each other, resulting in seasonal variations that increase and decrease with the level of the series. The seasonal and irregular components of the multiplicative model are ratios centered on a value of 1.

[49] *Spectral analysis* is also a useful tool for model identification. Spectral plots may reveal spikes at seasonal frequencies. For many applications, however, plots of the autocorrelation and partial autocorrelation functions are sufficient for identifying the ARIMA models. On spectral density functions, see Box and Jenkins (1976), pp. 39–45.

[50] On parsimony, see Box and Jenkins (1976), pp. 17–18, 302, 340.

[51] *Other irregular effects* can arise from unseasonable weather, natural disasters, labor strikes, etc. Such effects are mitigated, moreover, if they have been taken into account in the regular regression component of RegARIMA in producing the input data for the decomposition in the X-11 module.

Seasonal Adjustment Revision Policy

6.196 Seasonal adjustment analysis is not completed when the first set of data for the seasonally adjusted time series has been produced. Seasonally adjusted data for a time series can be improved by using the additional observations for the time series, as the data become available. Seasonally adjusted data for money aggregates and other economic series may be revised several times before the latest revised data are deemed to be final. A general rule is that the seasonal adjustment is repeated until the revisions in the seasonal factors from successive re-estimations are small. Ideally, the concept of small revisions can be quantified and, where possible, revision statistics can be analyzed.

6.197 National authorities will need to determine the periodicity of the revisions in seasonally adjusted series. This *Manual* recommends a yearly review of seasonal factors and models based on new data. Although in specific cases a shorter review period may be warranted (e.g., in case of large revisions), the general principle of updating the seasonal factors on a yearly basis ensures that new information is included in the assessment, while minimizing the frequency of data revisions. It is recommended that the data revision policy be formalized and the schedule for revised data release be publicized.

ANNEX

6.5 Determining Holding Sectors of Debt Securities Issued by Financial Corporations

6.198 A financial corporation (FC) that has issued debt securities may be unable to disaggregate debt securities liabilities by holding institutional sector, as prescribed by this *Manual*.

6.199 Debt securities that are issued, and held exclusively within the FCs sector do not create a sectoring problem for the monetary and financial statistics. For example, central banks may issue debt securities for which other depository corporations (ODCs) are the only eligible purchasers, in which case the institutional sector of the holders is given. In an unlikely case, FCs may issue debt securities that can be held and traded exclusively among FCs. Suppose debt securities issued by ODCs can be held and traded only among FCs. Because of secondary market trading in the securities, the ODC does not have the information required for the disaggregation by holding sector—that is, into separate categories for central bank, ODCs, and other financial corporations (OFCs) subsectors. The compilers of the monetary and financial statistics receive data, by institutional sector of holder, in the form of FCs' reporting on their debt securities holdings, which are disaggregated by issuing sector (including separate categories for the central bank, ODCs, and OFCs). Using these data, the debt security liabilities of the ODCs subsector (but not those of an individual ODC) can be disaggregated by the holding FCs subsector.[52]

6.200 Sectoral disaggregation is more complicated when the debt securities issued by FCs are held by several domestic sectors and, in some cases, nonresidents. In some countries, security ownership surveys are conducted for use in disaggregating the securities data for the monetary and financial statistics. Surveys that focus on holdings of securities (i.e., equity and debt instruments) issued by nonresidents are used to obtain data for the balance of payments statistics in many countries.[53]

6.201 The broader recommendation in this *Manual* is that, if no other information on current holders is available, debt securities issued by all institutional sectors are initially classified by sector of the original purchasers of the securities. Provided with these data, compilers of monetary and financial statistics need to adjust the data to take account of cross-sector trading in the secondary market.

6.202 The compilers will have access to quarterly data on debt securities holdings of all FCs (assuming that OFCs report quarterly), disaggregated by institutional sector of issuer. In many countries, information on securities ownership by resident sectors (other than FCs) may be available from custodial repositories for securities. These entities include centralized securities depositories but also FCs that provide custodian accounts to their customers. If such entities exist in an economy, FCs or monetary statistics compilers might receive regular information from them on holders of debt securities issued by FCs subsectors in order to

[52] Data reporting by OFCs may be on a quarterly or annual basis. If so, monthly data for their debt securities holdings would need to be estimated for use in compiling the data for DCs. The compilers receive monthly data on the total securities issuance by ODCs, as well as on central bank and ODC holdings of the securities, disaggregated by sector of issuer. From these data, the share of the securities issuance that is held by OFCs can be derived residually.

[53] These surveys are used to obtain data on cross-country debt securities holdings disaggregated by the securities owner's country of residence. On security ownership surveys, see the *Coordinated Portfolio Investment Survey Guide* (2002), Chapter 2. For the monetary and financial statistics, the data on nonresident holdings is relevant, but the breakdown by country of residence is not needed.

Box 6A.1 Securities Holdings Statistics—the European Central Bank

The securities holdings statistics (SHS) compiled by the European Central Bank (ECB) provide quarterly harmonized sectoral data on (1) holdings of securities by euro area resident investors, and (2) holdings by non-euro area residents of securities issued by euro area residents. In a separate module of the SHS, the ECB also collects information on holdings of securities by selected individual banking groups. The SHS covers both debt securities and equity securities (including investment fund shares).

The SHS mainly rely on two sources of information, namely (1) security-by-security (s-b-s) reporting of holdings by euro area financial institutions (see Box 5.3), and (2) for the other sectors (including nonresidents), reporting of information by custodian institutions resident in the euro area. Similarly to what previously discussed for s-b-s reporting, reporters transmit only a limited amount of information (e.g., the amount held for a particular security, including its ISIN code). After the data are received by the compilers, the information is enriched using the Centralized Securities Database (CSDB).

disaggregate debt securities liabilities by institutional sector. For example, the European Central Bank (ECB) collects information from custodians resident in the euro area for compiling its statistics on securities holdings as explained in Box 6A.1.

6.203 Otherwise, monetary statistics compilers, in consultation with compilers of other macroeconomic statistics, will need to develop a securities ownership survey for obtaining data on the securities holdings of sectors other than the FC sector. For monetary statistics, the survey would need to cover only non-FC sectors' ownership of debt securities issued by the central bank, ODCs, and OFCs. To provide data for the financial statistics, the ownership survey should cover debt securities issued by all domestic sectors.[54] It is recommended that the securities ownership survey should be conducted on a quarterly or at least annual basis (assuming that a monthly survey is not feasible), in close coordination with national accounts and external sector statistics compilers. If the debt securities are also held by nonresidents, portfolio investment surveys for the external sector statistics would provide additional input for the sectoral disaggregation in the monetary and financial statistics.

[54] In particular, transactions data on debt securities issued by central government, state and local government, public nonfinancial corporations, and other nonfinancial corporations—disaggregated by institutional sector of the debt securities purchaser/seller—are needed for the financial statistics.

ANNEX

6.6 Divisia Money

6.204 The description of broad money in this chapter focuses on a measure of broad money (M) in which the money components (m_i, $i = 1, 2,...n$) are weighted linearly and equally in the final total: $M = \sum_{i=1}^{n} m_i$, wherein the components (m_is) are treated as perfect substitutes. As such, broad money represents a measure of the stock of nominal monetary wealth that is a measure of DCs monetary liabilities. As already discussed, different components of broad money have different degrees of *moneyness* and the broad money aggregate does not fully reflect that money components are not perfect, but only close, substitutes for each other.

6.205 ***Divisia money*** is a quantity index measuring the change of quantity of money between two time periods by assigning different weights to the growth rates of money components—currency, transferable deposits, other deposits, etc.—according to the usefulness of each component for transactions purposes.[55] The relative relevance of each component for making transactions is proxied by the *user costs* (opportunity costs) of holding the various money components. A *user cost* is measured by the spread between a benchmark rate—the interest rate paid on a financial asset that cannot be used for making transactions in the short run—and the interest rate paid on a particular component of the money aggregate.

6.206 By weighting the growth rates of money components, the Divisia index takes account of the trade-off between their medium of exchange and store of value functions. It is assumed that relatively illiquid financial assets are less likely to be used for transaction purposes than highly liquid assets included in the measure of money supply, and that higher interest rates are paid on the less-liquid assets. The largest weights tend to be attached to components that are directly usable as media of exchange (domestic currency and non-interest-bearing transferable deposits).[56] The smallest weights tend to be assigned to those money components that are not directly usable as media of exchange and for which the interest rates are closest to the benchmark rate.

6.207 The general formula of the Divisia index is shown in Box 6A.2.

6.208 Divisia money formulations originated in the United States, but have become most prominent at the Bank of England (BOE), which has published the Divisia money series since 1993. The BOE publishes a Divisia money series for broad money, as well as a Divisia series for the money holdings of separate money-holding sectors—that is, for the household sector, private NFCs sector, and OFCs sector.[57]

6.209 The BOE equation for Divisia money is shown in Box 6A.3.

[55] The Divisia index was originated by the French economist François Divisia (see Divisia (1925)). On the development of the Divisia index for money aggregates, see Barnett (1980); Anderson and Jones (2011); and Barnett and Serletis (2000).

[56] Boxes 6A.2 and 6A.3 show that the weights depend on the user costs of the components, and also on the relative amounts outstanding of the various money components.

[57] On the BOE formulation of Divisia money, see Fisher, Hudson, and Pradhan (1993); and Janssen (1996). On recent revisions in the BOE formulation, see Hancock (2005a and 2005b), and Berar and Owladi (2013).

Box 6A.2 Divisia Money (the General Definition)

The continuous-time Divisia index M_t^D is defined by the following differential equation:

$$\frac{d \log M_t^D}{dt} = \sum_{i=1}^{n} W_{i,t} \frac{d \log m_{i,t}}{dt}$$

where

$$w_{i,t} = \frac{m_{i,t}\pi_{it}}{\sum_{j=1}^{N} m_{j,t}\pi_{jt}}$$

is the expenditure share of asset *i* during period *t*;

$$\pi_{kt} = P_t \frac{(r_{B,t} - r_{k,t})}{(1 + r_{B,t})}, (k = i, j)$$

is the nominal user cost defined as the equivalent rental price of the services provided by a unit of monetary asset, $r_{i,t}$, the interest rate paid on a the monetary component $m_{i,t}$, $r_{B,t}$, a benchmark rate—the interest rate paid on a financial asset that has no usefulness for making transactions in the short run, and P_t a cost-of-living index. The benchmark return is usually viewed as the maximum-available holding-period yield at each point in time.

The discrete-time Divisia index is obtained by approximating the line integral solution to the preceding differential equation, using the Simpson's rule. The resulting discrete-time index is the following index, also known as the Tornqvist-Theil-Divisia monetary quantity index:

$$M_t^D = M_{t-1}^D \prod_{t=1}^{n} \left(\frac{m_{i,t}}{m_{i,t-1}} \right)^{1/2(w_{i,t} - w_{i,t-1})}$$

The percentage change of the Divisia index is obtained by writing the above equation in a logarithmic form:

$$\Delta \log M_t^D = \sum_{i=1}^{n} \frac{1}{2}(w_{i,t} + w_{i,t-1}) \Delta \log M_{i,t}$$

where $\Delta \log x_t = \log x_t - \log x_{t-1}$, $(xt = M_{t_t}^D, M_{i,t})$

Box 6A.3 Divisia Money (The Bank of England's Definition)

Divisia (*D*) growth rates are calculated as a weighted averages of the growth rates of the *N* components of a money aggregate, using the following equation:

$$\frac{D_t - D_{t-1}}{D_{t-1}} = \sum_{i=1}^{n} \frac{1}{2}(W_{i,t} + W_{i,t-1}) \frac{\Delta M_{i,t}}{M_{i,t-1}},$$

where $M_{i,t}$ denotes the outstanding amount of the *i*th component of the money aggregate, $\Delta M_{i,t}$ is the corresponding change, and $W_{i,t}$ is the weight for the *i*th component, defined as:

$$W_{i,t} = \frac{M_{i,t}(r_{B,t} - r_{i,t})}{\sum_{j=1}^{n} M_{j,t}(r_{B,t} - r_{j,t})},$$

where r_{Bt} is the effective interest rate on the benchmark asset, and r_{it} is the effective rate on the *i*th asset.

7 Compilation, Source Data, and Dissemination of Monetary Statistics

I. Introduction

7.1 This chapter discusses the framework for the compilation and presentation of monetary statistics in accordance with the methodology of this *Manual*, and the necessary source data. Monetary statistics cover stock and flow data on the assets and liabilities of the financial corporations (FCs) sector and its subsectors.

7.2 The chapter first describes the sectoral balance sheets,[1] which provide a framework for the collection and presentation of monetary data. The following section presents the main outputs of monetary statistics—the surveys for the FCs subsectors and the FCs sector as a whole. The remaining sections discuss the source data and the dissemination of monetary statistics, including the reporting of monetary data to the IMF.

7.3 Only data reported by institutional units in the FCs sector are extensively covered in this chapter. These constitute the data for the monetary statistics and a subset of data for the financial statistics. Other data for the financial statistics, which are obtained from institutional units outside the FCs sector, are covered in Chapter 8.

7.4 Within the monetary statistics compilation and presentation framework, this chapter also deals with the major facets of implementation of the monetary statistics, including:

a. Data reporting by FCs. Collection and assembly of the data that individual FCs report to the compilers of monetary statistics.

b. Data compilation. Validation, aggregation, and compilation of reported data to construct the sectoral balance sheets; and consolidation of the sectoral balance sheets to obtain the surveys of the FCs sector.

c. Data reporting to the IMF. Reporting of the sectoral balance sheet data (stocks only) for analytical use and publication by the IMF.

d. Data dissemination. Release and publication of the monetary data (stocks only) for a country, including publication in the IMF's *International Financial Statistics* (*IFS*).

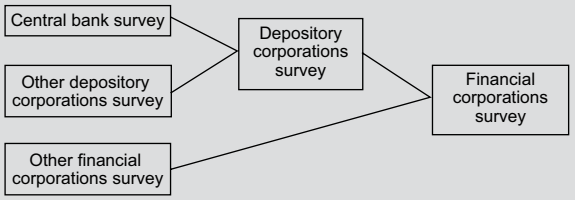
7.5 Annex 7.1 presents numerical examples of *Other changes in the volume of assets (OCVA)* entries, while a presentation of the consolidation adjustments needed in compiling the FC surveys is provided in Annex 7.2. Appendix III presents numerical examples of FCs surveys, based on the sectoral balance sheets of Appendix II and the adjustments of Annexes 7.1 and 7.2. The illustration of the monetary authorities accounts presented in Appendix III is based on the central bank survey (CBS) of the same appendix and three categories of monetary authorities accounts of a central government. An illustrative scheme for the compilation of supplementary data on financial assets and liabilities is presented in Annex 7.3.

II. Framework for Monetary Statistics

7.6 As discussed in Chapter 2, the framework for monetary statistics recommended in this *Manual* embodies two levels of data compilation and presentation (see Chapter 2, Figure 2.1). At the first level, stock, and possibly flow, data reported by individual institutional units are aggregated into *sectoral balance sheets* for the central bank, other depository corporations (ODCs), and other financial corporations (OFCs). These data

[1] The term "sectoral balance sheets" encompasses the sectoral balance sheets for the central bank, other depository corporations, and other financial corporations subsectors.

Figure 7.1 Financial Corporations Surveys



are also used as inputs for the compilation of financial statistics, as described in Chapter 8.

7.7 At the second level, the balance sheet data are consolidated into *analytical surveys* for the FCs subsectors and for the entire FCs sector. The central bank survey (CBS) shows the components of the monetary base. The depository corporations survey (DCS) consolidates the CBS and the ODCs survey (ODCS) and contains data on those depository corporations' (DCs) liabilities that are components of broad money, and data on DCs' assets that are claims on (i.e., credit to) other sectors of the domestic economy. The DCS also contains data on DCs' claims on and liabilities to nonresidents. The FCs survey (FCS) consolidates the stock and flow data from the DCS and OFCs survey (OFCS) to provide data on the claims on and liabilities to all other sectors of the domestic economy and nonresidents for the entire FCs sector. In particular, the FCS provides a comprehensive measure of liquidity and of credit extended by FCs, as discussed in Chapter 6. Figure 7.1 shows a schematic presentation of the financial corporations surveys.

7.8 Sectoral balance sheets provide the framework for the collection and presentation of data in a format that facilitates (1) the compilation of analytical surveys, as described in this chapter, and (2) the presentation of financial statistics for the FCs subsectors, as described in Chapter 8. Sectoral balance sheets provide disaggregated information by type of financial instrument, by currency, and by counterpart sector that has analytical value. The surveys contain data encompassing all assets and liabilities for the units covered by the respective survey. Each survey is based on data for all institutional units within the subsector.[2]

[2] Thus, the term survey refers to comprehensive data for all units in a subsector, rather than to sample survey data that would cover only a subset of units, or only a subset of the asset and liability accounts.

7.9 The DCS covers the accounts of the DCs and is a consolidation of the CBS and the ODCS. The FCS is a consolidation of the DCS and the OFCS.

7.10 The DCS constitutes the principal set of monetary statistics for monetary policy. The DCS is a consolidated statement of stocks and flows for the accounts of all financial sector corporations that incur liabilities included in broad money. The framework of the DCS is designed to facilitate analysis of broad money, and its components and counterparts, credit aggregates and their components, and DCs' claims on and liabilities to nonresidents, and other assets and liabilities.

7.11 By maintaining the balance-sheet identity in the DCS, the counterparts to broad money liabilities of DCs are presented as the claims on (i.e., credit to) nonresidents and other sectors of the domestic economy, and as other assets and liabilities. This balance sheet identity is reflected in the stock and flow data in the DCS. (See also the subsection on broad money counterparts in Chapter 6.)

7.12 The definition of broad money in Chapter 6 is intended to help monetary statistics compilers determine the scope of broad money, taking account of their own national circumstances. With the adoption of the definition of broad money, international comparability of broad money will improve. A precise coverage of broad money according to the recommended methodology must be determined by compilers in accordance with the structure and other features of the financial system in their own economy. For each country, the coverage of broad money is used in determining the institutional units covered by the DCS. All institutional units that: (1) are included in the FCs sector; and (2) issue liabilities included in broad money are classified as DCs and are therefore included in the DCS.

7.13 The DCS is structured to facilitate macroeconomic analysis that makes use of the linkages between the monetary statistics and other macroeconomic statistics. The balance sheet presentation of the DCS shows DCs' claims on and liabilities to nonresidents and central government, thereby linking the monetary statistics to the external sector and government finance statistics, respectively (see also Appendix I).

7.14 The DCS can be rearranged to show that broad money liabilities (BML) equal the sum of net foreign

assets (NFA), domestic credit (DCR), and other items (net) (OIN). In the DCS, this can be shown as

$$BML \equiv NFA + DCR - OIN$$

where DCR comprises net claims on central government and gross claims on other resident sectors. OIN denotes other liabilities *less* other assets, where other liabilities include all liabilities not included in broad money, and other assets include nonfinancial and miscellaneous assets (see Chapter 6, Table 6.1).

7.15 Total flows (closing stocks *less* opening stocks) for the DCS are shown as

$$\Delta BML \equiv \Delta NFA + \Delta DCR - \Delta OIN$$

where Δ denotes a total flow (period-to-period change). The flow data in each category in the DCS are decomposed into separate flows for transactions, valuation changes, and OCVA.

7.16 Changes in broad money liabilities can arise from changes in the foreign assets and foreign liabilities of the DCs, as can be seen from the preceding identity that links ΔBML to ΔNFA. The components of ΔDCR are shown as

$$\Delta DCR \equiv \Delta NCG + \Delta CORS$$

where NCG and CORS denote net claims on central government and gross claims on other resident sectors, respectively.

7.17 The components of ΔNCG in the DCS are directly linked to the government finance statistics (see Appendix I). Data on transactions for the underlying components of NCG can be used to analyze the expansionary or contractionary effects on broad money that can arise from financial transactions between the DCs and the central government. Growth in NCG—through a rise in DCs' holdings of government securities and/or reduction in deposit liabilities to government—will exert an expansionary influence on the broad money liabilities of DCs.

7.18 DCORS shows the total flows arising from changes in DCs' claims on resident sectors other than the central government. An increase in these claims—a positive ΔCORS—has an expansionary effect on broad money liabilities, whereas a decrease in these claims has a contractionary effect. Data on the sectoral components of ΔCORS can be used to analyze the sources of expansionary or contractionary effects on broad money, arising from growth or decline in DCs' claims on the various sectors of the economy. For more detailed analysis, DCORS can be disaggregated into transactions, valuation changes, and OCVA.

III. Sectoral Balance Sheets

A. General Principles

7.19 Sectoral balance sheet data are obtained from the accounting and, in some cases, administrative records of the individual institutional units within the FCs subsectors. Data for each unit are classified into standard components in accordance with the sectoring, instrument classification, valuation methods, and other accounting principles explained in Chapters 2 to 6 of this *Manual*. The reported data for each unit are aggregated into balance sheets for each FCs subsector. Aggregation of data is the general rule for the first step in the compilation of the data underlying monetary and financial statistics. Aggregation entails the summation of stock or flow data across all institutional units within a particular group (that is, subsector or sector) and, for a given subsector, the summation of all stock or flow data within a particular asset or liability category, as explained in Chapter 5 (paragraph 5.60).

7.20 The sectoral balance sheets are presented in domestic currency units and contain separate columns for opening (beginning of period) and closing (end of period) stocks. Ideally, they should also contain data for flows arising from transactions, revaluations, and OCVA during a particular period, as described in Chapter 5 (subsection II.B).

7.21 In the sectoral balance sheets, financial assets and liabilities are classified by instrument, by currency, and by counterpart sector (creditor/debtor sector), distinguishing between those liabilities that are included in broad money and those that are excluded from broad money. Memorandum items to the sectoral balance sheets (see paragraphs 7.29–7.36) provide additional data needed for the compilation of the CBS, DCS, and OFCS, and to support the reconciliation of certain indicators with other macroeconomic statistics (for example, the market value of equity liabilities). Supplementary items to the sectoral balance sheets, if compiled, provide data that are useful for the analysis of broad money and credit aggregates, such as disaggregation by maturity.

7.22 Tables A2.1–A2.3 in Appendix II present illustrative sectoral balance sheets and accompanying memorandum items for a central bank, ODCs, and OFCs. Separate explanations and numerical tables for the OCVA entries in the illustrative sectoral balance sheets are presented in Annex 7.1 of this chapter.

B. Features of the Sectoral Balance Sheets

7.23 The instrument, currency, and counterpart sector classifications in sectoral balance sheets follow the principles and classifications discussed in Chapters 3, 4, and 6. The remainder of this subsection discusses some specific issues related to the classification of assets and liabilities in the sectoral balance sheets.

7.24 The liabilities section of the sectoral balance sheet shows *Equity liability [MS]* on a book value basis, split into funds contributed by owners, retained earnings (accumulated), *current year result*, general and special reserves, and valuation adjustment, as explained in Chapters 4 and 5 (see paragraphs 4.130–4.132 and 5.167–5.168). Use of the sectoral balance sheet data in compiling financial statistics, as described in Chapter 8, requires that data be available for *Equity and investment fund shares* (without the above split) on a market-price basis, disaggregated by holding sector. The latter data are included as memorandum items to the sectoral balance sheets.

Balance-sheet data for specific categories of ODCs and OFCs

7.25 In some national contexts, other aggregations of data by specific groups of ODCs and OFCs are useful for policy analysis. For example, the data submitted by individual ODCs can be sorted and aggregated by size and ownership attributes of the ODCs. Separate sets of aggregate balance sheet data can be compiled for (1) money market funds; (2) large and small ODCs; (3) government- and private-owned ODCs; (4) foreign- and domestic-owned ODCs, including foreign branches and subsidiaries; and (5) offshore FCs.[3]

7.26 Similar types of aggregated balance sheet data can be compiled for subcategories within the OFCs subsector. The data submitted by OFCs can be aggregated by size or ownership of the institutional units, and by type of financial services. Data compiled in this form are of interest for more detailed analysis of institutional groupings within the OFCs subsectors. Separate sets of aggregated balance sheet data can be compiled for all six OFCs subsectors shown in Chapter 3, Box 3.1. This *Manual* encourages that separate sets of aggregated data are compiled for the following two OFCs subsectors at the minimum: (1) insurance corporations and pension funds (ICPF), and (2) OFCs other than ICPF. This is consistent with the minimum subsectoring requirement of the templates for the internationally comparable sectoral accounts and balance sheets developed in the context of the G-20 Data Gaps Initiative (DGI).[4]

7.27 The sectoral balance sheets presented in this *Manual* do not contain separate line items for the claims on and liabilities to the more narrowly defined categories of ODCs and OFCs subsectors, which would be needed for compiling consolidated surveys at a more detailed level of subsectoring. If such surveys are desired, data on positions and flows vis-à-vis each counterpart FCs subsector need to be collected.

7.28 Access to separate balance-sheet data for small groupings of ODCs and OFCs may be restricted, and dissemination must be in accordance with national regulations governing the confidentiality of data for an individual institutional unit or small group of units.

Memorandum items

7.29 Memorandum items accompanying sectoral balance sheets, as shown in Tables A2.1–A2.3 in Appendix II, provide additional data needed for the compilation of the surveys and for more detailed macroeconomic and macroprudential analysis.

7.30 For the loan data, there are memorandum items for (1) total accrued interest on loans; (2) total amount of interest and principal arrears on loans; (3) expected losses on loans; (4) loans with maturity of one year or less; (5) loans extended to households (in the sectoral

[3] Offshore FCs that issue liabilities included in broad money are classified as ODCs and, if not, are classified as OFCs (see Chapter 3, paragraph 3.139). If offshore FCs are classified as OFCs, separate data for offshore FCs can be obtained by aggregating the data from their individual submissions for the sectoral balance sheet for OFCs.

[4] A fully articulated set of standard templates were developed in the context of the G-20 DGI. These templates are a set of internationally comparable sectoral accounts and balance sheets that provide a minimum and encouraged classification for sectors, financial instruments, and nonfinancial assets. The templates are available at www.imf.org/external/np/sta/templates/sectacct/index.htm.

balance sheets for ODCs and OFCs); and (6) loans extended to nonresident financial corporations and loans received from them. Such data facilitate both the compilation of alternative presentations of loan data and macroeconomic and macroprudential analysis more broadly (e.g., data disaggregated by economic sector of debtor for *Loans: Of which expected losses* are required for calculation of the expected realizable value of loans by economic sector). As shown in the memorandum items in Tables A2.1–A2.3, it is recommended that the data on interest arrears and expected loan losses be disaggregated by sector, regardless of whether the reporting of such data is mandated by law, regulation, or national practice. (See also Chapter 5, paragraphs 5.142–5.148.)

7.31 In some countries, lending institutions are required to exclude interest arrears (i.e., interest that is overdue for payment) from the valuation of loans. This *Manual* recommends including such interest together with its underlying instrument, with a matching provision on the liability side. The memorandum items with data on interest arrears allow adjusting the accounting data to the requirements of monetary and financial statistics.

7.32 In the same vein, some countries require FCs reporting the expected realizable values of loan portfolios—that is, the values adjusted for expected loan losses—instead of the nominal value of the loans. The memorandum items for expected losses on loans discussed in the previous paragraphs allow readjusting the data on loans in the respective surveys.

7.33 Memorandum items on FCs' claims on and liabilities to ODCs in liquidation or under reorganization, disaggregated by type of financial asset/liability, need to be reported in order to have complete information on the ODCs sector when compiling the DCs surveys (ODCS and DCS). Despite best efforts, the central bank may be unable to obtain regular and timely reporting of data directly from ODCs in liquidation or under reorganization. Availability of these memorandum items, which are reported by the FCs that are in operation, enables the compilers to complete the data consolidation across both operating ODCs and those in liquidation.

7.34 Memorandum items on central bank float (applicable to central bank only and discussed in paragraph 7.57d) are needed for the compilation of the DCS for countries where the central bank provides funds to ODCs for items in the process of collection, even though the central bank has not yet collected funds from the ODCs on which such items were written (availability prior to collection).

7.35 Total positions with nonresidents for selected financial instruments with an *of which* subcategory specifying positions with FCs are included in memorandum items. These memorandum items are useful for countries where the financial sector has significant exposure to nonresidents. Further, memorandum items identify interbank positions with nonresident deposit-takers with an *of which* subcategory specifying positions with nonresident affiliates.[5]

7.36 Memorandum items in the sectoral balance sheets for the central bank and ODCs separately identify total loans to and deposits of MMFs, allowing the compilation of interbank positions as defined in the *System of National Accounts 2008* (*SNA*), by eliminating positions with money market funds (MMFs) from intra-DC positions.

Recording of other changes in the volume of assets

7.37 While the analysis of the monetary statistics often focuses on balance-sheet stocks and flows in the form of transaction and valuation changes, other changes in the volume of assets (OCVA) are also of analytical interest, particularly when relatively large entries for OCVA occur. The groupings of OCVA categories and relevant OCVA entries for the FCs sector are discussed and explained in paragraph 5.84.

7.38 In the framework of the monetary statistics, all OCVA entries are included in a single column in the presentation of a sectoral balance sheet. OCVA reported in the single-column format by each reporting institution can be aggregated across all ODCs and all OFCs, respectively, to obtain part or all of the OCVA data for the sectoral balance sheets. OCVA data reported by individual ODCs and OFCs will not cover OCVA entries arising from *Changes in classification and structure* of FCs. These entries arise, for example, when an OFC has been reclassified as an ODC at the beginning of the reporting period (or an

[5] Positions with resident offshore banks that do not issue liabilities included in broad money should be reported as positions vis-à-vis OFCs.

ODC has been reclassified as an OFC), and should be made by compilers.[6]

7.39 When an OFC is newly authorized to operate as an ODC, or commences issuing liabilities that are included in broad money, it needs to be reclassified as an ODC. Reclassification often may apply to several OFCs at the same time. Prior to the reporting period in which the OFC begins operating as an ODC, each monetary data reporter (including the central bank's accounting department) should have been informed of the OFC's reclassification. Having this information, each FC with claims on or liabilities to the reclassified institution is able to reclassify these accounts to the new subsector of the reclassified institution. For example, if the reclassified institution has an outstanding loan from the central bank, the central bank's accounting department would reclassify the central bank's claim from *Loans—Other financial corporations* to *Loans—Other depository corporations* in the data reported to the compilers. If the reclassified institution holds transferable deposits in domestic currency units in an ODC, the ODC reclassifies its liability from the OFC subcategory of *Deposits included in broad money: Transferable deposits—In domestic currency* to the ODC subcategory of *Deposits excluded from broad money: Transferable deposits—In domestic currency*.[7]

7.40 Given proper notification, the OFCs and ODCs can complete all reclassifications for their individual claims on and liabilities to the reclassified FC. A similar approach should be followed when an entire group of financial institutions is reclassified from OFCs to ODCs. Other cases of reclassification arise from changes in the residence of clients or counterpart ODCs, or due to enlargement of a currency union when new countries access the union.

7.41 OCVA entries for reassigning the entire balance sheet of the reclassified FC from the sectoral balance sheet of the OFCs to the sectoral balance sheet of the ODCs can be accomplished only when the data reported by the individual OFCs and ODCs are aggregated in compiling the sectoral balance sheets. Compilers are responsible for two sets of OCVA entries in the category of *Changes in classification and structure*: (1) the full set of balance-sheet accounts of the reclassified FC is removed from the sectoral balance sheet of the OFCs; and (2) the full set of these accounts is inserted in the sectoral balance sheet of the ODCs.

7.42 The OCVA entries illustrated in Annex 7.1 are discussed in detail in paragraphs 5.21 and 5.80–5.85:

a. Catastrophic losses. Loss on nonfinancial assets resulting from a catastrophic event.

b. Appearance and disappearance of financial assets. Write-off of loans, previously provisioned for loss in full, and write-off of debt securities that have not been provisioned.

c. Changes in sector classification and structure. Reclassification of an OFC as an ODC.

d. Changes in classification of assets and liabilities. (1) Monetization of gold (central bank); (2) reclassification of loans, as debt securities; (3) changes in the type of debt securities included in broad money; and (4) an appropriation from retained earnings to general and special reserves.

Further disaggregation of financial instruments in the sectoral balance sheets

7.43 Chapter 4, Section V, discusses possible supplementary classification of financial assets and liabilities in the sectoral balance sheets. This subsection presents examples of such supplementary classifications.

7.44 Box 7.1 shows examples for further disaggregation of sectoral balance sheets that may be appropriate in a particular national context (see also Table 7A.8 in Annex 7.3 for supplementary data for possible reporting to the IMF). For national purposes, compilers may require more disaggregated categories of the DC's liabilities, for example, by maturity or restrictions on use.

7.45 Even though the sectoral balance sheets provide the complete set of data necessary for the compilation of surveys, additional data are also needed for macroeconomic and macroprudential analysis. Box

[6] Reclassification of an ODC as an OFC is a less likely case and arises when an ODC no longer issues liabilities included in broad money.

[7] This example illustrates that the sectoral reclassification affects broad money, given that OFCs are treated as money holders (see Chapter 6). By becoming an ODC, the former OFC has been transformed from a money holder to a money issuer.

Box 7.1 Examples for Further Disaggregation of Sectoral Balance Sheets

Assets	Liabilities
Deposits Other deposits by remaining/original maturity (short- and long-term) Other deposits by type of interest rates (variable- and fixed-rate) Deposits with nonresidents by country of issuance	**Deposits** Other deposits by remaining/original maturity (short- and long-term) Other deposits by type of interest rates (variable- and fixed-rate) Deposits of nonresidents by country of holder and financial/nonfinancial corporations
Debt securities By remaining/original maturity (short- and long-term) By type (certificates of deposit, commercial paper, bankers' acceptances, bills, bonds, etc.) By type of interest rates (variable- and fixed-rate) Debt securities under repurchase agreement Nonresident debt securities by debtor country	**Debt securities** By remaining/original maturity (short- and long-term) By type (certificates of deposit, bankers' acceptances, commercial paper, etc.) By type of interest rates (variable- and fixed-rate)
Loans By remaining/original maturity (short- and long-term) By type of interest rates (variable- and fixed-rate) Nonresident loans by (1) debtor country; (2) type of debtor (IMF, central bank, foreign government, etc.); and (3) financial/nonfinancial corporations	**Loans** By remaining/original maturity (short- and long-term) By type of interest rates (variable- and fixed-rate) Nonresident loans by (1) creditor country; (2) type of creditor (IMF, other international organization, central bank, foreign government, etc.); and (3) financial/nonfinancial corporations
Financial derivatives By major category (i.e., futures contract, other forward contract, option contract, and credit derivatives) and subcategory (see Tables 4.4 and 4.5 for examples of possible subcategories)	**Financial derivatives** By major category (i.e., futures contract, other forward contract, option contract, and credit derivatives) and subcategory (see Tables 4.4 and 4.5 for examples of possible subcategories)

7.2 contains examples of additional categories of data relating to financial derivatives and contingent items to accompany the sectoral balance sheets.

7.46 The subsection on supplementary data in this chapter and Table 7A.8 present an illustrative set of disaggregated data for sectoral balance sheet accounts.

C. Standardized Report Forms

7.47 To ensure methodological soundness and facilitate cross-country comparability, the IMF introduced in 2004 the standardized report forms (SRFs) for monetary data reporting. These forms provide a uniform way for presenting monetary data for reporting to the IMF; and they can also serve as a platform for the monetary statistics disseminated through national sources.

7.48 The SRFs for the central bank, ODCs, and OFCs (see Appendix II) use a harmonized accounting presentation of assets and liabilities (stocks only) of the FCs,[8] with primary breakdowns by financial instrument (presented in order of their relative liquidity, including nonfinancial assets), then disaggregated by currency of denomination (domestic and foreign), and finally by counterpart sector (corresponding to the main sectors of the *2008 SNA*).

7.49 This uniform presentation of the assets and liabilities of the FCs allows detailed cross-country comparison, in line with the concepts and definitions of the other macroeconomic statistical systems;

[8] Reporting to the IMF using the SRFs is for stocks only. For illustrative purposes, the SRFs presented in Appendix II contain also flows, disaggregated into transactions, valuation changes, and OCVA.

Box 7.2 Examples of Additional Data to Accompany Sectoral Balance Sheets

Assets/Liabilities

Financial derivatives: Notional values
By category of underlying asset (loans, debt securities, shares, etc.)
By risk type (interest rate risk, exchange rate risk, credit risk, etc.)

Contingent Items

Guarantees by category of guaranteed obligation
Deposits, loans, debt securities, etc.

Commitments by category
Credit line, loan commitment, underwriting contract, etc.

and ensure adherence to internationally accepted principles.

IV. Financial Corporations Surveys

A. General Principles

7.50 The sectoral balance sheets for the central bank, ODCs, and OFCs are the sources of all data for compilation of the CBS, ODCS, OFCS, and FCS (see Appendix III). Compilation of the CBS, ODCS, DCS, OFCS, and FCS involves consolidation and rearrangement of the sectoral balance sheet accounts. For this purpose, claims on and liabilities to the different FCs subsectors (intra-sectoral assets and liabilities) are separately presented in the sectoral balance sheets. The consolidation in the CBS, ODCS, DCS, and OFCS nets out claims on and liabilities to the same subsector, resulting in a survey that shows only the FCs subsector's claims on and liabilities to other sectors, including other FCs subsectors. The consolidation in the FCS nets out all FCs' claims on and liabilities to other FCs, resulting in a survey that shows only the FCs' claims on and liabilities to other resident sectors and nonresidents.

7.51 The survey for each FCs subsector is built around the accounting identity underlying the sectoral balance sheets and is structured to provide an analytical presentation of the intermediation role of the relevant subsector. For each survey, the asset side focuses on the financing extended to nonresidents and to each of the various domestic sectors. The liability side of the CBS is structured to show the components of the monetary base, and for the DCS, to show those liabilities that are included in broad money. The liability side of the FCS separately identifies insurance, pension, and standardized guarantee schemes; these form a substantial part of the liabilities of the OFCs subsector in many countries.

7.52 For purposes of broader macroeconomic policies, there is an increasing focus on the OFCs subsector and the FCS, which is the broadest set of monetary statistics in terms of institutional coverage. The FCS contains consolidated data for the entire FCs sector.

7.53 Illustrative surveys of the FCs sector are presented in Appendix III. These surveys utilize, and rearrange into analytical presentations, the data in the illustrative sectoral balance sheets that are shown in Appendix II. The surveys show both stocks and flows, with the latter broken down into the three components: transactions, valuation changes, and OCVA.

B. Features of the Financial Corporations Surveys

7.54 All survey categories of assets and liabilities are presented on a gross basis, except claims on and liabilities to nonresidents, claims on and liabilities to central government, and OIN. FCs' net claims on nonresidents (that is, NFA) and NCG are shown in each survey, along with separate lines for total claims and total liabilities. OIN are other liabilities *less* other assets consisting of all liabilities and assets not included elsewhere in a survey.

7.55 Movements in NFA provide an indication of the direct domestic monetary impact of the subsectors' transactions with the rest of the world.[9] The presentation of claims on central government on a net basis facilitates the analysis of FCs' financing of central government operations.

7.56 In addition to the preceding, the subsector surveys share the following common characteristics:

[9] Although the focus of the CBS with respect to foreign assets and liabilities is on all categories of claims on and liabilities to nonresidents without separate identification of official reserve assets, the Form 1SR (Appendix II) for monetary data reporting to the IMF separately identifies foreign assets that are included in official reserve assets. Guidance on international reserves data is given in *International Reserves and Foreign Currency Liquidity: Guidelines for a Data Template* (2013).

a. Claims on domestic sectors other than central government are disaggregated into claims on (1) state and local government, (2) public nonfinancial corporations, (3) other nonfinancial corporations, and (4) households and nonprofit institutions serving households (NPISHs).

b. Claims on and liabilities to each of the other subsectors of the FCs sector are separately identified to enable the consolidation of the subsector surveys in the DCS and the FCS.

c. The primary disaggregation on the liability side is by instrument. For the CBS and the ODCS, a further distinction is made between those liabilities that are included in broad money and those that are excluded. This distinction is not relevant for the OFCS, because OFCs, by definition, cannot issue broad money liabilities. *Deposits included in broad money* are disaggregated into *Transferable deposits* and *Other deposits*, and these categories are further disaggregated by money-holding sector (that is, economic sector of creditor). *Debt securities included in broad money* are also disaggregated by money-holding sector.

d. In the CBS, ODCS, and OFCS, *Equity liability [MS]* is presented at book value and disaggregated into *Funds contributed by owners*, *Retained earnings*, *Current year result*, *General and special reserves*, and *Valuation adjustments*. Unlike other categories of assets and liabilities, they are not allocated to a counterpart sector, except for *Funds contributed by owners*, which for OFCs and ODCs is allocated to resident and nonresident holders.[10] ODCs and OFCs may hold equity shares issued by other ODCs or OFCs, which are sectored on the asset side of their balance sheets, but not on the liability side of the issuing institution. Therefore, these inter-sectoral holdings of equity by FCs cannot be reconciled when compiling the FCs surveys and a discrepancy will arise in the consolidation adjustment, explained by such equity holdings.

7.57 Claims on and liabilities to nonresidents and other domestic sectors are obtained by aggregating the respective items in the sectoral balance sheets. While this is largely self-explanatory, the following should be noted:

a. The *Required reserves* component of *Liabilities to ODCs* in the CBS, and the corresponding entry in the ODCS, comprise ODCs' transferable deposits, denominated in domestic and foreign currency, held at the central bank and included in monetary base.

b. In the ODCS, the *Currency* component of *Claims on central bank* pertains to ODCs' holdings of domestic currency.

c. The *OIN* component in the CBS equals other liabilities *less* other assets. The *Other liabilities* component is the sum of the following categories of liabilities to resident sectors under *Other accounts payable [MS]:* (1) *Trade credit and advances* with resident sectors other than ODCs; and (2) *Other accounts payable–Other [MS],* consisting of provisions for losses, consolidation adjustment for headquarters and branches (see paragraph 7.61a), and—not identified separately—dividends payable to residents, settlement accounts with resident sectors, and miscellaneous liability items with residents. The *Other assets* component is the sum of *Nonfinancial assets* and the following subcategories of claims on resident sectors (not identified separately) under the *Other* category of *Other accounts receivable:* (1) dividends receivable; (2) items in the process of collection; and (3) miscellaneous asset items. In addition to these items, *OIN* for the ODCS and the OFCS includes a *Consolidation adjustment*, elaborated in the following section, in which the claims on and liabilities to other institutional units within the subsector are netted out by deducting claims on other units within the subsector from liabilities to those units. Therefore, the consolidation adjustment reflects

[10] Aggregate data for equity are appropriate in the context of monetary statistics, given that equity liabilities are recorded at book value, whereas equity holdings are at market or fair value. Though not part of the surveys, consolidated data on equity of the central bank, ODCs, or OFCs can be calculated from the data for market or fair value of central bank, ODC, and OFC equity, which are disaggregated by holding sector in the memorandum items of the sectoral balance sheets.

discrepancies among the data reported by individual units on their positions and transactions with other units in the subsector. *Other items (net)* is presented in each survey as a liability and may be positive (net liability) or negative (net asset).

d. *Central bank float*, which is shown as a memorandum item in the sectoral balance sheet of the central bank (see paragraphs 4.195c and 7.34), is deducted from the *Transferable deposits* component of broad money, with a contra-entry in *Other liabilities*. Central bank float represents the amount that the central bank has provided to DCs that have sent checks or other items for collection. If the central bank float is not deducted from *Transferable deposits*, it will be double counted in broad money as the amount of the checks will still be deposited in accounts of both the payer and the payee.

7.58 The focus of the DCS is on broad money and shows the total amount of broad money liabilities of the FCs sector, disaggregated into *Currency outside DCs*, *Transferable deposits*, *Other deposits*, *MMF shares,* and *Debt securities* (see Box 6.1). *Currency outside DCs* comprises *Currency in circulation*, from the CBS, *less* the *Currency* component of *ODCs' claims on the central bank* shown in the ODCS (see paragraphs 6.22–6.23).

7.59 Liabilities that are not included in broad money are shown by category, and liabilities to the OFCs are shown separately (as "of which" items) to enable data consolidation in compiling the FCS directly from the DCS and OFCS.[11]

7.60 The FCS provides comprehensive data for the FCs sector's claims on and liabilities to all domestic sectors and nonresidents. The FCS contains the same asset categories as the DCS. However, the FCS contains considerably fewer subcategories of liabilities than in the DCS, because the FCS is not structured to show the liability components of broad money. Some components of broad money—namely, OFCs' currency holdings and their holdings of deposits and debt securities issued by DCs—have been netted out in the consolidation of the FCs sectors' data in the FCS.[12] The presentation in the liability section of the FCS also differs from the DCS in that the FCS contains a separate liability category for insurance, pension, and standardized guarantee schemes. Countries may elect to adopt an alternative presentation of the liability section of the FCS such that the focus is on liquidity aggregates issued by FCs as shown in Box 6.5.

C. Consolidation Principles for Monetary Statistics

7.61 Consolidation entails the "canceling out" of stocks and flows that arise from financial claims and corresponding obligations between the institutional units within the same sector or subsector covered by a particular survey. The consolidations in the sectoral balance sheets and surveys comprise:

a. Consolidation in the sectoral balance sheets. The sectoral balance sheets of the central bank, ODCs, and OFCs contain accounts for *Consolidation adjustment for branches and headquarters* (within *Other accounts payable—other*). In the sectoral balance sheet of the central bank, *Consolidation adjustment for branches and headquarters* shows the net discrepancy from consolidating the accounts of the head office and branches (and, if relevant, central bank units such as currency boards). In the sectoral balance sheet of the ODCs and the sectoral balance sheet of the OFCs, *Consolidation adjustment for branches and headquarters* shows the net discrepancy representing the aggregation of the consolidation adjustments reported by the individual ODCs and OFCs.

b. Consolidation in the ODCS and OFCS. *Consolidation adjustment* within *OIN* in the ODCS or OFCS shows the discrepancy that remains after netting out inter-ODCs or inter-OFCs claims and liabilities in the consolidation.

c. Consolidation in the DCS and FCS. *Consolidation adjustment* within *OIN* in the DCS or FCS

[11] This presentation is necessary if, in compiling the FCS, the objective is to show all data used in consolidating the relevant subsector surveys. Such presentation has the virtue of transparency: it gives users access to all of the data involved in compiling the FCS. A streamlined presentation that excludes these "of which" items for claims on and liabilities to other financial corporations would not provide such access.

[12] The FCS data for *Deposits* and *Debt securities* are useful for analyzing other sectors' claims on the FCs sector.

shows the discrepancy that remains after netting out inter-DCs or inter-FCs claims and liabilities in the consolidation process.

7.62 *Consolidation adjustment* in the ODCS and OFCS are illustrated in Tables 7A.4 and 7A.6 of Annex 7.2, respectively. The illustrations are based on the numerical examples for the sectoral balance sheets in Tables A2.1–A2.3 in Appendix II. In the illustration for the ODCS in Table 7A.4, ODC claims on other ODCs (corresponding to ODC liabilities to other ODCs) pertain to the categories of *Deposits*; *Debt securities*; *Financial derivatives and employee stock options*; *Trade credit and advances*; and *Settlement accounts*. In the illustration for the OFCS in Table 7A.6, OFC claims on other OFCs (corresponding to OFC liabilities to other OFCs) are in the form of *Debt securities*; *Loans*; *Equity and investment fund shares*; *Insurance, pension, and standardized guarantee schemes*; *Financial derivatives and employee stock options*; *Trade credit and advances*; and *Settlement accounts*.

