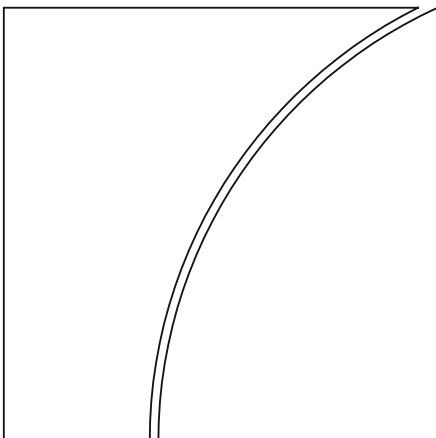# Inter-Agency Group on Economic and Financial Statistics

An IAG reference document

Consolidation and corporate groups: an overview of methodological and practical issues

Prepared by a task force of the Inter-Agency Group on Economic and Financial Statistics

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[1] The views expressed in this document reflect those of the contributors and are not necessarily the views of the institutions they represent.

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Introduction

Background

In 2009, the International Monetary Fund (IMF) and the Financial Stability Board (FSB) prepared a report entitled *The Financial Crisis and Information Gaps* to explore information gaps and provide appropriate proposals for strengthening data collection. The proposals were subsequently endorsed by the G20 Finance Ministers and Central Bank Governors (IMF and FSB (2009)).

A number of the report's 20 recommendations specifically address the general issue of international network connections. Among them, Recommendation #13 relates to a simple type of connection, namely cross-border exposure. It asks "*The Inter-Agency Group on Economic and Financial Statistics (IAG)[2] to investigate the issue of monitoring and measuring cross-border, including foreign exchange derivative, exposures of nonfinancial, and financial, corporations with the intention of promoting reporting guidance and the dissemination of data*".

The report also provides some background information on the reasons for Recommendation #13 (IMF and FSB (2009), p 21): "*The crisis has highlighted the lack of data on cross-border exposures of nonfinancial corporates. 'Onshore' corporates, both financial and nonfinancial, used offshore entities to raise finance and provide implicit guarantees, and this was unknown to policy makers. In some emerging markets, authorities were unaware of significant corporate exposure to exchange rate derivative products because these were booked outside of their jurisdictions. For instance, small and medium firms that were highly concentrated in exporting businesses in some instances acquired foreign exchange exposures through derivatives contracts booked on foreign markets. Data deficiencies were mostly in relation to cross-border transactions. While some guidance exists to identify such cross-border exposures – such as the "ultimate risk" measures of the BIS's consolidated IBS data and as set out in the TFFS's Guide on External Debt Statistics, and Table 6.4 in the Financial Soundness Indicators Guide to identify derivative exposures – a more comprehensive approach is needed. Work in this area will need to address the methodological and practical issues of handling the concept of consolidation and the definition of corporate groups.*"

In essence, Recommendation #13 highlights three major points:

(i)   The need to investigate the exposures of non-financial corporates associated in particular with cross-border transactions, and to address the related data deficiencies.[3]

(ii)   The importance, as a starting point, of addressing the methodological and practical issues of managing the concept of consolidation and the definition of corporate groups.

(iii)   The promotion of the existing guidance to identify cross-border exposures and the dissemination of the data collected and compiled in the context of: the BIS's consolidated International Banking Statistics (IBS), which in particular rely on measures of "*ultimate risk*";

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the Task Force on Finance Statistics' (TFFS) external debt statistics;[4] and the statistics based on the IMF's Financial Soundness Indicators (FSI) Guide – see IMF (2006).

Recommendation #13 is clearly linked with many other recommendations included in the Data Gaps Initiative (eg on international investment position, securities statistics, financial sectoral accounts, banking statistics). Also of particular interest is the G20 initiative to promote a Legal Entity Identifier (LEI) for all corporations, which would represent a key step in facilitating the identification of individual institutional units and their control relationships across the world (see Section 7). Indeed, the Legal Entity Identifier Regulatory Oversight Committee (LEI ROC) has just published a consultation document on this issue (LEI ROC (2015)), proposing an incremental approach to collecting data on direct and ultimate parents of legal entities in the Global LEI System, based on accounting definitions as a starting point.

Aim of this report

As regards the guidance provided by existing statistical exercises, the BIS's consolidated IBS data refer to the so-called nationality-based approach,[5] whereas the external debt data predominantly follow the residency-based methodology of the 2008 System of National Accounts (European Commission et al (2009)), and the statistics outlined in the IMF's FSI Guide are mainly based on international accounting standards. It is therefore challenging to integrate statistical data based on these various methodological concepts in a useful way.