7.63 *Consolidation adjustment* in the DCS is illustrated in Table 7A.5 in Annex 7.2, using the numerical examples for the CBS and ODCS in Tables A3.1 and A3.2 of Appendix III, respectively. In the illustration in Table 7A.5, central bank liabilities to the ODCs are *Reserve deposits* and *Other liabilities*, as classified in the CBS. ODCS claims on the central bank are *Reserve deposits* and *Other claims*, as shown in the ODCS. Table 7A.5 also shows *Liabilities to the CB* (central bank) (as recorded in the ODCS) and *Claims on ODCs* (as recorded in the CBS). *Consolidation adjustment* in the DCS includes the *Consolidation adjustment* in the ODCS (Table 7A.4), as well as the amount of discrepancy between the corresponding accounts in the CBS and ODCS.

7.64 *Consolidation adjustment* in the FCS is illustrated in Table 7A.8 in Annex 7.2, using the numerical examples for the DCS and OFCS in Annex 7.3 (Tables 7A.10 and 7A.11, respectively). Calculation of the *Consolidation adjustment* is facilitated by the inclusion of lines for *Of which: OFCs* within liability categories in the DCS and lines for *Of which: DCs* in the OFCS. As shown in Table 7A.7, assets in the calculation of the *Consolidation adjustment* are *Claims on other sectors—OFCs* (DCS, Table A3.3) and *Claims on DCs* (OFCS, Table A3.4). For both OFC liabilities to DCs (OFCS) and DCs' liabilities to OFCs (CBS), the categories include *Debt securities*; *Loans*; *Financial derivatives and employee stock options*; and *Trade credit and advances*. DC liabilities to OFCs also include *Deposits included in broad money* and *Deposits excluded from broad money* (DCS), and *MMF shares*. OFC liabilities to DCs include *non-MMF investment fund shares* and *Insurance, pension, and standardized guarantee schemes—Nonlife insurance technical reserves*. *Consolidation adjustment* in the FCS also includes *Consolidation adjustment* in the OFCS (Table 7A.6) and *Consolidation adjustment* in the DCS (Table 7A.5).

D. Monetary Authorities Accounts

7.65 The CBS covers only central banking functions performed by the central bank and any specialized subunits within the central bank subsector (for example, accounts of a currency board). In some countries, certain central banking functions (see paragraph 3.110)—such as currency issuance, the holding of international reserves, and the conducting of transactions with the IMF[13]—are performed wholly or partly by the central government. In such situations, consideration could be given to compiling a monetary authorities account, in addition to the CBS. Alternatively, data on monetary authorities' activities outside the central bank may be shown as memorandum items accompanying the CBS.

7.66 A monetary authorities accounts, as illustrated in Table A3.6 in Appendix III, is obtained by adding to the CBS line items representing central banking functions performed by the central government. In the illustration, the accounts include: (1) a government liability for the issuance of currency (typically coins); (2) a government liability for financial obligations to the IMF; and (3) government assets (typically, foreign exchange holdings) that are part of official reserve assets.

7.67 A government liability included in the monetary authorities accounts is matched by a contra-entry representing a claim on the central government, and an entry for a central government asset is matched by a contra-entry representing a liability to the central government in the monetary authorities accounts.

[13] The recommended statistical treatment of accounts with the IMF is described in Chapter 4, Annex 4.2.

7.68 This *Manual* recommends that each entry and contra-entry arising from central banking functions performed by the central government should be presented as a separate line item in the monetary authorities accounts under *Net claims on central government*. As shown in Table A3.6 of Appendix III, the relevant entries in the monetary authorities accounts are:

a. *Currency issuance—central government* (a component of the *Monetary base*) and *Contra-entry to currency issue—central government* (a component of *Net claims on central government*)

b. *Liabilities to IMF—central government* (a component of *Liabilities to nonresidents*) and *Contra-entry to liabilities to IMF—central government* (a component of *Net claims on central government*)

c. *Reserve assets—central government* (a component of *Claims on nonresidents*) and *Contra-entry to reserve assets—central government* (a component of *Net claims on central government*).

7.69 In cases where monetary authorities accounts are compiled, consideration could be given, in addition to compiling a regular DCS and FCS, to compiling augmented DCS and FCS that use the monetary authorities account instead of CBS.

V. Source Data for Monetary Statistics

A. Overview

7.70 This *Manual* recommends that the source data for the monetary statistics should be obtained, to the extent possible, from the accounting records of resident FCs. These data may be directly usable as source data for monetary statistics, or the data may need to be adjusted for conformity with the accounting rules for monetary and financial statistics.

7.71 The general and subsidiary accounting ledgers of an institutional unit are constructed in accordance with a chart of accounts (also called plan of accounts)—a presentation of the accounting codes and corresponding descriptors for all categories and subcategories of assets and liabilities (all balance-sheet accounts) and revenue and expense items (all profit and loss accounts).[14] The ledgers are designed to facilitate the application of double-entry bookkeeping.

[14] A separate set of accounting codes and descriptors for off-balance-sheet items is often shown after the chart of asset, liability, revenue, and expense accounts.

7.72 In implementing the methodology of this *Manual*, an FC will need to expand its information system to include data that conform to the classification of economic sectors (Chapter 3) and financial assets and liabilities (Chapter 4) recommended in this *Manual*. These data requirements can be met through expansion of the general and subsidiary accounting ledgers or through creation of databases that, though part of the information system, are not integrated into the chart of accounts of the institutional unit. The latter approach is applicable when expansion of the accounting ledgers is impractical and, in particular, when source data for the monetary statistics are to be obtained by estimation methods.

7.73 For the periodicity of source data reporting and compilation of monetary statistics, this *Manual* recommends monthly for DCs, and monthly or quarterly for OFCs. A general recommendation is that the monthly source data be reported within the month immediately following the reference month. This *Manual* recognizes that, given the heterogeneous nature of the subsector, a lag longer than one month may be required for the reporting of quarterly data by OFCs (see paragraph 2.66).

7.74 From an FC's perspective, the source data consist of all data that must be reported to the monetary statistics compilers. These may include: (1) accounting records; (2) accounting records that have been adjusted for conformity with the methodology of this *Manual*; (3) estimated data obtained from outside the accounting system and directly usable in the monetary statistics; and (4) other reported data that are inputs to data adjustments and estimations performed by the compilers.

7.75 From a compiler's perspective, the source data consist of all data needed for the compilation of the monetary statistics, including the data reported by the FCs and other data suppliers, and adjusted or estimated data that are produced by the compilers themselves. Source data may be provided by trade associations or regulatory/supervisory agencies to which ODCs and OFCs that are not supervised by the central bank (for instance, credit cooperatives, MMFs, insurance corporations, pension funds, etc.) report.

7.76 This section emphasizes the source data obtainable from an FC's accounting records, if the accounting system of the FC is expanded to meet all the specific data

needs of the monetary statistics compilers. This *Manual* recommends that compilers of monetary and financial statistics provide report forms and instructions on the specific data to be reported by FCs, but that each FC is given latitude in determining the information management processes for data production, either through the expansion of its accounting system or through other means. This recommendation has a legal dimension for countries in which the statistical authorities are not authorized to mandate expansions or other revisions in corporations' information systems.

7.77 Given the importance of accounting records as a source for monetary statistics, Chapter 2 compares some aspects of the methodology in this *Manual* with the International Financial Reporting Standards (IFRSs) in a separate section. The section highlights the differences between the IFRS (see Chapter 2, Box 2.1) and the framework of this *Manual* in terms of terminology used, the financial asset classification and valuation rules, and the recommended periodicity and timeliness of data dissemination. Further, Chapters 2 and 5 (paragraphs 2.57 and 5.43, respectively) discuss some general cases when the accounting records may need to be adjusted for conformity with the valuation and accounting rules in this *Manual*.

7.78 The financial statements for enterprises in some countries may be prepared on the basis of a fiscal year that differs from the calendar year. To facilitate cross-country comparability, all stock data for monetary and financial statistics should be end-of-period amounts for a calendar month, quarter, or year; all flows should be measured over a calendar month, quarter, or year. If needed, data should be adjusted to meet this requirement.

B. Data Sourced from Financial Corporations' Accounting Records

7.79 The general ledger provides a summary of all entries in the balance sheet and profit and loss accounts of the institutional unit. More disaggregated data are contained in subsidiary ledgers that are linked to the general ledger. A major function of the general and subsidiary ledgers is to provide information for the day-to-day management and control of a corporation. The general and subsidiary ledgers also support preparation and auditing of the corporation's financial statements, in accordance with the accounting standards; and compliance with reporting requirements of regulatory/supervisory agencies and national statistical agencies.

7.80 Each account in the general and subsidiary ledger has an accounting code, or reference number, and a descriptor. Large and complex enterprises have thousands of account codes in their general and subsidiary ledgers. The accounting codes and descriptors are obtained from the enterprise's chart of accounts, or plan of accounts. The charts of accounts of financial and nonfinancial corporations reflect both the complexity of their activities and the multipurpose nature of the data. The ordering of assets and liabilities within a chart of accounts for FCs is usually determined by their relative liquidity.

7.81 As a matter of national policy, in many countries a chart of accounts is standardized across institutional units within an individual subsector of the economy. For example, ODCs may be required to use the same chart of accounts. In other countries, each corporation designs its own charts of accounts, subject only to the requirements that financial statements are prepared in accordance with the national financial reporting standards and that accurate and timely data are reported to the appropriate authorities.

7.82 *Double-entry accounting* can be implemented in the compilation of the source data for monetary statistics when these data are incorporated in, or linked directly to, the general and subsidiary ledgers. The double-entry accounting rule requires that every entry in the expanded information system must be accompanied by a contra-entry or set of contra-entries that will ensure that the balance-sheet identity—assets equal liabilities (inclusive of equity)—is always satisfied. Double-entry accounting ensures that the balance-sheet and profit and loss accounts in the accounting system are reconciled. Double-entry accounting is also the framework for monetary statistics that ensures all stock and flow data are reconciled.

7.83 The flow data in an accounting system are defined by debits and credits to the accounts. The *trial balance* is a summary of all debits and credits recorded in the general ledger of the accounting system. If all entries in the accounts are accurate, the sum of all debits always equals the sum of all credits. If debits do not equal credits, the resulting error will be revealed in a trial balance that does not balance.

7.84 In some cases, a single debit entry and a single credit entry are needed to record a transaction. For example, suppose a depositor places a deposit with an ODC in the amount of 100. The ODC will record the deposit by crediting the deposit account (a liability of the ODC) in the amount of 100 and will record the receipt of cash by debiting its vault cash in the amount of 100. This transaction involved only an asset account (vault cash) and a liability account (deposits). In other cases, a transaction may involve two entries in the asset accounts or liability accounts. For example, suppose an FC purchases 100 of debt securities from a nonresident and provides payments from a transferable deposit account in an overseas (nonresident) DC. The FC debits an asset account (*Debt securities—nonresident*) in the amount of 100, and credits another asset account (*Transferable deposits—nonresident*) in the amount of 100.

7.85 Some transactions involve debits to both an asset or liability account and a revenue or expense account. An example is the recording of accrued interest in the amount of 10 for a loan held by an FC. The accrued-interest subaccount (asset) associated with the asset account (loan) is debited (10), and the revenue account for accrued interest on loans is credited (10). Instead, suppose that accrued interest of 10 is to be recorded for a deposit liability. The accrued-interest subaccount associated with the deposit account is credited (10), and the expense account for accrued interest on deposits is debited (10).

7.86 Flow data for monetary statistics can be based on the debit/credit entries to the balance-sheet and profit and loss accounts in the FC's ledgers. Debits and credits to the asset/liability accounts, when aggregated and compiled on a net basis, provide transaction data for the net purchase or sale (or other form of partial or total liquidation) of a category of assets and the net incurrence or repayment of a category of liabilities. General or subsidiary ledger subaccounts can be used to account for accrued interest on each category of interest-bearing asset or liability—specifically, loans, debt securities, and deposits. These subaccounts would track the *additions* to accrued interest—interest earned but not yet due for payment—and *reductions* in accrued interest that result when accumulated accrued interest becomes due for payment and is paid.[15] The amounts of accrued interest in the subaccounts would be incorporated into the outstanding balances for the interest-bearing assets and liabilities, as well as in the accrued-interest data in the *Memorandum items* accompanying the sectoral balance sheets.

7.87 Profit and loss accounts in the general and subsidiary ledgers can be disaggregated to provide gain and loss data for monetary statistics. For monetary statistics, gains and losses in the profit and loss accounts do not need to be disaggregated on the basis of whether the gains/losses have been realized or are unrealized,[16] or on the basis of whether the gains/losses resulted from price changes or from exchange rate changes. However, source data for gains and losses in monetary statistics need to be disaggregated in accordance with the line items in the sectoral balance sheets in Appendix II. The principal disaggregations of gains/losses are by: (1) asset/liability category,[17] (2) domestic/foreign currency of denomination, and (3) economic sector of creditor/debtor. Because loans and deposits are recorded at nominal value in the methodology of this *Manual*, there are no holding gains or losses to record for domestic-currency-denominated loans and deposits, except if sold at a discount.

7.88 In the general and subsidiary ledgers, gains and losses arising from revaluations of financial assets and liabilities are recorded in two alternative ways: in profit and loss account, or in valuation adjustment within equity. For monetary statistics, the total amount of revaluation for individual categories of assets and liabilities is needed, with no rules imposed

[15] The monthly data for the monetary statistics include accrued interest in the outstanding amounts of interest-bearing deposits. The monthly statement that a DC provides to a depositor usually does not include accrued interest, but rather shows only the amount of interest recorded in the depositor's account at the time when the interest becomes due for payment. Separate subaccounts for accrued interest on deposits facilitate the reconciliation of the deposit data in which accrued interest are included and excluded, respectively.

[16] For a category of asset or liability in monetary statistics, the net gain or loss (that is, *Valuation change*) for a period is equal to the *sum* of (1) unrealized gains and losses from revaluing assets/liabilities still in the accounts at the end of the period; and (2) realized gains and losses on assets/liabilities that, by having been sold or otherwise liquidated, are not in the accounts at the end of the period.

[17] For deposits and debt securities issued by DCs, disaggregation based on the liability categories of *Included in broad money* and *Excluded from broad money*, as well as disaggregation by domestic/foreign currency of denomination and by economic sector, is needed.

with respect to recording through profit and loss or valuation adjustment accounts, given that both are components of equity. The total revaluation (gain or loss) for a particular category of assets or liabilities within a period is the sum of: (1) the net gain or loss recorded in *Current year result* (profit and loss), and (2) the net gain or loss recorded in *Valuation adjustment,* both within *Equity liability [MS]*.

7.89 Net profit or loss for the period is shown as the *change in current year result*, and accumulated profits or losses at the beginning and end of the period are referred to as the *opening balance of current year result* and *closing balance of current year result*, respectively. In principle, profit or loss can be officially transferred to *Retained earnings* at the end of each period. The *Current year result* for the period, inclusive of the net amount of gain or loss, is disaggregated in the flow categories of *transactions* (*T*), *valuation changes* (*VC*), and *OCVA* within *Equity liability [MS]*. These are the contra-entries for the transactions (for example, revenue received, expenses paid, and accrued revenue and expense items), valuation changes, and OCVA, on a net basis, for all financial assets and all liabilities outside *Equity liability [MS]*. Within the *Equity liability [MS]*, the net amount of gain/loss through the profit and loss accounts is recorded in the *VC* column of the *Current year result*. A separate OCVA column of the *Current year result* is used for any OCVA that are recorded through profit or loss. *Equity liability [MS]* contains a separate component, *Valuation adjustment*, for the recording of the net gain/loss recognized directly in equity as per the IFRS or national financial reporting standards. The net amount of gain/loss (valuation change) through the *Current year result* is calculated as the sum of the gains and losses in the valuation subaccounts for line items in the sectoral balance sheet. The net amount of transactions for the current year result for the period is equal to the net profit or loss for the period minus the sum of: (1) net amount of gain/loss through profit or loss, and (2) OCVA.

7.90 A numerical example of the stock and flow data for *Equity liability [MS]* of a FC (other than the central bank) is provided in Box 7.3.[18]

[18] In the *2008 SNA* and the methodology of this *Manual*, OCVA entries are used to record asset/liability changes that do not rise from transactions or valuation changes. The OCVA account is described in Chapter 5, paragraphs 5.21–5.22. Appropriations from *Retained earnings* to *General and special reserves* do not appear within the framework of the *2008 SNA*. In monetary statistics, the *Retained earnings* appropriation to *General and special reserves* is treated as an OCVA within the category of *Changes in the classification of assets and liabilities*. OCVA entries arising from other events are described in Chapter 5.

Box 7.3 Equity Liability [MS]: Example of the Stock and Flow Data for a Period

(1) Profit for the period = 425

(1.1) T = transactions (other than new issue of shares) = **400**

(1.2) VC1 = Gain or loss through profit or loss = **100**

(1.3) OCVA1 = Expense for *Provision for losses on assets* = – **75**

(2) VC2 = Gain or loss recognized directly in equity = – **50**

(3) EQ = Issuance of equity shares = **3,200**

(4) OCVA2 = Appropriation of retained earnings to increase *General and Special Reserves* = **300**

	OS	T	VC	OCVA	CS
Equity liability [MS]	1,017,300	**3,600**	**50**	**–75**	1,020,875
Funds contributed by owners	1,000,000	**3,200 [3]**			1,003,200
Retained earnings	10,000			**–300 [4]**	9,700
Current year result	4,300	**400 [1.1]**	**100 [1.2]**	**–75 [1.3]**	4,725
General and special reserves	1,000			**300 [4]**	1,300
Valuation adjustment	2,000		**–50 [2]**		1,950

Note: T = transactions; VC = valuation changes; EQ = equity; OCVA = other changes in volume of assets; OS = opening stock; CS = closing stock.

Systematic identification of data reporting requirements

7.91 Compilers need to ensure that the data for the monetary and financial statistics are reported by FCs, while respecting the authorities concerns and data reporter's interests in minimizing statistical reporting burdens to the extent possible. The SRFs help reduce the reporting burden on countries as they can be used as the sole data source for monetary statistics and facilitate data consistency across jurisdictions. Nonetheless, the quantity and frequency of data requested do place a burden on reporting financial institutions who are confronting a greater reporting and regulatory burden as a result of changes to the macroprudential regimes. Many countries have administrative procedures to ensure that new and existing regulatory burdens, including those arising from statistical reporting, are monitored and subjected to reassessment on a regular basis. For example, EU Council Regulation (EC) No. 2533/98 as amended, concerning the collection of statistical information by the European Central Bank (ECB), requires that the ECB, without prejudice to the fulfillment of its statistical reporting requirements, "…shall use existing statistics as far as possible." Similarly, the Bank of England *Statistical Code of Practice* states that "Data suppliers' costs will be contained, subject to both the need to produce statistics that are fit for their purpose and regulatory data that meet the needs of regulators."[19] Compilers need to judge the most efficient means of implementing data reporting requirements, striking an appropriate balance between the imposition of reporting costs and the quality of the data obtained. One way to minimize the reporting burden of FCs is to harmonize as much as possible statistical and supervisory reporting. This is particularly relevant when the same institution (e.g., the central bank) is mandated to compile monetary statistics and supervise FCs.

7.92 An approach to evaluate the reporting requirements is the application of cost-benefit analysis (CBA). Standard cost-benefit techniques, as applied in public sector project appraisals, are designed for quantification of the costs and benefits of alternative options and for selection of the option that has the maximum social value. Application of CBA to statistical reporting requires some adaptation of the techniques, given the inherent subjectivity in valuing the benefits of producing data that meet the quality standards.[20] One formally established CBA is the "merits and costs procedure" of the ECB discussed in Box 7.4.

7.93 Components of a CBA for the reporting of monetary and financial statistics include:

a. Systematic identification of all potential statistical reports.

b. Estimation of reporting costs for each statistical report.

c. Assessment of benefits measured as the incremental contribution of each statistical report to the overall quality of official statistics.

d. Formulation of decision rules for determining which statistical reports are to be approved on the basis of costs and benefits.

7.94 Questionnaires are used to identify the available data in reporting institutions' general and subsidiary accounting ledgers and the additional required data that, though necessary for monetary statistics, are not required for compliance with national financial reporting standards or reporting requirements imposed by regulatory and supervisory authorities.

7.95 The objective for the statistical authorities is the establishment of data reporting requirements that are efficient in terms of the lowest reporting costs for achievement of specified standards of data quality. Efficiency of data reporting involves avoidance of double reporting of the same or similar data.

7.96 Given the associated costs to reporters and compilers of changes in the report forms, they should be revised infrequently and only when the quantified gains exceed their related costs. Defining the additional data needs is a starting point for identifying the incremental costs of statistical reporting that are directly attributable to the requirements for the monetary and financial statistics.

7.97 Techniques for estimation of statistical reporting costs recognize that aggregate reporting costs depend

[19] Bank of England (2013), page 34.

[20] For descriptions of developments in the application of CBA to statistical reporting, see for example Bank of England (2006a) and Holder (2006).

Box 7.4 The European Central Bank's Merits and Costs Procedure

The Governing Council of the European Central Bank (ECB) established a formal "merits and costs procedure" in 2000 to assess the value of new statistical reporting requirements, with a view to minimize reporting burden and to ensure statistics are collected in a cost-effective way. The procedure explicitly involves financial corporations (FCs) affected by the new requirements in order to estimate their cost.

The procedure consists of the following main steps, which, in some cases, may be further tailored to the specific requirements:

- The ECB carries out, in collaboration with national central banks (NCBs) and users, an assessment to determine whether and to what extent new data requirements can be met using existing statistics.
- The ECB prepares a "fact-finding exercise" aimed at analyzing the feasibility of the added requirements and the relevance of the economic phenomenon to be measured. Depending on the specific cases, representatives of the FCs may be involved in this stage.
- The ECB prepares a formal "cost-assessment" questionnaire, separately addressed to both FCs (for the added reporting burden) and NCBs (for the added administrative burden of processing more data). The respondents to the questionnaire assess costs using a grading scale (1-limited cost to 5-fundamental increase in cost).
- The ECB, having collected the responses on the added costs, addresses again the main users of the statistics, asking them to reconsider their new requirements in light of the costs reported by FCs. In some cases, especially when increased costs are reported as fundamental, users may be offered an alternative that may partially address their requirements but could be cheaper to achieve (e.g., quarterly instead of monthly data).
- The final step is the matching of merits and costs, where a final decision is taken by the ECB Governing Council on each individual new requirement.

on the number of reporting entities and the reporting burden on each reporter. Statistical reporting compliance costs can be estimated through the use of periodic surveys of data reporters, who are asked to estimate the total staff time spent and non-staff costs incurred in complying with statistical reporting requirements. Staff-time estimates can be provided for individual employment grades and earning levels so that representative estimates of the total staff costs of statistical reporting can be calculated.

7.98 In the assessment of the benefits of reported data, surveys of monetary statistics users such as the central bank, central government, academics, media, and financial sector analysts can be used to identify the most highly valued statistics. The contribution of each reporting requirement to the derivation of these statistics can be assessed. Their value can be judged by the incremental impact of the reported data on the accuracy, reliability, and other qualitative dimensions of the major statistical outputs derived from the underlying data.

7.99 To ensure consistency in the cost-benefit assessment of data collections, compilers may consider the adoption of standardized evaluation tools such as numerical scoring weighted by various criteria that encompass the principal benefits from compliance with national and international statistical reporting requirements.

7.100 Decision rules need to be structured to recognize that costs and benefits are unlikely to be assessed in the same quantitative terms. One approach is to set a budget ceiling for reporting compliance costs and choose from a ranked set of potential data collections, so as to maximize total benefits for a predetermined limit on total compliance costs. An alternative approach is to impose minimum quality standards that the reported data must meet or exceed.

Data adjustment and estimation

7.101 Alternative methods of data adjustment and estimation need to be evaluated to determine those that are the most efficient and cost-effective for com-

pletion of the data sets for monetary statistics. Compilers should identify each type of data adjustment/ estimation that is appropriate for completion of the entire data set for monetary statistics. For each category, a decision is needed as to whether compilers or the FCs should produce the adjusted/estimated data.

7.102 In addition to the trade-offs between compliance costs imposed on data reporters and costs borne by the monetary statistics compilers, consideration needs to be given to the efficiency of the data production and the resulting quality of the data. This *Manual* recommends that data reporters undertake all data adjustments/ estimations that can be efficiently implemented at the level of the individual reporters. Examples might include restatement at market or fair value for debt securities that have been valued at amortized cost in FCs' accounting systems, or estimation of fair values for financial derivatives that are not traded in active markets. By performing the adjustments/ estimations, each reporting institution can incorporate the adjusted/estimated data (and corresponding contra-entries) in its reported data in a manner that preserves the balance-sheet identity—total assets equal to total liabilities—for the reported data. Inclusion of the adjusted/estimated data in the reported data imposes a quality check on the reported data, which must satisfy the balance-sheet identity after the adjusted/estimated data have been incorporated.

7.103 Some data adjustments/estimations may be delegated to the monetary statistics compilers, particularly when those can be made more efficiently (and sometimes more accurately) using aggregated data rather than the separate data reported by each FC. Such procedures may be cost effective for disaggregation by economic sector for a particular category of financial assets or liabilities, and for estimation of flow data using stock data. For example, an FC has data on its total issuances of debt securities but usually does not have data disaggregated by economic sector of creditor (current holder of the securities), if its debt securities have been traded in secondary markets. The monetary statistics compilers are in a position to estimate the disaggregated data more efficiently and accurately than the individual reporters, using information available from different sources only at the aggregate level of securities holdings. In addition, custodial repositories or centralized securities depositories, if they exist in a country, can be used as a source for information on the issuance and holdings of debt securities and equity. This, in turn, may reduce the reporting burden of FCs.

7.104 Monetary statistics compilers are responsible for data interpolation in circumstances in which not all data reporters provide data with the periodicity specified for the monetary statistics. For example, using a modified form of truncated data reporting, most ODCs may be required to report monthly data, but some small ODCs may report quarterly data only. The compilers would be responsible for estimating monthly data for all ODCs, which would include monthly estimates that have been interpolated from the quarterly data reported by the small ODCs. Similarly, the compilers would be responsible for using annual data, as reported by small OFCs, to produce quarterly data estimates based on interpolation, when quarterly is the standard periodicity for the OFC data.

Flow data estimation

7.105 Given that, in practice, sources for monetary statistics are mostly stock data, disaggregation of period-to-period changes in the outstanding amounts of financial assets and liabilities into the separate flow components—transactions, valuation changes, and OCVA—is an area for using estimation techniques. The sophistication of an FC's information system may be such that some or all flow data may be compiled and reported directly from its financial records. Although the general recommendation is that, to the extent possible, the flow components for each category of financial assets and liabilities should be obtained directly from the accounting or other recording systems of the FC, for some FCs (particularly, for many OFCs), flow data may need to be estimated. Data reporters may be required to provide some flow data, but the monetary statistics compilers are likely to be delegated responsibility for estimation of a substantial part of the flow data, through use of the reported data and estimation techniques.

7.106 Flow data can be estimated directly from stock data for financial assets and liabilities that are not subject to revaluation. Either more detailed data or the application of estimation techniques is required, when flow data for a financial asset or liability must be decomposed into transactions and valuation changes

(as well as, possibly, OCVA). This decomposition can be based on estimation methods that utilize simplifying assumptions about the behavior of the market price (or fair value) of a financial asset/liability and, for a foreign-currency-denominated financial asset/liability, the behavior of the exchange rate during the period. These estimation methods are described in Chapter 5 (Section IV.A, and Annex 5.1) and in Box 10.2 of the *BPM6 Compilation Guide*.[21]

C. Data Reporting by Financial Corporations

General principles

7.107 A prerequisite for the compilation of monetary statistics is the accurate, comprehensive, and timely reporting of data that FCs have compiled in accordance with the financial asset classifications, economic sectoring, valuation methods, and other accounting rules, as described in Chapters 2 to 6.

7.108 Comprehensive data reporting enables the monetary statistics compilers to concentrate on: (1) verification and, if necessary, adjustment of the data to finalize the sectoral balance sheet of the central bank; (2) collection of the monetary data from the ODCs and OFCs; (3) compilation of the sectoral balance sheets for the ODCs and OFCs; (4) consolidation of the data for the surveys of the FCs sector (CBS, ODCS, DCS, OFCS, and FCS); and (5) reporting and publication of the monetary statistics.

7.109 FCs in most countries report only stock data for monetary statistics. This subsection is intended to provide guidance on the reporting of stock data and the general framework for the future reporting of both stocks and flows in the sectoral balance sheets and memorandum items.

Central bank

7.110 The central bank should report stock and flow data in accordance with the *Manual* recommended financial asset classifications, economic sectoring, valuation methods, and accounting rules. Reporting pertains to a single institutional unit and the data reporting entails only inter-departmental data transmittal—that is, reporting from the central bank's accounting department to the monetary statistics compilers within the central bank.[22] The form of data reporting depends on the division of tasks within a central bank. Usually, the accounting department is responsible for reporting the accounting balance-sheet and any additional data needed by the monetary statistics compilers, who then produce the sectoral balance sheet for the central bank.

7.111 This *Manual* recommends that, at a minimum, the accounting department of the central bank should share with the compilers a single set of data wherein the accounts of the central bank headquarters, all domestic branches of the central bank, and any specialized subunits within the central bank subsector (for example, accounts of a currency board) have been consolidated. In some cases, data sharing by other departments of the central bank—for example, a foreign exchange department or a securities department—may be required for completion of the sectoral balance sheet and/or accompanying memorandum items.

7.112 Implementation of data reporting requires close collaboration between the central bank's departments involved in data reporting for monetary statistics purposes and the monetary statistics compilers. The departments should be provided with full documentation of the accounting rules that apply to the stock and flow data for the sectoral balance sheet of the central bank. This documentation should be augmented with ongoing technical support from the monetary statistics compilers, contributing to the quality and timeliness of the reported data.

7.113 In addition, read-only access to accounting records of the central bank by the compilers has proven helpful when addressing specific data issues and/or questions. This practice promotes efficiency in the use of resources and improves the timeliness of data validation and availability.

Other depository corporations

7.114 ODCs should report stock, and possibly flow, data in standard reporting forms (based on charts of

[21] On the estimation of flow data for monetary financial institutions (ODCs) in the Eurosystem, see European Central Bank (2006a and 2006b).

[22] This statement holds also at the level of central bank units in countries that belong to currency unions. An exceptional case is a currency union that has a union-wide central bank, but no central bank units for individual countries belonging to the union. Another exceptional case is for a few small countries that do not have central banks. For these exceptional cases, the reporting procedures described in this section pertain to reporting to government agencies and/or FCs other than central banks that are responsible for obtaining the data on central-bank-type activities at the national level.

accounts or standard statistical returns) that are sufficiently detailed to allow compiling monetary and financial statistics in accordance with the financial asset classifications, economic sectoring, valuation methods, and accounting rules of this *Manual.* The advantages of this reporting are:

a. Compilation efficiency. The reported data are comparable across ODCs and are in a form that facilitates aggregation by the compilers. If a common chart of accounts exists, the reporting can be simplified because additional reporting forms to collect balance-sheet data are not needed. The ODCs can just report their balance sheet and income statement based on the standard chart of accounts.

b. Data quality. Preferably, ODCs should report own accounting records using a standardized format that contains all the details needed for compiling monetary statistics. The alternative of the compiler relying on summarized balance sheet and income statement data, supplemented by additional report or call forms with specific information is a weak substitute. It is more time and resource consuming, and inconsistencies might arise between data in the supplementary forms and the accounting records, and thus the compilation process becomes prone to errors.

7.115 Major elements of implementation of the new reporting system include:

a. Reporting forms. The new reporting forms can be designed with reference to the line items of the SRF 2SR, the format for standardized reporting of ODC data to the IMF, as discussed in *Reporting to the IMF* (paragraphs 7.137–7.145). Initially, the reporting requirement may specify that only stock data for an ODC's balance-sheet accounts and memorandum items should be reported. Foresight is needed in designing a numeric (or alphanumeric) data-coding system that later can be extended to include the reporting of flows—transactions, valuation changes, and OCVA.

b. Reporting instructions and other documentation. The instructions for completion of the reporting forms can be developed with reference to the *Guidance Notes* that accompany SRF 2SR for the reporting of ODC data to the IMF (see Appendix II), as well as by making use of the other material in this *Manual*, which is available online at the IMF website (www.imf.org) for reference.

c. Training sessions. The central bank will need to convene training sessions to provide the ODC reporters and their support staff with in-depth information on the methodology of the monetary statistics, sectoral balance sheets, and reporting procedures.

d. Technical support. The central bank will need to provide a communication channel between the ODCs and the monetary statistics compilers who are in a position to assist the ODCs with the resolution of methodological and other issues associated with the implementation of the reporting system. The need for technical assistance should be expected to extend beyond the introduction of the new reporting forms.

Other financial corporations

7.116 OFCs should also report data in standard reporting forms that are sufficiently detailed to allow the compilation of monetary and financial statistics in accordance with the financial asset classifications, economic sectoring, valuation methods, and accounting rules of this *Manual*. The data reported by an OFC usually encompass fewer and less diverse categories of assets and liabilities, compared with the data reported by an ODC. The liability accounts of OFCs seldom include deposits, and the financial assets and liabilities of many OFCs are likely to have comparatively few categories of debtor/creditor disaggregation by economic sector.[23]

7.117 The major reporting challenges arise from the large number and diversity of operating OFCs, as well as from multiple channels of data reporting. In some countries, OFC data reporting is incomplete and/or is not performed on a timely basis; and reporting by some categories of OFCs may not exist. Furthermore, in many countries OFCs are not supervised directly by the central bank, but by supervisory agencies responsible for particular segments of the OFCs sector (for instance, insurance corporations, pension funds, or non-MMF investment funds), or not supervised at all.

[23] Typical examples are pension funds, for which the almost exclusive liability category is pension entitlements of households.

This fact presents an additional hurdle for the compilation of OFCs' monetary and financial data.

7.118 Compilers should collect timely source data from OFCs either through direct reporting to the central bank or through close coordination with the agencies supervising the activities of the different types of OFCs operating in the economy, or through national statistical offices. Data reporting may also be channeled through trade associations or other non-government entities that represent the interests of specific groups of OFCs.

7.119 Implementation of a reporting system for OFCs involves the same four major elements as those for ODCs, the references being the line items of SRF 4SR, the format for standardized reporting of OFC data to the IMF, and its accompanying *Guidance Notes* (see Appendix II) and other principles in this *Manual*.

Validation and plausibility testing of reported data

7.120 Efficient and reliable mechanisms for ensuring the quality of source data reported by FCs are fundamental to the compilation of monetary statistics. Compilers need to maintain the quality standards required for aggregate outputs by checking for large or unusual movements in reported source data. Quality control is exercised through *data validation* and *plausibility testing*, through which reporting errors are identified and corrected to the point where the statistical outputs are fit for the analytical purposes for which the data are intended.[24]

7.121 Validation checks can be largely automated where reported data are in electronic form. The data submission can be automated through electronic data transmission and storage. Data transmission can be via private networks or over the Internet (subject to security precautions including encryption, if necessary). Most central banks have systems of electronic data transmission, at least for large reporting institutions. Validation checks specified by the compilers can be built into the software for preparing and transmitting the reported data, thereby allowing each reporter to perform the basic validation prior to transmitting the data. Validation provides basic checks on the integrity of source data by: (1) confirming that all required data cells have been completed; (2) checking that all balance-sheet accounting identities are satisfied; (3) ensuring that subtotals and totals sum correctly; and (4) determining the consistency in the reciprocal positions between the FCs subsectors.[25]

7.122 Plausibility testing follows validation checks and is aimed at identifying those data items that have reporting errors, even though the validation checks have shown the data to be internally consistent. Plausibility testing can be viewed as a three-phase process:

a. First-round filtering, often automated, is used to identify source data that exhibit behavior that may deserve more detailed investigation, such as outliers or large variations during the reporting period.

b. Diagnostic testing is used to determine which data from among those identified by filtering should be directly edited or queried with the data provider.

c. A second round of diagnostic testing may be used after compilation and initial analysis of the data from all reporters to reveal outlier behavior relative to peer group norms.

7.123 First-round filtering may be based on a variety of pre-specified criteria determined by the data analyst. Filters may have single or multiple criteria that are linked through either an "and" rule or an "or" rule. Commonly applied criteria trigger an alert if a period-to-period change in a balance-sheet position exceeds a specified absolute value; exceeds a specified percentage movement; or causes the reported position to show, or cease showing, a zero position.

7.124 Instead of a fixed numerical threshold, a more sophisticated model-based filtering may be used. More sophisticated criteria are based on the measurement of statistical significance. In general, this approach involves modeling the time series to be checked using an ARIMA model. The model is used to generate a forecasted confidence interval for the new observation, which determines whether the new

[24] On data quality control and related issues, see for example Drejer (2013), and Bank of England (2006b), Chapters 11 and 12.

[25] If the reported data include both flows and stocks, summing-up tests may be applied separately to the stock and flow data, as well as to relationships between the flow and stock data.

observation is within an expected range or needs to be checked. Common software packages that can carry out this type of outlier detection are applications of seasonal adjustment programs, such as X-12-ARIMA and Tramo for ERROR.

7.125 On the other hand, diagnostic testing of the first-round filtering alerts may be based entirely on an analyst's judgment or can utilize specified computational tests. An example of the latter would be an examination of the relationship between the data under review and another data item(s), elsewhere in the same reporter's submission, where a form of stable relationship would be observable.

7.126 Second-round diagnostic testing is used to review the data from the individual reporter in relation to the data for all reporters. First-round filtering and diagnostic testing assess the plausibility of the reporter's data on the basis of the reporter's own past performance. In the second round, the diagnostic testing is concerned with whether the reporter's performance is unusual relative to that of a peer group. Second-round testing requires the availability of reported data from all reporters in a major subset of the reporting population. Depending on the sequencing and timing of the reporting, second-round testing may need to be delayed until all or nearly all reports for a given period have been submitted.

7.127 Plausibility testing can be subjected to CBA. The objective is to expend resources to identify data inaccuracies that materially affect the analytical content of aggregate outputs. Plausibility testing is carried out to protect the quality of the aggregate data through investigation of the behavior of each reporter's data. The pursuit of potential reporting errors without regard to materiality can impose reporter and compiler costs that have few, if any, offsetting benefits and, in particular, may lead to an overabundance of first-round filtering alerts and follow-up testing. Efficient decision rules for specifying and applying the first-round filtering can be established. Some general principles are suggested:

a. The setting of absolute movement rules should focus on the materiality of the cell item to the quality of the aggregate output to which the data contribute. Data should not be subjected to further investigation if any reporting errors that potentially could be uncovered by such testing would be too small to materially affect the interpretation of the aggregate data.

b. Application of the percentage-movement rule may focus on changes in the individual reporter's data without regard for the impact on the aggregated data. Rules should be specified carefully to ensure that the percentage-movement rule encompasses a normal range of variability in the data for each reporter, but do not trigger an excessive number of plausibility alerts. The focus may be on percentage-change thresholds designed to signal the unusual movements in the data in balance sheets of relatively large institutions.

c. The use of a "to/from zero" rule—a hybrid between validation and plausibility testing—has been found by some compilers to be a useful means of alerting when data inadvertently have been entered in the wrong line of the reporting form or when the reporting institution has begun holding a new type of instrument or offering a new financial service.

D. Institutional Coverage of Monetary Statistics

7.128 Monetary statistics cover data for all institutional units in the FCs sector, which, as described in Chapter 3, is subdivided into nine subsectors in the *2008 SNA*. For compiling monetary statistics, the FCs sector is divided into the DCs subsector (further subdivided into the central bank and ODCs subsectors) and the OFCs subsector.

7.129 The quality and analytical usefulness of the monetary statistics depend on the institutional coverage of the ODCS and the OFCS. The recommendation in this *Manual* is that the institutional coverage of the monetary statistics includes all FCs, with possibly lower frequency of reporting for smaller ODCs and OFCs, consistent with the benefits and compliance costs of data reporting.

7.130 The institutional coverage of monetary data by frequency of reporting is likely to depend on the (1) number and size distributions of ODCs and OFCs in a country; (2) the range of OFCs' activities; (3) the assortment of stock and flow data that ODCs and OFCs are required to report; and (4) the periodicity of the data and frequency of data reporting.

7.131 The requirement of monthly data reporting by ODCs may apply to all ODCs in the financial sector, or may exclude the smallest ODCs. Reporting by all ODCs (sometimes called universal reporting, or cen-

sus reporting)—provides the most comprehensive data for the subsector, but may impose the highest total costs of obtaining the aggregate data. If the size distribution of the ODCs is highly skewed, a substantial reduction in reporting costs may be obtainable without significant loss of data accuracy and comprehensiveness, if the smallest ODCs are excluded from some or all requirements for frequent reporting.

7.132 Exemption of small institutional units can be defined explicitly, by setting a minimum-size threshold for reporting institutions; or implicitly, by setting a minimum institutional coverage, measured as a percentage of the estimated total for a key data aggregate such as total assets of the ODCs subsector. The latter approach has been adopted by the ECB for ODCs resident in the euro area.[26]

7.133 Exemption of small OFCs from frequent reporting requirements will decrease the compilation cost, while maintaining a representative sample for countries that have large numbers of small OFCs for which detailed reporting on a frequent basis would create substantial reporting burdens. For all FCs, truncated requirements for high-frequency reports can be combined with universal reporting at less frequent intervals. For example, small ODCs could be exempted from monthly reporting, while being required to comply with requirements for quarterly data reporting. Similarly, large OFCs could be required to report quarterly data, whereas small OFCs could be subjected to annual data reporting only.

7.134 If truncated reporting is adopted, compilers will need to conduct periodic reviews of the minimum-size threshold in relation to the FCs that have been exempted from reporting. The need for such reviews is prompted by the evolution of the FCs sector, resulting from growth (or decline) of individual units and structural changes imparted by mergers, acquisitions, reorganizations, and failures of FCs.

7.135 Census surveys—that is, data questionnaires sent to all ODCs and all OFCs—provide information that is useful in determining the adequacy of the institutional coverage achieved when truncated reporting is allowed. These census surveys should be repeated at least annually to update the information needed for revisions in the list of FCs exempted from regular monthly reporting (or quarterly reporting, if it is the case for OFCs). Data from the census surveys are used in implementing the decision rules pertaining to the conditions for adding or deleting ODCs and OFCs from the respective groups of data reporters.

E. Reporting to the IMF

7.136 The SRFs for monetary data reporting to the IMF were revised with the publication of this *Manual*. They are the same as the sectoral balance sheets (as presented in Appendix II together with the completion guidelines for reporting monetary data to the IMF), but need to be reported only for stock data. The SRFs are applicable to data reporting by each country that reports monetary data directly to the IMF. The forms are:

a. SRF 1SR – Central Bank
b. SRF 2SR – Other Depository Corporations
c. SRF 4SR – Other Financial Corporations
d. SRF 5SR – Money Aggregates.

7.137 SRFs 1SR, 2SR, and 4SR are the same as sectoral balance sheets of the central bank, ODCs, and OFCs, respectively. SRF 5SR is based on the DCS and contains additional line items for components of money aggregates issued by institutional units other than FCs.

7.138 *SRF 1SR—Central Bank* contains lines to be used to distinguish a central bank's holdings of foreign assets that qualify as reserve assets. In reporting data on reserve assets in the SRF 1SR, the principles of the *BPM6* (paragraphs 6.64–6.92) and the *International Reserves and Foreign Currency Liquidity: Guidelines for a Data Template* (2013)[27] need to be followed.

Reporting for currency unions

7.139 A more detailed reporting format is used for member countries of currency unions (e.g., euro area) that report their monetary data to the currency union central bank, which transmits the data for each mem-

[26] For further information on institutional coverage, timeliness, and grossing up procedures of monetary statistics for ODCs in the euro area, see European Central Bank (2012); and ECB Regulation ECB/2013/33, supplemented by the ECB Guideline ECB/2014/15 addressed to euro area central banks.

[27] However, the Reserves Data Template is more comprehensive in its scope, and it integrates the concepts of reserve assets and foreign currency liquidity in a single framework. In addition, it uses residual maturity rather than original maturity of financial instruments in its compilation, in contrast to *BPM6* and *SNA 2008*.

ber country and for the union as a whole to the IMF. The reporting formats for these countries are consistent with the SRFs but contain additional line items to account for a dichotomy of nonresident classifications in the data—within-union nonresidents and outside-union nonresidents. Statistics are compiled on the basis of both national residency and currency-union-wide residency.

7.140 This general principle is applied for countries that report their monetary data to the ECB, which transmits the data to the IMF.[28] Statistics are compiled on the basis of both national residency and euro-area-wide residency, based on EU membership as of a specified date.[29] Using the euro-area-wide residency criteria, all institutional units located in euro-area countries are treated as resident, and all units outside the euro area as nonresident. For example, claims on government under the national residency criteria include only claims on the government of the country, whereas claims on government under the euro-area-wide residency criteria include claims on the governments of all euro-area countries. Under the euro-area-wide residency criteria, the ECB is a resident unit (central bank) of the euro area as a whole, but not of any specific country. Under the national residency criteria, the ECB is treated as a nonresident unit for all countries.[30]

Supplementary data reporting

7.141 An illustrative set of supplementary data for sectoral balance sheets of the central bank, ODCs, and OFCs for possible reporting to the IMF is shown in Table 7A.8 in Annex 7.3.[31] The categories in Table 7A.8 represent the supplementary data that are of analytical interest for the FCs sectors. Other categories of supplementary data may be of interest in a particular country. This *Manual* recommends that the supplementary data should be compiled for end-of-period stocks, recognizing that some countries may wish to compile flow data for the supplementary categories.

7.142 In Annex 7.3, the major dimensions of cross-classifications for assets and liabilities in the form of debt securities and loans are:

a. Term to maturity. Short-term (payable on demand or with a maturity of one year or less) and long-term (maturity of more than one year or with no stated maturity), both preferably at remaining maturity.

b. Currency of denomination. Domestic currency and foreign currency.

c. Interest rate. Fixed rate or variable rate.

7.143 For analyzing maturities of deposit and debt security liabilities, the data on short- and long-term deposits/debt securities complement the disaggregated data in the sectoral balance sheets, which for the central bank and ODCs are divided into *included in* and *excluded from broad money*.

7.144 In Annex 7.3, financial derivatives are divided into separate categories for forward contracts (disaggregated by type of contract), call options, put options, and credit derivatives. No category is shown for futures contracts, given that futures contracts are settled on a daily basis and therefore do not have outstanding balances (nonzero stock positions). Off-balance-sheet data for notional principal of futures and swap-type forward contracts are shown as memorandum items to supplementary data in Table 7A.8 in Annex 7.3. Data on notional principal contracts are important for analysis of activity in these financial derivatives.

VI. Data Dissemination

A. National Data Release and Publication

7.145 Most countries disseminate monetary statistics through national websites, press releases, central bank bulletins and/or other national publications, and through reporting of monetary data for country presentations (called *country pages*) in the IMF's *IFS* and for analytical use within the IMF.

---

[28] The countries include those that belong to the European Economic and Monetary Union (EMU, or the euro area), several other members of the EU, and other European countries that have adopted the ECB's framework.

[29] The *IFS* page for each euro-area country contains monetary statistics on both national and euro-area-wide residency bases. *IFS* also includes a euro-area page, which shows the monetary data consolidated for the Eurosystem.

[30] For convenience in the classification within the reporting scheme for monetary statistics, the classification of the ECB as a resident counterpart (DC) in Germany has been adopted (see European Central Bank (2007), page 8).

[31] Table 7A.8 is subtitled as *Supplementary data for the central bank, ODCs, and OFCs (Supplements to SRFs 1SR, 2SR, and 4SR)*. At present, the supplementary data are not reported to the IMF. If reported in the future, the supplementary data would be provided, at quarterly (or annual) intervals, along with the Forms 1SR, 2SR, and 4SR submitted for the same reporting date.

7.146 Hyperlinks to summary monetary data at national websites are shown on the Dissemination Standards Bulletin Board (DSBB) at the IMF's external website (www.imf.org). Posting of these summary monetary data (and other macroeconomic indicators) is a requirement for countries that subscribe to the Special Data Dissemination Standard (SDDS). Established by the IMF in 1996, the SDDS is designed to inform international capital markets about countries whose data coverage, periodicity, timeliness, and transparency practices meet international standards.[32] Established by the IMF in 1997, the General Data Dissemination System (GDDS) is a developmental framework wherein countries work to improve the comprehensiveness and reliability of their macroeconomic statistics.

7.147 Further impetus for adherence to international standards for monetary statistics has been fostered by the global availability and high visibility of countries' monetary statistics through the Internet. The means for implementing the international standards are provided by this *Manual*, the e-GDDS,[33] SDDS, or SDDS Plus,[34] and the SRFs and accompanying guidelines for submission of monetary statistics to the IMF. Adoption of the international standards is also facilitated by features of the DSBB, wherein each SDDS Plus adherent, SDDS subscriber, or GDDS participant presents metadata—descriptions of the methodology for a country's monetary and other macroeconomic statistics. Compilers at the national level and IMF staff members work closely on the development of metadata. For the monetary and financial statistics, this work centers on implementation and documentation of methodology that is based on this *Manual.*

B. International Financial Statistics

7.148 The presentation of the monetary data in the *IFS* country pages was revised in parallel with the implementation of the *MFSM* methodology in the early 2000s, and the adoption of standardized data reporting by the countries. Each country page includes sections for *Central Bank*, *Other Depository Corporations*, and *Depository Corporations Survey*, presenting data in the format of the CBS, ODCS and DCS, respectively. Sections for *Other Financial Corporations* and *Financial Corporations Survey* are also included for those countries in which the reporting of OFC data has been established. The country page has also a *Money Aggregates* section to present data for broad money and its components; broad money on a seasonally adjusted basis; and the national definitions of money (for example M1, M2, and M3).

[32] See IMF's *Special Data Dissemination Standard Plus: Guide for Adherents and Users*. Information on the DSBB and SDDS is also available at dsbb.imf.org/Default.aspx.

[33] In May 2015, the *e-GDDS* was created to enhance the GDDS framework with more focus on data dissemination. The e-GDDS supersedes the GDDS.

[34] In 2012, the *SDDS Plus* was created as an upper tier of the IMF's Data Standards Initiatives to help address data gaps identified during the 2008 global financial crisis.

ANNEX

7.1 Other Changes in the Volume of Assets

Introduction

7.149 Tables 7A.1–7A.3 show examples of other changes in the volume of assets (OCVA) entries in the sectoral balance sheets for the central bank, other depository corporations (ODCs), and other financial corporations (OFCs). For illustrative purposes, the OCVA is arranged in separate columns for changes in the classification of assets/liabilities (Column A), sectoral reclassification (Column B), write-offs and provisions for loan losses (Column C), and other types of OCVA (Column D).

Examples for the Central Bank

7.150 Examples of OCVA entries and contra-entries in the sectoral balance sheet of the central bank are shown in Table 7A.1. These are:

a. Monetization of commodity gold (gold bullion only) is recorded in *Changes in the classification of assets* (column A) as a decrease in *Nonfinancial assets* (**–311**) and an increase in *Monetary gold* (**+311**).

b. Loan write-offs are recorded in column C as reductions in *Loans to public nonfinancial corporations* **(–54)** and *Loans to other nonfinancial corporations* (**–274)** with a corresponding reduction in *Provisions for loan losses* in the resident-sector category of *Other accounts payable [MS]—Other* (**–328**), given that these loans were already provisioned in full.

c. OFC reclassified as an ODC is recorded in column B as: (1) a decrease in *Claims in financial derivatives* on OFCs (**–111**) with a corresponding increase in *Claims in financial derivatives* on the ODCs (**+111**); (2) a decrease in *Transferable deposits in foreign currency* of the OFCs, which were included in broad money (**–58**) with a corresponding increase in *Transferable deposits in foreign currency* of the ODCs, which are now excluded from broad money (**+58**); and (3) a decrease in *Financial derivatives liabilities* to the OFCs (**411**) with a corresponding increase in *Financial derivatives liabilities* to the ODCs (**+411**).

d. Catastrophic loss of nonfinancial assets is recorded in column D as a decrease in *Nonfinancial assets* (**–68**) with a corresponding decrease in *Retained earnings* (**–68**).

e. Appropriation of retained earnings to general and special reserves is recorded in column D as a decrease in *Retained earnings* (**–2,130**) and an increase in *General and special reserves* (**+2,130**).

Examples for Other Depository Corporations

7.151 Examples of OCVA entries and contra-entries in the sectoral balance sheet of the ODCs are shown in Table 7A.2:

a. OFC reclassified as an ODC is recorded in column B as an increase in *Total assets* (**+39,746**) and an increase in *Total liabilities* (**+39,746**). This reclassification resulted in an increase in ODC asset holdings in the following categories: *Currency* (**+1,171**), *Transferable deposits* (**+440**), *Other deposits* (**+2,598**), *Debt securities* (**+8,756**), *Loans* (**+21,902**), *Investment fund shares* (**+2,900**), *Equity* (**+418**), *Financial derivatives* (**+672**), *Other*

Table 7A.1 OCVA—Central Bank

	Changes in classif. of assets A	Sectoral reclassif. B	Write-offs C	Other D	OCVA: Total E	Comments
Assets						
Monetary Gold and SDRs	**311**				**311**	
Monetary gold	311				311	Monetized commodity gold.
Loans			**–328**		**–328**	
Public nonfinancial corporations			–54		–54	Write-offs of loans.
Other nonfinancial corporations			–274		–274	Write-offs of loans.
Financial derivatives		**0**			**0**	
Other depository corporations		111			111	OFCs reclassified as ODCs.
Other financial corporations		–111			–111	OFCs reclassified as ODCs.
Nonfinancial assets	**–311**			**–68**	**–379**	Monetized commodity gold (–311); Catastrophic loss fixed assets (–68).
TOTAL	**0**	**0**	**–328**	**–68**	**–396**	
Liabilities						
Currency in circulation						
Deposits included in broad money		**–58**			**–58**	
Transferable deposits		**–58**			**–58**	
In foreign currency		–58			–58	
Other financial corporations		–58			–58	OFCs reclassified as ODCs.
Deposits excluded from broad money		**58**			**58**	
Transferable deposits		**58**			**58**	
In foreign currency		58			58	
Other depository corporations		58			58	OFCs reclassified as ODCs.
Financial derivatives and employee stock options		**0**			**0**	
Other depository corporations		411			411	OFCs reclassified as ODCs.
Other financial corporations		–411			–411	OFCs reclassified as ODCs.

Table 7A.1 OCVA—Central Bank (*Continued*)

	Changes in classif. of assets A	Sectoral reclassif. B	Write-offs C	Other D	OCVA: Total E	Comments
Other accounts payable			**–328**	**70**	**–258**	
Other			**–328**	**70**	**–258**	
Provisions for loan losses			–328	70	–258	Provisions used to cover loan write-offs (–328). New provisions (+70).
Equity	**0**	**0**	**0**	**–138**	**–138**	
Retained earnings				–2,198	–2,198	Catastrophic loss of nonfinacial assets (–68). Reclassification of retained earnings to general reserves (–2,130).
Curreny year results				–70	–70	New provisions (–70).
General and special reserves				2,130	2,130	Reclassification of retained earnings as an appropriation to reserves.
TOTAL	**0**	**0**	**–328**	**–68**	**–396**	
Vertical check	0	0	0	0	0	

Note: OCVA = other changes in the volume of assets; SDRs = Special Drawing Rights; OFC = other financial corporation; ODC = other depository corporation; ESO = employee stock option.

accounts receivable (+**138**), and *Nonfinancial assets* (+**751**). This reclassification led to increases in ODC liabilities in the following categories: *Debt securities, included in broad money* (+**1,701**), *Debt securities, excluded from broad money* (+**2,754**), *Loans* (+**1,747**), *Financial derivatives* (+**947**), *Other accounts payable [MS]* (+**11,949**), and *Equity liability [MS]* (+**20,648**).

b. Loans reclassified as debt securities is recorded in column A as a decrease of *Loans to other nonfinancial corporations* (–**2,780**) and an increase in *Debt securities* issued by other nonfinancial corporations (+**2,780**).

c. The change in the definition of broad money, which now excludes some debt securities previously included, is recorded in column A as a decrease in *Debt securities in domestic currency* held by OFCs and *included in broad money* (–**509**) and an increase in *Debt securities* in domestic currency held by OFCs and *excluded from* broad money (–**509**).

d. Loan write-offs are recorded in column C as a decrease in *Loans* to public nonfinancial corporations (–**274**), other nonfinancial corporations (–**4,400**), and households and nonprofit institutions serving households (NPISHs) (–**4,032**) with a corresponding decrease in *Provisions*

for loan losses within the resident-sectors category of *Other accounts payable [MS]—other* (**–8,432**), given that some of these loans were previously provisioned. The write-offs of non-provisioned loans are recorded as a decrease in *Retained earnings* (**–274**).

e. Catastrophic loss of nonfinancial assets is recorded in column D as a decrease in *Nonfinancial assets* (**–196**) and a decrease in *Current year result* (**–196**).

f. Appropriation of retained earnings to general and special reserves is recorded in column D as a decrease in *Retained earnings* (**–684**) and an increase in *General and special reserves* (**+684**).

Examples for Other Financial Corporations

7.152 Examples of OCVA entries and contra-entries in the sectoral balance sheet of the OFCs are shown in Table 7A.3:

a. OFC reclassified as an ODC is shown in column B as a decrease in total assets (**–39,746**) and a decrease in total liabilities (**–39,746**). This reclassification resulted in a decrease in OFC asset holdings in the following categories: *Currency* (**–1,171**), *Transferable deposits* (**–440**), *Other deposits* (**–2,598**), *Debt securities* (**-8,756**), *Loans* (**–21,902**), *Investment fund shares* (**–2,900**), *Equity* (**–418**), *Financial derivatives* (**–672**), *Other accounts receivable* (**–138**), and *Nonfinancial assets* (**–751**). This reclassification led to decreases in OFC liabilities in the following categories: *Debt securities, excluded from broad money* (**–4,455**), *Loans* (**–1,747**), *Financial derivatives* (**–947**), *Other accounts payable [MS]* (**–11,949**), and *Equity liability [MS]*(**–20,648**).

b. Debt securities converted into equity is recorded in column A as a decrease in *Debt securities* of other nonfinancial corporations (**–250**) and an increase in *Equity* of other nonfinancial corporations (**+250**).

c. Loan write-offs are recorded in column C as a decrease in *Loans* to households and NPISHs (**–867**) and a decrease in *Provisions for loan losses* in the resident-sector category of *Other accounts payable [MS]—Other* (**–530**), given that some of these loans were provisioned. The non-provisioned loans that were written-off are reflected in a decrease in *Current year result* (**–337**).

d. The recovering of nonperforming loans is recorded in column D as an increase in *Loans to nonfinancial corporations* (**+694**) and a direct increase in *Current year result* (**–694**).

Table 7A.2 OCVA—Other Depository Corporations

	Changes in classif. of assets A	Sectoral reclassif. B	Write-offs C	Other D	OCVA: Total E	Comments
Assets						
Currency and deposits		**4,209**			**4,209**	
Currency		1,171			1,171	
Domestic		860			860	OFCs reclassified as ODCs.
Foreign		311			311	OFCs reclassified as ODCs.
Transferable deposits		440			440	
In domestic currency		261			261	
Central bank		74			74	OFCs reclassified as ODCs.
Other depository corporations		187			187	OFCs reclassified as ODCs.
In foreign currency		179			179	
Central bank		58			58	OFCs reclassified as ODCs.
Other depository corporations		121			121	OFCs reclassified as ODCs.
Other deposits		2,598			2,598	
In domestic currency		2,561			2,561	
Central bank		548			548	OFCs reclassified as ODCs.
Other depository corporations		2,013			2,013	OFCs reclassified as ODCs.
In foreign currency		37			37	
Other depository corporations		37			37	OFCs reclassified as ODCs.
Debt securities	**2,780**	**8,756**			**11,536**	
In domestic curency	2,780	8,756			11,536	
Other depository corporations		2,535			2,535	OFCs reclassified as ODCs.
Other financial corporations		248			248	OFCs reclassified as ODCs.
Central government		3,096			3,096	OFCs reclassified as ODCs.
State and local government		117			117	OFCs reclassified as ODCs.
Public nonfinancial corporations		185			185	OFCs reclassified as ODCs.
Other nonfinancial corporations	2,780	1,953			4,733	Loans reclassified as securities (+2,780). OFCs reclassified as ODCs (+1,953).
Nonresidents		622			622	OFCs reclassified as ODCs.

(*Continued*)

Table 7A.2 OCVA—Other Depository Corporations (*Continued*)

	Changes in classif. of assets A	Sectoral reclassif. B	Write-offs C	Other D	OCVA: Total E	Comments
Loans	**–2,780**	**21,902**	**–8,706**		**10,416**	
Public nonfinancial corporations		959	–274		685	OFCs reclassified as ODCs (+959). Write-offs of loans not provisioned (–274).
Other nonfinancial corporations	–2,780	13,178	–4,400		5,998	Loans reclassified as securities (–2,780). OFCs reclassified as ODCs (+13,178). Write-offs of loans fully provisioned (–4,400).
Households and NPISHs		7,660	–4,032		3,628	OFCs reclassified as ODCs (7,660). Write-offs of loans fully provisioned (–4,032).
Nonresidents		105			105	OFCs reclassified as ODCs.
Investment fund shares		**2,900**			**2,900**	
Money market funds		2,900			2,900	OFCs reclassified as ODCs.
Equity		**418**			**418**	
Other nonfinancial corporations		418			418	OFCs reclassified as ODCs.
Financial derivatives		**672**			**672**	
Central bank		411			411	OFCs reclassified as ODCs.
Other depository corporations		233			233	OFCs reclassified as ODCs.
Nonresidents		28			28	OFCs reclassified as ODCs.
Other accounts receivable		**138**			**138**	
Trade credit and advances		**121**			**121**	
Other financial corporations		47			47	OFCs reclassified as ODCs.
Other nonfinancial corporations		74			74	OFCs reclassified as ODCs.
Other		**17**			**17**	
Nonresidents		17			17	OFCs reclassified as ODCs.
Nonfinancial assets		**751**		**–188**	**563**	
Fixed assets		503		–196	307	OFCs reclasified as ODCs (+503). Catastrophic loss (–196).
less: Accumulated depreciation				–8	–8	Accumulated depreciation of catastrophic loss (–8).
Other nonfinancial assets		248			248	OFCs reclassified as ODCs
TOTAL	**0**	**39,746**	**–8,706**	**–188**	**30,852**	

Table 7A.2 OCVA—Other Depository Corporations (*Continued*)

	Changes in classif. of assets A	Sectoral reclassif. B	Write-offs C	Other D	OCVA: Total E	Comments
Liabilities						
Deposits included in broad money		**–2,237**			**–2,237**	
Transferable deposits		–187			–187	
In domestic currency		–187			–187	
Other financial corporations		–187			–187	OFCs reclassified as ODCs.
Other deposits		–2,050			**–2,050**	
In domestic currency		–2,013			–2,013	
Other financial corporations		–2,013			–2,013	OFCs reclassified as ODCs.
In foreign currency		–37			–37	
Other financial corporations		–37			–37	OFCs reclassified as ODCs.
Deposits excluded from broad money		**2,237**			**2,237**	
Transferable deposits		187			**187**	
In domestic currency		187			187	
Other depository corporations		187			187	OFCs reclassified as ODCs.
In foreign currency		0			0	
Other depository corporations		121			121	OFCs reclassified as ODCs.
Other financial corporations		–121			–121	OFCs reclassified as ODCs.
Other deposits		2,050			2,050	
In domestic currency		2,013			2,013	
Other depository corporations		2,013			2,013	OFCs reclassified as ODCs.
In foreign currency		37			37	
Other depository corporations		37			37	OFCs reclassified as ODCs.
Debt securities included in broad money	**–509**	**1,701**			**1,192**	
In domestic currency	–509	1,701			1,192	
Other financial corporations	–509	–1,039			–1,548	Debt securities excluded from broad money (–509). OFCs reclassified as ODCs (–1,039).
Public nonfinancial corporations		39			39	OFCs reclassified as ODCs.
Other nonfinancial corporations		1,587			1,587	OFCs reclassified as ODCs.
Households and NPISHs		1,114			1,114	OFCs reclassified as ODCs.

(*Continued*)

Table 7A.2 OCVA—Other Depository Corporations (*Continued*)

	Changes in classif. of assets A	Sectoral reclassif. B	Write-offs C	Other D	OCVA: Total E	Comments
Debt securities excluded from broad money	**509**	**2,754**			**3,263**	
In domestic currency	509	2,546			3,055	
Other depository corporations		2,546			2,546	OFCs reclassified as ODCs.
Other financial corporations	509				509	OFCs reclassified as ODCs.
In foreign currency		208			208	OFCs reclassified as ODCs.
Other nonfinancial corporations		208			208	OFCs reclassified as ODCs.
Loans	**0**	**1,747**			**1,747**	
Central government		1,674			1,674	OFCs reclassified as ODCs.
Nonresidents		73			73	OFCs reclassified as ODCs.
Financial derivatives and employee stock options		**947**			**947**	
Central bank		111			111	OFCs reclassified as ODCs.
Other financial corporations		548			548	OFCs reclassified as ODCs.
Public nonfinancial corporations		174			174	OFCs reclassified as ODCs.
Nonresidents		114			114	OFCs reclassified as ODCs.
Other accounts payable		**11,949**	**–388**		**11,561**	
Trade credit and advances		**544**			**544**	
Public nonfinancial corporations		385			385	OFCs reclassified as ODCs.
Other nonfinancial corporations		159			159	OFCs reclassified as ODCs.
Other		**11,405**	**–388**		**11,017**	
Provisions for loan losses		502	–936		–434	OFCs reclassified as ODCs (+502). Provisions used agains loan write-offs (–8,432). New created provisions (+7,496)
Provisions for other losses		10,903	548		548	Increase in provisions for other losses.
Residents					10,903	OFCs reclassified as ODCs.

Table 7A.2 OCVA—Other Depository Corporations (*Continued*)

	Changes in classif. of assets A	Sectoral reclassif. B	Write-offs C	Other D	OCVA: Total E	Comments
Equity		**20,648**	**–8,318**	**–188**	**12,142**	
Funds contributed by owners		9,843			9,843	OFCs reclassified as ODCs.
Retained earnings		9,460	–274	–684	8,502	Reclassification of retained earnings to general reserves (–684). OFCs reclassified as ODCs (+9,460). Loan write-offs not provisioned (–274).
Current year result		912	–8,044	–188	–7,320	OFCs reclassified as ODCs (+912). New provisions for loan losses (–7,496). New provisions for other losses (–548). Catastrophic losses on fixed assets *less* depreciation (–188).
General and special reserves		433		684	1,117	OFCs reclassified as ODCs (+433). Reclassification of retained earnings to general reserves (+684).
TOTAL	**0**	**39,746**	**–8,706**	**–188**	**30,852**	
Vertical check	0	0	0	0	0	Reclassification of retained earnings to general reserves (–684). OFCs reclassified as ODCs (+9,460). Catastrophic losses on fixed assets (–196) *less* accumulated depreciation (–8) OFCs reclassified as ODCs (+912). Loan write-offs not provisioned (–274). New provisions for loan losses (–7,496). New provisions for other losses (–548).

Note: OCVA = other changes in the volume of assets; OFC = other financial corporation; ODC = other depository corporation; ESO = employee stock option.

Table 7A.3 OCVA—Other Financial Corporations

	Changes in classif. of assets A	Sectoral reclassif. B	Write-offs C	Other D	OCVA: Total E	Comments
Assets						
Currency and deposits		**–4,209**			**–4,209**	
Currency		–1,171			–1,171	
domestic		–860			–860	OFCs reclassified as ODCs.
Foreign		–311			–311	OFCs reclassified as ODCs.
Transferable deposits		–440			–440	
In domestic currency		–261			–261	
Central bank		–74			–74	OFCs reclassified as ODCs.
Other depository corporations		–187			–187	OFCs reclassified as ODCs.
In foreign currency		–179			–179	
Central bank		–58			–58	OFCs reclassified as ODCs.
Other depository corporations		–121			–121	OFCs reclassified as ODCs.
Other deposits		–2,598			–2,598	
In domestic currency		–2,561			–2,561	
Central bank		–548			–548	OFCs reclassified as ODCs.
Other depository corporations		–2,013			–2,013	OFCs reclassified as ODCs.
In foreign currency		–37			–37	OFCs reclassified as ODCs
Other depository corporations		–37			–37	OFCs reclassified as ODCs.
Debt securities	**–250**	**–8,756**			**–9,006**	
Other depository corporations		–2,535			–2,535	OFCs reclassified as ODCs.
Other financial corporations		–248			–248	OFCs reclassified as ODCs.
Central government		–3,096			–3,096	OFCs reclassified as ODCs.
State and local government		–117			–117	OFCs reclassified as ODCs.
Public nonfinancial corporations		–185			–185	OFCs reclassified as ODCs.
Other nonfinancial corporations	–250	–1,953			–2,203	Securities converted into shares (–250). OFCs reclassified as ODCs (–1,953).
Nonresidents		–622			–622	OFCs reclassified as ODCs.

Table 7A.3 OCVA—Other Financial Corporations (*Continued*)

	Changes in classif. of assets A	Sectoral reclassif. B	Write-offs C	Other D	OCVA: Total E	Comments
Loans		**–21,902**	**–867**	**694**	**–22,075**	
Public nonfinancial corporations		–959			–959	OFCs reclassified as ODCs.
Other nonfinancial corporations		–13,178		694	–12,484	OFCs reclassified as ODCs (–13,178). Nonperforming loans recovered (+694).
Households and NPISHs		–7,660	–867		–8,527	OFCs reclassified as ODCs (–7,660). Write-offs of loans partially provisioned (–867).
Nonresidents		–105			–105	OFCs reclassified as ODCs.
Investment fund shares		**–2,900**			**–2,900**	
Money market funds		–2,900			–2,900	OFCs reclassified as ODCs.
Equity	**250**	**–418**			**–168**	
Other nonfinancial corporations	250	–418			–168	Securities converted into shares (+250). OFCs reclassified as ODCs (–418).
Financial derivatives		**–672**			**–672**	
In domestic currency		–644			–644	
Other depository corporations		–411			–411	OFCs reclassified as ODCs.
Nonresidents		–233			–233	OFCs reclassified as ODCs.
In foreign currency		–28			–28	
Nonresidents		–28			–28	OFCs reclassified as ODCs.
Other accounts receivable		**–138**			**–138**	
Trade credit and advances		**–121**			**–121**	
Other financial corporations		–47			–47	OFCs reclassified as ODCs.
Other nonfinancial corporations		–74			–74	OFCs reclassified as ODCs.
Other		**–17**			**–17**	
Nonresidents		–17			–17	OFCs reclassified as ODCs.
Nonfinancial assets		**–751**		**–36**	**–787**	
Fixed assets		–503		–36	–539	OFCs reclassified as ODCs (–503). Catastrophic loss (–36).
Other nonfinancial assets		–248			–248	OFCs reclassified as ODCs.
TOTAL	**0**	**–39,746**	**–867**	**658**	**–39,955**	

(*Continued*)

Table 7A.3 OCVA—Other Financial Corporations (*Continued*)

	Changes in classif. of assets A	Sectoral reclassif. B	Write-offs C	Other D	OCVA: Total E	Comments
Liabilities						
Debt securities excluded from broad money		**–4,455**			**–4,455**	
In domestic currency		–4,247			–4,247	
Other financial corporations		–1,507			–1,507	OFCs reclassified as ODCs.
Public nonfinancial corporations		–39			–39	OFCs reclassified as ODCs.
Other nonfinancial corporations		–1,587			–1,587	OFCs reclassified as ODCs.
Households and NPISHs		–1,114			–1,114	OFCs reclassified as ODCs.
In foreign currency		–208			–208	OFCs reclassified as ODCs.
Other nonfinancial corporations		–208			–208	OFCs reclassified as ODCs.
Loans		**–1,747**			**–1,747**	
Central government		–1,674			–1,674	OFCs reclassified as ODCs.
Nonresidents		–73			–73	OFCs reclassified as ODCs.
Financial derivatives and employee stock options		**–947**			**–947**	
Central bank		–111			–111	OFCs reclassified as ODCs.
Other financial corporations		–548			–548	OFCs reclassified as ODCs.
Public nonfinancial corporations		–174			–174	OFCs reclassified as ODCs.
Nonresidents		–114			–114	OFCs reclassified as ODCs.
Other accounts payable		**–11,949**	**–530**	**12**	**–12,467**	
Trade credit and advances		**–544**			**–544**	
Public nonfinancial corporations		–385			–385	OFCs reclassified as ODCs.
Other nonfinancial corporations		–159			–159	OFCs reclassified as ODCs.
Other		**–11,405**	**–530**	**12**	**–11,923**	
Provisions for loan losses		–502	–530		–1,032	OFCs reclassified as ODCs (–502). Use of provision for loan write-offs (–530).
Provisions for other losses				12	12	Increase in provisions for other losses.
Residents		–10,903			–10,903	OFCs reclassified as ODCs.

Table 7A.3 OCVA—Other Financial Corporations (*Continued*)

	Changes in classif. of assets A	Sectoral reclassif. B	Write-offs C	Other D	OCVA: Total E	Comments
Equity Liability [MS]		**–20,648**	**–337**	**646**	**–20,339**	
Funds contributed by owners		–9,843			–9,843	OFCs reclassified as ODCs.
Retained earnings		–9,460		–36	–9,496	OFCs reclassified as ODCs (–9,460). Catastrophic loss (–36).
Current year result		–912	–337	682	–567	OFCs reclassified as ODCs (–912). Nonperforming loan recovered (+694). Nonprovisioned loan write-offs (–337). New provisions for other losses (–12).
General and special reserves		–433			–433	OFCs reclassified as ODCs.
TOTAL	**0**	**–39,746**	**–867**	**658**	**–39,955**	
Vertical check	0	0	0	0	0	

Note: OCVA = other changes in the volume of assets; OFC = other financial corporation; ODC = other depository corporation; ESO = employee stock option.

ANNEX

7.2 Consolidation Adjustments

7.153 This annex comprises Table 7A.4, Consolidation Adjustments: Other Depository Corporations Survey; Table 7A.5, Consolidation Adjustments: Depository Corporations Survey; Table 7A.6, Consolidation Adjustments: Other Financial Corporations Survey; and Table 7A.7, Consolidation Adjustments: Financial Corporations Survey.

Table 7A.4 Consolidation Adjustments: Other Depository Corporations Survey

	Opening stock	Transactions	Valuation changes	OCVA	Closing stock
Liabilities (ODCs sectoral balance sheet)	**393,444**	**8,193**	**–1,780**	**4,904**	**404,761**
Deposits excluded from broad money	**26,767**	**–2,473**	**4**	**2,358**	**26,656**
Transferable deposits	2,793	–30	0	308	3,071
In national currency	1,204	235	0	187	1,626
Other depository corporations	1,204	235	0	187	1,626
In foreign currency	1,589	–265	0	121	1,445
Other depository corporations	1,589	–265	0	121	1,445
Other deposits	23,974	–2,443	4	2,050	23,586
In national currency	23,618	–2,378	0	2,013	23,253
Other depository corporations	23,618	–2,378	0	2,013	23,253
In foreign currency	357	–65	4	37	333
Other depository corporations	357	–65	4	37	333
Debt securities excluded from broad money	**110,815**	**3,325**	**–1,350**	**2,546**	**115,336**
In national currency	110,815	3,325	–1,350	2,546	115,336
Other depository corporations	110,815	3,325	–1,350	2,546	115,336
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Money market fund shares	**89,050**	**3,970**	**–134**	**0**	**92,886**
In national currency	68,500	3,797	–372	0	71,925
Other depository corporations	68,500	3,797	–372	0	71,925
In foreign currency	20,550	173	238	0	20,961
Other depository corporations	20,550	173	238	0	20,961

(*Continued*)

Table 7A.4 Consolidation Adjustments: Other Depository Corporations Survey (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Loans	**162,975**	**2,275**	**111**	**0**	**165,361**
In national currency	157,157	3,386	0	0	160,543
Other depository corporations	157,157	3,386	0	0	160,543
In foreign currency	5,818	–1,111	111	0	4,818
Other depository corporations	5,818	–1,111	111	0	4,818
Financial derivatives and employee stock options	**3,836**	**1,096**	**–411**	**0**	**4,521**
In national currency	3,836	1,096	–411	0	4,521
Other depository corporations	3,836	1,096	–411	0	4,521
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other accounts payable	**1**	**0**	**0**	**0**	**1**
Trade credit and advances	1	0	0	0	1
In national currency	1	0	0	0	1
Other depository corporations	1	0	0	0	1
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Minus:					
Assets (ODCs sectoral balance sheet)	**401,799**	**5,559**	**406**	**8,026**	**415,790**
Transferable deposits	**3,104**	**240**	**21**	**308**	**3,673**
In national currency	1,433	–50	0	187	1,570
Other depository corporations	1,433	–50	0	187	1,570
In foreign currency	1,671	290	21	121	2,103
Other depository corporations	1,671	290	21	121	2,103
Other deposits	**26,909**	**–1,677**	**7**	**2,050**	**27,289**
In national currency	26,313	–1,570	0	2,013	26,756
Other depository corporations	26,313	–1,570	0	2,013	26,756
In foreign currency	596	–107	7	37	533
Other depository corporations	596	–107	7	37	533
Debt securities	**110,851**	**–1,184**	**978**	**2,535**	**113,180**
In national currency	110,851	–1,184	978	2,535	113,180
Other depository corporations	110,851	–1,184	978	2,535	113,180
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Money market fund shares	**89,050**	**2,039**	**285**	**2,900**	**94,274**
In national currency	68,500	525	0	2,900	71,925
Other depository corporations	68,500	525	0	2,900	71,925
In foreign currency	20,550	1,514	285	0	22,349
Other depository corporations	20,550	1,514	285	0	22,349

Table 7A.4 Consolidation Adjustments: Other Depository Corporations Survey (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Equity	**4,685**	**0**	**–93**	**0**	**4,593**
In national currency	4,685	0	–93	0	4,593
Other depository corporations	4,685	0	–93	0	4,593
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Loans	**164,049**	**4,563**	**60**	**0**	**168,672**
In national currency	158,850	4,931	0	0	163,781
Other depository corporations	158,850	4,931	0	0	163,781
In foreign currency	5,199	–368	60	0	4,891
Other depository corporations	5,199	–368	60	0	4,891
Financial derivatives	**3,151**	**1,578**	**–852**	**233**	**4,110**
In national currency	3,151	1,578	–852	233	4,110
Other depository corporations	3,151	1,578	–852	233	4,110
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other accounts receivable	**0**	**0**	**0**	**0**	**0**
Trade credit and advances	0	0	0	0	0
In national currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Consolidation Adjustment : Liabilities - Assets	–8,355	2,634	–2,186	–3,122	–11,029

Note: OCVA = other changes in the volume of assets; ODC = other depository corporation; OFC = other financial corporation; ESO = employee stock option.

Table 7A.5 Consolidation Adjustment: Depository Corporations Survey

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Liabilities to other depository corporations (CBS)	**406,175**	**1,606**	**–1,342**	**469**	**406,909**
Reserves **(CBS)**	16,389	–2,748	0	0	13,641
Other liabilities included in monetary base **(CBS)**	2,192	189	27	58	2,466
Other liabilities excluded from monetary base **(CBS)**	387,594	4,165	–1,369	411	390,802
less:					
Claims on central bank (ODCS)	**405,417**	**2,653**	**–2,518**	**1,091**	**406,644**
Reserves **(ODCS)**	21,636	–1,632	37	680	20,722
Other claims **(ODCS)**	383,781	4,284	–2,555	411	385,921
Liabilities to ODCs (CBS record – ODC record)	*758*	*–1,046*	*1,176*	*–622*	*265*
Liabilities to central bank (ODCS)	**29,672**	**454**	**27**	**111**	**30,265**
less:					
Claims on other depository corporations (CBS)	**29,390**	**915**	**174**	**111**	**30,590**
Liabilities to CB (ODC record - CB record)	*283*	*–461*	*–147*	*0*	*–325*
Consolidations adjustment for CB and ODCs	*1,041*	*–1,507*	*1,029*	*–622*	*–60*
Consolidation adjustment for ODCs (ODCS)	*–8,355*	*2,634*	*–2,186*	*–3,122*	*–11,029*
Total Consolidation Adjustment	–7,315	1,126	–1,157	–3,744	–11,089

Note: OCVA = other changes in the volume of assets; ODC = other depository corporation; CBS = central bank survey; ODCS = other depository corporations survey; CB = central bank.

Table 7A.6 Consolidation Adjustment: Other Financial Corporations Survey

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Liabilities (OFCs sectoral balance sheet)	**162,136**	**679**	**2,830**	**–2,055**	**163,591**
Debt securities excluded from broad money	**15,336**	**–816**	**408**	**–1,507**	**13,421**
In national currency	15,336	–816	408	–1,507	13,421
Other financial corporations	15,336	–816	408	–1,507	13,421
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Non–money market funds shares	**95,900**	**1,077**	**2,211**	**0**	**99,188**
In national currency	95,900	1,077	2,211	0	99,188
Other financial corporations	95,900	1,077	2,211	0	99,188
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Loans	**41,960**	**–158**	**0**	**0**	**41,802**
In national currency	41,960	–158	0	0	41,802
Other financial corporations	41,960	–158	0	0	41,802
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Insurance, pension, and standardized guarantee schemes	**6,092**	**–15**	**0**	**0**	**6,076**
Nonlife insurance technical reserves	6,092	–15	0	0	6,076
In national currency	6,092	–15	0	0	6,076
Other financial corporations	6,092	–15	0	0	6,076
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Financial derivatives and employee stock options	**2,223**	**638**	**211**	**–548**	**2,524**
In national currency	2,192	612	211	–548	2,467
Other financial corporations	2,192	612	211	–548	2,467
In foreign currency	32	25	0	0	57
Other financial corporations	32	25	0	0	57
Other accounts payable	**625**	**–47**	**0**	**0**	**578**
Trade credit and advances	625	–47	0	0	578
In national currency	625	–47	0	0	578
Other financial corporations	625	–47	0	0	578
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0

(*Continued*)

Table 7A.6 Consolidation Adjustment: Other Financial Corporations Survey (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Minus:					
Assets (OFCs sectoral balance sheet)	**199,017**	**6,216**	**190**	**–295**	**205,128**
Debt securities	**12,186**	**1,265**	**154**	**–248**	13,357
In national currency	12,108	1,266	154	–248	13,280
Other financial corporations	12,108	1,266	154	–248	13,280
In foreign currency	78	–1	0	0	77
Other financial corporations	78	–1	0	0	77
Loans	**41,839**	**–101**	**0**	**0**	**41,737**
In national currency	41,839	–101	0	0	41,737
Other financial corporations	41,839	–101	0	0	41,737
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Non–money market fund shares	**95,900**	**3,288**	**0**	**0**	**99,188**
In national currency	95,900	3,288	0	0	99,188
Other financial corporations	95,900	3,288	0	0	99,188
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Equity	**34,304**	**3,214**	**0**	**0**	**37,518**
In national currency	34,304	3,214	0	0	37,518
Other financial corporations	34,304	3,214	0	0	37,518
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Insurance, pension, and standardized guarantee schemes	**12,186**	**–1,873**	**0**	**0**	**10,313**
In national currency	12,186	–1,873	0	0	10,313
Other financial corporations	12,186	–1,873	0	0	10,313
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Financial derivatives	**1,781**	**649**	**36**	**0**	**2,466**
In national currency	1,781	649	36	0	2,466
Other financial corporations	1,781	649	36	0	2,466
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Other accounts receivable	**822**	**–227**	**0**	**–47**	**548**
Trade credit and advances	822	–227	0	–47	548
In national currency	822	–227	0	–47	548
Other financial corporations	822	–227	0	–47	548
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Consolidation Adjustment: Liabilities – Assets	–36,881	–5,537	2,640	–1,760	–41,537

Note: OCVA = other changes in the volume of assets; OFC = other financial corporation; ESO = employee stock option.

Table 7A.7 Consolidation Adjustment: Financial Corporations Survey

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Liabilities to depository corporations (OFCS)	**173,447**	**6,278**	**681**	**–111**	**180,296**
Debt securities	**12,197**	**559**	**145**	**0**	**12,900**
Of which: Depository corporations	12,197	559	145	0	12,900
Loans	**95,397**	**2,413**	**51**	**0**	**97,861**
Of which: Depository corporations	95,397	2,413	51	0	97,861
Financial derivatives	**8,989**	**2,074**	**–475**	**–111**	**10,477**
Of which: Depository corporations	8,989	2,074	–475	–111	10,477
Insurance, pension, and standardized guarantee schemes	**2,055**	**137**	**0**	**0**	**2,192**
Nonlife insurance technical reserves	2,055	137	0	0	2,192
Of which: Depository corporations	2,055	137	0	0	2,192
Trade credit and advances	**10**	**0**	**0**	**0**	**10**
Of which: Depository corporations	10	0	0	0	10
Non–money market fund shares	**54,800**	**1,095**	**960**	**0**	**56,855**
Of which: Depository corporations	54,800	1,095	960	0	56,855
Liabilities to other financial corporations (DCS)	**501,222**	**10,579**	**–1,452**	**–3,318**	**507,031**
Broad money liabilities	**357,421**	**10,270**	**657**	**–3,843**	**364,505**
Transferable deposits	**3,109**	**1,105**	**10**	**–245**	**3,980**
Other financial corporations	3,109	1,105	10	–245	3,980
Other deposits	**116,536**	**–3,682**	**31**	**–2,050**	**110,835**
Other financial corporations	116,536	–3,682	31	–2,050	110,835
Money market fund shares	**226,050**	**10,939**	**681**	**0**	**237,670**
Other financial corporations	226,050	10,939	681	0	237,670
Debt securities	**11,725**	**1,908**	**–65**	**–1,548**	**12,020**
Other financial corporations	11,725	1,908	–65	–1,548	12,020
Deposits excluded from broad money	**1,989**	**–12**	**0**	**–121**	**1,856**
Of which: Other financial corporations	1,989	–12	0	–121	1,856
Debt securities excluded from broad money	**124,456**	**927**	**–1,575**	**509**	**124,318**
Of which: Other financial corporations	124,456	927	–1,575	509	124,318
Loans	**9,212**	**–127**	**9**	**0**	**9,094**
Of which: Other financial corporations	9,212	–127	9	0	9,094
Financial derivatives	**7,809**	**–477**	**–543**	**137**	**6,926**
Of which: Other financial corporations	7,809	–477	–543	137	6,926
Trade credit and advances	**334**	**–1**	**0**	**0**	**333**
Of which: Other financial corporations	334	–1	0	0	333

(*Continued*)

Table 7A.7 Consolidation Adjustment: Financial Corporations Survey (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Minus:					
Domestic claims (DCS)	**195,300**	**–3,485**	**–750**	**184**	**191,250**
Claims on other sectors	195,300	–3,485	–750	184	191,250
Other financial corporations	195,300	–3,485	–750	184	191,250
Claims on depository corporations (OFCS)	**472,050**	**41,186**	**808**	**–9,117**	**504,927**
Other claims	472,050	41,186	808	–9,117	504,927
Plus:					
Consolidation adjustment (OFCS)	**–36,881**	**–5,537**	**2,640**	**–1,760**	**–41,537**
Consolidation adjustment (DCS)	**–7,315**	**1,126**	**–1,157**	**–3,744**	**–11,089**
Consolidation Adjustment	**–36,876**	**–25,253**	**654**	**0**	**–61,476**

Note: OCVA = other changes in the volume of assets; OFCS = other financial corporations survey; DCS = depository corporations survey.

ANNEX

7.3 Supplementary Data

7.154 This annex comprises guidance notes for supplementary data and Table 7A.8, Supplementary Data for the Central Bank, Other Depository Corporations, and Other Financial corporations.

Supplementary Data: Guidance Notes

Data Periodicity

7.155 This *Manual* recommends that the supplementary data should be compiled on a quarterly basis.

Financial Instrument Coverage

7.156 A single format for supplementary data for the central bank, other depository corporations (ODCs), and other financial corporations (OFCs) is shown in Table 7A.8. Most categories in Table 7A.8 are applicable to each subsector of the financial corporations (FCs) sector. Exceptions that apply to all countries are:

a. Assets: Debt securities issued by the central bank. This category is not applicable to the central bank, given that a central bank does not hold its own securities.

b. Liabilities: Deposits included in broad money and Debt securities, included in broad money. These categories are not applicable to the OFCs, which do not issue liabilities included in broad money.

7.157 Some line items in Table 7A.8 are not applicable to all countries. Some central banks do not issue *Deposits included in broad money* and/or *Debt securities*. If issued by a central bank, *Debt securities* may be eligible for purchase by ODCs only. Even if purchasable by money-holding sectors, the central bank securities may be excluded from broad money. The central bank, central governments, and/or other institutional sectors in some countries do not issue foreign-currency-denominated debt securities. For OFCs, the liability category of *Deposits excluded from broad money* applies only in exceptional circumstances in which OFCs accept deposits, all of which are excluded from broad money.

Disaggregation by Maturity

7.158 Only two maturity categories—short-term and long-term—are used for the supplementary data, as defined in Chapter 4, paragraph 4.209. For supplementary data, remaining maturity is desirable, although in most countries information on the latter is not available.

Fixed- and Variable-Rate Loans and Debt Securities

7.159 In Table 7A.8, long-term loans are disaggregated into separate categories for fixed-rate and variable-rate loans. Long-term *Debt securities* are disaggregated into: (1) fixed-rate securities sold on a coupon basis; (2) variable-rate securities sold on a coupon basis; and (3) securities sold on a zero-coupon basis (an atypical category for long-term securities).

7.160 Disaggregation of short-term loans or short-term securities into separate categories for fixed-rate and variable-rate instruments is deemed to be unnecessary. Variable rates are seldom applied to loans or securities having original maturities of less than one year. If maturity disaggregation is based on remaining maturity, all fixed and variable-rate loans maturing within a year are indistinguishably included in the category of short-term loans. Similarly, all fixed- and variable-rate securities with remaining maturities of one year or less are included in the single category of short-term securities. Given the short term to matu-

rity, the market risk arising from movements in the reference rate (for example, London interbank offered rate, or LIBOR, a prime rate for domestic loans, or a country-specific market rate) for the variable-rate loan or security is relatively small. Most contracts for variable-rate loan and securities specify that the interest rates are subject to annual or semiannual resetting or, at most, quarterly resetting. During the year just prior to maturity, loans and securities subject to annual resetting have fixed rates for the remaining term, and those subject to semi-annual resetting have, at most, one remaining interest rate reset.

Table 7A.8 Supplementary Data for the Central Bank, Other Depository Corporations, and Other Financial Corporations (Supplements to SRFs 1SR, 2SR, and 4SR)

ASSETS

DEPOSITS

Other Deposits—Claims on nonresidents
- Short-term deposits
- Long-term deposits

DEBT SECURITIES

Debt securities issued by the central bank **(supplements to SRFs 2SR and 4SR only)**
- Short-term securities—By currency of denomination (domestic/foreign)
- Long-term securities—By currency of denomination (domestic/foreign)

Debt securities issued by ODCs
- Short-term securities—By currency of denomination (domestic/foreign)
- Long-term securities—By currency of denomination (domestic/foreign)

Debt securities issued by other FCs
- Short-term securities—By currency of denomination (domestic/foreign)
- Long-term securities—By currency of denomination (domestic/foreign)

Debt securities issued by central government
- Short-term securities—By currency of denomination (domestic/foreign)
- Long-term securities—By currency of denomination (domestic/foreign)

Debt securities issued by state and local government
- Short-term securities—By currency of denomination (domestic/foreign)
- Long-term securities—By currency of denomination (domestic/foreign)

Debt securities issued by public nonfinancial corporations
- Short-term securities—By currency of denomination (domestic/foreign)
- Long-term securities—By currency of denomination (domestic/foreign)
  - Fixed-rate securities on a coupon basis (including deep-discount basis)
  - Variable-rate securities on a coupon basis
  - Other securities (mainly, zero-coupon bonds)

Debt securities issued by other nonfinancial corporations
- Short-term securities—By currency of denomination (domestic/foreign)
- Long-term securities—By currency of denomination (domestic/foreign)
  - Fixed-rate securities on a coupon basis (including deep-discount basis)
  - Variable-rate securities on a coupon basis
  - Other securities (mainly, zero-coupon bonds)

Debt securities issued by nonresidents (all sectors of other countries)
- Short-term securities
- Long-term securities

Table 7A.8 Supplementary Data for the Central Bank, Other Depository Corporations, and Other Financial Corporations (Supplements to SRFs 1SR, 2SR, and 4SR) (*Continued*)

LOANS

Loans to public nonfinancial corporations
- Short-term loans—By currency of denomination (domestic/foreign)
- Long-term loans—By currency of denomination (domestic/foreign)
  - Fixed-rate loans
  - Variable-rate loans

Loans to other nonfinancial corporations
- Short-term loans—By currency of denomination (domestic/foreign)
- Long-term loans—By currency of denomination (domestic/foreign)
  - Fixed-rate loans
  - Variable-rate loans

Loans to other resident sectors (mainly households)
- Short-term loans—By currency of denomination (domestic/foreign)
- Long-term loans—Denominated in domestic currency
  - Fixed-rate loans
    - Real estate (mortgage and home equity loans)
    - Other consumer loans
  - Variable-rate loans
    - Real estate (mortgage and home equity loans)
    - Other consumer loans
- Long-term loans—Denominated in foreign currency
  - Fixed-rate loans
  - Variable-rate loans

Loans to nonresidents (all sectors in other countries)
- Short-term loans—By currency of denomination (domestic/foreign)
- Long-term loans—By currency of denomination (domestic/foreign)
  - Fixed-rate loans
  - Variable-rate loans

EQUITY AND INVESTMENT FUND SHARES

Equity and investment fund shares issued by all domestic sectors
- Shares in investment pools (money market funds, unit trusts, and other collective investment units)
- Other equity and investment fund shares
  - Quoted shares (traded in active markets)
  - Other equity (including proprietors' net additions to equity of quasicorporations)

Equity and investment fund shares issued by nonresidents
- Shares in investment pools (money market funds, unit trusts, and other collective investment units)
- Other equity and investment fund shares
  - Quoted shares (traded in active markets)
  - Other equity (including proprietors' net additions to equity of quasicorporations)

FINANCIAL DERIVATIVES

Financial derivative—All domestic sectors
- Forward contracts
  - Interest-rate swaps and forward rate agreements
  - Currency swaps (including cross-currency interest rate swaps)
  - Other swaps (equity swaps, etc.)
  - Other forward contracts (currency, equity, securities, gold, etc.)