The IAG task force's view is that a key precondition for addressing Recommendation #13 is clarifying the main issues at stake. That means describing the basic elements of the various existing methodologies, such as the concepts of residency, institutional unit, group, control, aggregation and consolidation as outlined in the Recommendation's action plan. Such clarification may help to enhance the understanding and the comparison of the various data collected, which cover different domains – eg financial accounting, national accounts, financial supervision. These data can differ significantly – in terms of eg granularity, frequency, timeliness, product type, coverage and consolidation concepts. The clarification pursued should thus facilitate the use of these data by policymakers, especially by macroprudential authorities and others involved in the monitoring of financial stability issues.

The objective of this reference document is therefore:

(i)   to take stock of the methodologies of the various statistical systems in use, especially as regards the definition of corporate groups (including banks and financial groups), the consolidation concepts adopted, and the comparability of the various existing data sets;

(ii)   to suggest some methodological and practical avenues to facilitate the measurement and monitoring by the users of these statistics of the positions of groups of financial and non-financial corporations; and

(iii)   to shed light on potential work that could be undertaken to measure and monitor cross-border exposures of corporations at a later stage.

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[4]   The TFFS sets methodological standards for statistics on external debt, and on public sector debt; promotes data availability on financial stocks, particularly external and public sector debt; encourages internationally accepted statistical practices to enhance data quality; and fosters inter-agency collaboration in statistical capacity building. Its members are the BIS, the Commonwealth Secretariat (ComSec), the ECB, Eurostat, the IMF, the OECD, the Paris Club Secretariat, the United Nations Conference on Trade and Development (UNCTAD), and the World Bank. See www.tffs.org.

[5]   The IBS statistics follow in fact two approaches: (1) the locational data set comprises information based on the residency of the banks, complemented by information on their nationality – this is done by aggregating (but not consolidating: there is no netting of the inter-office positions) the various residency-based statistics of the offices of the same banking group; and (2) the consolidated data set, which provides information based on nationality and is fully consolidated at group level.

In contrast, the objective is not to propose specific guidance on consolidation rules, which could duplicate the ongoing initiatives of the various standard setters involved in this domain (see below).

This reference document builds on the outcome of the workshop organised in 2011 by the IAG and the Irving Fisher Committee on Central Bank Statistics (IFC) on "Residency/local and nationality/global views of financial positions" (IFC (2012)). It is divided into eight sections. Section 1 describes how data collected in the residency-based SNA context can be usefully complemented by a nationality-based approach, as developed in particular by the BIS. Section 2 presents a framework for assessing financial positions on such a so-called "nationality basis", ie at a globally consolidated level. Section 3 reviews how economic units can be classified by sector and nationality. Section 4 discusses the concept of control between two economic units, focusing on the various existing business accounting, supervisory and statistical standards and practices. Section 5 analyses the concept of a corporate group. Section 6 reviews the scope for consolidating exposures for global entities, especially those related to cross-border and cross-sector positions. Section 7 provides examples of data sets presented on a consolidated basis and highlights some of the challenges related to consolidation. Section 8 makes some recommendations for the future.

1. Complementing the residency-based approach of the national accounts to assess financial positions

The framework of the *System of National Accounts, 2008* (2008 SNA; see European Commission et al (2009))[6] has served policymakers and analysts well in their mandate to monitor economic, monetary and financial stability conditions. It is complemented by several standards that have been developed and implemented over the past 50 years, such as the *Balance of Payments and International Investment Position Manual,* Sixth Edition (BPM6; see IMF (2009)),[7] the *Government Finance Statistics Manual 2014* (GFSM; see IMF (2014))[8] and the *Monetary and Financial Statistics Manual* (MFSM; see IMF (2000)).[9] The SNA framework allows the assets and liabilities of the economic units that are resident in a specific economic territory – the "country" – to be assessed. The financial positions of these units (amounts outstanding, or "stocks", and variations resulting from transactions over a certain period of time, or "flows") reflect their underlying lending (saving) and borrowing (investment) behaviour.[10] The goal is to have this information, often summarised in the so-called *Flow of Funds (FoF)*,[11] for the main resident institutional sectors of the economy – with the flows and positions of the domestic economy with the rest of the world being considered as an aggregate.

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[6]   Available at http://unstats.un.org/unsd/nationalaccount/docs/SNA2008.pdf. For an introduction to the national accounts framework, see, for instance, Lequiller and Blades (2014) or Carnot et al (2011), Annex I.