(*Continued*)

Table 7A.8 Supplementary Data for the Central Bank, Other Depository Corporations, and Other Financial Corporations (Supplements to SRFs 1SR, 2SR, and 4SR) (*Continued*)

Call options (stock, bond, and foreign currency; options on futures and swap contracts; etc.)
Exchange traded
Over-the-counter options

Put options (all types)
Exchange traded
Over-the-counter options
Credit derivatives

Financial derivative—Nonresidents
Forward contracts
Interest-rate swaps and forward rate agreements
Currency swaps (including cross-currency interest rate swaps)
Other swaps (equity swaps, etc.)
Other forward contracts (currency, equity, securities, gold, etc.)
Call options (stock, bond, and foreign currency; options on futures and swap contracts; etc.)
Exchange traded
Over-the-counter
Put options (all types)
Exchange traded
Over-the-counter
Credit derivatives

LIABILITIES

DEPOSITS
***Deposits included in broad money* (central bank and ODC liabilities only)**
Short-term deposits—By currency of denomination (domestic/foreign)
Long-term deposits—By currency of denomination (domestic/foreign)

Deposits excluded from broad money
Short-term deposits—By currency of denomination (domestic/foreign)
Long-term deposits—By currency of denomination (domestic/foreign)

DEBT SECURITIES

***Debt securities, included in broad money* (central bank and ODC liabilities only)**
Short-term securities—By currency of denomination (domestic/foreign)
Long-term securities—By currency of denomination (domestic/foreign)

Debt securities, excluded from broad money—Liabilities to all domestic sectors
Short-term securities—By currency of denomination (domestic/foreign)
Long-term securities—By currency of denomination (domestic/foreign)

Debt securities, excluded from broad money—Liabilities to nonresidents
Short-term securities—By currency of denomination (domestic/foreign)
Long-term securities—By currency of denomination (domestic/foreign)

LOANS

Loans—Liabilities to nonresidents
Short-term loans—By currency of denomination (domestic/foreign), of which
Nonresident banks, of which
Affiliates

Table 7A.8 Supplementary Data for the Central Bank, Other Depository Corporations, and Other Financial Corporations (Supplements to SRFs 1SR, 2SR, and 4SR) (*Continued*)

Long-term loans—By currency of denomination (domestic/foreign), of which
Nonresident banks, of which
Affiliates
Fixed-rate loans
Variable-rate loans

FINANCIAL DERIVATIVES

Financial derivatives—Liabilities to all domestic sectors
Forward contracts (for swap contracts, amounts outstanding prior to payment swaps)
Interest rate swaps and forward rate agreements
Currency swaps (including cross-currency interest rate swaps)
Other swaps (equity swaps, etc.)
Other forward contracts (currency, equity, securities, gold, etc.)
Call options (all types, including options on futures and swap contracts)
Exchange traded
Over-the-counter options
Put options (all types)
Exchange traded
Over-the-counter options
Credit derivatives

Financial derivatives—Liabilities to nonresidents
Forward contracts (for swap contracts, amounts outstanding prior to payment swaps)
Interest rate swaps and forward rate agreements
Currency swaps (including cross-currency interest rate swaps)
Other swaps (equity swaps, etc.)
Other forward contracts (currency, equity, securities, gold, etc.)
Call options (all types)
Exchange traded
Over-the-counter
Put options (all types)
Exchange traded
Over-the-counter
Credit derivatives

MEMORANDUM ITEMS

FINANCIAL DERIVATIVES: NOTIONAL PRINCIPAL

ASSETS

Domestic sectors
Futures contracts (all types)
Forward contracts
Interest rate swaps and forward rate agreements
Currency swaps (including cross-currency interest rate swaps)
Other swaps (equity swaps, etc.)
Other forward contracts (currency, equity, securities, etc.)
Credit derivatives

(*Continued*)

Table 7A.8 Supplementary Data for the Central Bank, Other Depository Corporations, and Other Financial Corporations (Supplements to SRFs 1SR, 2SR, and 4SR) (*Continued*)

Nonresidents
- Futures contracts (all types)
- Forward contracts
  - Interest rate swaps and forward-rate agreements
  - Currency swaps (including cross-currency interest rate swaps)
  - Other swaps (equity swaps, etc.)
  - Other forward contracts (currency, equity, securities, etc.)
- Credit derivatives

LIABILITIES

Domestic sectors
- Futures contracts (all types) —Notional principal
- Forward contracts—Notional principal
  - Interest rate swaps and forward-rate agreements
  - Currency swaps (including cross-currency interest rate swaps)
  - Other swaps (equity swaps, etc.)
  - Other forward contracts (currency, equity, securities, etc.)
- Credit derivatives

Nonresidents
- Futures contracts (all types)—Notional principal
- Forward contracts—Notional principal
  - Interest rate swaps and forward-rate agreements
  - Currency swaps (including cross-currency interest rate swaps)
  - Other swaps (equity swaps, etc.)
  - Other forward contracts (currency, equity, securities, etc.)
- Credit derivatives

Note: SRF = Standardized Report Form; 1SR = SRF for the central bank; 2SR = SRF for other depository corporations; 4SR = SRF for other financial corporations.

8 Financial Statistics

I. Introduction

8.1 ***Financial statistics cover the stocks and flows of financial assets and liabilities between all sectors of the economy, and between the sectors of the economy and the rest of the world.*** Financial statistics thus have broader sectoral coverage than monetary statistics, which cover the stocks and flows of the assets and liabilities of financial corporations (FCs).

8.2 Financial statistics can have various degrees of details. They can cover both stocks and flows, or only stocks, or only flows; and the breakdown of institutional sectors or categories of financial instruments can vary. Further, financial statistics can either be two- or three-dimensional.

8.3 The two-dimensional financial statistics are similar to the financial account and balance sheets, as defined in chapters 11 and 13 of the *System of National Accounts 2008* (*2008 SNA*), respectively. Two-dimensional financial statistics do not provide information on counterpart sectors. For example, it can show the purchase by the nonfinancial corporations (NFCs) sector of debt securities but not identify the sector that issued these securities.

8.4 Three-dimensional financial statistics have from-whom-to-whom information, where the breakdowns of the financial stocks and flows of each sector also include the counterpart sectors—for example, the purchase by NFCs sector of debt securities issued by the central government. Compilers can present financial statistics, or selected components, in different ways, depending on the availability of data sources, level of detail compiled, analytical needs, and other considerations.

8.5 Financial statistics are increasingly used for analytical purposes. The from-whom-to-whom information highlights the role of FCs in financial intermediation. For instance, it can illustrate how the relative importance of various types of financing between sectors/subsectors is changing over time. Macro prudential analysis is another type of analysis, where financial statistics are useful. For instance, the balance sheet approach (BSA)[1] uses financial statistics to see how interconnections among sectors impact the whole economy through debtor/creditor relationships.

8.6 From a statistical compilation point of view, financial statistics can reveal inconsistencies or discrepancies in the underlying data across institutional sectors and instruments.

8.7 Financial statistics follow the *2008 SNA* framework (see Figure 8.1 and Annex 8.1) and, in principle, use the same institutional sectors, categories of instruments, and valuation and recording principles (covered in Chapters 3 to 5). Financial statistics include the financial account, balance sheets, and the other changes in assets account of the *2008 SNA*.

8.8 This *Manual* recommends compiling financial statistics on a quarterly or annual basis, but encourages quarterly compilation. Compilation on a quarterly basis is applicable to countries that have quarterly data for the current accounts of their national accounts statistics, or are currently working on migration from annual to quarterly national accounts statistics. The degree of detail provided on a quarterly frequency depends on country circumstances with respect to sectoral and financial instrument coverage and the level of detail of the financial statistics being compiled. This *Manual* does not make a specific recommendation on the timeliness of the financial statistics but encourages a time lag of around one quarter for quarterly data. Data from the FCs' sectoral balance

[1]See Allen and others (2002), and Mathisen and Pellechio (2007).

sheets can be utilized to compile a substantial part of the financial statistics.

8.9 This chapter first provides an overview of the framework for financial statistics, including the *2008 SNA*. The next section covers the compilation and presentation of financial statistics, and provides examples of presentational formats, including possible aggregations of subsectors and categories of financial instruments of the *2008 SNA*. The last section discusses data sources and related issues. Figure 8.1, Annex 8.1, and Table 8A.1 provide an overview of the *2008 SNA* focusing on aspects relevant for financial statistics.

II. Framework and Scope of Financial Statistics

8.10 As noted in the introduction, financial statistics are a comprehensive set of data on stocks and flows of financial assets and liabilities between all sectors of an economy and with the rest of the world, on a from-whom-to-whom basis where applicable. Financial statistics show: (1) flows in financial instruments between the sectors of an economy, and (2) the corresponding financial asset and liability positions. The framework for financial statistics is the *2008 SNA* balance sheets and accumulation accounts, because these accounts provide an internationally recognized set of guidelines for integrating financial stocks and flows into a complete system of accounts. The integration of sectoral flows and stocks also follows the principles of the *Guidelines on Integrated Economic Statistics*[2] which sets out a consistent framework for measuring a country's economic activity in an increasingly interconnected global economy.

8.11 The most comprehensive financial statistics cover the following SNA accounts: the financial account, balance sheets, and the other changes in assets account, all on a *from-whom-to-whom* basis (see Figure 8.1 and the section *The Structure of the* 2008 SNA *Accounts* of Annex 8.1).

8.12 The sequence of accounts of the *2008 SNA* provides the integrated and comprehensive framework for both flows and stocks. The *current accounts* record the production of goods and services, income generation and distribution, and the use of income for consumption and saving during the period. The current accounts are followed by the *accumulation accounts*, which record the acquisition and disposal of financial and nonfinancial assets and liabilities and changes in net worth. Finally, the *balance sheets* show assets and liabilities of each institutional sector at the beginning and end of the period. The opening and closing balance sheets are linked through transactions and other flows, also called horizontal adding-up requirement (see paragraph 5.12). The balance sheets complete the sequence of accounts and show the final result of the entries in the production, distribution and use of income, and accumulation accounts.

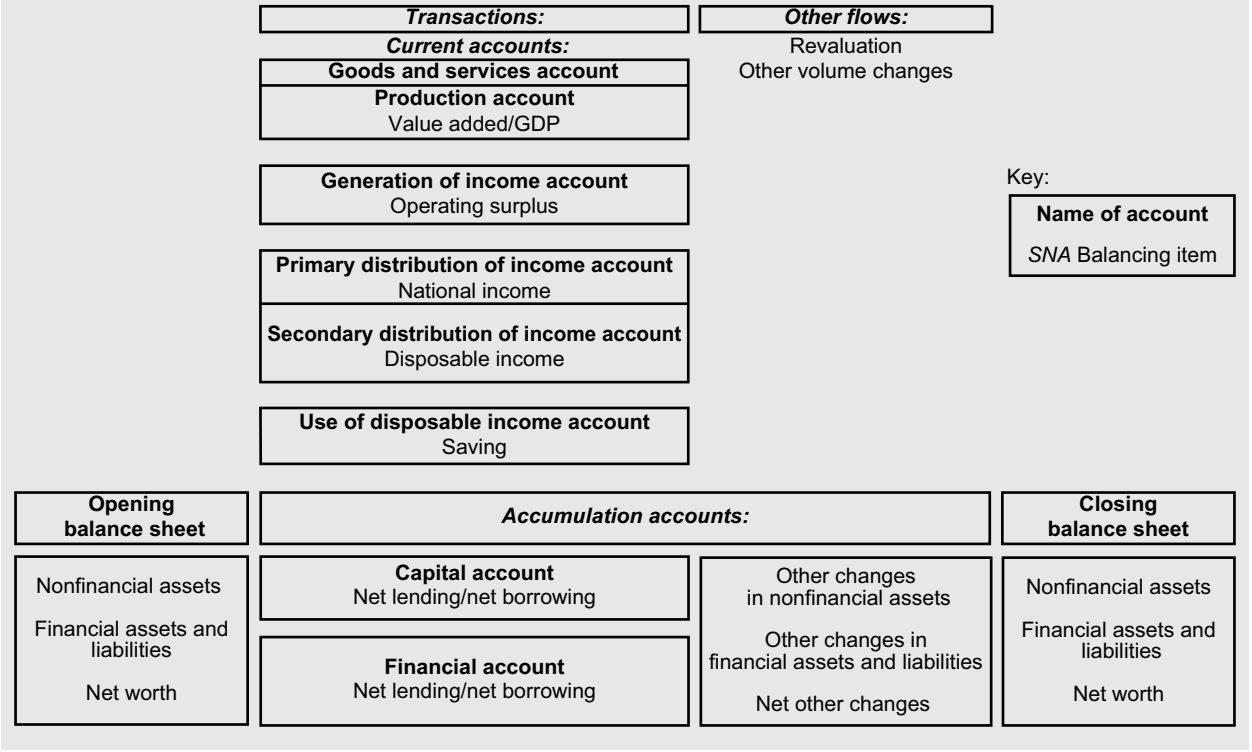
8.13 The current accounts record transactions relating to production and the generation, distribution, and use of income. Each account records the resources available to the institutional units comprising the sector and uses of these resources by these units. Each account also contains an accounting construct, a balancing item obtained as the difference between the resources or changes in liabilities and the uses or changes in assets. The balancing items have significant analytical value, representing the results of the economic behavior recorded in the specific account. The balancing item for a specific account is recorded as a use in that account and then introduced in the next account as a resource.

8.14 The major balancing items of the current accounts for the total economy are gross domestic product (GDP), gross national income (GNI), gross national disposable income (GNDI), and gross saving. Each of these balancing items may be recorded either as gross or net. The difference between gross and net recording in the accounts is an adjustment for the consumption of fixed capital. This adjustment is undertaken in the production account and carries through all the other balances in the current accounts. Consumption of fixed capital represents the decline in the current value of the fixed assets due to their use in the production process.

8.15 The accumulation accounts cover changes in assets and liabilities, and net worth. They show all changes that occur between the opening and closing balance sheet dates for a subsector, sector, or the entire economy. Accumulation accounts comprise the capital account, the financial account, the other changes in the volume of assets account (OCVA), and

[2]See United Nations (2013).

Figure 8.1 Overview of the System of National Accounts Framework



Note: GDP = gross domestic product; SNA = system of national accounts.

the revaluation account. Accumulation accounts thus record transactions as well as other flows. The financial account shows how an institutional sector with a balance on net lending, makes these surplus resources available to other sectors by acquiring net financial assets or reducing net liabilities. Likewise, the financial account shows how a net borrowing sector obtains financial resources by reducing its net holdings of assets or increasing its net liabilities.

8.16 The balance sheets show stocks of nonfinancial and financial assets and liabilities on the balance sheet date for all the sectors of the economy and the counterpart positions for the rest of the world. The difference between total assets and liabilities is net worth. For each category of assets and liabilities, and thus net worth, changes between the opening and closing balance sheets result from transactions and other changes recorded in the accumulation accounts.

A. Flow Accounts

8.17 Flow accounts include the current accounts and all the accumulation accounts, and from the perspective of financial statistics, flow accounts comprise financial account and other changes in financial assets and liabilities only. Therefore, financial flow accounts comprise the flows of financial assets and liabilities of all the sectors of the economy and with the rest of the world. Various presentational formats can be used with different degrees of cross-classifications and details.

8.18 Following the *2008 SNA*, the saving in the last current account (use of disposable income account) should, in principle, match the capital account, which covers the transaction flows in nonfinancial assets and net lending/borrowing (see Figure 8.1 and Table 8.4). Net lending indicates a sector's net financing of other sectors and net borrowing indicates a sector's net borrowing from other sectors.

8.19 The financial account of the *2008 SNA* records the net acquisition of financial assets and net incurrence of liabilities for all institutional sectors by type of financial asset,[3] and shows how net lending or net borrowing is reflected in transactions in financial

[3] See *2008 SNA*, Table 27.3.

assets. The net lending/borrowing from the financial account should, in principle, be equal to the net lending/borrowing from the capital account. In practice, there is always a difference, which is either presented as a statistical discrepancy or distributed to residual sectors for each financial instrument (see below subsection *Statistical Discrepancies*).

8.20 The entries in the financial account may result from: (1) transactions involving the exchange of financial assets and liabilities; and/or (2) counterpart entries to nonfinancial transactions. The sale of goods, services, or nonfinancial assets may have as its counterpart a change in currency or transferable deposits. Alternatively, the counterpart may be reflected in the financial account in trade credit or other category of accounts receivable or payable. This information is valuable in identifying the financial instruments that net borrowing sectors use to finance their deficits and the instruments that net lending sectors use to allocate their surpluses. In cases where a sector is a net-zero borrower,[4] the financial account is still useful because it shows how that sector's composition of financial assets and liabilities has changed.

8.21 The financial account does not identify counterpart sectors for financial transactions and, therefore, the question of who is financing whom is not answered. For a full understanding of financial flows and the role they play in the economy, it is important to identify counterpart sectors. Adding counterpart sectors for financial transactions enables from-whom-to-whom type analysis, which allows tracking how surpluses by one sector are allocated amongst domestic sectors and cross-border by type of financial instrument, and how sectors with deficits meet their financing needs in terms of financial instruments used and financing sectors.

8.22 This type of from-whom-to-whom approach is particularly important in analyzing the role of FCs in financial intermediation; that is, mobilizing financial resources and making them available to other sectors in forms suitable to these sectors, including through the transformation of different characteristics of the financial instruments, such as maturity. The FCs sector and its subsectors play a critical role in directing financing flows from net lending sectors to net borrowing sectors and in supplying the instruments used.

8.23 In addition to financial transactions, flow accounts may also be compiled that identify counterparts to changes in financial assets and liabilities due to revaluations or OCVA.

B. Stock Accounts

8.24 Stock accounts comprise the balance sheets[5] of all the sectors of the economy and with the rest of the world. Various presentational formats can be used for financial balance sheets with different degrees of cross classifications and details.

8.25 The SNA balance sheets show the opening and closing balance sheets of all sectors of the economy and the counterpart assets and liabilities of the rest of the world for each financial instrument category, as well as changes during the reference period. Like the financial account, the SNA balance sheets do not identify counterpart sectors for financial assets and liabilities. Adding counterpart sectors enables from-whom-to-whom analysis, highlighting the financial intermediation role of the FCs sector and its subsectors.

III. Compilation and Presentation of Financial Statistics

8.26 The complex and detailed information of financial statistics offers both presentational opportunities and challenges. Striking a balance between providing sufficiently detailed data and conveying information efficiently to users is challenging, particularly because different users may have different needs. Tables with too much detail may hinder a user's ability to extract the required information or to uncover trends and relationships of interest.

8.27 Possible different presentations range from either sector-specific and/or instrument-specific tables for stocks and/or flows, or specific flow components, to detailed data for all sectors on a from-whom-to-whom basis. In addition to data for a specific period, compilers and users can focus on sets of templates for several time periods to trace the changes over time. This approach is relevant particularly for presentations

[4] An institutional sector for which changes in financial assets equal changes in liabilities is a net zero borrower/lender.

[5] Balance sheet in the context of financial accounts refers to 'financial balance sheet' and not the total balance sheet as defined in paragraph 8.16.

containing more detailed information, such as covering counterpart sectors for all instruments and stocks/flows covering multiple time periods.

8.28 A fully articulated set of standard templates covering stocks were developed in the context of the G-20 Data Gaps Initiative (DGI). These templates are a set of internationally comparable sectoral accounts and balance sheets that provide a minimum and encouraged classification for sectors, financial assets and liabilities, and nonfinancial assets.[6] These standard templates, however, do not identify counterpart sectors, and so do not provide from-whom-to-whom information.

A. Two-Dimensional Financial Statistics

8.29 Two-dimensional financial statistics can be prepared for: (1) transactions; (2) stocks; and (3) other flows, including separately for revaluations and OCVA; or (4) all flows together. Two-dimensional financial statistics can be constructed for one period or several time periods.

8.30 Two-dimensional financial statistics for transactions are similar to the financial account of the *2008 SNA* (see Table 27.3 of the *2008 SNA*). Each sector has two columns—one for net acquisition of financial assets and one for net incurrence of liabilities. To emphasize that transactions in financial instruments can be directly measured, *net financial investment* is used (instead of net lending/borrowing) and is calculated as net acquisition of financial assets *less* net incurrence of liabilities.

8.31 Conceptually, for each sector the sum of all columns for transactions in financial assets equals the sum of all columns for transactions in liabilities and net worth if all the transactions are covered. A financial instrument may appear both as a change in financial asset and a change in liability for a sector, for example, when a sector both issues and buys equity shares. For each financial instrument category, the sum of changes in assets across all the sectors equals the sum of changes in liabilities. If the identities do not hold, the table would show discrepancies between assets and liabilities for sectors and instruments. Table 8.1 presents an example of two-dimensional financial statistics for transactions for a single period. In the case of debt securities, for example, total change in financial assets ($5.1 = 40.8 + (-35.7)$) is equal to total changes in liabilities across sectors ($5.1 = 8.4 + (-3.3)$).

8.32 Two-dimensional financial statistics for stocks are similar to the *2008 SNA* balance sheets (see Table 13.1 of the *2008 SNA*). For each sector, assets and liabilities are shown separately. The net financial position equals financial assets *less* liabilities (see Table 8.2).

8.33 The other flows table can be presented in the same format as transactions, which bridges the gap between transactions and period-to-period changes in stocks. For each sector, the *other flows* table has columns for changes in assets and liabilities, respectively. Further, instead of *net financial investment*, the other flows presentation shows *net other flows*. For more detailed information, separate tables for revaluations and OCVA may be constructed, if the data sources allow.

8.34 A combined presentation of balance sheet opening stocks, transactions, other flows, and closing stocks can be used as shown in Table 8.3. This combined presentation highlights the adding-up requirements that must be satisfied for each sector and for each instrument.

8.35 Financial statistics are developed within the integrated framework of the *2008 SNA*. Conceptually and analytically, the inter-linkage between the capital account and the financial account allows linking the nonfinancial accounts and the financial accounts through the net lending/net borrowing balancing item, which can be derived both from the capital account and from the financial account. Table 8.4 presents an example of an integrated capital and financial account for one quarter, showing how net lending or borrowing in the financial account is equal to that in the capital account. It draws on the net incurrence of liabilities (95 for the total economy), net acquisition of financial assets (120 for the total economy), net acquisition of nonfinancial assets (192), and changes in net worth due to savings and capital transfers in the capital account (217) all from Table 8A.1. Because it is an example, the table does not show any statistical discrepancy between saving and capital transfers, and total net investment; although in practice they might occur.

[6]The templates are available at www.imf.org/external/np/sta/templates/sectacct/index.htm.

Table 8.1 Two-Dimensional Financial Statistics for Transactions

Transactions	Nonfinancial corporations		Financial corporations		General government		Households and NPISHs		Total domestic		Rest of the world	
During a period	Changes in financial assets	Changes in liabilities	Changes in financial assets	Changes in liabilities	Changes in financial assets	Changes in liabilities	Changes in financial assets	Changes in liabilities	Changes in financial assets	Changes in liabilities	Changes in financial assets	Changes in liabilities
A. Monetary gold and SDRs			0.4	–0.0					0.4	0.0	–0.0	0.4
B. Currency and deposits	16.9		41.1	29.1	–4.1		25.8		79.6	29.1	–14.7	35.8
C. Debt securities	27.9	–6.7	12.7	–0.8	1.6	15.8	–1.4		40.8	8.4	–35.7	–3.3
D. Loans	–1.3	–1.4	–19.8	4.6	0.5	–7.7	0.1	–19.7	–20.4	–24.2	–2.4	1.4
E. Equity and investment fund shares	14.4	28.6	9.7	52.4	1.0		–2.2		22.9	81.1	37.6	–20.6
F. Insurance, pension, and standardized guarantee schemes	0.7		–1.6	15.3	0.0		12.8		11.9	15.3	–0.3	–3.7
G. Financial derivatives and employee stock options	0.0	–2.0	2.4	4.6			1.5	0.9	3.9	3.6	–0.3	–0.0
H. Other accounts receivable/ payable	–40.5	7.5	12.6	–40.8	5.0	12.0	4.0	3.0	–18.9	–18.3	–0.2	–0.8
Subtotal	18.1	26.2	57.5	64.4	4.0	20.2	40.5	–15.9	120.1	94.9	–16.0	9.2
Net financial investment (net acquisition of financial assets *less* net incurrence of liabilities)		–8.1		–6.9		–16.2		56.4		25.2		–25.2

Source: *2008 SNA*, Table 11.1. Values for this table sourced from Tables A2.1, A2.2, and A2.3 in Appendix II of this *Manual*.

Note: NPISHs = nonprofit institutions serving households; SDRs = Special Drawing Rights.

Table 8.2 Two-Dimensional Financial Statistics for Stocks (Financial Balance Sheet)

	Nonfinancial corporations		Financial corporations		General government		Households and NPISHs		Total domestic		Rest of the world	
Closing stocks	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
A. Monetary gold[1] and SDRs			34.7	6.7					34.7	6.7	6.7	7.0
B. Currency and deposits	658.5		527.6	2,658.3	241.9		1,484.0		2,911.9	2,658.3	54.1	307.7
C. Debt securities	497.8	485.4	2,305.0	680.1	25.6	1,110.7	140.0		2,968.4	2,276.2	89.8	782.0
D. Loans	102.7	1,483.9	3,093.3	668.9	174.1	307.1	3.6	1,351.9	3,373.8	3,811.7	503.9	65.9
E. Equity and investment fund shares	569.0	2,219.5	897.7	2,038.3	28.4		2,260.7		3,755.7	4,257.8	600.3	98.2
F. Insurance, pension, and standardized guarantee schemes	11.8	0.0	13.6	632.1	24.2	0.0	594.1		643.7	632.1	18.6	30.3
G. Financial derivatives	14.2	9.2	35.8	56.8	0.0	0.0	15.6	9.3	65.6	75.3	14.7	5.0
H. Other accounts receivable/ payable	251.3	112.6	195.4	523.0	45.3	25.1	210.0	181.6	702.0	842.3	203.1	62.8
Subtotal	2,105.4	4,310.6	7,103.0	7,264.2	539.5	1,442.9	4,707.9	1,542.7	14,455.8	14,560.4	1,491.3	1,359.1
Net financial position (financial assets *less* liabilities)		–2,205.2		–161.2		–903.4		3,165.2		–104.6		132.2

[1] Monetary gold is a financial asset by convention, without a corresponding liability (no asset of the RoW). Therefore, there will be a discrepancy between assets and liabilities.

Note: NPISHs = nonprofit institutions serving households; SDRs = Special Drawing Rights.

Table 8.3 Two-dimensional Financial Statistics for Stocks, Transactions, and Other Flows

	Nonfinancial corporations		Financial corporations		General government		Households and NPISHs		Rest of the world	
Opening stocks	**Assets**	**Liabilities**	**Assets**	**Liabilities**	**Assets**	**Liabilities**	**Assets**	**Liabilities**	**Assets**	**Liabilities**
A. Monetary gold and SDRs			33.8	6.6					6.6	6.6
…										
H. Other accounts receivable/payable	290.9	102.1	182.6	565.0	40.3	18.9	205.2	180.7	209.3	61.6
Subtotal	2,096.5	4,279.8	7,037.7	7,192.6	536.3	1,431.9	4,671.3	1,566.7	1,486.7	1,330.1
Net financial position (financial assets less liabilities)		–2,183.3		–154.9		–895.6		3,104.6		156.6
Transactions during a period	**Uses**	**Sources**	**Uses**	**Sources**	**Uses**	**Sources**	**Uses**	**Sources**	**Uses**	**Sources**
A. Monetary gold and SDRs			0.4	0.0					0.0	0.4
…										
H. Other accounts receivable/payable	–40.5	7.5	12.6	–40.8	5.0	12.0	4.0	3.0	–0.2	–0.8
Subtotal	18.1	26.2	57.5	64.4	4.0	20.2	40.5	–15.9	–16.0	9.2
Net financial investment (Uses less sources)		–8.1		–6.9		–16.2		56.4		–25.2
Other flows during a period	**Change in assets**	**Change in liabilities**	**Change in assets**	**Change in liabilities**	**Change in assets**	**Change in liabilities**	**Change in assets**	**Change in liabilities**	**Change in assets**	**Change in liabilities**
A. Monetary gold and SDRs			0.5	0.1					0.1	0.1
…										
H. Other accounts receivable/payable	0.9	3.0	0.1	–1.2	0.0	–5.8	0.8	–2.1	1.9	–6.0
Subtotal	–9.1	4.6	7.8	7.2	–0.8	–9.2	–3.9	–8.1	20.6	19.7
Net other flows (change in assets less change in liabilities)		–13.7		0.6		8.4		4.2		0.9

	Nonfinancial corporations		Financial corporations		General government		Households and NPISHs		Rest of the world	
Closing stocks	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
A. Monetary gold and SDRs			34.7	6.7					6.7	7.0
…										
H. Other accounts receivable/payable	251.3	112.6	195.4	523.0	45.3	25.1	210.0	181.6	203.1	62.8
Subtotal	2,105.4	4,310.6	7,103.0	7,264.2	539.5	1,442.9	4,707.9	1,542.7	1,491.3	1,359.1
Net financial position (financial assets less liabilities)		–2,205.2		–161.2		–903.4		3,165.2		132.2

Note: NPISHs = nonprofit institutions serving households; SDRs = Special Drawing Rights.

Table 8.4 Integrated Capital and Financial Account

Changes in assets							Changes in liabilities and net worth					
Rest of the world	Total domestic economy	Households and NPISHs	General government	Financial corporations	Nonfinancial corporations	Transactions	Nonfinancial corporations	Financial corporations	General government	Households and NPISHs	Total domestic economy	Rest of the world
						Saving and capital transfers	136	–11	–3	95	218	–25
						Net saving	71	2	–48	80	221	–28
						Net capital transfers	65	–13	45	15	–3	3
–25	217	95	–3	–11	136	Total net investment (Net acquisition of nonfinancial assets *plus* net financial investment)						
	192	39	13	–4	144	Net acquisition of nonfinancial assets						
	154	27	8	–4	123	Net fixed capital formation						
	28	2	0	0	26	Changes in inventory						
	10	5	3	0	2	Acquisitions *less* disposals of valuables						
	0	5	2	0	–7	Acquisitions *less* disposals of nonproduced nonfinancial assets						
–25	25	56	–16	–7	–8	Net lending/net borrowing = Net financial investment = Acquistions of financial assets *less* incurrence of liabilities						

Changes in assets							Changes in liabilities and net worth					
Rest of the world	Total domestic economy	House-holds and NPISHs	General govern-ment	Financial corpora-tions	Nonfinan-cial corpo-rations	Transactions	Nonfinan-cial corpo-rations	Financial corpora-tions	General govern-ment	House-holds and NPISHs	Total domestic economy	Rest of the world
–16	120	41	4	57	18	Net acquisition of financial assets/incurence of liabilities	26	64	20	–16	95	9
0	0		0	0		Monetary gold and SDRs		0				
–15	80	26	–4	41	17	Currency and deposits	0	29	0	0	29	36
–36	41	–1	2	13	28	Debt securities	–7	–1	16	0	8	–3
–2	–20	0	1	–20	–1	Loans	–1	5	–8	–20	–24	1
38	23	–2	1	10	14	Equity and investment fund shares	29	52	0	0	81	–21
0	12	13	0	–2	1	Insurance, pension, and standardized guarantee schemes	0	15	0	0	15	–4
0	4	2	0	2	0	Financial derivatives	–2	5	0	1	4	0
0	–19	4	5	13	–41	Other accounts receivable/ payable	8	–41	12	3	–18	–1
						Statistical discrepancy (saving and capital transfers *less* total net investment						
						Memorandum item: *Total resources/uses*						
						Resources = Saving and capital transfers + Net incurrence of liabilities	162	53	17	80	312	–16
–16	312	80	17	53	162	Uses = Capital accumulation + Net acquisition of financial assets + Statistical discrepancy						

Note: NPISHs = nonprofit institutions serving households; SDRs = Special Drawing Rights.

B. Three-Dimensional Financial Statistics

8.36 Three-dimensional financial statistics add the counterpart sector to the two-dimensional financial statistics, allowing for from-whom-to-whom analysis. Figure 8.2 presents the concept of the three-dimensional financial statistics, which provides a framework to present flows and stocks for all categories of instruments for all the sectors or subsectors by counterpart sector. Within this framework, it is possible to trace who finances whom, by which category of financial instrument, and the financing amount. For transactions, the three-dimensional presentation shows both parties to the transaction as well as the financial instrument being used—this is also sometimes called flow-of-funds statistics. For stocks, the similar three-dimensional presentation shows the creditor and debtor for each financial instrument category—this is also sometimes called BSA.

8.37 For analyzing bilateral cross-border stocks and flows, the three-dimensional presentation may be expanded further by breaking down the rest of the world by country, and even sector (i.e., both domestic and cross-border information are on a from-whom-to-whom basis, by country and sector). Ultimately, such an expansion across many countries would allow constructing bilateral financial statistics at the global level. Such "global flow of funds" data have high analytical value, like analysis of interconnectedness, global liquidity flows, and global financial networks. Individual economies could also benefit by being able to identify possible spill-over channels of external shocks into the domestic economy and its sectors.

8.38 A three-dimensional presentation for stocks is shown in Table 8.5. It shows the creditor and debtor sector for each financial instrument category. Assets and liabilities are shown for each sector and, for convenience, the net financial position for each financial instrument category, similar to the *net financial position* for the sectors in Tables 8.2 and 8.3.

8.39 The presentation shown in Table 8.5 can also be used for transactions and other flows (where relevant), on a from-whom-to-whom basis. Instead of a *net financial position,* the transactions presentation shows *net financial investment*, and the other flows table, *net other flows*. In principle, separate from-whom-to-whom tables for revaluations and OCVA may also be constructed for financial assets, if the data sources allow.

8.40 This *Manual* recommends compiling the three-dimensional financial statistics on an unconsolidated basis, which means that if a financial instrument is both an asset and a liability of the same sector, both the asset and liability positions are shown (in the shaded cells in Table 8.5). Furthermore, in unconsolidated data, the reciprocal asset/liability positions could be compared. Consolidated data could result in the loss of analytical value. When data are consolidated, the diagonal cells (shaded boxes) representing intra-sector stock positions are empty.

8.41 Table 8.5a shows an extract of cross-cells for two sectors—FCs and general government. The net financial position of the FCs with the general government is 397.6 (see the total cell under net financial position in the upper-right cell, showing a negative position of the general government vis-à-vis FCs), which represents

Figure 8.2 Concept of Three Dimensional Financial Statistics

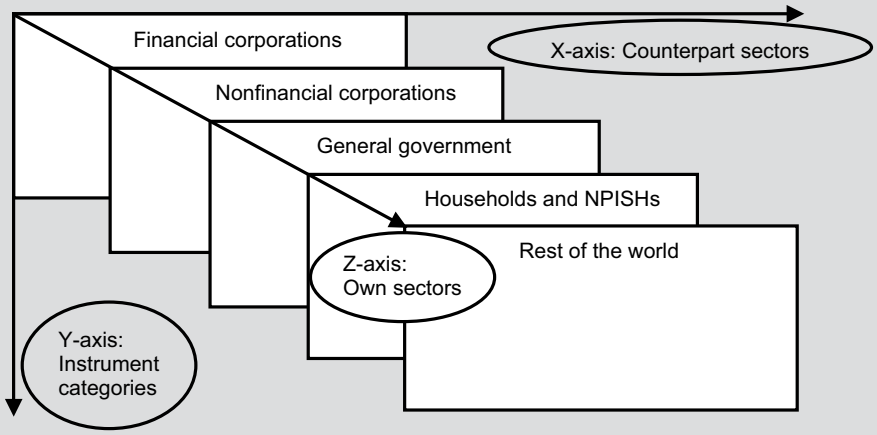


Table 8.5 Three-Dimensional Financial Statistics for Stocks

Holder/Creditor \ Issuer/Debtor	Financial corporations			General government			Nonfinancial corporations			Households and NPISHs			Rest of the world			All debtors		
	A	L	NP	A	L	NP	A	L	NP	A	L	NP	A	L	NP	A	L	NP
Financial Corporations																		
Monetary gold and SDRs																		
…																		
Other accounts receivable/payable																		
General Government																		
Monetary gold and SDRs																		
…																		
Other accounts receivable/payable																		
Nonfinancial Corporations																		
Monetary gold and SDRs																		
…																		
Other accounts receivable/payable																		
Households and NPISHs																		
Monetary gold and SDRs																		
…																		
Other accounts receivable/payable																		
Rest of the World																		
Monetary gold and SDRs																		
…																		
Other accounts receivable/payable																		
All Creditors																		

Note: A = financial assets; L = liabilities; NP = net position (financial assets less liabilities); NPISHs = nonprofit institutions serving households; SDRs = Special Drawing Rights.

To Table 8.5a

Table 8.5a A Simplified Example of Three-Dimensional Financial Statistics for Two Sectors

Issuer/Debtor / Holder/Creditor	Financial corporations			General government		
	A	L	NP	A	L	NP
Financial Corporations	1,852.4	1,692.9	159.5	320.3	717.9	–397.6
Monetary gold and SDRs						
Currency and deposits	240.2	161.9	78.3	241.9	0.0	241.9
Debt securities	498.2	528.2	–30.1	25.6	610.7	–585.1
Loans	473.1	471.9	1.2	24.1	107.1	–83.0
Equity and investment fund shares	595.0	486.6	108.4	28.4	0.0	28.4
Insurance, pension, and standardized guarantee schemes	13.3	8.3	5.1	0.0	0.0	0.0
Financial derivatives	30.8	34.7	–4.0	0.0	0.0	0.0
Other accounts receivable/payable	1.9	1.2	0.6	0.3	0.1	0.3
General Government	717.9	320.3	397.6	106.0	240.0	–134.0
Monetary gold and SDRs						
Currency and deposits	0.0	241.9	–241.9	0.0	0.0	0.0
Debt securities	610.7	25.6	585.1	6.0	150.0	–144.0
Loans	107.1	24.1	83.0	65.0	70.0	–5.0
Equity and investment fund shares	0.0	28.4	–28.4	0.0	0.0	0.0
Insurance, pension, and standardized guarantee schemes	0.0	0.0	0.0	0.0	0.0	0.0
Financial derivatives	0.0	0.0	0.0	0.0	0.0	0.0
Other accounts receivable/payable	0.1	0.3	–0.3	35.0	20.0	15.0

Note: A = assets; L = liabilities; NP = net financial position (financial assets less liabilities); SDR = Special Drawing Rights.
Source: Values for this table sourced from Tables A2.1, A2.2, and A2.3 in Appendix II of this *Manual*.

the net claim on the general government. The entries for debt securities of 610.7 under liabilities in the top-right cell and under assets in the lower-left cell show debt securities issued by central, state, and local governments and held by FCs.

8.42 As the number of financial instrument categories and sectors increases, compilers may present three-dimensional financial statistics separately for each sector. For example, complete sectoral balance sheets may be presented for each sector similar to those in Appendix II showing opening stocks, transactions, valuation changes, and OCVA for all financial and nonfinancial assets with counterpart sectors where relevant. Similarly, from-whom-to-whom tables for positions (by issuer and holder sectors) and transactions (by debtor and creditor sectors) may be presented for a specific financial instrument, for example debt securities.[7]

[7]See as an example Table 1.5 in the *Handbook of Securities Statistics.*

8.43 Using standardized monetary statistics sources, such as the SRFs, allows further breakdowns of all the instruments by currency (into domestic and foreign currency).

C. Balance Sheet Approach

8.44 A common use of three-dimensional financial statistics is the BSA analysis. The BSA can be used to analyze vulnerabilities arising from balance sheet positions and mismatches at a point in time, as well as of the buildup of such vulnerabilities over time. Simulations can be conducted to analyze the spillover of possible shocks from one sector into another, such as a sudden withdrawal of bank deposits or an inability to "rollover" maturing external debt.

8.45 The BSA framework considers four main types of balance sheet mismatches that can point to vulnerabilities for all sectors of the economy. These are: (1) currency mismatches, which arise when borrowers'

liabilities denominated in a foreign currency are larger than their assets denominated in that currency, or vice versa; (2) remaining maturity mismatches between liabilities and assets, such as short-term liabilities versus longer-term assets that create funding and interest rate risks; (3) capital structure problems, including an excessive reliance on debt rather than on equity (or high leverage); and (4) solvency or counterpart risk if the assets of a debtor are not sufficient to cover its liabilities, including contingent liabilities. Thus, the BSA identifies inter-sector linkages and possible balance sheet mismatches by instrument, counterpart sector, currency, and possibly maturity.

8.46 For completeness, the BSA may include memorandum items to allow the calculation of control totals. These could include, for example, nonfinancial assets and other assets/liabilities for which counterpart sectors are not identified, as well as certain off-balance sheet items taken from other sources (for example, contingent liabilities taken on by certain sectors such as credit commitments).

D. Statistical Discrepancies

8.47 Statistical discrepancies arise when two data sets provide different numerical values for the same data category. In financial statistics, there is typically a statistical discrepancy between *net lending/borrowing (NL/NB)* derived from the capital account and *net financial investment (NFI)* derived from the financial account, which conceptually should equal (see paragraph 8.35). From the capital account, the identity for net lending/borrowing is:

$$NL/NB \equiv Net\ Saving + Net\ Capital\ Transfers - Net\ Capital\ Formation$$

From the financial account, the identity for net financial investment is:

$$NFI \equiv Net\ Acquisition\ of\ Financial\ Assets - Net\ Incurrence\ of\ Liabilities$$

8.48 No clear international consensus on the treatment of this discrepancy exists. One approach is to keep the discrepancy through the use of a residual (referred to as a balancing item). This approach assists users in gauging the magnitude of errors and the overall quality of the data. Alternatively, the discrepancy can be removed by distributing the discrepancy across one or more items in the capital account, the financial account, or both—treating the discrepancy as a transaction or valuation change or, more likely, as OCVA. The advantage of removing discrepancies is that it provides "balanced" accounts, and ambiguity is eliminated for the users. Consistent with the *2008 SNA,* it is recommended to provide users with the recorded data for *NL/NB* and *NFI,* and not distribute the discrepancy, while indicating which data set is more reliable.

8.49 For compilers, data on the discrepancies provide valuable information for identifying areas that need improvement in data collection, estimation, and compilation system.

IV. Data Sources for Financial Statistics

8.50 Monetary statistics are often the main data source for financial statistics. This is because of the financial intermediation role of FCs in an economy and the good coverage of monetary statistics. The FCs sector is often the counterpart to financial transactions either as the creditor/holder or the issuer/debtor of a financial instrument.

8.51 Conceptually, data sources for financial statistics can be obtained from both parties to each financial transaction/position. In practice, compilers may need to rely on the data reported by only one party to a financial transaction/position. For instance, the household sector, which consists of many small units, channels financial transactions through the FCs sector, which has much fewer institutional units and typically reliable data recording and reporting framework. It may therefore be feasible to derive the data on financial assets and liabilities of the household sector from FCs' records, rather than directly from the households, although financial assets and liabilities of the household sector vis-à-vis sectors other than FCs, such as the nonresident sector, would need to be captured through alternative data sources.

8.52 Furthermore, standard sources for monetary statistics, such as sectoral balance sheets/SRFs presented in Appendix II, provide detailed counterpart information for almost all types of financial assets and liabilities of the FCs sector and its subsectors, which enables developing from-whom-to-whom tables for stocks.

8.53 If monetary statistics are compiled for the components of flows, as shown in Appendix II, these data can be used for compiling flows within the framework of the three-dimensional financial statistics. Otherwise,

Table 8.6 Reliability of Data Sources

	Financial corporations				General government		Nonfinancial corporations				Households and NPISHs		Rest of the world	
	DCs		OFCs				Public NFCs		Other NFCs					
	Financial asset	Liability	Financial asset	Liability	Financial asset	Liability	Financial asset	Liability	Financial asset	Liability	Financial asset	Liability	Financial asset	Liability
Currency and deposits														
Currency														
Deposits														
Loans														
Debt securities														
Central government securities														
Other securities														
Equity and investment fund shares														
Financial derivatives														
Insurance, pension, and standardized guarantee schemes														
Others accounts receivable/payable														

Note: DC = depository corporation; OFC = other financial corporation; NFC = nonfinancial corporation; NPISH = nonprofit institutions serving households.

High Middle Low

compilers must use different direct or indirect data sources and/or methods to estimate transactions and other flows involving FCs' assets and liabilities, as explained in Chapter 5 (paragraphs 5.69–5.85). The remaining stock and flow data to complete the three-dimensional financial statistics can be taken from other data sources such as government finance statistics, external sector statistics, and securities statistics, compiled with counterpart sector detail.

8.54 Table 8.6 describes the relative reliability that is typical of various data collected or estimated for financial statistics. Highly reliable data are those that can be directly obtained from FCs' reported data, and the IIP and balance of payments statistics. The moderately reliable data are those that involve estimation, but for which some data source are available on an annual or less frequent basis, or are contained in surveys. The less reliable data are those that are difficult to obtain or for which data sources do not usually exist. Many estimates of data in this category are based on residual calculations, as explained later in this section. The nonshaded cells are those for which liabilities do not usually exist. For example, households and NPISHs do not issue currency nor deposits, and only the government issues government securities.

A. Main Data Sources

8.55 Compilers of financial statistics will need to use a variety of data sources. The compilation usually starts by determining the stocks for each sector and the rest of the world. Table 8.7 presents the most common sources for stock and flow data.

B. Supplementary Data Sources

8.56 Supplementary data sources include administrative records, survey data, and market data outside the regular compilation of macroeconomic datasets. These sources can be used to improve the data estimates and to fill gaps in the main data sources. Some types of supplementary data are described in Table 8.8.

C. Application of Data Sources

8.57 The main and supplementary data sources provide most of the necessary data for financial statistics, but often do not properly cover flows and stocks for which both counterparts are NFCs, or households and NPISHs. Further, for negotiable financial instruments full disaggregation by sector is often not available, especially for holders. Therefore, compilers need to allocate the aggregated data among issuers and holders, using available data sources and ancillary information.

8.58 In such circumstances, compilers usually apply either of two techniques—*counterpart* data or *residual* data. Both techniques apply the principle that every financial claim (other than gold bullion included in monetary gold) is a financial instrument that has a counterpart liability, or that for each category of financial instrument the sum of the net acquisitions (including those of the rest of the world) must equal the sum of the net incurrence of liabilities. A residual sector may need to be designated to ensure that the total value of the transactions or positions in a financial asset/liability category is fully allocated, if data are available for all but one sector.

Table 8.7 Main Data Sources

Data sources	Possible use
1. Monetary statistics (SRFs)	Stocks by instrument of the FC sector/subsector and by counterpart sector.
2. International Investment Position and balance of payments	Stocks and transactions of resident sectors with the rest of the world by instrument. The *BPM6* companion document *BPM6 Compilation Guide* provides data sources.
3. Balance sheet data for nonfinancial corporations	Stocks by instrument.
4. Government finance statistics	Liabilities of the general government or its subsectors and their transactions by instrument and counterpart.
5. Financial markets/custodians	Debt securities and shares by issuing and holding sectors.

Note: SRF = Standardized Report Form; FC = financial corporation.

Table 8.8 Supplementary Data Sources

Data sources	Possible use
1. Surveys	Data on nonfinancial sectors' financial activities such as household savings, borrowings, or business financing.
2. Tax records	Balance-sheet data of nonfinancial corporations and nonprofit institutions.
3. Trade association publications	Stocks and activities of OFCs not covered in monetary statistics, as well as transactions in different types of financial instruments.
4. Market data, including exchange rates and price indices (for example, share price index)	Data on specific financial market activities (including from private vendors) such as asset securitization, securities trading, and financial derivatives. Market exchange rates and price indices—to separate transactions from revaluations.
5. Company accounting records, including profit and loss statements	To separate transactions from OCVA such as loan write-offs.
6. Non-national data sources	Use of data sources as mirror statistics, for instance Coordinated Portfolio Investment Survey and Coordinated Direct Investment Survey, or Bank for International Settlement's banking statistics.

Note: OFC = other financial corporation; OCVA = other changes in the volume of assets.

8.59 To fill data gaps for nonfinancial sectors and negotiable instruments, compilers can rely on *control totals* for financial assets and liabilities. A *control total* refers to the total amount (stocks and flows) of a certain financial instrument issued and held. The compilers can obtain the data for control totals from the following sources presented in Tables 8.7 and 8.8:

a. Balance sheet data of FCs (mainly for nonnegotiable instruments such as deposits and loans)
b. Government records for government debt
c. Other sources such as custodians/security registration offices (mainly for negotiable instruments such as debt securities and shares).

8.60 For flow data, in addition to the main and supplementary source data shown in Tables 8.7 and 8.8, compilers may need to apply procedures for estimating the transactions, revaluations, and OCVA data, similar to those for monetary statistics described in Chapter 5.[8] Securities price indices are often used to estimate valuation changes for securities, when market values of the securities are unavailable.

[8]See the subsection on flows in Chapter 5.

Multiple data sources

8.61 Compilers often deal with a lack of data sources, but sometimes multiple or overlapping sources for a sector or financial instrument may be available containing different numbers. In these cases, compilers need to assess the relative quality of the data sources and try to find out the possible reasons for differences in order to use the most reliable data aligned with statistical principles. For example, the government authorities may report data on most of their lending to public nonfinancial corporations (PNFCs). Liability data for the same loans may be reported by the PNFCs themselves, as borrowings from the government. The two sets of data may contain different numbers, because one side of the reporting may not include data for all PNFCs. In this case, compilers should use the most comprehensive and reliable data to estimate the asset and liability positions for loans extended by government to PNFCs.

8.62 Multiple data sources used for compiling financial statistics are not always based on the definitions, classifications, and accounting principles of the *2008 SNA*. For monetary statistics, there are at least two such cases. First, equity on the liability side of the sectoral balance sheets is book-valued, but needs to be market-valued for financial statistics. Second, provisions for expected

losses on financial assets are included in other accounts payable in monetary statistics, but are not recognized in the *2008 SNA* and thus in financial statistics. Figure 2.2 in Chapter 2 shows how monetary statistics are reconciled with those of SNA for these two cases.

8.63 To the extent possible, compilers need to adjust the data sources to meet the requirements and quality standards for compiling financial statistics. Examples of such cases in data sources include:

a. Sectoring—the disaggregation with respect to counterpart sectors may differ in the data source from the sectoring used for financial statistics.[9]
b. Classification of financial instruments—the categories of financial assets and liabilities may differ in the data source from the instrument classifications required for financial statistics.
c. Valuation—negotiable (or foreign currency denominated) financial instruments may not be valued at current market price (or market exchange rate) or fair value.
d. Time of recording—transactions may not be recorded on an accrual basis and the time of recording may differ for the two parties to the transaction or position.
e. Coverage—macro data for a sector may cover units that do not belong to that sector or may exclude some units that belong to the sector; for example, a nonresident branch of a financial corporation may be included in the accounts of the parent, but should be excluded as it is a nonresident institutional unit.

8.64 Compilers of financial statistics often need to deal with data reporting that is inconsistent, partial, or indirect, as well as with the absence of data reporting for certain units, subsectors, or even sectors. When both parties report a transaction and a position, several types of errors may occur; this introduces a data inconsistency. For example, the parties may use different valuations of transactions or positions, different timing for recording transactions, and different classifications by instrument or counterpart sector. These kind of inconsistencies need to be adjusted based on the more reliable source.

8.65 The types of adjustments needed to align specific sets of source data with the requirements of financial statistics or to be internally consistent may vary depending on particular circumstances.

Estimation of missing data

8.66 Compilers of financial statistics may need to rely on various techniques to estimate incomplete data. For example, to maintain a timely release calendar for financial statistics, compilers may need to estimate missing data that will become available later, or use annual data to estimate quarterly data.

8.67 For estimating missing data for which historical series are available but the next observation becomes available with a delay, compilers may rely on known estimation techniques such as repeating the previous observation or extending the trend of historical series. For estimating higher-frequency data (e.g., quarterly) using lower-frequency data (e.g., annual), different interpolation methods may be used such as constant ratios, data smoothing, and regression methods.[10]

Editing and checking data

8.68 Compilers apply different validation and plausibility checks for rows and columns of financial statistics to identify data problems. Construction of charts and tables of time series data may also be useful in revealing outliers to be verified or corrected.

8.69 For plausibility testing of the aggregate data, unexpected movements in the data should be explained in terms of economic behavior, if not attributable to data collection, estimation, or compilation errors. For this purpose, basic underlying relationships among macroeconomic data need to be applied. Compilers' knowledge may need to be complemented by consultation with different experts and analysts.

8.70 Data problems are more apparent in time series than for a single period. The presentational format for a period or end of period enables checking that the data meet adding-up requirements and broad plausibility tests, but time series presented in tables or charts—in differenced or percentage-change form, or as ratios—are useful for identification of outliers that need to be investigated.

[9]Monetary statistics use the subsectors *Other depository corporations* and *Other financial corporations*, with MMFs included in the ODCs subsector.

[10]For a fuller exposition of estimation techniques for missing data, see Adèr and Mellenberg (2008), pages 305 and ff.; and Stoop and others (2010).

V. Systematic Development of Financial Statistics

8.71 Countries need a wide range of data sources and methods to compile the full range of financial statistics. As these data sources may be collected by different agencies, close cooperation among statistical agencies within an economy is crucial. Given differences in availability of data sources across countries, financial statistics can be developed with varying degrees of detail depending on data availability and analytical needs. Table 8.9 presents different levels of compiling financial statistics in terms of covered details.

Table 8.9 Different Levels of Financial Statistics

Characteristics	Basic	Intermediate	Full details[1]
1. Use of flow and stock data	For flow components, it mostly relies on period-to-period changes in positions.	Both stock and flow data. For flow components, it relies on period-to-period changes in stocks when flow data are not available. Some components may be compiled and presented on a from-whom-to-whom basis.	Full details on positions and components of flows. Reconciles stock and flow data for transactions, revaluations, and OCVA on a from-whom-to-whom basis.
2. Sector detail	Aggregated sectors; for instance, central government, deposit-taking corporations, other sectors, and rest of the world.	Expanded domestic sector coverage; for instance, to include state and local government either separately identified or within general government, simplified breakdown of the financial sector, nonfinancial corporations (NFCs), and households and NPISHs.	Full set of sectors in line with the *2008 SNA* with important subsectors separately identified. For instance: (1) central government and state and local government, (2) public NFCs, national private corporations, and foreign controlled NFCs, (3) central bank, other deposit-taking corporations, and the full *2008 SNA* subsectors of OFCs.
3. Instrument detail	Basic categories of instruments; for instance, loan and deposits, debt securities, and equity.	Expanded categories of instruments; for instance, currency and deposits, debt securities, loans, equity, financial derivatives, and insurance and pension entitlements.	Full set of financial instruments in line with the *2008 SNA* and this *Manual*; with important subcategories separately shown. For instance: (1) transferable deposits and other deposits; (2) listed shares, unlisted shares, other equity, and investment fund shares; (3) insurance, pension, and standardized guarantee schemes; (4) financial derivatives by type; and (5) other accounts receivable/payable by major categories.
4. Data sources	Relies mostly on aggregate data from the depository corporations survey and external sector statistics.	Relies substantially on balance-sheet data for financial corporations, supplemented with data from government finance statistics, external sector statistics, and capital market sources.	A wide variety of sources, in addition to standard sources including (but not limited to) national accounts sources, administrative records from government units and regulatory agencies, market and trade data, and special surveys of households and corporations.

[1] See Table 8.10

Note: OCVA = other changes in the volume of assets; *2008 SNA* = *System of National Accounts 2008*; OFC = other financial corporation.

Table 8.10 Examples of Disaggregated Sectors and Instruments

Sectors and subsectors	Asset/Liability categories (Can also be classified by currency and maturity)
Financial corporations *Of which,* public financial corporations Depository corporations Central bank Other depository corporations Deposit-taking corporations except the central bank Commercial banks Savings banks Credit unions and credit cooperatives Money Market Funds (MMFs) Other financial corporations Non-MMF investment funds Other financial intermediaries except ICPF Financial auxiliaries Captive financial institutions and money lenders Insurance corporations Life insurance corporations Nonlife insurance corporations Reinsurance corporations Pension funds General government Central government State and local government Nonfinancial corporations Public nonfinancial corporations Other nonfinancial corporations National private nonfinancial corporations Foreign-controlled nonfinancial corporations Households Nonprofit institutions serving households Rest of the world (can be expanded by country and sector)	Nonfinancial assets Produced assets Non-produced assets Monetary gold and SDRs Monetary gold SDR holdings/SDR allocation Currency and deposits Bank notes and coins Deposits Transferable deposits Other deposits Debt securities *Of which,* structured financing products Loans Real estate loans Consumer loans Financial leases Repurchase agreements Other loans Equity and investment fund shares Equity Listed equity Unlisted equity Other equity Investment fund shares MMF shares Non-MMF investment fund shares Insurance, pension, and standardized guarantee schemes Nonlife insurance technical reserves Life insurance and annuities Pension entitlements Provisions for calls under standardized guarantees Financial derivatives and employee stock options Financial derivatives Forward-type Option-type Employee stock options Other accounts receivable/payable Trade credit and advances Other

Note: ICPF = insurance corporations and pension funds; SDR = Special Drawing Right.

8.72 An example of a possible presentation of financial statistics at the intermediate level is set out in the IMF's *Special Data Dissemination Standard Plus: Guide for Adherents and Users*, Table 2.1.[11] This table is based on the requirement of the Special Data Dissemination Standard Plus for its adherents and presents 'minimum' classifications, by sector and instrument. Financial statistics provide most of the necessary input for compiling SNA balance sheets.

8.73 The most comprehensive financial statistics with full details can include additional subsectors and subcategories of financial instruments. Table 8.10 illustrates possible additional subsectors and financial instruments.

[11] The *Special Data Dissemination Standard Plus: Guide for Adherents and Users,* Table 2.1 on Minimum Classifications for Sectors and Financial Instruments for Internationally Comparable Sectoral Accounts.

ANNEX

8.1 Overview of the *2008 System of National Accounts*

Introduction

8.74 This annex provides an overview of the *2008 System of National Accounts* (*2008 SNA*) and illustrates how it presents the overarching framework for the development of financial statistics. Financial statistics are developed within the framework of the *2008 SNA*, which provides for comprehensive coverage of stocks and flows for the total economy as well as for each of its sectors.

8.75 The *2008 SNA* serves as a coordinating framework for macroeconomic statistics and provides a consistent conceptual and accounting framework for integrated macroeconomic aggregates. It provides a presentation of macroeconomic aggregates relating to all institutional sectors of the economy and the economic relationships of an economy with the rest of the world. These macroeconomic and sectoral data allow for key macroeconomic indicators to be derived on corporate borrowing, profitability, household wealth and savings, leverage ratios and estimates of debt service burden. As such, the *2008 SNA* provides consistency and coherence with other internationally accepted standards for macroeconomic statistics.

8.76 The integrated economic accounts of the *2008 SNA* comprise the full sequence of accounts by institutional sector, the accounts for the rest of the world, and the accounts for the total economy. The key conceptual elements underlying the integrated economic accounts are as follows:

a. Institutional units that are further grouped into sectors

b. Transactions and other flows

c. Assets and liabilities.

8.77 Chapters 3 and 4 of the *2008 SNA* and chapters 3, 4, and 5 of this *Manual* elaborate on the conceptual framework for macroeconomic statistics. The *2008 SNA* is a closed system in that it is designed to record all flows undertaken by all units resident in the domestic economy and the assets and liabilities of these units. There are two aspects of the *2008 SNA* that facilitate this recording: (1) quadruple-entry accounting, and (2) the rest-of-the-world account.

Quadruple-Entry Accounting

8.78 Quadruple-entry accounting is the result of the simultaneous application of vertical and horizontal entries, where each transaction results in four entries in the system. Vertical double-entry accounting—also simply referred to as double-entry bookkeeping—results in two entries, commonly referred to as a credit entry and a debit entry. It is the accounting system commonly used in business accounting. Horizontal double-entry bookkeeping reflects mutual economic relationships between two units.

8.79 When a transaction is undertaken, two pairs of entries are recorded. The first pair of entries records the provision of a good, service, or asset to a unit and the acquisition of the good, service or incurrence of liability by the other. The second pair of entries usually appears in the financial account and records one party supplying the means of payment (by incurring liabilities or reducing assets) and the other party receiving payment. The second pair of transactions may appear in the current accounts or capital account in cases of unrequited transfers or transfers in kind. Further, in cases where the transaction is based on changing the composition of the portfolio of financial assets or liabilities, both pairs of entries would appear in the financial account.

8.80 The use of a quadruple-accounting system means that accounts add up horizontally and vertically, making the system of national accounts a closed system.

All transactions have counterpart entries both horizontally and vertically. Conceptually, all transactions of an individual sector and subsector sum to zero, as do transactions across all sectors; and all liability positions have counterpart financial asset positions, except for gold bullion held as a reserve asset. Table 8A.1 provides a numerical example of the production of the "top-to-bottom" accounts. Such "top-to-bottom" accounts can be produced for each sector of the economy including the financial corporations sector.

Rest-of-the-World Account

8.81 The total economy consists of units that are resident in the domestic economy. These units are grouped in five institutional sectors, which may undertake transactions with nonresidents. The *2008 SNA* records transactions between residents and nonresidents as if these nonresidents constitute a separate, single institutional sector, which is referred to as the rest of the world.

8.82 Flows in all the accounts may have entries in the rest-of-the-world account, with the exception of the production and generation of income accounts. The production account records domestic production and the generation of income account records how the income generated from production is distributed among domestic sectors. Flows to the rest of the world are shown as uses of the rest of the world and flows from the rest of the world are shown as resources.

8.83 The rest-of-the-world account records the same transactions as the balance of payments statement; it is a mirror of the balance of payments. The balance of payments records transactions from the perspective of residents, while the rest-of-the-world account records these transactions from the perspective of the rest of the world.

The Structure of the 2008 SNA Accounts

8.84 The *2008 SNA* accounts allow for the recording of all flows and stocks relating to economic activity. The accounts provide a consistent and integrated framework that covers all institutional sectors of the economy and the economic relationships of an economy with the rest of the world.

8.85 The accounts comprising the sequence of accounts are grouped into three main categories: current accounts, accumulation accounts, and balance sheets. Figure 8.1 in the main text of this chapter presents an illustration of the inter-relationships of the accounts.

8.86 The transactions recorded in the current accounts often entail counterpart entries in the capital and financial accounts. Every resource in the current account corresponds to an increase in economic value available to the owning unit, and every use corresponds to a decrease. Thus, resources increase the net worth of a unit, and uses decrease net worth. The final balancing item of the current accounts—saving—is that part of income that is not used for final consumption expenditure. Saving is the starting point for the *accumulation accounts* and, together with net capital transfers, represents resources available for financing capital formation, adding to financial assets, and reducing liabilities. Accumulation accounts cover changes in stocks of nonfinancial and financial assets, in liabilities, and in net worth caused by transactions and other events. *Balance sheets* cover the stock of nonfinancial and financial assets and liabilities, as well as the net worth of institutional sectors and the economy.

Current Accounts

8.87 The goods and services account is not an account in the sequence of accounts, but reflects transactions in goods and services that are undertaken by institutional units. This account shows how total supply of goods and services from output (domestic production) and imports is used for capital formation, intermediate consumption, final consumption, and exports. It is possible to rearrange the account to show how GDP can also be calculated from the expenditure side as the sum of final consumption expenditures, capital formation, and net exports (exports *less* imports).

8.88 The current accounts comprise the production account, the distribution of income account (primary and secondary), and the use of income account. These are described below.

8.89 Production account. This account records the results of production (output) and the use of goods and services in that production (intermediate consumption). The wear and tear of capital that is used in that production is not recorded as intermediate consumption, but is presented as consumption of fixed capital. The balancing item for the production account of a given sector or unit is value added. The balancing

Table 8A.1 Full Sequence of Accounts and Balance Sheets for the Total Economy[1]

	Uses	Transactions and balancing items	Resources
Current accounts		**Production account**	
		Output at basic prices	3,604
	1,883	Intermediate consumption	
	1,721	Gross value added at basic prices	
		Taxes less subsidies on products	133
	1,854	Gross domestic product	
	222	Consumption of fixed capital	
	1,632	Net domestic product	
		Generation of income account	
		Gross domestic product	1,854
	1,150	Compensation of employees	
	191	Taxes less subsidies on production and imports	
	513	Gross operating surplus/mixed income	
		Allocation of primary income account	
		Gross operating surplus	513
		Compensation of employees[2]	1,154
		Taxes less subsidies on production and imports	191
	391	Property income[3]	397
	1,864	Gross national income	
		Secondary distribution of income account	
		Gross national income	1,864
	1,212	Current transfers[4]	1,174
		Gross disposable income	1,826
		Use of disposable income account	
		Gross disposable income	1,826
	1,399	Final consumption expenditure[5]	
	11	Adjustment for change in pension entitlements	11
	427	Gross saving	
	222	Consumption of fixed capital	
	205	Net saving	
	Change in assets	**Transactions and balancing items**	**Change in liabilities and net worth**
Accumulation accounts		**Capital account**	
		Net saving	205
	192	Net acquisition of nonfinancial assets	
		Net capital transfers	12
		Changes in net worth due to saving and capital transfers	217
	25	Net lending (+)/net borrowing (–)	
		Financial account	
		Net lending (+)/net borrowing (–)	25
	120	Net acquisition of financial assets/liabilities	95

(*Continued*)

Table 8A.1 Full Sequence of Accounts and Balance Sheets for the Total Economy (*Continued*)

	Change in assets	Transactions and balancing items	Change in liabilities and net worth
Accumulation accounts		**Other changes in the volume of assets account**	
	10	Nonfinancial assets	
	3	Financial assets/liabilities	3
		Change in net worth due to other changes in volume of assets	10
		Revaluation account	
	280	Nonfinancial assets	
	–9	Financial assets/liabilities	–9
		Change in net worth due to holding gains/losses	–10
Balance sheets		**Stocks and changes in assets opening balance sheet**	
	4,621	Nonfinancial assets	
	14,342	Financial assets /liabilities	14,471
		Net worth	4,492
		Total changes in assets and liabilities	
	482	Nonfinancial assets	
	114	Financial assets/liabilities	89
		Total change in net worth	25
		Closing balance sheet	
	5,103	Nonfinancial assets	
	14,456	Financial assets/liabilities	14,560
		Net worth	4,999
		Memo: goods and services account	
	Uses		**Resources**
		Output	3,604
		Imports	499
		Taxes less subsidies on products	133
	1,883	Intermediate consumption	
	1,399	Final consumption expenditure	
	414	Gross capital formation	
	540	Exports	
	4,236	Total	4,236

[1] Abridged version of Tables, 2.13 and 2.14 of the *2008 SNA*, with financial assets, liabilities and their changes replaced by numbers based on Tables 8.1, 8.2, and 8.4.
[2] This includes compensation of employees (net, from rest of the world), which is equal to 4 and could be obtained as the difference between compensation of employees in the allocation of primary income account (1,154) and generation of income account (1,150).
[3] Property income (net, from rest of the world) is equal to 6 and could be obtained as the difference of property income on the resources side (397) and uses side (391) of the allocation of primary income account.
[4] Current transfers (net, from rest of the world) is equal to –38 and could be obtained as the difference of current transfers on the resources side (1,174) and uses side (1,212) of the secondary distribution of income account.
[5] Final consumption expenditure for the total economy (1,399) is the sum of final consumption expenditures of households (1,015), nonprofit institutions serving households (32), and general government (352).

item for the total economy is gross domestic product or net domestic product. Thus, the balancing item for the total economy is derived as the sum of value added *plus* the sum of taxes on products *less* subsidies on products. Taxes on products are not allocated to individual units or sectors, but to the economy as a whole.

8.90 Distribution of income accounts. The distribution and redistribution of income is presented in various accounts as follows.

8.91 Primary distribution of income account. This account shows how the value generated through the production process is distributed to labor, capital, government, and to/from the rest of the world. The primary distribution of income account is presented as two sub-accounts:

a. The generation of income account

b. The allocation of primary income account.

8.92 The generation of primary income account shows how value added is distributed among labor (as compensation of employees), government (as taxes less subsidies), and capital. The distribution to capital is not estimated directly, but is shown as the balancing item in the account as operating surplus. In the case of unincorporated enterprises owned by households, the balancing item may include compensation to the owners or to the family members working in the unincorporated enterprise. It may not be possible to separate this compensation from the operating surplus; the balance (which includes some compensation) is referred to as mixed income.

8.93 The allocation of primary income account shows operating surplus or mixed income as a resource and shows compensation of employees receivable by households, taxes less subsidies receivable by government, and property income receivable and payable by the institutional sectors. Thus, the generation of income account shows which sectors paid compensation of employees and taxes less subsidies, while the allocation of primary income account shows which sectors received this income.

8.94 The balancing item of the primary distribution of income account is the balance of primary incomes for the institutional sector and national income (gross or net) for the total economy.

8.95 Secondary distribution of income account. This account records the redistribution of income through current transfers. Except for the balance of primary income, which is brought forward as a resource from the previous account, the secondary distribution of income account records the same types of transfers as resources and uses. This is because one transfer that may be a resource for one sector may be a use for another. The balancing item for this account is disposable income.

8.96 Redistribution of income in kind account. This account shows social transfers in kind made by government and NPISHs, to households. This account is relevant only for these three sectors. The balancing item for this account is adjusted disposable income.

8.97 At the level of the total economy, disposable income and adjusted disposable income would be the same; the distinction is only relevant for the accounts of individual sectors.

8.98 Use of income account. This account may be presented separately as the *use of disposable income account* and the *use of adjustable disposable income account*. The account shows how disposable income (or adjusted disposable income) is allocated between final consumption and saving. Corporations do not undertake final consumption and therefore final consumption is recorded only for the government, NPISHs, and household sectors. The adjustment for the change in pension entitlements is recorded in both the use of disposable income account and the use of adjusted disposable income account. This transaction is recorded as a resource for households and as a use for FCs or other pension providers.

8.99 The balancing item for the use of income account is saving and it is the final balancing item of the current accounts. If there is no final consumption (as would be the case with corporations), saving would be equal to disposable income (after the adjustment for the change in pension entitlements). Saving may be positive (when disposable income exceeds final consumption expenditure) or negative (when final consumption expenditure exceeds disposable income).

Accumulation Accounts

8.100 The accumulation accounts consist of the capital account, the financial account, the other changes in the volume of assets (OCVA) account, and the revaluation account. Along with the balance sheets, the accumulation accounts provide the framework

for the financial statistics, which cover the stocks and flows of financial assets and liabilities of all the sectors of the economy.

8.101 The capital account is the first of the accounts that records changes in the value of assets. It records changes in the value of nonfinancial assets due to transactions.

8.102 Nonfinancial assets comprise produced and nonproduced nonfinancial assets. Produced assets are assets that have come into existence as a result of the production process (produced assets are recorded as outputs in the production account). Nonproduced assets are assets that are not the results of the production process.

8.103 Produced assets comprise the following:

a. Fixed assets—assets that are used repeatedly, or continuously, in production processes for more than one year (dwellings; other buildings and structures; machinery and equipment; and cultivated assets, such as livestock for breeding and plantations; and intellectual property products).

b. Inventories (materials and supplies, work-in-progress, finished goods, and goods for resale).

c. Valuables (assets that are acquired and held primarily as stores of value).

8.104 Nonproduced assets consist of the following:

a. Natural resources—naturally occurring assets such as land, water, uncultivated forests.

b. Contracts, leases and licenses—where the terms of the contract, lease or license specify a price for the use of the asset (or provision of a service) that differs from the price that would prevail in the absence of the contract, lease or license, and a party to the contract is able to realize the price difference.

c. Purchased goodwill and marketing assets, which are recorded only when a unit is purchased or an identifiable marketable asset is sold.

8.105 The capital account records the values of nonfinancial assets acquired, or disposed of, by resident institutional units by engaging in transactions (including consumption of fixed capital) and shows the changes in net worth due to savings and capital transfers.

8.106 *Net lending/Net borrowing* is the balancing item of the capital account. It is calculated as changes in net worth due to saving and capital transfers *less* net acquisition of nonfinancial assets. The net resources available to an economy or sector from saving and net capital transfers that are not used to acquire nonfinancial assets represents the resources available for net acquisition of financial assets, that is, net lending. An institutional sector with a surplus of resources (through saving and net capital transfers) over capital accumulation is a net lender. An institutional sector that has capital expenditures in excess of these resources is a net borrower.

8.107 The *2008 SNA* defines capital transfers as unrequited transfers where either the party making the transfer realizes the funds involved by disposing of an asset (other than cash or inventories), relinquishing a financial claim (other than accounts receivable) or the party receiving the transfer is obliged to acquire an asset (other than cash).

8.108 The financial account is the final account in the sequence of accounts for the recording of flows due to transactions. It records transactions in financial instruments. The use of the term "instrument" relates only to items on the financial balance sheet, unlike in monetary statistics, where the term is used to relate to all financial instruments, including some off-balance sheet items.

8.109 The net lending or borrowing in the financial account is equal to that in the capital account. Whereas it is presented under changes in assets for the capital account, it is presented under changes in liabilities and net worth for the financial account.

8.110 Because the financial account is the final account for recording transactions in the system, there is no balancing item to be carried forward. When transactions of all sectors are taken into account—including transactions with the rest of the world—the net acquisition of financial assets (excluding gold bullion) is equal to the net incurrence of liabilities. The balance shown in the financial account is net lending or net borrowing of each sector and is equivalent (with the sign reversed) to the net lending or net borrowing of the capital account of each sector.

8.111 The financial account shows how an institutional sector with a balance on net lending makes these surplus resources available to other sectors. The sector can acquire net financial assets or reduce net liabilities. Likewise, the financial account shows how a net borrowing sector is able to obtain financial resources

by reducing its net holdings of assets or increasing its net liabilities.

8.112 The *OCVA account* records changes in the value of assets and liabilities during the period (between the opening and closing balance sheets) that are not due to transactions between institutional units (recorded in the capital and financial accounts), or to price or exchange rate changes (recorded in the revaluation account).

8.113 The OCVA account records the following five changes: (1) the economic appearance and disappearance of assets, including cases where naturally occurring assets gain economic value or lose economic value, and new discoveries of subsoil assets where an institutional unit establishes ownership over the newly discovered asset; (2) catastrophic losses in which the effects of external events are exceptional and unanticipated and may affect the overall value of the asset, including losses due to natural disasters or wars; (3) uncompensated seizures of assets; (4) other changes in volume not elsewhere classified; and (5) changes in classifications of institutional units and assets, and in the structure of institutional units.

8.114 All increases in assets and reductions in liabilities arising from OCVA account increase net worth, while all decreases in assets and increases in liabilities arising from OCVA account decrease net worth.

8.115 The revaluation account records holding gains and losses accruing to holders of nonfinancial and financial assets and liabilities, as a result of changes in prices of assets and liabilities and changes in exchange rates. It records nominal holding gains and losses; these are then decomposed into neutral holding gains and real holding gains.

8.116 The nominal holding gain on a nonfinancial asset is the value of the benefit accruing to the owner of that asset as a result of a change in its price over a period of time. The nominal holding gain on a financial asset is the increase in value of the asset, other than transactions in the assets (including the accrual of interest over a period of time) and OCVA. The nominal holding gain on a liability is the decrease in value of the liability, other than by transactions or by other volume changes.

8.117 The difference between the nominal holding gain or loss and the neutral holding gain or loss for the same asset over the same time period is the real holding gain or loss. If the value of the asset increases faster than the neutral holding gain,[12] there is a real holding gain. If the value of the asset does not increase as fast as the overall increase in prices, or does not increase at all, the owner of the asset registers a real holding loss.

Balance Sheets

8.118 Balance sheets record the stock of nonfinancial assets and financial assets and liabilities of a sector, the total economy, or the rest of the world. The balance sheet for the total economy reflects the national wealth, which is the sum of nonfinancial assets and net claims on the rest of the world.

8.119 The balancing item of balance sheets is net worth, which is the total value of assets *less* total liabilities. It indicates the present value of the stock of economic value by sector.

8.120 For a given asset, the opening and closing balance sheets are linked through transactions and other flows as follows:

Value of the stock at the beginning of the period (opening balance sheet)

*plus***:** value of acquisitions through transactions *less* value of disposals through transactions (as recorded in the capital and financial accounts)

*plus***:** the value of net changes in volume (as recorded in the OCVA account)

*plus***:** value of holding gains (or *less* holding losses) accruing during the period (as recorded in the revaluation account)

equals: the value of stock at the end of the period (closing balance sheet).

8.121 For the rest of the world, the account shows the stock of assets originated in the domestic economy and held by nonresidents and the stock of foreign assets held by residents. Nonfinancial assets are not reflected in the rest-of-the-world account. Produced assets are not covered in the balance sheet of the rest

[12] The neutral holding gain on an asset over a given period of time is equal to the value of the asset at the beginning of the period multiplied by the proportionate change in some comprehensive price index selected to measure the change in the general price level (See *2008 SNA*, paragraph 12.88).

of the world because the ultimate use of the products—as capital formation or final consumption—is of concern only to the domestic economy.

8.122 For nonproduced assets, land and other natural resources are not covered because these are always considered assets of the domestic economy. Thus, if a nonresident purchases land or natural resources in the domestic economy, a notional resident unit in the form of a quasi-corporation is established in the accounts as being the owner of this asset. The nonresident is then considered to be the owner of this notional unit.

8.123 The balance sheets of the household sector include dwellings. Consumer durables (cars, appliances) are not included in the balance sheets because they are not considered fixed assets; these are considered consumption goods. If the household owns an unincorporated enterprise, the value of the proportion of assets used in production for this enterprise is included in the balance sheets.

APPENDIX

I Monetary Statistics and Other Macroeconomic Statistics

I. Introduction

A1.1 This Appendix describes the relationship between monetary statistics on one side, and government finance statistics (GFS) and external sector statistics on the other. (See also Appendix 7 of the *Government Finance Statistics Manual 2014 (GFSM 2014)* and Appendix 6 of the *BPM6 Compilation Guide*). The relationships between monetary statistics and national accounts are covered in Chapters 2 and 8 of this *Manual*.

A1.2 It is important for compilers and users of monetary statistics to understand how they relate to the other macroeconomic datasets. More specifically, an understanding of the linkages fosters consistency in methodology between the respective datasets. This *Manual* is part of the family of statistical guidelines and can, therefore, be seen to be extending and elaborating on the *2008 System of National Accounts* (*2008 SNA*). The conceptual framework of this *Manual* is consistent, in principle, with the *2008 SNA* with respect to principles and concepts, such as sectoring of institutional units, classification of financial assets and liabilities, and accounting rules. Thus, the main principles and concepts of this *Manual* also accord with those in the sixth edition of the *Balance of Payments and International Investment Position Manual* (*BPM6)* and the *GFSM 2014*.

A1.3 The institutional arrangements for compiling and producing macroeconomic statistics differ from country to country. In almost all countries, the central bank is primarily involved in compiling monetary data to allow for monitoring financial conditions and exercise monetary policy. Central banks in many economies are also responsible for compiling external sector statistics. As regards compilation of GFS, the ministry of finance is usually the lead agency, but other government agencies as well as the national statistics office and the central bank may be involved. Compilation of all macroeconomic datasets should be based on consistent methodological guidance and, where different agencies are involved, it is essential that these national agencies coordinate efforts to ensure consistency in data outputs.[1]

A1.4 A clear understanding of the linkages between datasets will assist countries in producing comparable and consistent statistics needed for economic analysis and policy decisions. Because of their relatively high level of reliability and comprehensiveness, high frequency, and availability with a short time lag, monetary statistics often serve as an input to other datasets.

A1.5 This appendix provides an overview of similarities and differences in coverage and accounting rules between monetary statistics and the various macroeconomic statistics, before describing the linkages between monetary statistics and GFS, and monetary statistics and external sector statistics. Where differences exist, advice is provided on how to reconcile the data.

II. Overview of Coverage and Accounting Rules

A1.6 The basic principles and concepts underlying monetary statistics are, in principle, consistent with the *2008 SNA*, which provides the conceptual framework for national accounts. The *BPM6* serves as the standard framework for statistics on the transactions and stock positions between an economy and the rest of the world. The *GFSM 2014* provides guidelines on compiling statistics for the fiscal sector (i.e., the general government, its subsectors, and the public sector). These manuals are also harmonized with the *2008 SNA*.

[1] See Dziobek and Tanase (2008).

A1.7 The statistical principles and concepts in all these manuals are defined, in principle, in a consistent manner. The delineation of resident and nonresident entities, sectoring of the domestic economy, and definitions and classifications of the various categories of nonfinancial and financial assets and liabilities are the same or are reconcilable. The accounting rules are the same with respect to the basis of recording and valuation. The accrual basis of recording of flows and stock positions is used consistently in all datasets.

A1.8 The identification of institutional units and their sectoring and subsequent level of subsectoring are conceptually the same in all macroeconomic datasets except that this *Manual* introduces the concept of *depository corporations* (DCs). The latter differs from the concept of deposit-taking corporations in the national accounts and balance of payments through the inclusion of money market funds within the DCs subsector and the exclusion of deposit-takers whose deposit liabilities are not included in broad money. The general government sector in this *Manual* is defined identically to the general government sector in the national accounts, balance of payments, and GFS. Although the "public sector" is not one of the five primary sectors in the SNA, it is acknowledged as a sector in GFS, but not in MFS; the latter puts a particular emphasis on central government, a subsector of general government.[2]

A1.9 As a result of focusing on the activities and balance sheets of specific sectors and most relevant concepts in each case, some differences in the recording of activities, positions, and flows may arise between various macroeconomic datasets. These differences are, however, exceptions from the general principles, given that the conceptual standards applicable across related datasets are harmonized. Where differences in the data exist, reconciliation of the differences should routinely be made.

III. Linkages between Monetary Statistics and GFS

A1.10 Linkages between monetary statistics and GFS originate from the fact that governments, as clients of financial institutions, often place surplus funds in accounts held at financial corporations (FCs). For instance, in most countries, central government has accounts at the central bank where its day-to-day surpluses are deposited. Vice-versa, FCs often invest their surplus resources in debt instruments, such as debt securities and other debt instruments issued by governments, funding the government's net borrowing requirements. These transactions will result in either a positive net claim of government on the FCs, or a positive net claim of these corporations on government. The net asset/liability position between the general/central government sector and the FCs sector should be consistent, or, at least, reconcilable as compiled from both sides. The extent to which these data are consistent is a good indicator of the consistency in macroeconomic statistics in a country.

A1.11 Differences in the amounts reported as net claims between the government sector and the FCs sector can be used to check the accuracy/consistency of the respective data sets.

A1.12 The Data Quality Assessment Framework (DQAF)[3] used for the Reports on Observation of Standards and Codes (ROSC)–Data Module spells out (in Section 4.2.3–Consistency with other statistical frameworks) which consistency checks should be performed between monetary statistics and GFS:

a. The central government's records on the government deposits in, and government borrowing from, the DCs in GFS are largely consistent with the comparable data in monetary statistics (DQAF for monetary statistics).

b. FCs' data (usually compiled by the central bank) are often used as the preferred fiscal measure, especially sub-annually. If the two sets of numbers are different, the reasons for the difference must be ascertained, and documentation provided on the size and reasons for the discrepancy (DQAF for GFS).

A1.13 Reasons for differences between the two sets of data can often be found in:

a. Coverage. In many economies, governments have numerous accounts held in several financial institutions. Both datasets should include the same institutional units in the general/cen-

[2] The public sector is defined in Chapter XIX of the *2008 SNA*, and that definition is identical to the definition in Chapter 2 of the *GFSM 2014*.

[3] All DQAF-related materials are available at: dsbb.imf.org/Pages/DQRS/DQAF.aspx.

tral government data and monetary data. Differences may arise if central government has accounts with a FC, but this financial institution is not covered in the monetary statistics. Another more common case is when certain government units have accounts with FCs and the monetary statistics cover these accounts, but the accounts of these government units are not covered in the GFS, because the GFS data are confined to budgetary accounts, thereby not covering the data of the extra budgetary units. Also, central government may hold a number of dormant accounts that are not included in GFS, but are appropriately included in monetary statistics.

b. Sectoring. Some of the institutional units may not be identified and sectored appropriately as general/central government in the FCs' accounts and may lead to inconsistencies in the two datasets. For example, an account held for externally financed projects and foreign grants may not be designated appropriately as a government account in FCs' records.

c. Classification and coverage of financial instruments. The classification of financial instruments included in financial assets and liabilities may differ, or an instrument may not be consistently classified in the two systems. Differences may arise, for example, when an instrument such as accounts receivable/payable is not treated in the same way in the data, or when a loan is incorrectly reported as equity investment in one of the data sets.[4]

d. Time of recording. The time of recording (e.g., because of complementary recording periods) used in government accounting may result in transactions being recorded at a time other than when economic ownership changes hands.

e. Accrual versus cash recording. Conceptually, both data sets should be recorded on an accrual basis. GFS compilers often use cash-based data as a proxy for data compiled on an accrual basis. The FCs sector is often implementing accrual recording of transactions and stock positions. In addition, certain items may not be accrued correctly within the time when the economic event occurred.

f. Valuation. Conceptually, both data sets should follow the same valuation principles, but national practices may differ. Where valuation differences in source data exist, differences may occur between the monetary statistics and GFS, unless valuation adjustments are made when the respective data sets are prepared. In particular, FCs' holdings of debt securities issued by the central government are recorded at market/fair value in monetary statistics, but may be recorded at nominal value in GFS.

g. Holders of debt instruments. As issuers of debt securities, governments often have no knowledge or record of transactions in the secondary market. The sectors holding such debt securities can usually be determined by surveying the ultimate purchasers or by using data from a centralized securities depository. These instruments are often held by nominees of the FCs sector, which may complicate the identification of the actual creditors of the government. The complexity of determining current ownership of tradable instruments may, therefore, introduce inconsistency in the data between monetary statistics and GFS.

IV. Linkages between Monetary Statistics and External Sector Statistics

A1.14 This *Manual* and the *BPM6* are consistent on issues such as the definition and delineation of resident and nonresident entities, time of recording of transactions and other flows, the classification and valuation of financial assets and liabilities, and data aggregation and consolidation. Monetary data are often used as source data for compiling external sector statistics. Differences between the two systems in the areas discussed below may pose limitations on the use of monetary statistics as input data for compiling the financial account of the balance of payments, international investment position (IIP), and the external debt statistics.

A1.15 Sectoring and coverage. One significant difference between this *Manual* and *BPM6* concerns the

[4] In cases where government provides funds to FCs and records this transaction as a reduction in its assets (i.e., recorded as an expense in government accounts), the receiving FC should record an increase in its equity.

treatment of money market funds (MMFs), which are part of the other depository corporations (ODCs) subsector in monetary statistics but part of the other financial corporations (OFCs) subsector in *BPM6*. This is due to a difference between the two systems in the delineation of FCs subsectors and the sectoring of MMFs.

A1.16 In this *Manual*, all FCs that issue liabilities included in broad money are designated as DCs. These include the central bank subsector, the other deposit-taking corporations, and money market funds (MMFs). The latter two form the ODCs subsector. All other FCs are designated as OFCs. In *BPM6*, MMFs are included in the OFCs subsector and are not identified separately.

A1.17 If monetary statistics are used by external sector statistics compilers, they should, therefore, request separate data on MMFs' balance of payments transactions and IIP, in order to classify correctly financial transactions and positions within the OFCs subsector. The external sector statistics compilers should also confirm the institutional coverage of the deposit-taking corporations subsector as some deposit-takers may be excluded. For instance, offshore banks that do not accept deposits from residents are still considered deposit-taking institutions in *BPM6,* but are classified as OFCs in the monetary statistics.

A1.18 Classification of financial instruments. The major categories for financial assets and liabilities in this *Manual* follow the financial instruments classification in the *2008 SNA* and *BPM6* although the level of additional breakdowns of the major categories differs between monetary statistics and the *BPM6*. However, *BPM6* classifies financial instruments by functional category (see paragraph A1.23).

A1.19 *Classification by maturity.* The sectoral balance sheets and analytical surveys in monetary statistics do not classify loans and debt securities by maturity, although the SRFs include a maturity breakdown for central bank liabilities to nonresidents. In *BPM6*, currency and deposits, loans, trade credits and advances, other receivable/payable-other, and debt securities are classified by maturity into short-term (original maturity of one year or less) and long-term.

A1.20 *Classification by currency of denomination*. This *Manual* requires a breakdown of all instruments, financial assets and liabilities, except equity liabilities, into domestic currency and foreign currency. *BPM6* recommends breakdowns of stocks of external financial assets and liabilities, excluding equity, by major currency (see Tables A9-I and A9-II) and external debt assets and liabilities by instrument, excluding equity, and by foreign/domestic currency (see Table A9-III).

A1.21 Valuation. The valuation principles and other accounting rules in this *Manual* are generally in agreement with those in *BPM6*. A feature of monetary statistics is the disaggregation of *Equity liabilities [MS]* into components by types of equity resources (i.e., *Funds contributed by owners*, *Retained earnings*, *Current year result, General and special reserves*, and *Valuation adjustments*), which are recorded at book value. Although this approach does not appear as a standard classification and valuation of liability equity in the *BPM6*, it is consistent with the approach called *own funds at book value* (see *BPM6*, paragraph 7.16e). In contrast, the standard approach in *BPM6* is to value equity securities (for both assets and liabilities) at market or fair value with the identification of nonresident holdings within the standard presentation.

A1.22 To meet the data needs (concerning equity liabilities) for compiling financial statistics, including the financial account of the SNA, the standardized report forms (SRFs) contain a memorandum item requesting the market or fair value of equity by counterpart sector. This is because equity liabilities in monetary statistics are not necessarily properly estimated due to the use of book instead of market value. Furthermore, the presentation by component of equity, without a breakdown by counterpart holder, underestimates foreign liabilities resulting from nonresidents' holding of FC's equity. The majority of countries do not report this memorandum item, however, implying that this information is not compiled by monetary statisticians. To solve this situation, the IIP compiler (who often does possess data on equity liabilities to nonresidents) should coordinate with their monetary statistics counterparts to promote the compilation of the SRF memorandum item and, thus, avoid duplication of efforts or excessive reporting burden on financial institutions.

A1.23 Functional categories. In general, monetary statistics do not use functional categories to classify financial assets and liabilities or economic sectors. This

can pose compilation challenges where monetary statistics are used to estimate balance of payments/IIP data on direct investment for deposit-takers and for OFCs.

A1.24 Appendix 6 of the *BPM6 Compilation Guide* contains a reconciliation exercise between balance of payments and monetary statistics. Table A6.3 of that appendix shows how the sectoral balance sheet data for ODCs can be used for the "deposit-taking corporations, except the central bank" subsector of the IIP. Although the sectoral balance sheet data of ODCs correspond largely with IIP components, the differences in the classification do not allow a full reconciliation of the two datasets. Table A6.4 in the same appendix shows how sectoral balance sheet data for the central bank can be used to compile data for the central bank subsector in the IIP.[5]

[5] If countries complete the sectoral balance sheet for OFCs, it can be a basis for compiling IIP data for Other sectors—other financial corporations.

APPENDIX

II Illustrative Sectoral Balance Sheets/ Standardized Report Forms (SRFs)

A2.1 This appendix contains the guidelines for completion of illustrative sectoral balance sheets/SRFs:

a. Guidelines for Completion of Standardized Report Forms 1SR, 2SR, and 4SR for Reporting Monetary Data to the IMF

b. Guidelines for Completion of Standardized Report Form 5SR for Money Aggregates for Reporting Monetary Data to the IMF

c. Table A2.1. Standardized Report Form for the Central Bank

d. Table A2.2. Standardized Report Form for Other Depository Corporations

e. Table A2.3 Standardized Report Form for Other Financial Corporations

f. Table A2.4. Standardized Report Form for Money Aggregates

I. Guidelines for Completion of Standardized Report Forms 1SR, 2SR, and 4SR for Reporting Monetary Data to the IMF

A. Submission of Standardized Report Forms (SRFs)

A2.2 The SRFs

1SR – Central Bank
2SR – Other Depository Corporations
4SR – Other Financial Corporations
5SR – Money Aggregates

should be submitted as soon as possible following the end of the reporting period; for example, immediately after the data are finalized and prepared for dissemination. Each SRF should be submitted as soon as its data are ready and not all at once when all SRFs are ready. The SRFs should be transmitted electronically to the Statistics Department (STA) of the International Monetary Fund using the Integrated Correspondence System (ICS). For information about the ICS, contact ICSINQUIRY@imf.org. STA strongly prefers that all data be transmitted using the ICS; however, if this method cannot be implemented, data may be sent by electronic mail.

B. Coverage and Structure of SRFs

A2.3 All assets and liabilities must be reported according to the *residence* of customers and expressed in *domestic currency units*. In addition, domestic assets and liabilities should be disaggregated by counterpart *sector* in which the customer is included in the economy, as indicated in the section on sectors.

A2.4 For issues that cannot be resolved internally, the staff of the central bank in the reporting country responsible for the completion of the SRFs should confer with the IMF Statistics Department. When completed, the SRFs should show all assets and liabilities (including equity and investment fund shares) as of the end of the reporting period. Furthermore, the various categories of assets and liabilities of the SRFs should sum to total assets and total liabilities.

A2.5 SRF 1SR. Include data for the central bank (the accounts of the central bank headquarters and branches and, if applicable, the currency board or independent currency authority that issues domestic currency). If the monetary authorities' functions are performed outside the central bank, these should be reported as supplementary data. These would include: (1) official foreign exchange holdings by the government, (2) currency issuance by the government,

and (3) transactions with the IMF performed by the government.

A2.6 SRF 2SR. Include data on all resident units in the financial corporations (FCs) sector (except the central bank) that issue liabilities included in broad money. Money market funds (MMFs) and offshore banks that issue liabilities included in broad money should be included in the data in the SRF 2SR. The SRF should include the accounts of other depository corporations (ODCs) that are not operating due to their being reorganized or are in the process of being liquidated, even if the deposits of such ODCs are frozen and so excluded from broad money.

A2.7 SRF 4SR. Include data on all resident insurance corporations and pension funds, non-MMF investment funds, other financial intermediaries, captive financial institutions and money lenders, and financial auxiliaries. Ideally, the SRF should include data for all units in the FCs sector other than the DCs covered in SRFs 1SR and 2SR. However, the SRF 4SR may have partial coverage until complete institutional coverage is achieved.

A2.8 Financial assets and liabilities in the SRFs are presented by type of financial instrument (see Chapter 4):[1]

a. Monetary gold and SDRs
b. Currency and deposits (encompassing transferable deposits and other deposits)[2]
c. Debt securities
d. Loans
e. Investment fund shares
f. Equity
g. Insurance, pension, and standardized guarantee schemes
h. Financial derivatives and employee stock options (ESOs)
i. Other accounts payable/receivable (encompassing *Trade credit and advances* and *Other accounts*).

A2.9 Four components of *Insurance, pension, and standardized guarantee schemes* are shown: *Life insurance and annuity entitlements of households, Pension entitlements of households, Nonlife insurance technical reserves and provisions for calls under standardized schemes,* and *Claims and liabilities of pension funds on/to pension managers*.

A2.10 Where relevant, positions in a financial instrument are disaggregated into positions in domestic currency and positions in foreign currency. Further, positions in *Deposits* (*Transferable deposits* and *Other deposits*), *Debt securities*, and *MMF shares* are disaggregated by category between those included in and those excluded from broad money.

A2.11 Further, a position in each financial instrument is disaggregated into positions with main sectors and subsectors of the economy (see Chapter 3):

a. Nonresidents
b. Financial corporations
   - Central bank
   - ODCs
   - OFCs
c. General government
   - Central government
   - State and local government
d. Nonfinancial corporations
   - Public nonfinancial corporations
   - Other nonfinancial corporations
e. Households and nonprofit institutions serving households (NPISHs).

C. Compilation issues

Domestic currency unit

A2.12 The standard unit of account for monetary statistics is the domestic currency unit. Therefore, it is necessary to convert (that is, translate) all foreign-currency-denominated stocks into domestic currency amounts. Stocks denominated in foreign currency should be converted to domestic currency values at the market exchange rate prevailing at the time to which balance sheet applies. The midpoint between the buying and selling exchange rates should be used.