[7]   www.imf.org/external/pubs/ft/bop/2007/bopman6.htm.

[8]   www.imf.org/external/np/sta/gfsm/pdf/text14.pdf.

[9]   www.imf.org/external/pubs/ft/mfs/manual/.

[10]   The importance of this area has been underscored by Recommendation #15 of the 2009 Data Gaps Initiative, which requests the IAG "*to develop a strategy to promote the compilation and dissemination of the balance sheet approach (BSA), flow of funds, and sectoral data more generally*".

[11]   The SNA's three-dimensional "*from-whom-to-whom*" tables presentation is sometimes referred to as a "*flow of funds matrix*" (see 2008 SNA #2.10, 150 and Chapter 27). Simpler accounts without counterparty information are usually referred to as "*financial accounts and balance sheets*".

This framework has proved particularly useful for assessing the factors driving the decisions made by the agents located in a given country, their "macro" impact, and the related implications for national policymakers. Indeed, macroeconomic and financial statistics compiled according to the residency approach are the core data tool for supporting economic analysis and policymaking in the world. Nevertheless, the analytical power of the residency-based data can also be usefully complemented by data compiled on the basis of alternative methodologies aimed at measuring some more specific phenomena or focusing on a different perspective. For instance, the globalisation of activities implies that a growing part of corporates' domestic activities is now governed by parent companies located abroad, rather than by the (resident) reporting institutional units, which are just affiliates of these parent companies. Symmetrically, residents' actions are increasingly influencing the actions of other "controlled" agents located in other sectors and/or countries.

To understand the financial situation of resident corporations "controlled" by foreign entities, it is necessary to complement residency-based statistics data with information on global, group-level balance sheets (eg positions, exposures). This complementary information can be instrumental for properly assessing firms' economic behaviour and their potential financial stresses, as was evidenced during the Great Financial Crisis of 2007–09.

In fact, the 2008 SNA recognises that "*for certain purposes, it may be desirable to have information relating to a group of corporations as a whole*" (#4.51; see below). That means complementing the national accounts framework – which relies on the classification of institutional units by using strict geographical and sectoral boundaries and on their grouping together on the basis of their principal functions, behaviour and objectives – with a second approach, which is to rearrange institutional units in corporate groups on the basis of ownership and control.

Such an alternative approach would indeed be closer to business accounting practices, which require firms to produce consolidated financial statements. However, the challenges involved in collecting and aggregating frequent, granular and consistent consolidated information are great. When aggregating such group-level information for analysis or policy purposes, one has to realise that the controlling and controlled units forming a corporate group usually belong to different economies and different sectors. That in turn implies that any reconciliation between those data aggregated on a residency basis and those aggregated on a corporate group basis is difficult.

Non-financial corporations sector

As regards the *non-financial corporations* sector, producing data on a corporate group basis may usefully complement the residency-based national accounts and balance of payments statistics. One issue is that internationally operating companies contribute to a growing part of countries' exports and imports of goods and services. This reflects the increasing opportunities to organise production chains globally, leading to a rise in cross-border flows exchanged within the same conglomerate.[12] In addition, international companies behave globally, as they "*...allocate resources, price intra-company transactions, and bill transactions in a manner that is designed to reduce their global tax burden. As a result, national accounts measures based on MNEs' business records may not accurately reflect the underlying behaviour of the real economy in the countries where they operate*" (UNECE (2011)).[13] A case in point is that the financing of investments may be completely disconnected from the country in which these investments

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[12]   The fact that industrial processes more and more involve units resident in different countries is posing important challenges for statisticians, especially regarding the determination of transfer prices, the imputation of internal costs and the identification of where value added is created. See in particular the description of outsourcing and transfer prices in the 2008 SNA (#21.50).

[13]   See Chapter 2, "Multinational enterprises and the allocation of output and value added to national economies", by S Landefeld, B Moulton and O Whichard.

are actually made, reflecting decisions made by head offices based on group-level factors (eg strategy, cost of financing, risk appetite).

Financial corporations sector

Monetary and financial statistics compiled according to the residency approach provide essential information for analysing money and credit developments, which is necessary for carrying out regular monetary policy in all countries. This analysis is enriched with national and financial accounts and balance of payments statistics to shed light on the developments in the financial corporations sector.