Valuation

A2.13 The general principle is the use of market prices or approximations of market prices for valuing financial

[1] Nonfinancial assets are a separately identified category of assets.
[2] Note that the central bank's liability position on currency represents the central bank's issuance of currency, and it is accordingly labeled as *Currency in circulation*.

assets and liabilities in the SRFs. Market exchange rates should be used to convert (that is, translate) foreign-currency-denominated assets and liabilities into their domestic currency equivalents. Service charges, fees, commissions, taxes, and similar payments are income flows and, therefore, should be excluded from the valuation of financial instruments. Stocks of financial assets and liabilities should be valued on the basis of the market prices that prevailed at the time of the balance sheet reporting date. Other valuation rules apply to assets and liabilities in the form of currency, deposits, loans, and other accounts receivable/payable, and to liabilities in the form of equity. See the specific information on the valuation of these instruments in the section on instruments.

A2.14 All changes in the values of assets and liabilities that are not recorded in *Current year result* should be recorded in *Valuation adjustment* within *Equity liability [MS]* in the SRF. This *Valuation adjustment* account could include any valuation adjustments arising from differences between the valuations in the national accounting standards and the monetary statistics methodology.

A2.15 Accrued interest on deposits, loans, and debt securities should be incorporated into the outstanding amount of the financial asset or liability, rather than being treated as part of *Other accounts receivable/payable*. Separate data on accrued interest disaggregated by financial instrument (deposits, loans, and debt securities) should be provided as memorandum items in the SRFs.

Residence

A2.16 Residence of customers should be based on their *center of predominant economic interest*, rather than nationality, currency of denomination, or legal definitions. All institutional units that have a location, dwelling, place of production, or other premises within the economic territory of the reporting country on which or from which they engage in a significant amount of economic activities in the reporting country should be considered residents. In most cases, it is reasonable to assume that institutional units have a center of predominant economic interest in the country if they have already engaged in economic activities and transactions on a significant scale in the country for one year or more, or they intend to do so. *Individuals* have centers of predominant economic interest in the reporting country when their principal residence(s) are in the country. If they live and work abroad and expect to remain abroad for more than a year, individuals typically cease to be residents of the reporting country. Some transactors in the reporting country are always considered to be nonresidents: particularly, embassies and consulates and their employees sent by a foreign government, international organizations, foreign military personnel, foreign students, tourists, foreign nationals expecting to stay in the reporting country for less than a year, and technical assistance personnel of foreign governments.

Sectors

A2.17 Sectoring of the institutional units in the economy is a key element in the compilation and presentation of monetary statistics. As indicated by the lines in the SRFs, major categories of assets and liabilities must be disaggregated into counterpart sectors and subsectors of the economy.

A2.18 Social security funds are classified as central government or state and local government on the basis of the level at which they operate.

Instruments

Assets

A2.19 Monetary gold. Gold held by the central bank as part of reserve assets is monetary gold. Gold holdings that are not part of reserve assets should be classified as *Other nonfinancial assets*. Monetary gold should be valued on the basis of the market price of gold. This category appears only in SRF 1SR.

A2.20 SDR holdings. Special Drawing Rights (SDRs) are reserve assets created by the IMF and allocated to member countries to supplement existing reserves. SDR holdings represent assured and unconditional rights to obtain freely usable currency. This category is relevant only for SRF 1SR.

A2.21 Domestic currency. This comprises notes and coins that are of fixed nominal value, are accepted as legal tender in the domestic economy, and are issued by the central bank and/or government (and in a few countries by ODCs). This category should also include currency that is no longer legal tender but that can be

exchanged for current legal tender. Gold or precious metal coins, which are held for their intrinsic value, or commemorative coins, which are held for their numismatic value and are not in active circulation should be classified as *Other nonfinancial assets*.

A2.22 Foreign currency. This category comprises notes and coins that have been issued by nonresidents—usually, by central banks or foreign governments. Foreign currency included in reserve assets is separately identified in SRF 1SR.

A2.23 Transferable deposits. These are all deposits that are exchangeable on demand at par and without penalty or restriction, and are directly usable for making payments to third parties by check, draft, giro order, direct debit/credit, or other direct payment facility. Transferable deposits include special savings accounts with a possibility of direct payments to third parties and savings account balances subject to automatic transfer to regular transferable deposits. Transferable deposits with nonresidents in foreign currency included in reserve assets are separately identified in SRF 1SR. Separate lines for reporting required reserves (in domestic and possibly in foreign currency) that are determined by a central bank are included in SRFs 2SR and 4SR.

A2.24 Transferable deposits that are frozen should be classified as *Other deposits*.

A2.25 Deposits denominated in domestic currency should be recorded at nominal value (outstanding amount including accrued interest). Deposits denominated in foreign currency should be recorded in domestic currency as provided for in the preceding section on valuation. These valuation principles apply to other deposits as well.

A2.26 Other deposits. This category encompasses all claims, other than transferable deposits, that are represented by evidence of deposit. Other deposits include:

a. Sight deposits that permit immediate cash withdrawals but not direct payments to third-parties
b. Nontransferable savings and fixed-term deposits
c. Non-negotiable certificates of deposit
d. FCs' liabilities in the form of shares arising from members' deposits that are legally or in practice redeemable immediately or at relatively short notice
e. Repayable margin payments in cash related to different financial contracts, such as financial derivatives and repos.

A2.27 Separate lines for reporting required reserves (in domestic and possibly in foreign currency) that are determined by a central bank are included in SRFs 2SR and 4SR. Other deposits with nonresidents in foreign currency included in reserve assets are separately identified in SRF 1SR.

A2.28 Entries in the line *Reserve position in the Fund* (RPF) are applicable only in those countries that do not have entries in lines *IMF Quota* and *IMF No. 1, No. 2,* and *Securities Accounts*. RPF is the sum of: (1) the *Reserve tranche position in the IMF*, which is the foreign currency amount that a member country may draw from the IMF at short notice; and (2) any indebtedness of the IMF under a loan arrangement in the General Resources Account that is readily available to the member country. RPF is a net concept and is calculated as IMF Quota *minus* IMF holdings of a member's currency that are not subject to exclusion. The IMF's holdings of the member's currency are *IMF No. 1, No. 2,* and *Securities Accounts*, while the exclusions are holdings arising from the *Use of Fund credit* (UFC) and *IMF Account No. 2* if its balance is less than 1/10 of 1 percent of the quota in the IMF. These lines appear only in SRF 1SR.

A2.29 Debt securities. These are negotiable financial instruments serving as evidence of debt. Common types of debt securities are government treasury bills, government bonds, corporate bonds and debentures, commercial paper, and negotiable certificates of deposits. Loans that became negotiable should also be classified under this category. Preferred stocks or shares that pay a fixed income but do not provide for participation in the distribution of the residual value of an incorporated enterprise on dissolution should be classified as debt securities.

A2.30 A separate line for holdings of debt securities that were issued by households and NPISHs would be utilized only in those countries where FCs accept securities (for example, bills of exchange or other securities) issued by households or NPISHs. Separate lines for reporting required reserves (in domestic and possibly in foreign currency) that are determined by a central bank are included in SRFs 2SR and 4SR. A separate line for holdings of IMF securities, which are

not part of RPF, is included in SRF 1SR. These IMF securities comprise Series B Notes as they are not readily available to meet balance of payments financing needs.

A2.31 Holdings of debt securities issued by nonresidents in foreign currency included in reserve assets are separately identified in SRF 1SR.

A2.32 Loans. Loans are defined as financial assets that are created when a creditor lends funds directly to a debtor and that are evidenced by documents that are not negotiable. This category includes all loans extended to various sectors by FCs, such as commercial loans, mortgage loans, consumer loans, hire-purchase credit, loans to finance trade credit, financial leases, securities repurchase agreements, and overdrafts.

A2.33 Repurchase agreements with the central bank, ODCs, OFCs, and nonresidents are separately identified in the SRFs. Loans to nonresidents in foreign currency included in reserve assets are separately identified in SRF 1SR. A separate line for loans to the IMF, which are not part of RPF, is included in SRF 1SR. These loans comprise loans drawn by the IMF under bilateral loan agreements and lending to the IMF managed trust accounts not readily available to meet balance of payments financing needs.

A2.34 The valuation of loans is an exception to valuation based on market price or fair value. The valuation of loans denominated in domestic currency units should be based on the nominal value of creditors' outstanding claims (outstanding principal including accrued interest) without adjustment for expected loan losses. Data on expected loan losses, disaggregated by economic sector of debtor, are included in the memorandum items of the SRFs, and data on provisions for loan losses are shown in *Other accounts payable*. Loans denominated in foreign currency should be converted into domestic currency using the market exchange rate.

A2.35 Investment fund shares. Investment fund shares comprise shares or units issued by all kinds of investment funds. Investment funds are collective investment undertakings through which investors pool funds for investment in financial or nonfinancial assets or both. Investment funds are divided into MMFs and non–MMF investment funds. MMFs invest primarily in short-term money market instruments such as treasury bills, certificates of deposit, and commercial paper. MMFs shares often are functionally close to transferable deposits, for example, shares offering unrestricted third-party-payment privileges.

A2.36 Equity. Equity comprises all instruments and records acknowledging claims on the residual value of a corporation or quasi-corporation after the claims of all creditors have been met. This category includes proprietors' net equity in quasi-corporations, as well as equity in corporations. It also includes preferred stock that provides for participation in the residual value upon dissolution of a corporation.

A2.37 Corporations sometimes purchase their own shares in the market. These re-acquired shares (called treasury shares) are not included in holdings of equity but rather are deducted from funds contributed by owners within equity liabilities (see liability instruments below).

A2.38 Subscriptions to international organizations, other than the IMF, should be classified as equity with nonresidents in SRF 1SR. Holdings of equity issued by nonresidents in foreign currency included in reserve assets are separately identified in SRF 1SR.

A2.39 Insurance, pension, and standardized guarantee schemes. This category records prepaid insurance premiums, which are relatively small amounts, claims of pension funds on pension managers, and provisions for calls under standardized guarantee schemes. See liability instruments for a description of all concepts.

A2.40 Financial derivatives. These are financial instruments that are linked to another specific financial instrument, indicator, or commodity, and through which specific financial risks (such as interest rate, currency, equity and commodity price, or credit risk) can be traded in their own right in financial markets. The value of a financial derivative derives from the price of an underlying item such as an asset or index. The two broad types of financial derivatives are forward-type contracts and option contracts. Financial derivatives with nonresidents in foreign currency included in reserve assets are separately identified in SRF 1SR.

A2.41 Other accounts receivable. These consist of *Trade credit and advances*, and *Other*. *Trade credit and advances* comprise trade credit extended directly to

customers, advances for work that is in progress (or is to be undertaken), and prepayment for goods and services.

A2.42 When trade credit is provided by FCs, it is usually for financial services to corporations, either financial or nonfinancial. Unlike loans, trade credit is a non-interest- bearing instrument.

A2.43 The *Other* subcategory includes but does not separately identify settlement accounts, dividends receivable, items in the process of collection, and miscellaneous asset items. In the case of the central bank, the IMF quota subscription is also included and is separately identified.

A2.44 Settlement accounts are used to account for differences in the time of recording of purchases or sales of financial assets on the *trade dates* when change of ownership occur, and the subsequent payments for the financial assets on the *settlement dates*.

A2.45 Dividends receivable on corporations' shares arise from the recording of dividends when the shares go ex-dividend or, for shares that are not traded publicly, when the dividends are payable, rather than later when the dividends are paid.

A2.46 Items in the process of collection include checks or other types of transferable items that are posted directly to depositors' accounts, but are unavailable for use until after the transferable items have been cleared and paid by the DC on which it was drawn.

A2.47 The IMF quota subscription should be used for recording the quota that is determined upon admission to IMF membership and can be adjusted under the IMF's General Quota Reviews or on an ad hoc basis. This line appears only in SRF 1SR.

A2.48 Miscellaneous asset items should include all accounts not elsewhere classified in the FCs' balance sheets. Major types of miscellaneous asset items often include suspense accounts, amounts related to taxes, and prepayment of rent or other operating expenses.

A2.49 Nonfinancial assets. These consist of produced and nonproduced assets. Produced assets consist of fixed assets, inventories, and valuables (which are acquired and held primarily as stores of value). Fixed assets should include only those assets that are related to the activity of the reporting FC. Fixed assets should be valued at market value on the balance sheet date. If only book value is available in source data, fixed assets may be shown at book value, less accumulated depreciation, which is separately identified.

A2.50 A specific line exists for nonfinancial assets that have been acquired as a result of repossession and/or foreclosure.

A2.51 Other nonfinancial assets include gold holdings that are not part of reserve assets, holdings of commemorative notes and coins, works of art, real estate acquired for investment, assets other than financial instruments that have been acquired by an institution as part of a settlement for bad debts that were collateralized by these assets, and nonproduced assets such as land, licenses, and goodwill. Land should be classified within other nonfinancial assets, because it is not a produced asset and, therefore, it is not included in fixed assets, which arise from fixed capital formation.

Liabilities

A2.52 Currency in circulation. This category comprises notes and coins that are of fixed nominal values, are accepted as legal tender in the domestic economy, and are issued by the central bank. For currency unions, this category should also include currency issued earlier by the central bank and not yet removed from circulation. In calculating the amount of currency in circulation, central bank holdings of currency are deducted from the total amount of currency issued. This category appears only in SRF 1SR.

A2.53 Deposits included in broad money. These comprise transferable deposits and other deposits of money holders with resident DCs and included in broad money. The same classification principle should be used for deposits transferred to pre-paid cards if these and other forms of electronic money are included in broad money. This category includes deposits that migrant workers hold in DCs in their home countries, if they are freely usable by authorized family members or other designated parties in settling transactions in the home country. See asset instruments for a description of transferable and other deposits.

A2.54 Money holders can also have deposits in domestic and/or foreign currency at the central bank, which should be included in this category in SRF 1SR. SRF 1SR includes a breakdown of deposits included in and excluded from monetary base.

A2.55 Other deposits also include repurchase agreements resembling a standard deposit that are held by money holders and are included in broad money. This applies only to SRFs 1SR and 2SR.

A2.56 Deposits excluded from broad money. These are transferable and other deposits that are not included in broad money. This category includes all deposits of non-money-holding sectors (central government, DCs, and nonresidents), as well as those categories of other sectors' deposits that are not included in broad money. SRF 1SR includes a breakdown of deposits included in and excluded from monetary base.

A2.57 In SRF 1SR, deposits of nonresidents include *IMF No. 1, No. 2,* and *Securities Accounts*, as well as *UFC*. The IMF securities are immediately cashable, are not traded, and are substitutes for deposits in *IMF Account No. 1*. Therefore, IMF securities should be classified as deposits of nonresidents in foreign currency and reported together with *IMF Account No. 1*. *UFC* reflects the country's outstanding purchases of Fund resources, which increase the country's liabilities to the IMF and are classified as a deposit of nonresidents in foreign currency.

A2.58 In cases when a DC is unable to meet depositors' withdrawal demands, because it has insufficient funds or because its operations have been suspended and deposits frozen, all customers' deposits in such DCs should be classified in this category as long as the DC continues to exist as a legal entity.

A2.59 Transferable and other deposits excluded from broad money but included in monetary base include separate lines for reporting required reserves (in domestic and possibly in foreign currency) that are determined by a central bank. These separate lines appear only in SRF 1SR.

A2.60 Transferable and other deposits of nonresidents in foreign currency included in reserve-related liabilities are separately identified in SRF 1SR.

A2.61 Debt securities included in broad money. These are negotiable financial instruments that are included in broad money and are held by sectors designated as money holders. See asset instruments for a description of debt securities.

A2.62 Debt securities excluded from broad money. This category includes negotiable financial instruments that are not included in broad money. The category covers debt securities held by non-money-holding sectors (central government, DCs, and nonresidents), as well as those categories of other sectors' holdings of debt securities that are not included in broad money.

A2.63 This category also includes separate lines for reporting required reserves in the form of debt securities. These separate lines appear only in SRF 1SR and relate only to those countries where legal reserve requirements are fulfilled by holding debt securities issued by the central bank.

A2.64 Debt securities issued by the central bank in foreign currency held by nonresidents and included in reserve-related liabilities are separately identified in SRF 1SR.

A2.65 Loans. This category includes all loans received from various sectors. Repurchase agreements with the central bank (in SRFs 2SR and 4SR only), ODCs, OFCs, and nonresidents are separately identified. See asset instruments for a description of loans.

A2.66 Loans from nonresidents in foreign currency included in reserve-related liabilities are separately identified in SRF 1SR.

A2.67 Investment fund shares. See asset instruments for a general description of investment fund shares. MMF shares are divided into MMF shares included in and excluded from broad money. MMF shares are further divided into transferable and other. Both transferable and other MMF shares held by money holding sectors are included in broad money. Lines for MMF shares appear only in SRF 2SR and for non-MMF shares in SRF 4SR.

A2.68 Insurance, pension, and standardized guarantee schemes. This category includes life insurance and annuity entitlements of households, pension entitlements of households, nonlife insurance technical reserves and provisions for calls under standardized guarantees, and liabilities of pension funds to pension managers. These entitlements, reserves, and provisions, except for liabilities of pension funds to pension managers, represent liabilities of the insurer, pension fund, or issuer of standardized guarantees and a corresponding asset of the policyholders or beneficiaries. Liabilities of pension funds to pension managers are liabilities to the pension managers when the pension manager is a unit different from the pension administrator and is entitled to any funding surplus.

A2.69 Financial derivatives and ESOs. See asset instruments for a description of financial derivatives. An ESO is an option to buy the equity of a company, offered to employees of the company as a form of remuneration. Financial derivatives of the central bank with nonresidents in foreign currency included in reserve-related liabilities are separately identified in SRF 1SR.

A2.70 Other accounts payable [MS]. This category includes *Trade credit and advances*, and *Other*. *Trade credit and advances* comprise trade credit received directly from suppliers of goods and services, advances received for work that is in progress (or is to be undertaken), and prepayments received for goods and services.

A2.71 The *Other* subcategory separately identifies *Provision for losses on financial assets*, *Consolidation adjustment for headquarters and branches*, and *Other*, which includes without identifying separately settlement accounts, dividends payable, and miscellaneous liability items.

A2.72 Provisions for losses on financial assets should be recorded within the *Other accounts payable—other [MS]*, even though this treatment contrasts with national financial reporting standards and the IFRSs, in which this category does not appear as a liability on the balance sheet (but rather is deducted from outstanding asset amounts).

A2.73 *Miscellaneous liability items* should include all accounts not elsewhere classified in the FCs' balance sheets. Major types of miscellaneous liability items often include suspense accounts, amounts related to taxes, and accrued wages, rent, or other operating expenses.

A2.74 SDR allocations are the counterpart to SDR holdings that have been provided by the IMF to the country. These appear only in SRF 1SR. SDR allocations should be valued on the basis of the market exchange rate as of the balance sheet date.

A2.75 Equity liability [MS]. See asset instruments for a general description of equity. *Equity liability [MS]* is recorded at book value and is divided into the following separate components:

a. *Funds contributed by owners* include the total amount from the initial and any subsequent issuance of shares, stocks, or other form of ownership of corporations and quasi-corporations (excluding the amount of FCs' holdings of its own shares). They are further classified into funds contributed by residents and nonresidents.

b. *Retained earnings* constitute all previous years' after-tax profits that have not been distributed to shareholders or appropriated as general or special reserves.

c. *Current year result* represents the accumulation of profit or loss since the beginning of the fiscal year.

d. *General and special reserves* are appropriations of retained earnings.

e. *Valuation adjustment* represents the net counterpart to changes in the value of assets and liabilities on the balance sheets of FCs, excluding those recorded in the profit or loss accounts. The valuation adjustment is market valued by definition. Any valuation adjustments arising from differences between the valuations in the source data and the monetary statistics methodology are also included in this item.

Memorandum items

Central bank float

A2.76 This represents the amount that the central bank has provided in advance to DCs that have sent checks or other items for collection. Central bank float appears only in SRF 1SR.

Accrued interest

A2.77 This item represents separate data on accrued interest, incorporated into the outstanding amount of the financial asset or liability, disaggregated by financial instrument (deposits, loans, and debt securities).

Arrears on loans and expected losses on loans

A2.78 Arrears on loans should cover both principal and interest arrears. Given that this *Manual* recommends gross recording for loans at nominal value, including any arrears on accrued interest, this item allows to separately report arrears on loans.

A2.79 Expected losses on loans are disaggregated by sector and facilitate the compilation of alternative presentations of loan data (e.g., for calculation of the

expected realizable value of loans by economic sector). The accounting data on provisions for loan losses can be directly used in estimating the expected loan losses, if these data reflect, to a reasonable degree, the total expected losses on nonperforming loans. In cases where source data on provisions do not reasonably reflect the total expected losses on nonperforming loans, an attempt should be made to report a more accurate measure of expected losses.

Claims on and liabilities to ODCs in liquidation

A2.80 Separate data should be provided on claims on and liabilities to ODCs that are being reorganized or are in the process of being liquidated, if the balance sheet data of the nonoperating ODCs are not included in the coverage of SRF 2SR. This item, disaggregated by instrument and by domestic or foreign currency, is provided for consolidation purposes.

Positions with nonresident financial corporations

A2.81 This item provides total assets and liabilities with nonresidents for debt securities; loans; equity; insurance, pension, and standardized guarantee schemes; and financial derivatives with an of which subcategory specifying positions with FCs.

A2.82 Further, a separate line identifies interbank positions with nonresident deposit-takers (in SRF 1SR) and positions with nonresident financial corporations (in SRF 4SR) with an *of which* subcategory specifying positions with nonresident affiliates.

Positions with MMFs

A2.83 These items in SRFs 1SR (loans only) and 2SR separately identify loans to and deposits of MMFs, allowing the compilation of interbank positions as defined in the *2008 SNA,* by eliminating positions with MMFs from intra-DC positions.

Loans to households

A2.84 This item in SRFs 2SR and 4SR separately identifies in an *of which* subcategory loans provided to and deposits received from households.

Maturity breakdowns

A2.85 These items present debt securities and loans with maturity of one year or less disaggregated by counterpart sector and by domestic or foreign currency.

Nominal value of debt securities issued

A2.86 This item represents total issued debt securities at nominal value.

Market value of equity liabilities

A2.87 Data on market value of equity disaggregated by holding sector should be provided as a memorandum item in the SRFs.

II. Guidelines for Completion of Standardized Report Form 5SR for Money Aggregates

A. Methodology

A2.88 SRF 5SR is designed to accord with the methodology in this *Manual*. The methodology emphasizes the application of cross-country consistency for financial asset/liability classification, sectoring, and accounting rules, resulting in a generally high degree of cross-country data comparability. For the money aggregates, however, the methodology accommodates cross-country differences, recognizing that compilers determine money aggregates in accordance with the structure and other features of the financial system in their economy and against the concepts and definitions set in this *Manual*.

B. Broad Money and Components (Upper Section of SRF 5SR)

A2.89 The focus in the methodology of this *Manual* is *Broad money*. The reporting lines in the upper section of SRF 5SR should be sufficient for reporting all components of broad money. In SRF 5SR, ***the data reporting is not standardized*** across countries. Some examples of possible nonstandardized components of money aggregates are:

a. In some countries, *Broad money* is defined to include deposits with maturities of one year or less, whereas other countries include deposits with maturities of two years or less. Despite such differences in the definition of the deposit component, all components of *Broad money* for these countries are included in SRF 5SR through the line *Deposits in DCs*. For each reporting date, the line *Deposits in DCs* of SRF 5SR should equal the *sum* of (1) *Deposits included in broad money* in SRF 1SR and (2) *Deposits included in broad money* in SRF 2SR.

b. In some countries, the central government issues currency (most often, in the form of coins), and the outstanding amount of such currency is included in broad money. Such currency should be reported in line *Currency issued by central government* of SRF 5SR. The central government holds currency issued by the central bank which should be reported in line *Currency held by the central government*. Being a liability and asset of the central government, rather than of the central bank, the currency does not appear in SRF 1SR and the data must be obtained directly from the central government.

c. In dollarized economies, or economies with co-circulation of currencies, the foreign currency in circulation should be included in *Broad money*. Such currency should be reported in line *Foreign currency in circulation outside depository corporations* in SRF 5SR. Being a liability of nonresidents, rather than of the central bank, the currency does not appear in SRF 1SR and the data must be estimated by the authorities.

d. In some countries, *Broad money* is defined to include some types of liabilities of nonfinancial corporations. The most prevalent types are deposits in public nonfinancial corporations (typically, savings deposits in the post office) and electronic deposits issued by other nonfinancial corporations (a relatively new type of deposit account in a few countries). In SRF 5SR, these broad money components are reported in line *Deposits in nonfinancial corporations*. Because such deposits are not liabilities of DCs, the data do not appear in SRFs 1SR or 2SR and, therefore, must be obtained directly from the nonfinancial corporations that accept the deposits. An exception arises when the postal savings unit within a public nonfinancial corporation is treated as a separate institutional unit and is classified as an ODC. If classified as an ODC, the postal savings unit reports its deposit liabilities through the regular channels for ODCs reporting, resulting in the inclusion of the postal savings unit's deposits in line *Deposits included in broad money* of SRF 2SR, which are included in line *Deposits in DCs* of SRF 5SR.

e. For some countries, *Broad Money* may include some central-bank-issued and/or ODC-issued debt securities held by money-holding sectors. This component of broad money is reported in line *Debt securities included in broad money* of SRF 1SR and/or the same line of SRF 2SR. The sum of these lines for each reporting period is entered in line *Debt securities issued by DCs* of SRF 5SR.

f. In some countries, *Broad money* may include MMF shares of money holders. This component of broad money is reported in line *MMF shares* of SRF 5SR.

g. For some countries, *Broad money* may include debt securities issued by the central government. This component of broad money is reported in line *Debt securities issued by the central government*.

C. Money Aggregates (Lower Section of SRF 5SR)

A2.90 The data for *Money Aggregates* (M1, M2, M3, etc.) are reported in the lower section of SRF 5SR. The components of the lower-ordered money aggregates are based on national definitions. SRF 5SR shows only the money aggregates that are currently compiled and disseminated. If a country's broadest money aggregate is M2, lines for M1 and M2 only are shown in SRF 5SR; if the broadest money aggregate is M3, lines for M1, M2, and M3 are shown; etc.

A2.91 The components of the money aggregates often differ across countries. M1 is almost universally defined as currency in circulation *plus* transferable deposits held by all money holding sectors. Nonetheless, M1 components may differ across countries. For example, one country may define the transferable deposit component of M1 to include traveler's checks issued by DCs, whereas another county may exclude the traveler's checks from transferable deposits and, therefore, from M1 (and possibly from all money aggregates). Cross-country differences in the definition of M1 generally are relatively minor.

A2.92 The components of M2 and higher-ordered money aggregates depend on the specific types of financial instruments included at the national level. Cross-country differences in national definitions of lowered-ordered aggregates also arise from differences

in the maturity categories of nontransferable deposits included in a particular money aggregate. For example, the definition of M2 in one country may include time deposits with maturities of one year or less, whereas another country's M2 definition may include time deposits with maturities of two years or less.

A2.93 The line *Broad money* at the top of SRF 5SR will contain the data for the highest-order money aggregate reported in the lower section of SRF 5SR. Conceivably, a country might designate M4 as its official measure of broad money, but also might compile an unofficial M5 (and possibly higher-ordered money aggregates). In this case, *Broad money* at the top of SRF 5SR would agree with the data for M4 in the lower section *Money aggregates* of SRF 5SR. Each country is encouraged to define *Broad money* as the broadest money aggregate for which reliable data are available.

A2.94 If a country seasonally adjusts money aggregates, its data are reported in the lower section of SRF 5SR, which includes a line for each seasonally adjusted money aggregate. The seasonally adjusted aggregate for broad money should also be reported in the upper section of SRF 5SR in line *Broad money seasonally adjusted*. For countries that do not produce seasonally adjusted data, lines for seasonally adjusted data do not appear in SRF 5SR. Seasonal adjustments may be undertaken by STA, using unadjusted M1, M2, etc., as reported in SRF 5SR, and adjustment procedures that are standardized across countries for which seasonally adjusted data do not appear on SRF 5SR.

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank

	Opening stock	Transactions	Valuation changes	OCVA	Closing stock
Assets					
Monetary gold and SDRs	**33,836**	**361**	**182**	**311**	**34,690**
Monetary gold	27,258	0	100	311	27,669
SDR holdings	6,578	361	82	0	7,021
Currency and deposits	**118,844**	**10,464**	**2,464**	**0**	**131,772**
Holdings of foreign currency	2,329	523	25	0	2,877
Included in reserve assets	2,329	523	25	0	2,877
Other	0	0	0	0	0
Transferable deposits	23,042	1,443	301	0	24,787
In domestic currency	1	1	0	0	2
Other depository corporations	1	1	0	0	2
Other financial corporations	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	23,041	1,443	301	0	24,784
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Nonresidents	23,041	1,443	301	0	24,784
Included in reserve assets	23,041	1,443	301	0	24,784
Other	0	0	0	0	0
Other deposits	93,473	8,498	2,138	0	104,109
In domestic currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Nonresidents	0	0	0	0	0

(Continued)

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
In foreign currency	93,473	8,498	2,138	0	104,109
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Nonresidents	93,473	8,498	2,138	0	104,109
Included in reserve assets	93,473	8,498	2,138	0	104,109
Reserve position in the Fund	0	0	0	0	0
Reserve tranche position	0	0	0	0	0
Loans to the IMF and holdings of IMF notes	0	0	0	0	0
Other	93,473	8,498	2,138	0	104,109
Other	0	0	0	0	0
Debt securities	**651,860**	**–11,302**	**5,097**	**0**	**645,655**
In domestic currency	33,459	–8,422	–685	0	24,352
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	33,459	–8,422	–685	0	24,352
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	618,401	–2,880	5,782	0	621,303
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	618,401	–2,880	5,782	0	621,303
Included in reserve assets	618,401	–2,880	5,782	0	621,303
Debt securities IMF	0	0	0	0	0
Other	0	0	0	0	0
Loans	**38,180**	**–706**	**49**	**–328**	**37,195**
In domestic currency	34,458	–802	0	–328	33,327
Other depository corporations	27,334	–171	0	0	27,162
Repurchase agreements	6,850	–1	0	0	6,849
Other	20,484	–170	0	0	20,314
Other financial corporations	0	0	0	0	0
Repurchase agreements	0	0	0	0	0
Other	0	0	0	0	0

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	4,658	–494	0	–54	4,110
Other nonfinancial corporations	1,644	0	0	–274	1,370
Households and NPISHs	822	–137	0	0	685
Nonresidents	0	0	0	0	0
Loans IMF	0	0	0	0	0
Repurchase agreements	0	0	0	0	0
Other	0	0	0	0	0
In foreign currency	3,723	96	49	0	3,868
Other depository corporations	0	0	0	0	0
Repurchase agreements	0	0	0	0	0
Other	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Repurchase agreements	0	0	0	0	0
Other	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	3,723	96	49	0	3,868
Loans IMF	298	0	8	0	306
Repurchase agreements	0	0	0	0	0
Included in reserve assets	0	0	0	0	0
Other	0	0	0	0	0
Other	3,425	96	41	0	3,562
Included in reserve assets	0	0	0	0	0
Other	3,425	96	41	0	3,562
Investment fund shares	**0**	**0**	**0**	**0**	**0**
In domestic currency	0	0	0	0	0
Money market funds	0	0	0	0	0
Non–money market funds	0	0	0	0	0
Investment fund shares nonresidents	0	0	0	0	0
In foreign currency	0	0	0	0	0
Money market funds	0	0	0	0	0
Non–money market funds	0	0	0	0	0
Investment fund shares nonresidents	0	0	0	0	0
Included in reserve assets	0	0	0	0	0
Other	0	0	0	0	0

(Continued)

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Equity	**2,692**	**0**	**6**	**0**	**2,698**
In domestic currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	2,692	0	6	0	2,698
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Nonresidents	2,692	0	6	0	2,698
Included in reserve assets	0	0	0	0	0
Other	2,692	0	6	0	2,698
Insurance, pension, and standardized guarantee schemes	**685**	**137**	**0**	**0**	**822**
Nonlife insurance technical reserves and provisions for calls under standardized guarantees	685	137	0	0	822
In domestic currency	685	137	0	0	822
Other financial corporations	685	137	0	0	822
Nonresidents	0	0	0	0	0
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Nonresidents	0	0	0	0	0
Claims of pension funds on pension managers	0	0	0	0	0
In domestic currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Nonresidents	0	0	0	0	0
Financial derivatives	**11,371**	**128**	**85**	**0**	**11,584**
In domestic currency	7,946	159	–59	0	8,046
Other depository corporations	1,781	1,085	174	111	3,151

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Other financial corporations	6,165	–926	–233	–111	4,895
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	3,425	–31	144	0	3,538
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	3,425	–31	144	0	3,538
Included in reserve assets	0	0	0	0	0
Other	3,425	–31	144	0	3,538
Other accounts receivable	**15,372**	**2,922**	**135**	**0**	**18,430**
Trade credit and advances	1,111	269	3	0	1,383
In domestic currency	837	135	0	0	972
Other depository corporations	274	0	0	0	274
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	548	137	0	0	685
Households and NPISHs	15	–2	0	0	13
Nonresidents	0	0	0	0	0
In foreign currency	274	134	3	0	411
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	274	134	3	0	411

(Continued)

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Other	14,261	2,654	132	0	17,046
In domestic currency	3,706	2,664	0	0	6,370
Residents	3,706	2,664	0	0	6,370
Nonresidents	0	0	0	0	0
In foreign currency	10,555	–10	132	0	10,676
Residents	7	–3	0	0	4
Nonresidents	10,547	–7	132	0	10,672
IMF quota	9,726	0	122	0	9,848
Other	821	–7	10	0	824
Nonfinancial assets	**2,058**	**–567**	**0**	**–379**	**1,112**
Fixed assets	1,784	–617	0	–68	1,099
Repossessed/foreclosed assets	0	0	0	0	0
Other nonfinancial assets	548	50	0	–311	287
less: Accumulated depreciation	274	0	0	0	274
TOTAL ASSETS	**874,898**	**1,438**	**8,018**	**–396**	**883,958**
Liabilities					
Currency in circulation	**174,384**	**20,879**	**0**	**0**	**195,264**
Deposits included in broad money	**5,513**	**424**	**67**	**–58**	**5,947**
Deposits included in monetary base	1,814	76	15	–58	1,848
Transferable deposits	1,814	76	15	–58	1,848
In domestic currency	567	171	0	0	738
Other financial corporations	64	–60	0	0	5
State and local government	122	174	0	0	296
Public nonfinancial corporations	381	56	0	0	437
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
In foreign currency	1,247	–94	15	–58	1,110
Other financial corporations	822	–226	10	–58	548
State and local government	0	0	0	0	0
Public nonfinancial corporations	425	132	5	0	562
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Other deposits	0	0	0	0	0
In domestic currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Deposits excluded from monetary base	3,699	348	52	0	4,099
Transferable deposits	3,699	348	52	0	4,099
In domestic currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
In foreign currency	3,699	348	52	0	4,099
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	3,699	348	52	0	4,099
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Other deposits	0	0	0	0	0
In domestic currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Deposits excluded from broad money	**93,297**	**–13,257**	**149**	**58**	**80,247**
Deposits included in monetary base	18,581	–2,559	27	58	16,107
Transferable deposits	16,389	–2,748	0	0	13,641
In domestic currency	16,389	–2,748	0	0	13,641
Other depository corporations	16,389	–2,748	0	0	13,641
Required reserves and clearing balances	16,389	–2,748	0	0	13,641
Other	0	0	0	0	0

(Continued)

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Other financial corporations	0	0	0	0	0
Required reserves and clearing balances	0	0	0	0	0
Other	0	0	0	0	0
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Required reserves and clearing balances	0	0	0	0	0
Other	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Required reserves and clearing balances	0	0	0	0	0
Other	0	0	0	0	0
Other deposits	2,192	189	27	58	2,466
In domestic currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Required reserves	0	0	0	0	0
Other	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Required reserves	0	0	0	0	0
Other	0	0	0	0	0
In foreign currency	2,192	189	27	58	2,466
Other depository corporations	2,192	189	27	58	2,466
Required reserves	0	0	0	0	0
Other	2,192	189	27	58	2,466
Other financial corporations	0	0	0	0	0
Required reserves	0	0	0	0	0
Other	0	0	0	0	0
Deposits excluded from monetary base	74,716	–10,698	122	0	64,140
Transferable deposits	73,168	–11,624	122	0	61,665
In domestic currency	63,442	–11,624	0	0	51,817
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	55,879	–12,029	0	0	43,849
State and local government	0	0	0	0	0
Public nonfinancial corporations	785	159	0	0	944
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	6,778	246	0	0	7,024

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
In foreign currency	9,726	0	122	0	9,848
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	9,726	0	122	0	9,848
IMF No. 1 and securities accounts	9,716	0	122	0	9,838
IMF No. 2 account	10	0	0	0	10
Use of Fund credit	0	0	0	0	0
Reserve-related liabilities	0	0	0	0	0
Other	0	0	0	0	0
Other deposits	1,548	926	0	0	2,474
In domestic currency	1,546	926	0	0	2,472
Other depository corporations	1,542	925	0	0	2,467
Other financial corporations	4	2	0	0	6
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	2	0	0	0	2
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	2	0	0	0	2
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
Reserve-related liabilities	0	0	0	0	0
Other	0	0	0	0	0
Debt securities included in broad money	**13,645**	**781**	**0**	**0**	**14,426**
Debt securities included in monetary base	0	0	0	0	0
In domestic currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0

(Continued)

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Debt securities excluded from monetary base	13,645	781	0	0	14,426
In domestic currency	13,645	781	0	0	14,426
Other financial corporations	5,425	411	0	0	5,836
State and local government	0	0	0	0	0
Public nonfinancial corporations	5,480	685	0	0	6,165
Other nonfinancial corporations	2,740	–315	0	0	2,425
Households and NPISHs	0	0	0	0	0
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Debt securities excluded from broad money	**393,369**	**–7,396**	**–1,591**	**0**	**384,383**
Debt securities included in monetary base	0	0	0	0	0
In domestic currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Required reserves	0	0	0	0	0
Other	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Required reserves	0	0	0	0	0
Other	0	0	0	0	0
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Required reserves	0	0	0	0	0
Other	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Required reserves	0	0	0	0	0
Other	0	0	0	0	0

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Debt securities excluded from monetary base	393,369	–7,396	–1,591	0	384,383
In domestic currency	393,369	–7,396	–1,591	0	384,383
Other depository corporations	252,333	–1,076	–1,010	0	250,247
Other financial corporations	90,880	–2,111	–905	0	87,865
Central government	19,245	1,330	148	0	20,723
State and local government	0	0	0	0	0
Public nonfinancial corporations	210	–147	19	0	82
Other nonfinancial corporations	9,671	–1,523	677	0	8,825
Households and NPISHs	1,830	–303	–130	0	1,397
Nonresidents	19,200	–3,566	–390	0	15,244
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
Reserve-related liabilities	0	0	0	0	0
Other	0	0	0	0	0
Loans	**126,970**	**3,410**	**0**	**0**	**130,380**
In domestic currency	126,970	3,410	0	0	130,380
Other depository corporations	126,970	3,410	0	0	130,380
Repurchase agreements	35,469	–145	0	0	35,324
Other loans	91,501	3,555	0	0	95,056
Other financial corporations	0	0	0	0	0
Repurchase agreements	0	0	0	0	0
Other loans	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
Loans IMF	0	0	0	0	0
Repurchase agreements	0	0	0	0	0
Other loans	0	0	0	0	0

(Continued)

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Repurchase agreements	0	0	0	0	0
Other	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Repurchase agreements	0	0	0	0	0
Other	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
Loans IMF	0	0	0	0	0
Repurchase agreements	0	0	0	0	0
Reserve-related liabilities	0	0	0	0	0
Other	0	0	0	0	0
Other	0	0	0	0	0
Reserve-related liabilities	0	0	0	0	0
Other	0	0	0	0	0
Insurance, pension, and standardized guarantee schemes	**0**	**0**	**0**	**0**	**0**
Pension entitlements of households	0	0	0	0	0
In domestic currency	0	0	0	0	0
Residents	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	0	0	0	0	0
Residents	0	0	0	0	0
Nonresidents	0	0	0	0	0
Liabilities of pension funds to pension managers	0	0	0	0	0
In domestic currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Nonresidents	0	0	0	0	0

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Provisions for calls under standardized guarantees	0	0	0	0	0
In domestic currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
Financial derivatives and employee stock options	**12,604**	**854**	**–641**	**0**	**12,817**
In domestic currency	12,604	854	–641	0	12,817
Other depository corporations	6,713	907	–359	411	7,672
Other financial corporations	5,891	–53	–282	–411	5,145
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0

(Continued)

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Nonresidents	0	0	0	0	0
Reserve-related liabilities	0	0	0	0	0
Other	0	0	0	0	0
Other accounts payable	**5,394**	**–541**	**1**	**–258**	**4,596**
Trade credit and advances	1,753	151	0	0	1,905
In domestic currency	1,342	151	0	0	1,494
Other depository corporations	36	0	0	0	36
Other financial corporations	18	0	0	0	18
Central government	327	14	0	0	341
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	959	137	0	0	1,096
Households and NPISHs	2	0	0	0	3
Nonresidents	0	0	0	0	0
In foreign currency	411	0	0	0	411
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	411	0	0	0	411
Other	3,640	–692	1	–258	2,692
Provisions for losses	1,703	30	0	–258	1,475
Provisions for loan losses	1,233	30	0	–258	1,005
Provisions for other losses	470	0	0	0	470
Consolidation adjustment for headquarters and branches	–2	–5	0	0	–7
Other in domestic currency	1,822	–660	0	0	1,161
Residents	1,822	–660	0	0	1,161
Nonresidents	0	0	0	0	0
Other in foreign currency	118	–57	1	0	62
Residents	98	–39	1	0	60
Nonresidents	20	–18	0	0	2
SDR allocations	6,629	0	92	0	6,720
Equity	**43,093**	**–3,718**	**9,941**	**–138**	**49,178**
Funds contributed by owners	3	0	0	0	3
Retained earnings	54,704	180	0	–2,198	52,686
Current year result	–16,580	–3,001	2,596	–70	–17,054

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
General and special reserves	3,827	–897	0	2,130	5,060
Valuation adjustment	1,139	0	7,344	0	8,483
TOTAL LIABILITIES	**874,898**	**1,438**	**8,018**	**–396**	**883,958**
Vertical check	0	0	0	0	0
Memorandum Items					
End of period exchange rate	4,411				4,466
Assets					
1. Central bank float	**155**	**19**	**0**	**0**	**174**
2. Accrued interest on deposits	**1,644**	**137**	**0**	**0**	**1,781**
3. Accrued interest on loans	**822**	**137**	**0**	**0**	**959**
4. Arrears on loans (principal and interest)	**0**	**0**	**0**	**0**	**0**
5. Expected losses on loans	**328**	**0**	**0**	**–328**	**0**
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	54	0	0	–54	0
Other nonfinancial corporations	274	0	0	–274	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
6. Accrued interest on debt securities	**7,535**	**137**	**0**	**0**	**7,672**
7. Claims on other depository corporations in liquidation	**0**	**0**	**0**	**0**	**0**
Transferable deposits	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Other deposits	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Debt securities	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Loans	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Equity and investment fund shares	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0

(Continued)

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Financial derivatives	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Other accounts receivable	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
8. Debt securities nonresidents	**618,401**	**–2,880**	**5,782**	**0**	**621,303**
Of which: Issued by financial corporations	203,445	137	548	0	204,130
9. Loans nonresidents	**3,723**	**96**	**49**	**0**	**3,868**
Of which: To financial corporations	0	0	0	0	0
10. Equity	**2,692**	**0**	**6**	**0**	**2,698**
Of which: Issued by financial corporations	0	0	0	0	0
11. Insurance, pension, and standardized guarantee schemes nonresidents	**0**	**0**	**0**	**0**	**0**
Of which: With financial corporations	0	0	0	0	0
12. Financial derivatives nonresidents	**3,425**	**–31**	**144**	**0**	**3,538**
Of which: With financial corporations	2,740	–274	274	0	2,740
13. Loans other depository corporations	**27,334**	**–171**	**0**	**0**	**27,162**
Of which: Loans to money market funds	0	0	0	0	0
14. Debt securities with maturity of 1 year or less	**553,617**	**–10,784**	**6,537**	**0**	**549,370**
In domestic currency	27,400	–5,617	0	0	21,783
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	27,400	–5,617	0	0	21,783
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	526,217	–5,167	6,537	0	527,587
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	526,217	–5,167	6,537	0	527,587

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
15. Loans with maturity of 1 year or less	**27,400**	**–137**	**0**	**0**	**27,263**
In domestic currency	27,400	–137	0	0	27,263
Other depository corporations	27,400	–137	0	0	27,263
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
Liabilities					
1. Accrued interest on deposits	**2**	**0**	**0**	**0**	**2**
2. Accrued interest on loans	**2,466**	**137**	**0**	**0**	**2,603**
3. Arrears on loans (principal and interest)	**0**	**0**	**0**	**0**	**0**
Of which: Loans from IMF	0	0	0	0	0
4. Accrued interest on debt securities	**9,042**	**–1,370**	**0**	**0**	**7,672**
5. Equity: Market value by holding sector	**43,093**	**0**	**6,085**	**0**	**49,178**
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	43,093	0	6,085	0	49,178
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
6. Liabilities to other depository corporations in liquidation	**0**	**0**	**0**	**0**	**0**
Transferable deposits	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0

(Continued)

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Other deposits	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Debt securities	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Loans	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Financial derivatives and employee stock options	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Other accounts payable	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
7. Debt securities nonresidents	**19,200**	**–3,566**	**–390**	**0**	**15,244**
Of which: Held by financial corporations	17,810	–3,425	–411	0	13,974
8. Loans nonresidents	**0**	**0**	**0**	**0**	**0**
Of which: Held by financial corporations	0	0	0	0	0
9. Financial derivatives and employee stock options nonresidents	**0**	**0**	**0**	**0**	**0**
Of which: With financial corporations	0	0	0	0	0
10. Transferable deposits other depository corporations	**16,389**	**–2,748**	**0**	**0**	**13,641**
Of which: Transferable deposits from money market funds	0	0	0	0	0
11. Other deposits other depository corporations	**2,192**	**189**	**27**	**58**	**2,466**
Of which: Other deposits from money market funds	0	0	0	0	0
12. Loans other depository corporations	**126,970**	**3,410**	**0**	**0**	**130,380**
Of which: Loans from money market funds	0	0	0	0	0
13. Debt securities with maturity of 1 year or less	**348,291**	**–5,611**	**–925**	**0**	**341,755**
In domestic currency	348,291	–5,611	–925	0	341,755
Other depository corporations	248,773	–1,515	–1,010	0	246,247
Other financial corporations	44,388	–959	–494	0	42,935
Central government	20,204	1,330	148	0	21,682
State and local government	0	0	0	0	0
Public nonfinancial corporations	2,950	596	0	0	3,546

Table A2.1 Illustrative Sectoral Balance Sheet/Standardized Report Form for the Central Bank (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Other nonfinancial corporations	11,041	–838	1,362	0	11,565
Households and NPISHs	1,830	–714	–541	0	575
Nonresidents	19,105	–3,511	–390	0	15,205
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
14. Loans with maturity of 1 year or less	**126,970**	**3,410**	**0**	**0**	**130,380**
In domestic currency	126,970	3,410	0	0	130,380
Other depository corporations	126,970	3,410	0	0	130,380
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
15. Debt securities nominal value	**395,519**	**–6,352**	**0**	**0**	**389,167**

Note: OCVA = other changes in the volume of assets; SDR = Special Drawing Rights; NPISHs = nonprofit institutions serving households.

Table A2.2 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Depository Corporations

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Assets					
Currency and deposits	**184,865**	**6,256**	**1,376**	**4,209**	**196,706**
Currency	32,898	7,482	25	1,171	41,575
Domestic	31,722	7,093	0	860	39,675
Foreign	1,176	388	25	311	1,900
Transferable deposits	62,550	–221	487	440	63,256
In domestic currency	20,131	–2,613	0	261	17,778
Central bank	17,083	–2,502	0	74	14,655
Required reserves and clearing balances	16,261	–2,702	0	0	13,559
Other	822	200	0	74	1,096
Other depository corporations	1,433	–50	0	187	1,570
Other financial corporations	0	0	0	0	0
Nonresidents	1,616	–61	0	0	1,554
In foreign currency	42,419	2,393	487	179	45,478
Central bank	3,014	316	37	58	3,425
Required reserves and clearing balances	0	0	0	0	0
Other	3,014	316	37	58	3,425
Other depository corporations	1,671	290	21	121	2,103
Other financial corporations	0	0	0	0	0
Nonresidents	37,734	1,787	429	0	39,950
Other deposits	89,418	–1,005	865	2,598	91,875
In domestic currency	27,856	–1,015	0	2,561	29,402
Central bank	1,539	555	0	548	2,643
Required reserves	0	0	0	0	0
Other	1,539	555	0	548	2,643
Other depository corporations	26,313	–1,570	0	2,013	26,756
Other financial corporations	0	0	0	0	0
Nonresidents	3	0	0	0	3
In foreign currency	61,562	10	865	37	62,473
Central bank	0	0	0	0	0
Required reserves	0	0	0	0	0
Other	0	0	0	0	0
Other depository corporations	596	–107	7	37	533
Other financial corporations	0	0	0	0	0
Nonresidents	60,966	117	857	0	61,940

Table A2.2 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Depository Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Debt securities	**936,425**	**13,544**	**2,814**	**11,536**	**964,319**
In domestic currency	846,059	12,488	1,542	11,536	871,625
Central bank	249,983	–1,007	–1,459	0	247,517
Required reserves	0	0	0	0	0
Other	249,983	–1,007	–1,459	0	247,517
Other depository corporations	110,851	–1,184	978	2,535	113,180
Other financial corporations	7,168	–197	86	248	7,305
Central government	239,650	15,033	2,237	3,096	260,016
State and local government	1,644	20	0	117	1,781
Public nonfinancial corporations	59,607	774	–284	185	60,282
Other nonfinancial corporations	168,933	–486	–648	4,733	172,532
Households and NPISHs	81	–1	0	0	79
Nonresidents	8,143	–464	632	622	8,933
In foreign currency	90,366	1,056	1,273	0	92,695
Central bank	0	0	0	0	0
Required reserves	0	0	0	0	0
Other	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	90,366	1,056	1,273	0	92,695
Loans	**2,710,280**	**–10,710**	**2,118**	**10,416**	**2,712,104**
In domestic currency	2,574,637	–12,344	0	10,416	2,572,708
Central bank	127,630	4,746	0	0	132,376
Repurchase agreements	35,627	–125	0	0	35,502
Other	92,003	4,871	0	0	96,874
Other depository corporations	158,850	4,931	0	0	163,781
Repurchase agreements	41,100	–6,850	0	0	34,250
Other	117,750	11,781	0	0	129,531
Other financial corporations	86,188	–2,052	0	0	84,136
Repurchase agreements	2,335	–144	0	0	2,191
Other	83,853	–1,908	0	0	81,945
Central government	104,602	–11,890	0	0	92,713
State and local government	14,367	–11	0	0	14,356
Public nonfinancial corporations	127,420	1,816	0	685	129,921
Other nonfinancial corporations	732,399	2,711	0	5,998	741,107

(Continued)

Table A2.2 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Depository Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Households and NPISHs	1,205,042	–12,942	0	3,628	1,195,727
Nonresidents	18,139	346	0	105	18,589
Repurchase agreements	274	0	0	0	274
Other	17,865	346	0	105	18,315
In foreign currency	135,644	1,634	2,118	0	139,396
Central bank	3	–3	0	0	0
Repurchase agreements	0	0	0	0	0
Other	3	–3	0	0	0
Other depository corporations	5,199	–368	60	0	4,891
Repurchase agreements	0	0	0	0	0
Other	5,199	–368	60	0	4,891
Other financial corporations	4,883	705	121	0	5,709
Repurchase agreements	0	0	0	0	0
Other	4,883	705	121	0	5,709
Central government	1	0	0	0	1
State and local government	0	0	0	0	0
Public nonfinancial corporations	2,158	1	27	0	2,186
Other nonfinancial corporations	81,715	126	1,315	0	83,157
Households and NPISHs	157	–46	2	0	113
Nonresidents	41,528	1,219	593	0	43,340
Repurchase agreements	0	0	0	0	0
Other	41,528	1,219	593	0	43,340
Investment fund shares	**143,850**	**3,094**	**285**	**2,900**	**150,129**
In domestic currency	123,300	1,580	0	2,900	127,780
Money market funds	68,500	525	0	2,900	71,925
Non–money market funds	54,800	1,055	0	0	55,855
Investment fund shares nonresidents	0	0	0	0	0
In foreign currency	20,550	1,514	285	0	22,349
Money market funds	20,550	1,514	285	0	22,349
Non–money market funds	0	0	0	0	0
Investment fund shares nonresidents	0	0	0	0	0
Equity	**64,110**	**–3,411**	**–861**	**418**	**60,256**
In domestic currency	60,185	–3,361	–919	418	56,323
Central bank	0	0	0	0	0
Other depository corporations	4,685	0	–93	0	4,593
Other financial corporations	29,834	–3,369	–748	0	25,717
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	1,048	0	–101	0	947
Other nonfinancial corporations	17,206	8	–292	418	17,340
Nonresidents	7,412	0	315	0	7,727

Table A2.2 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Depository Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
In foreign currency	3,925	–50	59	0	3,934
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Nonresidents	3,925	–50	59	0	3,934
Insurance, pension, and standardized guarantee schemes	**2,055**	**137**	**0**	**0**	**2,192**
Nonlife insurance technical reserves and provisions for calls under standardized guarantees	2,055	137	0	0	2,192
In domestic currency	2,055	137	0	0	2,192
Other financial corporations	2,055	137	0	0	2,192
Nonresidents	0	0	0	0	0
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Nonresidents	0	0	0	0	0
Claims of pension funds on pension managers	0	0	0	0	0
In domestic currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Nonresidents	0	0	0	0	0
Financial derivatives	**13,837**	**2,455**	**–1,894**	**672**	**15,070**
In domestic currency	9,316	2,126	–1,948	644	10,138
Central bank	6,165	548	–1,096	411	6,028
Other depository corporations	3,151	1,578	–852	233	4,110
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0

(Continued)

Table A2.2 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Depository Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
In foreign currency	4,521	329	54	28	4,932
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	2,740	798	24	0	3,562
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	1,781	–469	30	28	1,370
Other accounts receivable	**75,343**	**9,630**	**9**	**138**	**85,120**
Trade credit and advances	2,136	–29	0	121	2,228
In domestic currency	2,136	–29	0	121	2,228
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	783	227	0	47	1,057
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	1,237	–223	0	74	1,088
Households and NPISHs	116	–33	0	0	82
Nonresidents	0	0	0	0	0
In foreign currency	0	0	0	0	0
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
Other	73,207	9,660	9	17	82,893
In domestic currency	72,522	9,548	0	0	82,071
Residents	72,522	9,548	0	0	82,071
Nonresidents	0	0	0	0	0
In foreign currency	685	111	9	17	822
Residents	0	0	0	0	0
Nonresidents	685	111	9	17	822

Table A2.2 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Depository Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Nonfinancial assets	**76,636**	**–1,456**	**0**	**563**	**75,743**
Fixed assets	53,818	719	0	307	54,844
Repossessed/foreclosed assets	0	0	0	0	0
Other nonfinancial assets	25,284	–2,175	0	248	23,357
less: Accumulated depreciation	2,466	0	0	–8	2,458
TOTAL ASSETS	**4,207,402**	**19,538**	**3,848**	**30,852**	**4,261,641**
Liabilities					
Deposits included in broad money	**2,184,210**	**40,680**	**396**	**–2,237**	**2,223,049**
Transferable deposits	119,557	3,860	0	–187	123,230
In domestic currency	119,557	3,860	0	–187	123,230
Other financial corporations	2,223	1,391	0	–187	3,427
State and local government	5,109	609	0	0	5,718
Public nonfinancial corporations	1,966	–641	0	0	1,325
Other nonfinancial corporations	45,756	–2,778	0	0	42,978
Households and NPISHs	64,502	5,280	0	0	69,782
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Other deposits	2,064,653	36,820	396	–2,050	2,099,818
In domestic currency	2,033,733	37,912	0	–2,013	2,069,631
Other financial corporations	114,457	–1,682	0	–2,013	110,762
State and local government	49,693	10,674	0	0	60,367
Public nonfinancial corporations	118,532	8,858	0	0	127,390
Other nonfinancial corporations	400,244	4,460	0	0	404,704
Households and NPISHs	1,350,806	15,602	0	0	1,366,409
In foreign currency	30,920	–1,092	396	–37	30,187
Other financial corporations	2,079	–2,000	31	–37	73
State and local government	0	0	0	0	0
Public nonfinancial corporations	6,819	–362	100	0	6,556
Other nonfinancial corporations	20,866	1,268	249	0	22,384
Households and NPISHs	1,156	1	16	0	1,174
Deposits excluded from broad money	**171,140**	**–19,667**	**79**	**2,237**	**153,789**
Transferable deposits	29,507	–13,512	0	187	16,181
In domestic currency	25,933	–13,233	0	187	12,886
Central bank	4	–2	0	0	3
Other depository corporations	1,204	235	0	187	1,626
Other financial corporations	0	0	0	0	0

(Continued)

Table A2.2 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Depository Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Central government	11,037	–3,461	0	0	7,576
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	714	606	0	0	1,320
Households and NPISHs	0	0	0	0	0
Nonresidents	12,974	–10,612	0	0	2,362
In foreign currency	3,574	–279	0	0	3,295
Central bank	0	0	0	0	0
Other depository corporations	1,589	–265	0	121	1,445
Other financial corporations	1,985	–14	0	–121	1,850
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
Other deposits	141,633	–6,155	79	2,050	137,607
In domestic currency	135,894	–6,348	0	2,013	131,558
Central bank	0	0	0	0	0
Other depository corporations	23,618	–2,378	0	2,013	23,253
Other financial corporations	0	0	0	0	0
Central government	83,092	–4,840	0	0	78,252
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	685	137	0	0	822
Nonresidents	28,499	732	0	0	29,231
In foreign currency	5,739	193	79	37	6,049
Central bank	28	–28	0	0	1
Other depository corporations	357	–65	4	37	333
Other financial corporations	0	0	0	0	0
Central government	47	–4	1	0	44
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	5,307	291	74	0	5,671

Table A2.2 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Depository Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Debt securities included in broad money	**27,515**	**–3,108**	**1,363**	**1,192**	**26,962**
In domestic currency	27,515	–3,108	1,363	1,192	26,962
Other financial corporations	6,300	1,497	–65	–1,548	6,184
State and local government	2	0	0	0	2
Public nonfinancial corporations	202	87	–15	39	314
Other nonfinancial corporations	16,249	–3,542	859	1,587	15,153
Households and NPISHs	4,762	–1,150	584	1,114	5,310
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Debt securities excluded from broad money	**196,717**	**7,215**	**–2,527**	**3,263**	**204,668**
In domestic currency	191,081	6,814	–2,603	3,055	198,347
Central bank	0	0	0	0	0
Other depository corporations	110,815	3,325	–1,350	2,546	115,336
Other financial corporations	33,576	3,038	–670	509	36,453
Central government	4,740	90	0	0	4,830
State and local government	0	0	0	0	0
Public nonfinancial corporations	229	5	–5	0	229
Other nonfinancial corporations	5,911	568	–89	0	6,390
Households and NPISHs	34,614	–212	–473	0	33,929
Nonresidents	1,195	0	–15	0	1,179
In foreign currency	5,636	401	76	208	6,321
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	548	–76	5	208	685
Households and NPISHs	0	0	0	0	0
Nonresidents	5,088	477	71	0	5,636
Loans	**344,167**	**–3,788**	**1,728**	**1,747**	**343,854**
In domestic currency	205,319	318	0	1,747	207,383
Central bank	27,584	–200	0	0	27,384
Repurchase agreements	6,850	0	0	0	6,850
Other	20,734	–200	0	0	20,534

(Continued)

Table A2.2 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Depository Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Other depository corporations	157,157	3,386	0	0	160,543
Repurchase agreements	41,100	–6,850	0	0	34,250
Other	116,057	10,236	0	0	126,293
Other financial corporations	8,482	–116	0	0	8,365
Repurchase agreements	0	0	0	0	0
Other	8,482	–116	0	0	8,365
Central government	6,418	–852	0	1,674	7,240
State and local government	0	0	0	0	0
Public nonfinancial corporations	517	23	0	0	539
Other nonfinancial corporations	4,104	–2,011	0	0	2,093
Households and NPISHs	985	21	0	0	1,007
Nonresidents	71	67	0	73	212
Repurchase agreements	0	0	0	0	0
Other	71	67	0	73	212
In foreign currency	138,848	–4,106	1,728	0	136,470
Central bank	0	0	0	0	0
Repurchase agreements	0	0	0	0	0
Other	0	0	0	0	0
Other depository corporations	5,818	–1,111	111	0	4,818
Repurchase agreements	0	0	0	0	0
Other	5,818	–1,111	111	0	4,818
Other financial corporations	731	–11	9	0	729
Repurchase agreements	0	0	0	0	0
Other	731	–11	9	0	729
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	133	–271	2	0	–137
Households and NPISHs	0	0	0	0	0
Nonresidents	132,167	–2,713	1,606	0	131,060
Repurchase agreements	220	263	0	0	483
Other	131,947	–2,975	1,606	0	130,578
Money market fund shares	**637,050**	**20,558**	**1,568**	**0**	**659,176**
Money market fund shares included in broad money	548,000	16,588	1,702	0	566,290
Transferable money market fund shares	130,150	4,592	340	0	135,082
In domestic currency	102,750	4,110	0	0	106,860
Other financial corporations	41,100	1,370	0	0	42,470
State and local government	2,740	137	0	0	2,877

Table A2.2 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Depository Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Public nonfinancial corporations	4,110	137	0	0	4,247
Other nonfinancial corporations	27,400	822	0	0	28,222
Households and NPISHs	27,400	1,644	0	0	29,044
In foreign currency	27,400	482	340	0	28,222
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	20,550	430	255	0	21,235
Households and NPISHs	6,850	52	85	0	6,987
Other money market fund shares	417,850	11,996	1,361	0	431,208
In domestic currency	308,250	5,277	0	0	313,527
Other financial corporations	130,150	8,905	0	0	139,055
State and local government	24,660	822	0	0	25,482
Public nonfinancial corporations	30,140	–5,149	0	0	24,991
Other nonfinancial corporations	68,500	8,055	0	0	76,555
Households and NPISHs	54,800	–7,356	0	0	47,444
In foreign currency	109,600	6,719	1,361	0	117,681
Other financial corporations	54,800	664	681	0	56,145
State and local government	0	0	0	0	0
Public nonfinancial corporations	8,220	35	102	0	8,357
Other nonfinancial corporations	39,730	5,968	494	0	46,192
Households and NPISHs	6,850	52	85	0	6,987
Money market fund shares excluded from broad money	89,050	3,970	–134	0	92,886
In domestic currency	68,500	3,797	–372	0	71,925
Central bank	0	0	0	0	0
Other depository corporations	68,500	3,797	–372	0	71,925
Central government	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	20,550	173	238	0	20,961
Central bank	0	0	0	0	0
Other depository corporations	20,550	173	238	0	20,961
Central government	0	0	0	0	0
Nonresidents	0	0	0	0	0
Insurance, pension, and standardized guarantee schemes	**0**	**0**	**0**	**0**	**0**
Life insurance and annuity entitlements of households	0	0	0	0	0
In domestic currency	0	0	0	0	0
Residents	0	0	0	0	0
Nonresidents	0	0	0	0	0

(Continued)

Table A2.2 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Depository Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
In foreign currency	0	0	0	0	0
Residents	0	0	0	0	0
Nonresidents	0	0	0	0	0
Pension entitlements of households	0	0	0	0	0
In domestic currency	0	0	0	0	0
Residents	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	0	0	0	0	0
Residents	0	0	0	0	0
Nonresidents	0	0	0	0	0
Nonlife insurance technical reserves and provisions for calls under standardized guarantees	0	0	0	0	0
In domestic currency	0	0	0	0	0
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	0	0	0	0	0
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
Liabilities of pension funds to pension managers	0	0	0	0	0
In domestic currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Nonresidents	0	0	0	0	0

Table A2.2 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Depository Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Nonresidents	0	0	0	0	0
Financial derivatives and employee stock options	**15,618**	**1,377**	**–680**	**947**	**17,262**
In domestic currency	15,344	1,490	–656	947	17,125
Central bank	1,781	684	27	111	2,603
Other depository corporations	3,836	1,096	–411	0	4,521
Other financial corporations	1,644	–311	–237	548	1,644
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	548	100	0	174	822
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	4,795	0	0	0	4,795
Nonresidents	2,740	–79	–35	114	2,740
In foreign currency	274	–113	–24	0	137
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	274	–113	–24	0	137
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
Other accounts payable	**244,363**	**–23,345**	**0**	**11,561**	**232,580**
Trade credit and advances	4,838	399	0	544	5,781
In domestic currency	4,838	399	0	544	5,781
Central bank	274	0	0	0	274
Other depository corporations	1	0	0	0	1
Other financial corporations	316	–1	0	0	315
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	1,644	100	0	385	2,129
Other nonfinancial corporations	2,603	300	0	159	3,062
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0

(Continued)

Table A2.2 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Depository Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
In foreign currency	0	0	0	0	0
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
Other	239,525	–23,743	0	11,017	226,799
Provisions for losses	131,607	–374	0	114	131,348
Provisions for loan losses	92,499	–374	0	–434	91,691
Provisions for other losses	39,109	0	0	548	39,657
Consolidation adjustment for headquarters and branches	–911	–234	0	0	–1,145
Other in domestic currency	108,829	–23,135	0	10,903	96,596
Residents	108,829	–23,135	0	10,903	96,596
Nonresidents	0	0	0	0	0
Other in foreign currency	0	0	0	0	0
Residents	0	0	0	0	0
Nonresidents	0	0	0	0	0
Equity	**386,623**	**–383**	**1,920**	**12,142**	**400,302**
Funds contributed by owners	214,394	1,814	0	9,843	226,051
Residents	186,544	1,814	0	9,843	198,202
Nonresidents	27,850	0	0	0	27,850
Retained earnings	101,424	–13,253	0	8,502	96,673
Current year result	23,136	11,489	–1,369	–7,320	25,936
General and special reserves	33,420	–433	0	1,117	34,103
Valuation adjustment	14,249	0	3,289	0	17,538
TOTAL LIABILITIES	**4,207,402**	**19,538**	**3,848**	**30,852**	**4,261,641**
Vertical check	0	0	0	0	0
Memorandum Items					
End of period exchange rate	4,411				4,466
Assets					
1. Accrued interest on deposits	**1,644**	**0**	**0**	**0**	**1,644**
2. Accrued interest on loans	**20,550**	**1,756**	**0**	**162**	**22,468**
3. Arrears on loans (principal and interest)	**103,243**	**–421**	**0**	**516**	**103,338**

Table A2.2 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Depository Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
4. Expected losses on loans	**34,310**	**0**	**0**	**–6,473**	**27,837**
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	685	0	0	–274	411
Other nonfinancial corporations	9,714	0	0	–2,200	7,514
Households and NPISHs	23,911	0	0	–3,999	19,912
Nonresidents	0	0	0	0	0
5. Accrued interest on debt securities	**10,275**	**52**	**0**	**0**	**12,604**
6. Claims on other depository corporations in liquidation	**0**	**0**	**0**	**0**	**0**
Transferable deposits	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Other deposits	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Debt securities	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Loans	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Equity and investment fund shares	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Financial derivatives	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Other accounts receivable	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
7. Debt securities nonresidents	**98,508**	**593**	**1,905**	**622**	**101,628**
Of which: Issued by financial corporations	70,829	571	1,470	425	73,295
8. Loans nonresidents	**59,667**	**1,564**	**593**	**105**	**61,929**
Of which: To financial corporations	55,485	1,554	541	97	57,677
9. Equity	**11,337**	**–50**	**374**	**0**	**11,660**
Of which: Issued by financial corporations	6,867	0	257	0	7,124

(Continued)

Table A2.2 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Depository Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
10. Insurance, pension, and standardized guarantee schemes nonresidents	**0**	**0**	**0**	**0**	**0**
Of which: With financial corporations	0	0	0	0	0
11. Financial derivatives nonresidents	**1,781**	**–469**	**30**	**28**	**1,370**
Of which: With financial corporations	1,781	–469	30	28	1,370
12. Interbank position nonresident total	**99,051**	**1,918**	**548**	**137**	**101,654**
Of which: Affiliates	34,250	527	158	0	34,935
13. Transferable deposits other depository corporations	**3,104**	**240**	**21**	**308**	**3,673**
Of which: Transferable deposits by money market funds in deposit-taking corporations	548	99	0	0	647
14. Other deposits other depository corporations	**26,909**	**–1,677**	**7**	**2,050**	**27,289**
Of which: Other deposits by money market funds in deposit-taking corporations	5,206	274	0	0	5,480
15. Loans other depository corporations	**164,049**	**4,563**	**60**	**0**	**168,672**
Of which: Loans by money market funds to deposit-taking corporations	10,138	274	0	0	10,412
16. Loans to households and NPISHs	**1,205,199**	**–12,988**	**2**	**3,628**	**1,195,840**
Of which: Households	1,096,000	–10,004	2	3,837	1,089,835
17. Debt securities with maturity of 1 year or less	**732,552**	**5,844**	**266**	**8,507**	**747,169**
In domestic currency	652,133	4,825	–907	8,507	664,558
Central bank	249,983	–1,007	–1,459	0	247,517
Other depository corporations	108,093	–1,117	908	2,264	110,148
Other financial corporations	6,302	–136	75	198	6,439
Central government	165,907	7,120	–173	3,048	175,902
State and local government	785	–30	0	67	822
Public nonfinancial corporations	30,003	263	–142	153	30,277
Other nonfinancial corporations	87,817	–261	–424	2,466	89,598
Households and NPISHs	0	0	0	0	0
Nonresidents	3,243	–7	308	311	3,855
In foreign currency	80,419	1,019	1,173	0	82,611
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	80,419	1,019	1,173	0	82,611

Table A2.2 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Depository Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
18. Loans with maturity of 1 year or less	**1,513,891**	**–1,016**	**1,520**	**4,216**	**1,518,611**
In domestic currency	1,435,326	–1,785	0	4,216	1,437,757
Central bank	127,630	4,746	0	0	132,376
Other depository corporations	143,439	4,247	0	0	147,686
Other financial corporations	81,172	–2,037	0	0	79,135
Central government	89,872	–9,316	0	0	80,556
State and local government	4,932	0	0	0	4,932
Public nonfinancial corporations	47,128	822	0	0	47,950
Other nonfinancial corporations	379,764	1,134	0	3,798	384,696
Households and NPISHs	546,904	–1,701	0	331	545,534
Nonresidents	14,485	320	0	87	14,892
In foreign currency	78,565	769	1,520	0	80,854
Central bank	3	–3	0	0	0
Other depository corporations	4,699	–317	50	0	4,432
Other financial corporations	4,110	374	448	0	4,932
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	1,233	0	0	0	1,233
Other nonfinancial corporations	30,414	–42	453	0	30,825
Households and NPISHs	157	–46	2	0	113
Nonresidents	37,949	803	567	0	39,319
Liabilities					
1. Accrued interest on deposits	**18,386**	**–15,500**	**0**	**15,760**	**18,646**
2. Accrued interest on loans	**4,015**	**–91**	**0**	**99**	**4,023**
3. Arrears on loans (principal and interest)	**4,076**	**–15,782**	**0**	**15,760**	**4,054**
4. Accrued interest on debt securities	**4,485**	**119**	**0**	**29**	**4,633**
5. Equity: Market value by holding sector	**482,235**	**0**	**14,613**	**10,093**	**506,942**
Other depository corporations	4,685	0	–92	0	4,593
Other financial corporations	53,490	–3,425	–915	0	49,150
Central government	28,848	–2,308	1,147	0	27,687
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	191,907	3,425	4,823	5,667	205,822
Households and NPISHs	140,528	2,308	5,155	4,426	152,417
Nonresidents	62,778	0	4,495	0	67,273
6. Liabilities to other depository corporations in liquidation	**0**	**0**	**0**	**0**	**0**
Transferable deposits	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0

(Continued)

Table A2.2 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Depository Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Other deposits	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Debt securities	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Loans	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Financial derivatives and employee stock options	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Other accounts payable	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
7. Debt securities nonresidents	**6,283**	**477**	**56**	**0**	**6,815**
Of which: Held by financial corporations	1,507	115	22	0	1,644
8. Loans nonresidents	**132,238**	**–2,645**	**1,606**	**73**	**131,272**
Of which: Held by financial corporations	110,559	–2,474	1,408	62	109,555
9. Equity and investment fund shares nonresidents	**0**	**0**	**0**	**0**	**0**
Of which: Held by financial corporations	0	0	0	0	0
10. Insurance, pension, and standardized guarantee schemes nonresidents	**0**	**0**	**0**	**0**	**0**
Of which: With financial corporations	0	0	0	0	0
11. Financial derivatives and employee stock options nonresidents	**2,740**	**–79**	**–35**	**114**	**2,740**
Of which: With financial corporations	2,740	–79	–35	114	2,740
12. Interbank position nonresident total	**61,787**	**–137**	**–548**	**274**	**61,376**
Of which: Affiliates	20,824	0	–137	137	20,824
13. Deposits of households and NPISHs	**1,417,150**	**21,021**	**16**	**0**	**1,438,186**
Of which: Households	1,377,398	16,972	16	0	1,394,386
14. Debt securities with maturity of 1 year or less	**146,566**	**594**	**–302**	**1,701**	**148,558**
In domestic currency	141,478	117	–373	1,701	142,922
Central bank	0	0	0	0	0
Other depository corporations	108,093	958	–1,248	2,345	110,148
Other financial corporations	6,302	2,758	–550	–2,345	6,165
Central government	4,740	90	0	0	4,830
State and local government	0	0	0	0	0

Table A2.2 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Depository Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Public nonfinancial corporations	137	3	–3	0	137
Other nonfinancial corporations	16,249	–3,542	859	1,587	15,153
Households and NPISHs	4,762	–150	584	114	5,310
Nonresidents	1,195	0	–15	0	1,179
In foreign currency	5,088	477	71	0	5,636
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	5,088	477	71	0	5,636
15. Loans with maturity of 1 year or less	**252,611**	**1,204**	**1,069**	**0**	**254,885**
In domestic currency	178,220	3,147	0	0	181,367
Central bank	27,584	–200	0	0	27,384
Other depository corporations	143,439	4,247	0	0	147,686
Other financial corporations	4,110	137	0	0	4,247
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	2,102	–1,059	0	0	1,043
Households and NPISHs	985	22	0	0	1,007
Nonresidents	0	0	0	0	0
In foreign currency	74,391	–1,942	1,069	0	73,518
Central bank	0	0	0	0	0
Other depository corporations	4,247	42	98	0	4,387
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	70,144	–1,984	971	0	69,131
16. Debt securities nominal value	**215,227**	**838**	**0**	**1,354**	**217,419**

Note: OCVA = other changes in the volume of assets; NPISHs = nonprofit institutions serving households.

Table A2.3 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Financial Corporations

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Assets					
Currency and deposits	**178,140**	**24,369**	**789**	**–4,209**	**199,089**
Currency	25,619	–676	84	–1,171	23,857
Domestic	19,591	–501	9	–860	18,240
Foreign	6,028	–175	75	–311	5,617
Transferable deposits	4,920	288	46	–440	4,813
In domestic currency	2,713	839	0	–261	3,292
Central bank	685	–200	0	–74	412
Required reserves and clearing balances	0	0	0	0	0
Other	685	–200	0	–74	412
Other depository corporations	2,027	1,039	0	–187	2,880
Other financial corporations	0	0	0	0	0
Nonresidents	1	0	0	0	1
In foreign currency	2,207	–551	45	–179	1,522
Central bank	959	–234	18	–58	685
Required reserves and clearing balances	0	0	0	0	0
Other	959	–234	18	–58	685
Other depository corporations	1,233	–317	27	–121	822
Other financial corporations	0	0	0	0	0
Nonresidents	15	0	0	0	15
Other deposits	147,602	24,756	659	–2,598	170,419
In domestic currency	104,297	21,820	0	–2,561	123,556
Central bank	1,507	2	0	–548	961
Required reserves and clearing balances	0	0	0	0	0
Other	1,507	2	0	–548	961
Other depository corporations	102,687	21,755	0	–2,013	122,429
Other financial corporations	0	0	0	0	0
Nonresidents	102	64	0	0	166
In foreign currency	43,305	2,936	659	–37	46,863
Central bank	0	0	0	0	0
Required reserves and clearing balances	0	0	0	0	0
Other	0	0	0	0	0
Other depository corporations	2,435	–17	18	–37	2,399
Other financial corporations	0	0	0	0	0
Nonresidents	40,869	2,953	641	0	44,463

Table A2.3 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Financial Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Debt securities	**688,622**	**10,452**	**4,993**	**–9,006**	**695,060**
In domestic currency	623,334	10,631	3,963	–9,006	628,921
Central bank	55,436	1,145	–243	0	56,339
Required reserves	0	0	0	0	0
Other	55,436	1,145	–243	0	56,339
Other depository corporations	53,242	5,114	407	–2,535	56,228
Other financial corporations	12,108	1,266	154	–248	13,280
Central government	291,426	4,786	3,720	–3,096	296,836
State and local government	27,811	–576	556	–117	27,674
Public nonfinancial corporations	62,908	1,498	–301	–185	63,920
Other nonfinancial corporations	110,570	–2,217	–717	–2,203	105,433
Households and NPISHs	5,486	225	0	0	5,711
Nonresidents	4,346	–611	387	–622	3,501
In foreign currency	65,288	–179	1,030	0	66,139
Central bank	0	0	0	0	0
Required reserves	0	0	0	0	0
Other	0	0	0	0	0
Other depository corporations	4,073	70	103	0	4,245
Other financial corporations	78	–1	0	0	77
Central government	3	0	0	0	3
State and local government	0	0	0	0	0
Public nonfinancial corporations	1,596	–969	30	0	656
Other nonfinancial corporations	5,842	–471	178	0	5,549
Households and NPISHs	0	0	0	0	0
Nonresidents	53,696	1,193	720	0	55,609
Loans	**374,456**	**–8,358**	**1**	**–22,075**	**344,025**
In domestic currency	374,344	–8,358	0	–22,075	343,911
Central bank	0	0	0	0	0
Repurchase agreements	0	0	0	0	0
Other	0	0	0	0	0
Other depository corporations	13,581	–293	0	0	13,287
Repurchase agreements	338	–220	0	0	118
Other	13,242	–74	0	0	13,169
Other financial corporations	41,839	–101	0	0	41,737
Repurchase agreements	6,850	0	0	0	6,850
Other	34,989	–101	0	0	34,887
Central government	9	49	0	0	58
State and local government	0	0	0	0	0

(Continued)

Table A2.3 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Financial Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Public nonfinancial corporations	3,151	0	0	–959	2,192
Other nonfinancial corporations	144,082	–303	0	–12,484	131,295
Households and NPISHs	171,528	–7,660	0	–8,527	155,341
Nonresidents	154	–49	0	–105	0
Repurchase agreements	0	0	0	0	0
Other	154	–49	0	–105	0
In foreign currency	113	0	1	0	114
Central bank	0	0	0	0	0
Repurchase agreements	0	0	0	0	0
Other	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Repurchase agreements	0	0	0	0	0
Other	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Repurchase agreements	0	0	0	0	0
Other	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	113	0	1	0	114
Repurchase agreements	0	0	0	0	0
Other	113	0	1	0	114
Investment fund shares	**321,950**	**17,152**	**681**	**–2,900**	**336,883**
In domestic currency	267,150	16,463	0	–2,900	280,713
Money market funds	171,250	13,175	0	–2,900	181,525
Non–money market funds	95,900	3,288	0	0	99,188
Investment fund shares nonresidents	0	0	0	0	0
In foreign currency	54,800	689	681	0	56,170
Money market funds	54,800	689	681	0	56,170
Non–money market funds	0	0	0	0	0
Investment fund shares nonresidents	0	0	0	0	0
Equity	**356,472**	**–7,118**	**–1,472**	**–168**	**347,715**
In domestic currency	253,559	13,427	–2,750	–168	264,068
Central bank	0	0	0	0	0
Other depository corporations	43,991	–3,425	–411	0	40,155
Other financial corporations	34,304	3,214	0	0	37,518
Central government	0	0	0	0	0
State and local government	0	0	0	0	0

Table A2.3 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Financial Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Public nonfinancial corporations	5,944	–306	0	0	5,637
Other nonfinancial corporations	169,104	13,941	–2,339	–168	180,538
Nonresidents	216	3	0	0	219
In foreign currency	102,913	–20,545	1,278	0	83,647
Central bank	0	0	0	0	0
Other depository corporations	3	3	0	0	5
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Nonresidents	102,911	–20,548	1,278	0	83,641
Insurance, pension, and standardized guarantee schemes	**12,399**	**–1,861**	**0**	**0**	**10,539**
Nonlife insurance technical reserves and provisions for calls under standardized guarantees	12,399	–1,861	0	0	10,539
In domestic currency	12,399	–1,861	0	0	10,539
Other financial corporations	12,186	–1,873	0	0	10,313
Nonresidents	213	12	0	0	225
In foreign currency	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Nonresidents	0	0	0	0	0
Claims of pension funds on pension managers	0	0	0	0	0
In domestic currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Nonresidents	0	0	0	0	0
Financial derivatives	**10,150**	**–200**	**–167**	**–672**	**9,112**
In domestic currency	9,316	83	–124	–644	8,631
Central bank	5,480	371	–97	–411	5,343
Other depository corporations	2,055	–937	–63	–233	822
Other financial corporations	1,781	649	36	0	2,466
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0

(Continued)

Table A2.3 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Financial Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	834	–283	–43	–28	481
Central bank	0	0	0	0	0
Other depository corporations	596	–179	–43	0	375
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	1	0	0	0	1
Households and NPISHs	0	0	0	0	0
Nonresidents	237	–104	0	–28	105
Other accounts receivable	**91,900**	**43**	**2**	**–138**	**91,807**
Trade credit and advances	1,423	–459	0	–121	843
In domestic currency	1,423	–459	0	–121	843
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	822	–227	0	–47	548
Central government	76	0	0	0	76
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	371	–239	0	–74	58
Households and NPISHs	154	7	0	0	161
Nonresidents	0	0	0	0	0
In foreign currency	0	0	0	0	0
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	**0**	**0**	**0**	**0**	**0**
Other	90,477	502	2	–17	90,964
In domestic currency	90,355	653	0	0	91,009
Residents	89,361	666	0	0	90,027
Nonresidents	994	–12	0	0	982

Table A2.3 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Financial Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
In foreign currency	121	–152	2	–17	–45
Residents	35	–20	0	0	16
Nonresidents	86	–131	2	–17	–61
Nonfinancial assets	**76,247**	**8,903**	**0**	**–787**	**84,364**
Fixed assets	30,311	4,335	0	–539	34,106
Repossessed/foreclosed assets	0	0	0	0	0
Other nonfinancial assets	46,622	4,569	0	–248	50,942
less: Accumulated depreciation	685	0	0	0	685
TOTAL ASSETS	**2,110,337**	**43,384**	**4,828**	**–39,955**	**2,118,594**
Liabilities					
Deposits excluded from broad money	**0**	**0**	**0**	**0**	**0**
In domestic currency	0	0	0	0	0
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	0	0	0	0	0
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	**0**	**0**	**0**	**0**	**0**
Debt securities excluded from broad money	**51,509**	**1,697**	**937**	**–4,455**	**49,688**
In domestic currency	45,370	–33	801	–4,247	41,890
Central bank	0	0	0	0	0
Other depository corporations	12,197	559	145	0	12,900
Other financial corporations	15,336	–816	408	–1,507	13,421
Central government	24	0	0	0	24

(Continued)

Table A2.3 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Financial Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
State and local government	0	0	0	0	0
Public nonfinancial corporations	10,275	–216	118	–39	10,138
Other nonfinancial corporations	1,535	45	35	–1,587	28
Households and NPISHs	6,002	395	95	–1,114	5,378
Nonresidents	0	0	0	0	0
In foreign currency	6,140	1,730	136	–208	7,797
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	274	66	5	–208	137
Households and NPISHs	0	0	0	0	0
Nonresidents	5,866	1,664	131	0	7,660
Loans	**191,069**	**4,946**	**363**	**–1,747**	**194,630**
In domestic currency	163,035	4,098	0	–1,747	165,385
Central bank	0	0	0	0	0
Repurchase agreements	0	0	0	0	0
Other	0	0	0	0	0
Other depository corporations	91,287	1,916	0	0	93,203
Repurchase agreements	242	–151	0	0	91
Other	91,045	2,067	0	0	93,112
Other financial corporations	41,960	–158	0	0	41,802
Repurchase agreements	6,850	0	0	0	6,850
Other	35,110	–158	0	0	34,952
Central government	17,125	1,400	0	–1,674	16,851
State and local government	0	0	0	0	0
Public nonfinancial corporations	3,618	480	0	0	4,098
Other nonfinancial corporations	5,774	494	0	0	6,267
Households and NPISHs	2,552	47	0	0	2,599
Nonresidents	719	–81	0	–73	565
Repurchase agreements	0	0	0	0	0
Other	719	–81	0	–73	565
In foreign currency	28,034	848	363	0	29,245
Central bank	0	0	0	0	0
Repurchase agreements	0	0	0	0	0
Other	0	0	0	0	0
Other depository corporations	4,110	497	51	0	4,658
Repurchase agreements	0	0	0	0	0
Other	4,110	497	51	0	4,658

Table A2.3 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Financial Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Other financial corporations	0	0	0	0	0
Repurchase agreements	0	0	0	0	0
Other	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	23,924	351	312	0	24,587
Repurchase agreements	0	0	0	0	0
Other	23,924	351	312	0	24,587
Non–money market fund shares	**438,400**	**–7,833**	**8,792**	**0**	**439,359**
In domestic currency	356,200	13,199	7,351	0	376,750
Central bank	0	0	0	0	0
Other depository corporations	54,800	1,095	960	0	56,855
Other financial corporations	95,900	1,077	2,211	0	99,188
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	41,100	–7,737	887	0	34,250
Other nonfinancial corporations	95,900	11,883	1,817	0	109,600
Households and NPISHs	68,500	6,882	1,476	0	76,857
Nonresidents	0	0	0	0	0
In foreign currency	82,200	–21,032	1,441	0	62,609
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	20,550	–3,474	460	0	17,536
Nonresidents	61,650	–17,558	981	0	45,073
Insurance, pension, and standardized guarantee schemes	**616,904**	**15,312**	**–148**	**0**	**632,068**
Life insurance and annuity entitlements of households	172,721	5,433	1,184	0	179,338
In domestic currency	172,721	5,433	1,184	0	179,338
Residents	172,721	5,433	1,184	0	179,338
Nonresidents	0	0	0	0	0

(Continued)

Table A2.3 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Financial Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
In foreign currency	0	0	0	0	0
Residents	0	0	0	0	0
Nonresidents	0	0	0	0	0
Pension entitlements of households	390,407	11,632	660	0	402,699
In domestic currency	335,607	10,922	0	0	346,529
Residents	335,607	10,922	0	0	346,529
Nonresidents	0	0	0	0	0
In foreign currency	54,800	710	660	0	56,170
Residents	41,100	427	532	0	42,059
Nonresidents	13,700	283	128	0	14,111
Nonlife insurance technical reserves and provisions for calls under standardized guarantees	53,777	–1,754	–1,992	0	50,031
In domestic currency	53,777	–1,754	–1,992	0	50,031
Central bank	0	0	0	0	0
Other depository corporations	2,055	137	0	0	2,192
Other financial corporations	6,092	–15	0	0	6,076
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	11,181	660	0	0	11,841
Households and NPISHs	29,372	–1,992	–1,992	0	25,389
Nonresidents	5,076	–544	0	0	4,533
In foreign currency	0	0	0	0	0
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
Liabilities of pension funds to pension managers	0	0	0	0	0
In domestic currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Nonresidents	0	0	0	0	0

Table A2.3 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Financial Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
In foreign currency	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Nonresidents	0	0	0	0	0
Financial derivatives and employee stock options	**25,579**	**2,367**	**–262**	**–947**	**26,737**
In domestic currency	22,544	664	–300	–947	21,961
Central bank	5,891	485	–511	–111	5,754
Other depository corporations	214	–37	0	0	177
Other financial corporations	2,192	612	211	–548	2,467
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	1,644	–100	0	–174	1,370
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	10,823	0	0	0	10,823
Nonresidents	1,781	–297	0	–114	1,370
In foreign currency	3,035	1,703	38	0	4,776
Central bank	0	0	0	0	0
Other depository corporations	2,884	1,626	36	0	4,546
Other financial corporations	32	25	0	0	57
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	5	0	0	0	6
Households and NPISHs	0	0	0	0	0
Nonresidents	114	52	1	0	167
Other accounts payable	**315,206**	**–16,918**	**3**	**–12,467**	**285,823**
Trade credit and advances	3,800	–1,125	0	–544	2,131
In domestic currency	3,800	–1,125	0	–544	2,131
Central bank	0	0	0	0	0
Other depository corporations	10	0	0	0	10
Other financial corporations	625	–47	0	0	578
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	1,507	–300	0	–385	822
Other nonfinancial corporations	1,226	–787	0	–159	280
Households and NPISHs	431	8	0	0	439
Nonresidents	0	0	0	0	0

(Continued)

Table A2.3 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Financial Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
In foreign currency	0	0	0	0	0
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
Other	**311,406**	**–15,794**	**3**	**–11,923**	**283,692**
Provisions for losses	188,442	530	0	–1,020	187,952
Provisions for loan losses	170,750	530	0	–1,032	170,248
Provisions for other losses	17,692	0	0	12	17,704
Consolidation adjustment for headquarters and branches	0	0	0	0	0
Other in domestic currency	122,763	–16,215	0	–10,903	95,645
Residents	119,870	–16,036	0	–10,903	92,931
Nonresidents	2,893	–179	0	0	2,715
Other in foreign currency	201	–109	3	0	95
Residents	164	–91	2	0	75
Nonresidents	37	–18	0	0	20
Equity	**471,669**	**43,815**	**–4,856**	**–20,339**	**490,289**
Funds contributed by owners	357,257	36,607	0	–9,843	384,020
Residents	357,257	36,607	0	–9,843	384,020
Nonresidents	0	0	0	0	0
Retained earnings	93,701	–614	0	–9,496	83,591
Current year result	17,102	6,985	–5,678	–567	17,842
General and special reserves	2,651	837	0	–433	3,054
Valuation adjustment	958	0	822	0	1,780
TOTAL LIABILITIES	**2,110,337**	**43,384**	**4,828**	**–39,955**	**2,118,594**
Vertical check	0	0	0	0	0
Memorandum Items					
End of period exchange rate	4,411				4,466
Assets					
1. Accrued interest on deposits	**3,014**	**47**	**0**	**–53**	**3,008**
2. Accrued interest on loans	**15,481**	**–557**	**0**	**–789**	**14,135**
3. Arrears on loans (principal and interest)	**17,599**	**–3,583**	**0**	**–2,204**	**17,443**

Table A2.3 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Financial Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
4. Expected losses on loans	**16,514**	**651**	**0**	**0**	**17,165**
Other depository corporations	0	0	0	0	0
Other financial corporations	730	71	0	0	801
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	90	–5	0	0	85
Other nonfinancial corporations	6,597	67	0	0	6,664
Households and NPISHs	9,091	524	0	0	9,615
Nonresidents	6	–6	0	0	0
5. Accrued interest on debt securities	**28,907**	**–1,794**	**0**	**–535**	**26,578**
6. Claims on other depository corporations in liquidation	**0**	**0**	**0**	**0**	**0**
Transferable deposits	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Other deposits	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Debt securities	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Loans	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Equity and investment fund shares	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Financial derivatives	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Other accounts receivable	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
7. Debt securities nonresidents	**58,043**	**582**	**1,107**	**–622**	**59,110**
Of which: Issued by financial corporations	33,428	576	822	–302	34,524
8. Loans nonresidents	**267**	**–49**	**1**	**–105**	**114**
Of which: Issued by financial corporations	132	–10	0	–75	47

(Continued)

Table A2.3 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Financial Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
9. Equity	**103,127**	**–20,544**	**1,278**	**0**	**83,861**
Of which: Issued by financial corporations	16,988	–1,855	211	0	15,344
10. Insurance, pension, and standardized guarantee schemes nonresidents	**213**	**12**	**0**	**0**	**225**
Of which: With financial corporations	213	12	0	0	225
11. Financial derivatives nonresidents	**237**	**–104**	**0**	**–28**	**105**
Of which: With financial corporations	237	–104	0	–28	105
12. Total assets with financial corporations nonresidents	**54,389**	**–6,028**	**685**	**0**	**49,046**
Of which: Affiliates	16,577	–1,644	137	0	15,070
13. Loans to households and NPISHs	**171,528**	**–7,660**	**0**	**–8,527**	**155,341**
Of which: Households	158,509	–4,864	0	–7,672	145,973
14. Debt securities with maturity of 1 year or less	**430,180**	**1,323**	**–116**	**–6,633**	**424,754**
In domestic currency	387,573	194	–768	–6,633	380,366
Central bank	44,388	–959	–494	0	42,935
Other depository corporations	6,302	163	0	–300	6,165
Other financial corporations	0	0	0	0	0
Central government	221,666	–522	411	–2,355	219,200
State and local government	0	0	0	0	0
Public nonfinancial corporations	30,140	89	0	–89	30,140
Other nonfinancial corporations	82,611	1,070	–685	–3,536	79,460
Households and NPISHs	0	0	0	0	0
Nonresidents	2,466	353	0	–353	2,466
In foreign currency	42,607	1,129	652	0	44,388
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	42,607	1,129	652	0	44,388
15. Loans with maturity of 1 year or less	**119,464**	**9,603**	**0**	**–6,315**	**122,752**
In domestic currency	119,464	9,603	0	–6,315	122,752
Central bank	0	0	0	0	0
Other depository corporations	4,110	137	0	0	4,247
Other financial corporations	10,549	0	0	0	10,549
Central government	0	0	0	0	0

Table A2.3 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Financial Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
State and local government	0	0	0	0	0
Public nonfinancial corporations	685	198	0	–198	685
Other nonfinancial corporations	58,225	4,393	0	–3,845	58,773
Households and NPISHs	45,895	4,875	0	–2,272	48,498
Nonresidents	0	0	0	0	0
In foreign currency	0	0	0	0	0
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
Liabilities					
1. Accrued interest on deposits	**0**	**0**	**0**	**0**	**0**
2. Accrued interest on loans	**7,645**	**212**	**0**	**–70**	**7,787**
3. Arrears on loans (principal and interest)	**2,055**	**0**	**0**	**0**	**2,055**
4. Accrued interest on debt securities	**2,329**	**141**	**0**	**–213**	**2,257**
5. Equity: Market value by holding sector	**520,647**	**39,912**	**33,554**	**–10,093**	**584,020**
Other depository corporations	29,834	–3,369	–748	0	25,717
Other financial corporations	34,304	3,214	0	0	37,518
Central government	157,333	0	12,006	0	169,339
State and local government	1,626	0	0	0	1,626
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	76,346	29,963	9,828	–5,667	110,470
Households and NPISHs	150,035	10,104	11,372	–4,426	167,085
Nonresidents	71,169	0	1,096	0	72,265
6. Liabilities to other depository corporations in liquidation	**0**	**0**	**0**	**0**	**0**
Transferable deposits	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Other deposits	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0

(Continued)

Table A2.3 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Financial Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Debt securities	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Loans	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Financial derivatives and employee stock options	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
Other accounts payable	0	0	0	0	0
Domestic currency	0	0	0	0	0
Foreign currency	0	0	0	0	0
7. Debt securities nonresidents	**5,866**	**1,664**	**131**	**0**	**7,660**
Of which: With financial corporations	5,206	1,522	122	0	6,850
8. Loans nonresidents	**24,643**	**270**	**312**	**–73**	**25,152**
Of which: With financial corporations	24,643	270	312	–73	25,152
9. Equity nonresidents	**61,650**	**–17,558**	**981**	**0**	**45,073**
Of which: With financial corporations	57,677	–15,207	548	0	43,018
10. Insurance, pension, and standardized guarantee schemes nonresidents	**18,776**	**–261**	**128**	**0**	**18,644**
Of which: With financial corporations	3,425	0	0	0	3,425
11. Financial derivatives and employee stock options nonresidents	**1,895**	**–245**	**1**	**–114**	**1,537**
Of which: With financial corporations	1,895	–245	1	–114	1,537
12. Total liabilities with financial corporations (except equity) nonresidents	**35,483**	**–5,695**	**685**	**–59**	**30,414**
Of which: Affiliates	11,097	–1,763	137	–18	9,453
13. Deposits of households and NPISHs	**0**	**0**	**0**	**0**	**0**
Of which: Households	0	0	0	0	0
14. Debt securities with maturity of 1 year or less	**6,302**	**–209**	**72**	**0**	**6,165**
In domestic currency	6,302	–209	72	0	6,165
Central bank	0	0	0	0	0
Other depository corporations	6,302	–209	72	0	6,165
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0

Table A2.3 Illustrative Sectoral Balance Sheet/Standardized Report Form for Other Financial Corporations (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
In foreign currency	0	0	0	0	0
Central bank	0	0	0	0	0
Other depository corporations	0	0	0	0	0
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
15. Loans with maturity of 1 year or less	**80,556**	**–896**	**153**	**0**	**79,813**
In domestic currency	68,637	–1,507	0	0	67,130
Central bank	0	0	0	0	0
Other depository corporations	58,088	–1,507	0	0	56,581
Other financial corporations	10,549	0	0	0	10,549
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	0	0	0	0	0
In foreign currency	11,919	611	153	0	12,683
Central bank	0	0	0	0	0
Other depository corporations	4,110	497	51	0	4,658
Other financial corporations	0	0	0	0	0
Central government	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Nonresidents	7,809	114	102	0	8,025
16. Debt securities nominal value	**50,827**	**1,781**	**0**	**–3,425**	**49,183**

Note: OCVA = other changes in the volume of assets; NPISHs = nonprofit institutions serving households.