But there is also increasing interest in group-level data to complement the central, residency-based approach. The reason is that globalisation has raised challenges in the *financial system* that are similar to the ones faced by non-financial corporations (for a recent overview of the data implications, see Heath (2015)). Initially, financial institutions operated mostly out of their home country to conduct their operations; their resulting positions were therefore well captured by the home country's residency-based statistics. But they have been increasingly following a multinational model, with the establishment/acquisition of entities located outside the domestic area, first in major financial centres or offshore markets, and then more generally in all regions of the world. Their operations through foreign affiliates[14] can only be captured by the respective residency-based statistics of the "*host*" countries, and not by those of the "*home*" country. For the banking sector in particular, this feature has progressively increased the need for complementary information on consolidated and/or aggregated data – that is, information encompassing operations both in home and host countries. This complementary information proved particularly useful when the Great Financial Crisis of 2007–09 occurred (despite persistent limitations).

The main conceptual point is how to capture the claims and liabilities of groups' affiliates that can have an important impact at the level of the head office. If the parent company is accountable for the business of all the entities under its control and is ultimately bearing the related risks, it is indeed essential to consolidate or aggregate at group level all the positions of its affiliates. That requires complementing information on a residency basis (ie collecting the positions of the group's units that are resident in the "*home*" country of the parent), with group-level information (ie the positions of the group's units that are resident in foreign, "*host*" countries). The consolidated group-level, risk-based alternative approach is often described by the BIS as "*nationality-based*". That is because the information of the various institutional units belonging to a group characterised by a specific "nationality" has to be collected and consolidated independently of the residency of each of these units. The difficulty is,

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[14] There are two main types of foreign financial entities often considered in the financial sector, the subsidiaries and the branches: (1) a *subsidiary* is a direct investment enterprise in the reporting country for which "*Control is determined to exist if the* [foreign] *direct investor owns more than 50 per cent of the voting power*" in the enterprise (2008 SNA, #26.85); (2) a branch is "*an unincorporated enterprise owned by a non-resident institutional unit*" (2008 SNA, #A3.7), often defined as a quasi-corporation. In addition, it should be noted that there is also a third, related concept of *associates*, ie entities "*in which between 10 per cent and 50 per cent of the voting power is held*" by a foreign direct investor residing outside the reporting country (2008 SNA, #21.36). Lastly, the *foreign affiliates* basically encompass all these categories in addition to direct investors and fellow enterprises (see BPM6, #6.17 for a comprehensive definition).

A conceptual difficulty related to a *branch* is that it is not "controlled" by a parent company stricto sensu, since it is an organisational unit of the home company and not an independent legal entity. But, at the same time, the branch will nevertheless be treated in the SNA framework as an institutional unit that resides in the host country: "*When a non-resident unit has (...) no separate legal entity, a branch may be identified as an institutional unit. This unit is identified for statistical purposes...*" (2008 SNA, #4.43, 47). The actual recognition of the entity as a branch – that is, as an SNA institutional unit in the reporting country – will depend on specific indicative criteria. Namely, the unit should "*engage in significant production of goods and services for a long period of time in the territory and is subject to the income tax laws, if any, of the economy in which it is located even if it may have a tax-exempt status*". For the sake of simplification, we will say in the rest of the present document that a branch is "owned" or "controlled" by its "parent company", although they both may belong to the same legal entity.

however, to correctly assess the "nationality" of each unit. Moreover, such data collection exercises have to rely on adequate international cooperation.

Nationality-based approach as a complement

Nationality-based consolidated data facilitate the understanding of who makes underlying economic decisions, who takes on the final risk and who needs to hold sufficient buffers to cover global potential losses. By allowing the identification of the ultimately responsible unit, this approach helps to analyse the ways in which economic decisions are made and, in times of stress, which company is ultimately impacted. Such information is crucial for fiscal, monetary and prudential authorities alike. It can be mobilised to enhance the stability of the financial system at the *macro* level, by facilitating the monitoring of the borrowing activities of global groups outside their resident markets through their offshore affiliates (an activity which has numerous implications for the conduct of national policies). For example, one recent estimate shows that banks and bond investors have increased outstanding US dollar credit to non-bank borrowers outside the United States – including affiliates of US residents – to $9 trillion today, underscoring the importance of the links between US monetary policy and credit extended globally (McCauley et al (2015)).