Table A2.4 Standardized Report Form for Money Aggregates

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Broad Money and Components					
Broad money	**2,947,283**	**71,461**	**2,843**	**–1,963**	**3,019,625**
Currency in circulation outside depository corporations	142,662	13,786	0	–860	155,588
Currency issued by central government	7,535	411	0	0	7,946
Currency held by central government	2,192	137	0	0	2,329
Foreign currency in circulation	0	0	0	0	0
Deposits in depository corporations	2,189,567	41,085	464	–2,295	2,228,821
Deposits in nonfinancial corporations (including electronic money)	0	0	0	0	0
Money market fund shares	548,000	16,588	1,702	0	566,290
Debt Securities issued by depository corporations	41,160	–2,327	1,363	1,192	41,388
Debt Securities issued by central government	20,550	2,055	–685	0	21,920
Broad money seasonally adjusted					
Money Aggregates, National Definition					
M0	148,005	14,060	0	–860	161,205
M1	272,920	18,326	67	–1,105	290,208
M2	2,337,573	55,145	464	–3,155	2,390,027
M3	2,926,733	69,406	3,528	–1,963	2,997,705
M4	2,947,283	71,461	2,843	–1,963	3,019,625

Note: OCVA = other changes in the volume of assets.

APPENDIX

III Financial Corporations Surveys

A3.1 This appendix comprises:

a. Table A3.1 Central Bank Survey

b. Table A3.2 Other Depository Corporations Survey

c. Table A3.3 Depository Corporations Survey

d. Table A3.4 Other Financial Corporations Survey

e. Table A3.5 Financial Corporations Survey

f. Table A3.6 Monetary Authorities Account.

Table A3.1 Central Bank Survey

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Net foreign assets	**748,987**	**11,474**	**8,939**	**311**	**769,711**
Claims on nonresidents	**782,024**	**8,136**	**8,641**	**311**	**799,112**
Monetary gold and SDRs	33,836	361	182	311	34,690
Reserve Position in the Fund	10	0	0	0	10
Foreign currency	2,329	523	25	0	2,877
Deposits	116,514	9,940	2,439	0	128,893
Debt securities	618,401	–2,880	5,782	0	621,303
Loans	3,723	96	49	0	3,868
Equity and investment fund shares	2,692	0	6	0	2,698
Financial derivatives	3,425	–31	144	0	3,538
Other	1,095	127	14	0	1,235
***less:* Liabilities to nonresidents**	**33,037**	**–3,338**	**–298**	**0**	**29,401**
Deposits	6,778	246	0	0	7,024
Debt securities	19,200	–3,566	–390	0	15,244
Loans	0	0	0	0	0
Financial derivatives and employee stock options	0	0	0	0	0
Use of Fund credit	0	0	0	0	0
SDR allocations	6,629	0	92	0	6,720
Other	431	–18	0	0	413
Claims on other depository corporations	**29,390**	**915**	**174**	**111**	**30,590**

(Continued)

Table A3.1 Central Bank Survey (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Net claims on central government	**–41,994**	**2,264**	**–833**	**0**	**–40,563**
Claims on central government	**33,459**	**–8,422**	**–685**	**0**	**24,352**
Debt securities	33,459	–8,422	–685	0	24,352
Loans	0	0	0	0	0
Other claims	0	0	0	0	0
***less:* Liabilities to central government**	**75,453**	**–10,685**	**148**	**0**	**64,915**
Deposits	55,880	–12,029	0	0	43,851
Other liabilities	19,572	1,344	148	0	21,064
Claims on other sectors	**14,537**	**–1,285**	**–233**	**–439**	**12,580**
Other financial corporations	6,850	–789	–233	–111	5,717
State and local government	0	0	0	0	0
Public nonfinancial corporations	4,658	–494	0	–54	4,110
Other nonfinancial corporations	2,192	137	0	–274	2,055
Households and NPISHs	837	–139	0	0	698
Monetary base	**194,779**	**18,397**	**43**	**0**	**213,219**
Currency in circulation	**174,384**	**20,879**	**0**	**0**	**195,264**
Liabilities to other depository corporations	**18,581**	**–2,559**	**27**	**58**	**16,107**
Required reserves	16,389	–2,748	0	0	13,641
Other liabilities	2,192	189	27	58	2,466
Liabilities to other financial corporations	**0**	**0**	**0**	**0**	**0**
Required reserves	0	0	0	0	0
Other liabilities	0	0	0	0	0
Deposits included in broad money	**1,814**	**76**	**15**	**–58**	**1,848**
Transferable deposits	1,814	76	15	–58	1,848
Other financial corporations	886	–286	10	–58	553
State and local government	122	174	0	0	296
Public nonfinancial corporations	806	188	5	0	999
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Other deposits	0	0	0	0	0
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Debt securities included in broad money	**0**	**0**	**0**	**0**	**0**
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0

Table A3.1 Central Bank Survey (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Other liabilities to other depository corporations	**387,594**	**4,165**	**–1,369**	**411**	**390,802**
Deposits included in broad money	**3,699**	**348**	**52**	**0**	**4,099**
Transferable deposits	3,699	348	52	0	4,099
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	3,699	348	52	0	4,099
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Other deposits	0	0	0	0	0
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Debt securities included in broad money	**13,645**	**781**	**0**	**0**	**14,426**
Other financial corporations	5,425	411	0	0	5,836
State and local government	0	0	0	0	0
Public nonfinancial corporations	5,480	685	0	0	6,165
Other nonfinancial corporations	2,740	–315	0	0	2,425
Households and NPISHs	0	0	0	0	0
Deposits excluded from broad money	**789**	**161**	**0**	**0**	**950**
Of which: Other financial corporations	4	2	0	0	6
Debt securities excluded from broad money	**102,591**	**–4,084**	**–339**	**0**	**98,169**
Of which: Other financial corporations	90,880	–2,111	–905	0	87,865
Loans	**0**	**0**	**0**	**0**	**0**
Of which: Other financial corporations	0	0	0	0	0
Financial derivatives and employee stock options	**5,891**	**–53**	**–282**	**–411**	**5,145**
Of which: Other financial corporations	5,891	–53	–282	–411	5,145
Insurance, pension, and standardized guarantee schemes	**0**	**0**	**0**	**0**	**0**
Of which: Other financial corporations	0	0	0	0	0
Trade credit and advances	**979**	**137**	**0**	**0**	**1,117**
Of which: Other financial corporations	18	0	0	0	18
Equity	**43,093**	**–3,718**	**9,941**	**–138**	**49,178**
Funds contributed by owners	3	0	0	0	3
Retained earnings	54,704	180	0	–2,198	52,686
Current year result	–16,580	–3,001	2,596	–70	–17,054
General and special reserves	3,827	–897	0	2,130	5,060
Valuation adjustment	1,139	0	7,344	0	8,483

(Continued)

Table A3.1 Central Bank Survey (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Other items (net)	**–2,141**	**–2,768**	**1**	**121**	**–4,786**
Other liabilities	3,630	–674	1	–258	2,699
less: Other assets	5,771	2,094	0	–379	7,486
Vertical check	0	0	0	0	0

Note: OCVA = other changes in the volume of assets; SDR = Special Drawing Right; NPISHs = nonprofit institutions serving households.

Table A3.2 Other Depository Corporations Survey

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Net foreign assets	**85,432**	**15,816**	**2,520**	**896**	**104,664**
Claims on nonresidents	**273,472**	**3,980**	**4,221**	**1,083**	**282,756**
Foreign currency	1,176	388	25	311	1,900
Deposits	100,319	1,842	1,286	0	103,447
Debt securities	98,508	593	1,905	622	101,628
Loans	59,667	1,564	593	105	61,929
Equity and investment fund shares	11,337	–50	374	0	11,660
Financial derivatives	1,781	–469	30	28	1,370
Other	685	111	9	17	822
***less:* Liabilities to nonresidents**	**188,040**	**–11,836**	**1,701**	**187**	**178,092**
Deposits	46,779	–9,589	74	0	37,265
Debt securities	6,283	477	56	0	6,815
Loans	132,238	–2,645	1,606	73	131,272
Financial derivatives and employee stock options	2,740	–79	–35	114	2,740
Other	0	0	0	0	0
Claims on central bank	**437,139**	**9,746**	**–2,518**	**1,951**	**446,319**
Currency	31,722	7,093	0	860	39,675
Required reserves	21,636	–1,632	37	680	20,722
Other claims	383,781	4,284	–2,555	411	385,921
Net claims on central government	**238,920**	**12,210**	**2,236**	**1,422**	**254,788**
Claims on central government	**344,254**	**3,143**	**2,237**	**3,096**	**352,730**
Debt securities	239,650	15,033	2,237	3,096	260,016
Loans	104,603	–11,890	0	0	92,714
Other claims	0	0	0	0	0
***less*: Liabilities to central government**	**105,334**	**–9,067**	**1**	**1,674**	**97,942**
Deposits	94,176	–8,305	1	0	85,872
Other liabilities	11,158	–762	0	1,674	12,070
Claims on other sectors	**2,601,579**	**–10,982**	**–499**	**16,133**	**2,606,231**
Other financial corporations	188,450	–2,696	–517	295	185,533
State and local government	16,011	9	0	117	16,137
Public nonfinancial corporations	190,233	2,592	–359	870	193,336
Other nonfinancial corporations	1,001,490	2,137	374	11,223	1,015,224
Households and NPISHs	1,205,395	–13,023	2	3,628	1,196,002
Liabilities to central bank	**29,672**	**454**	**27**	**111**	**30,265**
Deposits included in broad money	**2,184,210**	**40,680**	**396**	**–2,237**	**2,223,049**
Transferable deposits	119,557	3,860	0	–187	123,230
Other financial corporations	2,223	1,391	0	–187	3,427
State and local government	5,109	609	0	0	5,718
Public nonfinancial corporations	1,966	–641	0	0	1,325

(Continued)

Table A3.2 Other Depository Corporations Survey (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Other nonfinancial corporations	45,756	–2,778	0	0	42,978
Households and NPISHs	64,502	5,280	0	0	69,782
Other deposits	2,064,653	36,820	396	–2,050	2,099,818
Other financial corporations	116,536	–3,682	31	–2,050	110,835
State and local government	49,693	10,674	0	0	60,367
Public nonfinancial corporations	125,351	8,495	100	0	133,946
Other nonfinancial corporations	421,110	5,729	249	0	427,088
Households and NPISHs	1,351,962	15,604	16	0	1,367,582
Money market funds included in broad money	**548,000**	**16,588**	**1,702**	**0**	**566,290**
Transferable money market funds	130,150	4,592	340	0	135,082
Other financial corporations	41,100	1,370	0	0	42,470
State and local government	2,740	137	0	0	2,877
Public nonfinancial corporations	4,110	137	0	0	4,247
Other nonfinancial corporations	47,950	1,252	255	0	49,457
Households and NPISHs	34,250	1,696	85	0	36,031
Other money market funds	417,850	11,996	1,361	0	431,208
Other financial corporations	184,950	9,569	681	0	195,200
State and local government	24,660	822	0	0	25,482
Public nonfinancial corporations	38,360	–5,114	102	0	33,348
Other nonfinancial corporations	108,230	14,023	494	0	122,747
Households and NPISHs	61,650	–7,304	85	0	54,431
Debt securities included in broad money	**27,515**	**–3,108**	**1,363**	**1,192**	**26,962**
Other financial corporations	6,300	1,497	–65	–1,548	6,184
State and local government	2	0	0	0	2
Public nonfinancial corporations	202	87	–15	39	314
Other nonfinancial corporations	16,249	–3,542	859	1,587	15,153
Households and NPISHs	4,762	–1,150	584	1,114	5,310
Deposits excluded from broad money	**3,384**	**729**	**0**	**–121**	**3,992**
Of which: Other financial corporations	1,985	–14	0	–121	1,850
Debt securities excluded from broad money	**74,880**	**3,323**	**–1,233**	**717**	**77,687**
Of which: Other financial corporations	33,576	3,038	–670	509	36,453
Loans	**14,951**	**–2,366**	**11**	**0**	**12,596**
Of which: Other financial corporations	9,212	–127	9	0	9,094
Financial derivatives and employee stock options	**7,261**	**–324**	**–261**	**722**	**7,398**
Of which: Other financial corporations	1,918	–424	–261	548	1,781
Insurance, pension, and standardized guarantee schemes	**0**	**0**	**0**	**0**	**0**
Of which: Other financial corporations	0	0	0	0	0
Trade credit and advances	**4,563**	**399**	**0**	**544**	**5,506**
Of which: Other financial corporations	316	–1	0	0	315

Table A3.2 Other Depository Corporations Survey (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Equity	**386,623**	**–383**	**1,920**	**12,142**	**400,302**
Funds contributed by owners	214,394	1,814	0	9,843	226,051
Retained earnings	101,424	–13,253	0	8,502	96,673
Current year result	23,136	11,489	–1,369	–7,320	25,936
General and special reserves	33,420	–433	0	1,117	34,103
Valuation adjustment	14,249	0	3,289	0	17,538
Other items (net)	**82,011**	**–29,202**	**–2,186**	**7,332**	**57,956**
Other liabilities	239,525	–23,743	0	11,017	226,799
less: Other assets	149,159	8,092	–93	563	157,814
Consolidation adjustment	–8,355	2,634	–2,186	–3,122	–11,029
Vertical check	0	0	0	0	0

Note: OCVA = other changes in the volume of assets; NPISHs = nonprofit institutions serving households.

Table A3.3 Depository Corporations Survey

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Net foreign assets	**834,419**	**27,290**	**11,459**	**1,207**	**874,375**
Claims on nonresidents	**1,055,497**	**12,115**	**12,862**	**1,394**	**1,081,868**
***less:* Liabilities to nonresidents**	**221,077**	**–15,175**	**1,403**	**187**	**207,493**
Domestic claims	**2,813,042**	**2,207**	**672**	**17,116**	**2,833,037**
Net claims on central government	**196,926**	**14,474**	**1,404**	**1,422**	**214,225**
Claims on central government	**377,712**	**–5,278**	**1,552**	**3,096**	**377,082**
***less:* Liabilities to central government**	**180,787**	**–19,752**	**148**	**1,674**	**162,857**
Claims on other sectors	**2,616,116**	**–12,267**	**–732**	**15,694**	**2,618,812**
Other financial corporations	195,300	–3,485	–750	184	191,250
State and local government	16,011	9	0	117	16,137
Public nonfinancial corporations	194,891	2,098	–359	816	197,446
Other nonfinancial corporations	1,003,682	2,274	374	10,949	1,017,279
Households and NPISHs	1,206,232	–13,162	2	3,628	1,196,700
Broad money liabilities	**2,921,390**	**69,132**	**3,528**	**–1,963**	**2,992,088**
Currency outside depository corporations	**142,662**	**13,786**	**0**	**–860**	**155,588**
Transferable deposits	**124,915**	**4,266**	**67**	**–245**	**129,003**
Other financial corporations	3,109	1,105	10	–245	3,980
State and local government	5,231	783	0	0	6,014
Public nonfinancial corporations	6,470	–104	57	0	6,423
Other nonfinancial corporations	45,756	–2,778	0	0	42,978
Households and NPISHs	64,502	5,280	0	0	69,782
less: Central bank float	155	19	0	0	174
Other deposits	**2,064,653**	**36,820**	**396**	**–2,050**	**2,099,818**
Other financial corporations	116,536	–3,682	31	–2,050	110,835
State and local government	49,693	10,674	0	0	60,367
Public nonfinancial corporations	125,351	8,495	100	0	133,946
Other nonfinancial corporations	421,110	5,729	249	0	427,088
Households and NPISHs	1,351,962	15,604	16	0	1,367,582
Transferable money market fund shares	**130,150**	**4,592**	**340**	**0**	**135,082**
Other financial corporations	41,100	1,370	0	0	42,470
State and local government	2,740	137	0	0	2,877
Public nonfinancial corporations	4,110	137	0	0	4,247
Other nonfinancial corporations	47,950	1,252	255	0	49,457
Households and NPISHs	34,250	1,696	85	0	36,031
Other money market fund shares	**417,850**	**11,996**	**1,361**	**0**	**431,208**
Other financial corporations	184,950	9,569	681	0	195,200
State and local government	24,660	822	0	0	25,482
Public nonfinancial corporations	38,360	–5,114	102	0	33,348
Other nonfinancial corporations	108,230	14,023	494	0	122,747
Households and NPISHs	61,650	–7,304	85	0	54,431

Table A3.3 Depository Corporations Survey (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Debt securities	**41,160**	**–2,327**	**1,363**	**1,192**	**41,388**
Other financial corporations	11,725	1,908	–65	–1,548	12,020
State and local government	2	0	0	0	2
Public nonfinancial corporations	5,682	772	–15	39	6,479
Other nonfinancial corporations	18,989	–3,857	859	1,587	17,578
Households and NPISHs	4,762	–1,150	584	1,114	5,310
Deposits excluded from broad money	**4,173**	**890**	**0**	**–121**	**4,942**
Of which: Other financial corporations	1,989	–12	0	–121	1,856
Debt securities excluded from broad money	**177,471**	**–760**	**–1,571**	**717**	**175,856**
Of which: Other financial corporations	124,456	927	–1,575	509	124,318
Loans	**14,951**	**–2,366**	**11**	**0**	**12,596**
Of which: Other financial corporations	9,212	–127	9	0	9,094
Financial derivatives and employee stock options	**13,152**	**–377**	**–543**	**311**	**12,543**
Of which: Other financial corporations	7,809	–477	–543	137	6,926
Insurance, pension, and standardized guarantee schemes	**0**	**0**	**0**	**0**	**0**
Of which: Other financial corporations	0	0	0	0	0
Trade credit and advances	**5,543**	**536**	**0**	**544**	**6,623**
Of which: Other financial corporations	334	–1	0	0	333
Equity	**429,716**	**–4,101**	**11,861**	**12,004**	**449,480**
Other items (net)	**81,066**	**–33,458**	**–1,156**	**6,831**	**53,284**
Other liabilities (includes central bank float)	243,310	–24,398	1	10,759	229,672
less: Other assets	154,930	10,186	0	184	169,299
Consolidation adjustment	–7,315	1,126	–1,157	–3,744	–11,089
Vertical check	0	0	0	0	0

Note: OCVA = other changes in the volume of assets; NPISHs = nonprofit institutions serving households.

Table A3.4 Other Financial Corporations Survey

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Net foreign assets	**94,221**	**–1,079**	**1,551**	**–896**	**93,797**
Claims on nonresidents	**209,981**	**–17,406**	**3,105**	**–1,083**	**194,597**
Foreign currency	6,028	–175	75	–311	5,617
Deposits	40,987	3,017	641	0	44,645
Debt securities	58,043	582	1,107	–622	59,110
Loans	267	–49	1	–105	114
Equity and investment fund shares	103,127	–20,544	1,278	0	83,861
Financial derivatives	237	–104	0	–28	105
Other	1,293	–132	2	–17	1,146
***less*: Liabilities to nonresidents**	**115,760**	**–16,326**	**1,554**	**–187**	**100,801**
Deposits	0	0	0	0	0
Debt securities	5,866	1,664	131	0	7,660
Loans	24,643	270	312	–73	25,152
Financial derivatives and employee stock options	1,895	–245	1	–114	1,537
Other	83,356	–18,015	1,109	0	66,451
Claims on depository corporations	**535,632**	**37,260**	**407**	**–9,977**	**563,322**
Currency	19,591	–501	9	–860	18,240
Other claims	516,041	37,761	397	–9,117	545,083
Net claims on central government	**274,365**	**3,435**	**3,720**	**–1,422**	**280,098**
Claims on central government	**291,515**	**4,835**	**3,720**	**–3,096**	**296,974**
Debt securities	291,429	4,786	3,720	–3,096	296,839
Loans	9	49	0	0	58
Other claims	76	0	0	0	76
less: Liabilities to central government	**17,149**	**1,400**	**0**	**–1,674**	**16,875**
Deposits	0	0	0	0	0
Other liabilities	17,149	1,400	0	–1,674	16,875
Claims on other sectors	**708,547**	**2,929**	**–2,594**	**–24,717**	**684,166**
State and local government	27,811	–576	556	–117	27,674
Public nonfinancial corporations	73,598	223	–271	–1,144	72,406
Other nonfinancial corporations	429,970	10,711	–2,878	–14,929	422,874
Households and NPISHs	177,168	–7,428	0	–8,527	161,213
Deposits	**0**	**0**	**0**	**0**	**0**
Of which: Depository corporations	0	0	0	0	0
Non–money market fund shares	**280,850**	**8,647**	**5,601**	**0**	**295,098**
Of which: Depository corporations	54,800	1,095	960	0	56,855
Debt securities	**30,283**	**848**	**398**	**–2,948**	**28,582**
Of which: Depository corporations	12,197	559	145	0	12,900
Loans	**107,340**	**3,433**	**51**	**0**	**110,825**
Of which: Depository corporations	95,397	2,413	51	0	97,861

Table A3.4 Other Financial Corporations Survey (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Financial derivatives and employee stock options	**21,461**	**1,974**	**–475**	**–285**	**22,676**
Of which: Depository corporations	8,989	2,074	–475	–111	10,477
Insurance, pension, and standardized guarantee schemes	**592,036**	**15,588**	**–276**	**0**	**607,348**
Life insurance and annuity entitlements of households	172,721	5,433	1,184	0	179,338
Pension entitlements of households	376,707	11,349	532	0	388,588
Nonlife insurance technical reserves	42,608	–1,195	–1,992	0	39,422
Of which: Depository corporations	2,055	137	0	0	2,192
Liabilities of pension funds to pension managers	0	0	0	0	0
Of which: Depository corporations	0	0	0	0	0
Trade credit and advances	**3,174**	**–1,078**	**0**	**–544**	**1,553**
Of which: Depository corporations	10	0	0	0	10
Equity	**471,669**	**43,815**	**–4,856**	**–20,339**	**490,289**
Funds contributed by owners	357,257	36,607	0	–9,843	384,020
Retained earnings	93,701	–614	0	–9,496	83,591
Current year result	17,102	6,985	–5,678	–567	17,842
General and special reserves	2,651	837	0	–433	3,054
Valuation adjustment	958	0	822	0	1,780
Other items (net)	**105,951**	**–30,682**	**2,642**	**–12,896**	**65,015**
Other liabilities	308,476	–15,597	2	–11,923	280,958
less: Other assets	165,644	9,549	0	–787	117,406
Consolidation adjustment	–16,881	–5,537	2,640	–1,760	–41,537
Vertical check	0	0	0	0	0

Note: OCVA = other changes in the volume of assets; NPISHs = nonprofit institutions serving households.

Table A3.5 Financial Corporations Survey

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Net foreign assets	**928,641**	**26,211**	**13,009**	**311**	**968,172**
Claims on nonresidents	**1,265,478**	**–5,290**	**15,967**	**311**	**1,276,466**
***less:* Liabilities to nonresidents**	**336,838**	**–31,501**	**2,957**	**0**	**308,294**
Domestic claims	**3,600,654**	**12,057**	**2,548**	**–9,207**	**3,606,052**
Net claims on central government	**471,291**	**17,909**	**5,124**	**0**	**494,323**
Claims on central government	**669,227**	**–443**	**5,272**	**0**	**674,056**
***less:* Liabilities to central government**	**197,936**	**–18,352**	**148**	**0**	**179,732**
Claims on other sectors	**3,129,363**	**–5,852**	**–2,576**	**–9,207**	**3,111,728**
State and local government	43,822	–567	556	0	43,811
Public nonfinancial corporations	268,489	2,320	–630	–328	269,851
Other nonfinancial corporations	1,433,652	12,985	–2,504	–3,980	1,440,153
Households and NPISHs	1,383,400	–20,590	2	–4,899	1,357,913
Currency outside financial corporations	**123,071**	**14,287**	**–9**	**0**	**137,349**
Deposits	**2,072,105**	**44,564**	**423**	**0**	**2,117,092**
Investment fund shares	**548,000**	**13,201**	**5,662**	**0**	**566,863**
Debt securities	**100,536**	**–5,632**	**1,684**	**0**	**96,588**
Loans	**17,683**	**–1,218**	**2**	**0**	**16,466**
Financial derivatives and employee stock options	**17,815**	**0**	**0**	**0**	**17,816**
Insurance, pension, and standardized guarantee schemes	**589,981**	**15,451**	**–276**	**0**	**605,156**
Trade credit and advances	**8,373**	**–541**	**0**	**0**	**7,832**
Equity	**901,385**	**39,714**	**7,005**	**–8,335**	**939,769**
Other items (net)	**150,345**	**–81,558**	**1,068**	**–561**	**69,293**
Other liabilities	551,787	–39,995	3	–1,164	510,631
less: Other assets	364,566	16,309	–411	–603	379,861
Consolidation adjustment	–36,876	–25,253	654	0	–61,476
Vertical check	0	0	0	0	0

Note: OCVA = other changes in the volume of assets; NPISHs = nonprofit institutions serving households.

Table A3.6 Monetary Authorities Accounts

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Net foreign assets	**748,937**	**11,424**	**8,889**	**261**	**769,511**
Claims on nonresidents	**782,074**	**8,187**	**8,693**	**364**	**799,318**
Monetary gold and SDRs	33,836	361	182	311	34,690
Reserve Position in the Fund	10	0	0	0	10
Foreign currency	2,329	523	25	0	2,877
Deposits	116,514	9,940	2,439	0	128,893
Debt securities	618,401	–2,880	5,782	0	621,303
Loans	3,723	96	49	0	3,868
Equity and investment fund shares	2,692	0	6	0	2,698
Financial derivatives	3,425	–31	144	0	3,538
Other	1,095	127	14	0	1,235
Reserve assets of central government	*50*	*51*	*52*	*53*	*206*
***less:* Liabilities to nonresidents**	**33,137**	**–3,237**	**–196**	**103**	**29,807**
Deposits	6,778	246	0	0	7,024
Debt securities	19,200	–3,566	–390	0	15,244
Loans	0	0	0	0	0
Financial derivatives and employee stock options	0	0	0	0	0
Use of Fund credit	0	0	0	0	0
SDR allocations	6,629	0	92	0	6,720
Other	431	–18	0	0	413
Liabilities to IMF of central government	*100*	*101*	*102*	*103*	*406*
Claims on other depository corporations	**29,390**	**915**	**174**	**111**	**30,590**
Net claims on central government	**–41,914**	**2,345**	**–751**	**83**	**–40,237**
Claims on central government	**33,589**	**–8,290**	**–551**	**136**	**24,884**
Debt securities	33,459	–8,422	–685	0	24,352
Loans	0	0	0	0	0
Other claims	0	0	0	0	0
Contra-entry to currency issued by the central government	30	31	32	33	126
Contra-entry to liabilities to IMF of central government	*100*	*101*	*102*	*103*	*406*
***less:* Liabilities to central government**	**75,503**	**–10,634**	**200**	**53**	**65,121**
Deposits	55,880	–12,029	0	0	43,851
Other liabilities	19,572	1,344	148	0	21,064
Contra-entry to reserve assets of central government	50	51	52	53	206
Claims on other sectors	**14,537**	**–1,285**	**–233**	**–439**	**12,580**
Other financial corporations	6,850	–789	–233	–111	5,717
State and local government	0	0	0	0	0
Public nonfinancial corporations	4,658	–494	0	–54	4,110

(Continued)

Table A3.6 Monetary Authorities Accounts (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Other nonfinancial corporations	2,192	137	0	–274	2,055
Households and NPISHs	837	–139	0	0	698
Monetary base	**194,809**	**18,428**	**75**	**33**	**213,345**
Currency in circulation by central bank	**174,384**	**20,879**	**0**	**0**	**195,264**
Currency issued by central government	***30***	***31***	***32***	***33***	**126**
Liabilities to other depository corporations	**18,581**	**–2,559**	**27**	**58**	**16,107**
Required reserves	**16,389**	**–2,748**	**0**	**0**	**13,641**
Other liabilities	**2,192**	**189**	**27**	**58**	**2,466**
Liabilities to other financial corporations	**0**	**0**	**0**	**0**	**0**
Required reserves	0	0	0	0	0
Other liabilities	0	0	0	0	0
Deposits included in broad money	**1,814**	**76**	**15**	**–58**	**1,848**
Transferable deposits	1,814	76	15	–58	1,848
Other financial corporations	886	–286	10	–58	553
State and local government	122	174	0	0	296
Public nonfinancial corporations	806	188	5	0	999
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Other deposits	0	0	0	0	0
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Debt securities included in broad money	**0**	**0**	**0**	**0**	**0**
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Other liabilities to other depository corporations	**387,594**	**4,165**	**–1,369**	**411**	**390,802**
Deposits included in broad money	**3,699**	**348**	**52**	**0**	**4,099**
Transferable deposits	3,699	348	52	0	4,099
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	3,699	348	52	0	4,099
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0

Table A3.6 Monetary Authorities Accounts (*Continued*)

	Opening stock	Trans-actions	Valuation changes	OCVA	Closing stock
Other deposits	0	0	0	0	0
Other financial corporations	0	0	0	0	0
State and local government	0	0	0	0	0
Public nonfinancial corporations	0	0	0	0	0
Other nonfinancial corporations	0	0	0	0	0
Households and NPISHs	0	0	0	0	0
Debt securities included in broad money	**13,645**	**781**	**0**	**0**	**14,426**
Other financial corporations	5,425	411	0	0	5,836
State and local government	0	0	0	0	0
Public nonfinancial corporations	5,480	685	0	0	6,165
Other nonfinancial corporations	2,740	–315	0	0	2,425
Households and NPISHs	0	0	0	0	0
Deposits excluded from broad money	**789**	**161**	**0**	**0**	**950**
Of which: Other financial corporations	4	2	0	0	6
Debt securities excluded from broad money	**102,591**	**–4,084**	**–339**	**0**	**98,169**
Of which: Other financial corporations	90,880	–2,111	–905	0	87,865
Loans	**0**	**0**	**0**	**0**	**0**
Of which: Other financial corporations	0	0	0	0	0
Financial derivatives and employee stock options	**5,891**	**–53**	**–282**	**–411**	**5,145**
Of which: Other financial corporations	5,891	–53	–282	–411	5,145
Insurance, pension, and standardized guarantee schemes	**0**	**0**	**0**	**0**	**0**
Of which: Other financial corporations	0	0	0	0	0
Trade credit and advances	**979**	**137**	**0**	**0**	**1,117**
Of which: Other financial corporations	18	0	0	0	18
Equity	**43,093**	**–3,718**	**9,941**	**–138**	**49,178**
Funds contributed by owners	3	0	0	0	3
Retained earnings	54,704	180	0	–2,198	52,686
Current year result	–16,580	–3,001	2,596	–70	–17,054
General and special reserves	3,827	–897	0	2,130	5,060
Valuation adjustment	1,139	0	7,344	0	8,483
Other items (net)	**–2,141**	**–2,768**	**1**	**121**	**–4,786**
Other liabilities	3,630	–674	1	–258	2,699
less: Other assets	5,771	2,094	0	–379	7,486
Vertical check	0	0	0	0	0

Note: OCVA = other changes in the volume of assets; NPISHs = nonprofit institutions serving households.

References

Adèr, Herman J. and Gideon J. Mellenberg, with contributions by David J. Hand. 2008. *Advising on Research Methods: A Consultant's Companion.* Johannes van Kessel Publishing. Huizen, the Netherlands.

Allen, Mark, Christoph Rosenberg, Christian Keller, Brad Setser, and Nouriel Roubini. 2002. "A Balance Sheet Approach to Financial Crisis." IMF Working Paper WP/02/210. www.imf.org/external/pubs/ft/wp/2002/wp02210.pdf.

Anderson, Richard G., and Barry E. Jones. 2011. "A Comprehensive Revision of the U.S. Monetary Services (Divisia) Indexes." *Federal Reserve Bank of St. Louis Review*, September/October, 93(5). Pages 325–359. research.stlouisfed.org/publications/review/11/09/325-360Anderson.pdf.

Bank for International Settlements, Commonwealth Secretariat, European Central Bank, Eurostat, International Monetary Fund, Paris Club, Organisation for Economic Cooperation and Development, The United Nations Conference on Trade and Development, and World Bank. 2011. *Public Sector Debt Statistics: Guide for Compilers and Users,* revised second printing 2013. Washington, D.C. www.tffs.org/pdf/method/2013/psds2013.pdf.

———, Commonwealth Secretariat, European Central Bank, Eurostat, International Monetary Fund, Paris Club, Organisation for Economic Cooperation and Development, The United Nations Conference on Trade and Development, and World Bank. 2013. *External Debt Statistics: Guide for Compilers and Users.* Washington, D.C. www.tffs.org/pdf/edsg/ft2014.pdf.

———, European Central Bank, and International Monetary Fund. 2015. *Handbook on Securities Statistics*. Washington, D.C. www.imf.org/external/np/sta/wgsd/pdf/hss.pdf.

Bank of England. 2006a. *Cost-Benefit Analysis of Monetary and Financial Statistics: A Practical Guide*. www.bankofengland.co.uk/statistics/Documents/about/cba.pdf

———. 2006b. *Handbooks in Central Banking No. 25: Monetary and Financial Statistics.* Centre for Central Banking Studies. London. www.bankofengland.co.uk/education/Documents/ccbs/handbooks/pdf/ccbshb25.pdf.

———. 2013. *Statistical Code of Practice.* Statistics and Regulatory Data Division. www.bankofengland.co.uk/statistics/Documents/about/code.pdf.

Barnett, William A. 1980. "Economic Monetary Aggregates: An Application of Index Number and Aggregation Theory." *Journal of Econometrics*, Vol. 14, Summer. Pages 11–48.

———, and Apostolos Serletis, editors. 2000. *The Theory of Monetary Aggregation.* Emerald Group Publishing Limited. Amsterdam, North Holland.

Berar, Rajveer, and Jenny Owladi. 2013. "Amendments to Divisia Money Series." *Bank of England Monetary and Financial Statistics*, January. Pages 1–2. www.bankofengland.co.uk/statistics/Documents/ms/articles/art4jan13.pdf.

Black, Fisher and Myron Scholes. 1973. "The Pricing of Options and Corporate Liabilities." *Journal of Political Economy*, Vol. 81 May–June. Pages 637–654.

Box, George E. P., and Gwilym M. Jenkins. 1976. *Time Series Analysis: Forecasting and Control*, revised edition. Holden-Day. San Francisco.

Bureau of the Census, U.S. Department of Commerce. 2011. *X-12-ARIMA Reference Manual*, Version 0.3. Washington, D.C. www.census.gov/ts/x12a/v03/x12adocV03.pdf?cssp=SERP.

Burnett, Mhairi. 2006. "Seasonal Adjustment of UK Monetary Aggregates: Direct versus Indirect Approach." *Bank of England Monetary and Financial Statistics*, February. Pages 1–3. www.bankofengland.co.uk/statistics/Documents/ms/articles/art1feb06.pdf.

Chen, Sally, Philip Liu, Andrea Maechler, Chris Marsh, Sergejs Saksonovs, and Hyun Song Shin. 2012. "Exploring the Dynamics of Global Liquidity." IMF Working Paper WP/12/246. http://www.imf.org/external/pubs/ft/wp/2012/wp12246.pdf.

Commission of the European Communities, International Monetary Fund, Organisation for Economic Cooperation and Development, United Nations, and World Bank. 1993. *System of National Accounts 1993 (1993 SNA)*. Brussels/Luxembourg, New York, Paris, and Washington, D.C. unstats.un.org/unsd/nationalaccount/docs/1993sna.pdf.

Cox, John C., Stephen A. Ross, and Mark Rubinstein. 1979. "Option Pricing: A Simplified Approach." *Journal of Financial Economics*, Vol. 7, September. Pages 229–263.

Divisia, François. 1925. "L'indice monétaire et Ia théorie de Ia monnaie." *Revue d'Économie Politique* 39. Pages 842–861.

Drejer, Peter Askjær. 2013. "Optimizing Checking of Statistical Reports." IFC Working Paper No. 11. Irving Fisher Committee on Central Bank Statistics. Bank for International Settlements. www.bis.org/ifc/publ/ifcwork11.pdf.

Dziobek, Claudia, and Florina Tanase. 2008. "Institutional Cooperation between Central Banks and the Statistical Offices for Producing Macroeconomic Statistics." IFC Bulletin No 28, August. Irving Fisher Committee on Central Bank Statistics. Bank for International Settlements. Pages 245–247. www.bis.org/ifc/publ/ifcb28.pdf.

European Central Bank. 2000. *Seasonal Adjustment of Monetary Aggregates and HICP for the Euro Area*. Frankfurt am Main. www.ecb.europa.eu/pub/pdf/other/sama0008en.pdf.

———. 2006a. *Handbook for the Compilation of Flows Statistics on the MFI Balance Sheet*. Frankfurt am Main. www.ecb.europa.eu/pub/pdf/other/handbookcompilationflowstatisticsmfibalance200602en.pdf.

———. 2006b. *Methodological Notes for the Compilation of the Revaluation Adjustment*. Frankfurt am Main. www.ecb.europa.eu/pub/pdf/other/methodologicalnotescompilationrevaluation200602en.pdf.

———. 2007. *Monetary Financial Institutions and Markets Statistics Sector Manual: Guidance for the Statistical Classification of Customers*, third edition. Frankfurt am Main. www.ecb.europa.eu/pub/pdf/other/mfimarketstatisticssectormanual200703en.pdf.

———. 2012. *Manual on MFI Balance Sheet Statistics*. Frankfurt am Main. www.ecb.europa.eu/pub/pdf/other/manualmfibalancesheetstatistics201204en.pdf.

———. 2013. ECB Regulation ECB/2013/33 (as amended) Concerning the Balance Sheet of the Monetary Financial Institutions Sector, supplemented by the ECB Guideline ECB/2014/15 (as amended). www.ecb.europa.eu/ecb/legal/pdf/02013r1071-20131127-en.pdf.

———. 2014. ECB Guideline ECB/2014/15 (as amended) on Monetary and Financial Statistics. www.ecb.europa.eu/ecb/legal/pdf/oj_jol_2014_340_r_0001_en_txt.pdf.

——— and United Nations. 2014. *Financial Production, Flows and Stocks in the System of National Accounts: Handbook of National Accounting*. Studies in Methods, Series F No. 113, Handbook of National Accounting. New York. unstats.un.org/unsd/nationalaccount/docs/FinancialHB-wCover.pdf.

European Commission, International Monetary Fund, Organisation for Economic Cooperation and Development, United Nations, and World Bank. 2009. *System of National Accounts 2008 (2008 SNA)*. New York. unstats.un.org/unsd/nationalaccount/docs/SNA2008.pdf.

Fisher, Paul, Suzanne Hudson, and Mahmood Pradhan. 1993. "Divisia Measures of Money." *Bank of England Quarterly Bulletin*, May. Pages 240–255. www.bankofengland.co.uk/archive/Documents/historicpubs/qb/1993/qb93q2240255.pdf.

Gómez, Víctor, and Agustín Maravall. 1996. "Programs TRAMO and SEATS: Instructions for the User." Working Paper No 9628. Banco de España. Madrid. www.bde.es/f/webbde/SES/Secciones/Publicaciones

/PublicacionesSeriadas/DocumentosTrabajo/96/Fich/dt9628e.pdf.

Hancock, Mathew. 2005a. "A New Measure of Divisia Money." *Bank of England Monetary and Financial Statistics*, January. Pages 13–14. www.bankofengland.co.uk/statistics/Documents/ms/articles/art2jan05.pdf.

———. 2005b. "Divisia Money." *Bank of England Quarterly Bulletin*, Spring. Pages 39–46. www.bankofengland.co.uk/publications/Documents/quarterlybulletin/qb050103.pd.

Hanif, Muhammad. 2014. *Islamic Banking, Theory and Practice*, third edition. CreateSpace Limited Liability Company. Islamabad.

Holder, Andrew. 2006. "Cost-Benefit Analysis of Monetary and Financial Statistics." *Bank of England Quarterly Bulletin*, Summer. Pages 161–169. www.bankofengland.co.uk/publications/Documents/quarterlybulletin/qb060203.pdf.

Hull, John C. 2015. *Options, Futures, and Other Derivatives*, ninth edition. Prentice-Hall. Upper Saddle River, New Jersey.

International Accounting Standards Board. 2015. *International Financial Reporting Standards 2015* (Red). Part A: the Conceptual Framework and Requirements, and Part B: the Accompanying Documents. IFRS Foundation. London.

———. 2014. *International Financial Reporting Standards Consolidated Without Early Application 2015* (Blue). Part A: the Conceptual Framework and Requirements, and Part B: the Accompanying Documents. IFRS Foundation. London.

International Monetary Fund (IMF). 1993. *Balance of Payments Manual*, fifth edition *(BPM5)*. Washington, D.C. www.imf.org/external/pubs/ft/bopman/bopman.pdf.

———. 2000. *Monetary and Financial Statistics Manual.* Washington, D.C. www.imf.org/external/pubs/ft/mfs/manual/index.htm.

———. 2002. *Coordinated Portfolio Investment Survey Guide,* second edition. Washington, D.C. www.imf.org/external/pubs/ft/cpis/2002/pdf/cpis_index.pdf.

———. 2008. *Monetary and Financial Statistics Compilation Guide*. Washington, D.C. www.imf.org/external/pubs/ft/cgmfs/eng/pdf/cgmfs.pdf.

———. 2009. *Balance of Payments and International Investment Position Manual*, sixth edition *(BPM6)*. Washington, D.C. www.imf.org/external/pubs/ft/bop/2007/pdf/BPM6.pdf.

———. 2013a. *International Reserves and Foreign Currency Liquidity: Guidelines for a Data Template*. Washington, D.C. www.imf.org/external/np/sta/ir/IRProcessWeb/pdf/guide2013.pdf.

———. 2013b. *The Special Data Dissemination Standard: Guide for Subscribers and Users*. Washington, D.C. www.imf.org/external/pubs/ft/sdds/guide/2013/sddsguide13.pdf.

———. 2014a. *Government Finance Statistics Manual 2014 (GFSM 2014)*. Washington, D.C. www.imf.org/external/Pubs/FT/GFS/Manual/2014/gfsfinal.pdf.

———. 2014b. *BPM6 Compilation Guide*. Washington, D.C. www.imf.org/external/pubs/ft/bop/2014/pdf/GuideFinal.pdf.

———. 2015. *IMF Financial Operations*. Washington, D.C. www.imf.org/external/pubs/ft/finop/2015/pdf/finop2015.pdf.

Iqbal, Zubair, and Abbas Mirakhor. 1987. *Islamic Banking*. Occasional Paper No. 49. International Monetary Fund. Washington, D.C.

Janssen, Norbert. 1996. "The Demand for Divisia Money by the Personal Sector and by Industrial and Commercial Companies." *Bank of England Quarterly Bulletin*, November. Pages 405–411. www.bankofengland.co.uk/archive/Documents/historicpubs/qb/1996/qb960405.pdf.

Krueger, Russel, and Jiming Ha. 1995. "Measurement of Co-Circulation of Currencies." IMF Working Paper 95/34, March.

Mathisen, Johan, and Anthony Pellechio. 2006. "Using the Balance Sheet Approach in Surveillance: Framework, Data Sources and Availability. IMF Working Paper WP/06/100. www.imf.org/external/pubs/ft/wp/2006/wp06100.pdf.

Merton, Robert C. 1973. "Theory of Rational Option Pricing." *Bell Journal of Economics and Management Science*, Vol. 4, Spring. Pages 141–183. Reprinted in Robert C. Merton. 1990. *Continuous-Time Finance*, Chapter 8. Blackwell. Malden, Massachusetts.

Saunders, Anthony, and Marcia Million Cornet. 2003. *Financial Institutions Management: A Risk Management Approach*, fourth edition. McGraw-Hill. New York.

Stoop, Ineke, Jaak Billiet, Achim Koch, and Rory Fitzgerald. 2010. *Improving Survey Response: Lessons Learned from the European Social Survey*. Wiley. Chichester, West Sussex.

Thorp, John. 2003. "Change in Seasonal Adjustment Method to X-12-ARIMA." *Bank of England Monetary and Financial Statistics*, December. Pages 4–8. www.bankofengland.co.uk/statistics/Documents/ms/articles/artdec03.pdf.

Tiffin, Andrew, Sally Chen, and Mehdi Raissi, under the general guidance of Vikram Haksar. "Global Liquidity—Credit and Funding Indicators." IMF Policy Paper, July 2013. www.imf.org/external/np/pp/eng/2013/071613b.pdf.

United Nations. 2013. *Guidelines on Integrated Economic Statistics*. Studies in Methods, Series F No. 108. New York. unstats.un.org/unsd/nationalaccount/docs/IES-Guidelines-e.pdf.