Hence, the residency- and nationality-based approaches are complementary and not mutually exclusive.[15] Residency-based statistics are key to understanding and monitoring money and credit developments in the country, which is necessary for carrying out regular monetary policy. They also make it possible to ascertain where financial claims and liabilities are created and held, helping to identify risks and exposures that are deemed relevant for a domestic economy. For instance, the financial strength of a foreign bank affiliate located in a specific economic area, and its ability to provide credit to its residents in an efficient way, can be influenced by its capacity to fund itself domestically instead of relying exclusively on its parent funding.[16] Symmetrically, nationality-based statistics are by design not able to assess inter-office positions, limiting the understanding of cross-border flows as well as of interconnections between financial sectors resident in different countries.[17]

The Great Financial Crisis of 2007–09 underscored the importance of these issues for financial stability analysis. It also suggested that connecting residency-based and nationality-based statistics could be very valuable: many financial and non-financial corporations faced stress that arose in specific regions which then had an impact at the level of their globally consolidated balance sheets.

On the one hand, the financial results of several global banks suffered from the poor quality of the US "subprime" assets they were holding, especially through their affiliates resident in the US. These intragroup relationships were key to understanding the propagation to the rest of the world of financial tensions that originated in the US. Residency-based statistics were useful in understanding such intragroup cross-border issues.

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[15] Cecchetti et al (2011) draw on the structure of the BIS IBS to show how residency- and nationality-based statistics can be used in a complementary fashion.

[16] The distinction between the types of affiliates can have important policy implications in this context:

First, there has been a tendency in a number of jurisdictions since the Great Financial Crisis of 2007–09 to move away from the "branch model", as host regulators faced challenges to stem the flow of liquidity away from branches (rather than from local corporations); for a discussion of these issues, see, for instance, Fiechter et al (2011).

A second issue relates to ring-fencing, ie when regulators ask for a local unit's balance sheet to be separated even though it is operated as part of the global group (during the 2007–09 crisis a number of domestic authorities actually called on some global banks to ring-fence their local funding and liquidity). The objective is to limit the costs for host authorities of having to rescue local affiliates in case of difficulties faced by their parent foreign bank. This could happen if a parent bank, relying excessively on wholesale money markets rather than local deposits to fund its lending, decides to draw liquidity from its foreign affiliates in times of stress. For a discussion of these issues, see Committee on the Global Financial System (2010).

[17] Since consolidated statistics allow analysis of the activities of affiliates but not of cross-border flows between entities that belong to the same group.

On the other hand, important vulnerabilities resulted from the various currency, maturity or interest rate mismatches discovered at the parent group level once the crisis hit. As noted in the background arguments for Recommendation #13, difficulties in assessing such mismatches were due to the lack of data covering cross-border exposures, with "onshore" corporates raising funds "offshore" and providing implicit guarantees in a way that was not well captured. These issues highlighted the usefulness of a group-level consolidated approach. One telling example was that of European banks which had been accumulating dollar-denominated assets before the crisis (McGuire and von Peter (2012), Goldberg et al (2011)). The problem was not solely the quality of these assets, but also the group-level impact of the sudden disruptions in financial markets. When liquidity evaporated in the wholesale interbank funding market, European banks were unable to raise dollars: they could only access their retail deposits, mainly denominated in euros. The US Federal Reserve had to establish reciprocal currency arrangements (dollar swaps) with several foreign central banks to mitigate this market stress.

2. Assessing financial positions on a globally consolidated basis

At the theoretical level, a simple framework can be set up to complement the residency-based approach with the nationality-based approach to financial positions (Cecchetti et al (2011)). As summarised in Chart 1, the *residency-based* approach groups together the balance sheets of all resident institutional units, irrespective of their nationality (ie residents with domestic nationality and residents with foreign nationality), and classifies them by sector. The activities and positions of these domestic and foreign[18] units resident in the "home" country are captured by residency-based macro statistics, considered within the borders of this specific "home" country. They are therefore delineated *horizontally* (comprising all the cells displayed horizontally in Chart 1 and marked in bold italics). This approach is also referred to as "*locational*".[19]

By contrast, the *nationality-based* approach delineates financial positions *vertically*, ie across different jurisdictions (comprising all the shaded cells, displayed vertically in Chart 1). First, it only comprises the resident units that are domestically controlled – ie the resident domestic units of the "home" country – and excludes the resident foreign units – ie the residents which are affiliates of parent companies with a foreign nationality from the home country perspective. Second, it consolidates (by aggregating and removing the intragroup positions) the financial positions of the resident domestic units with the positions of their non-resident affiliates. As a result, one can assess the global positions consolidated for the entire domestic groups that have the "nationality" of the home country. This nationality-based approach is therefore also often called "*global*".[20]

Measuring financial positions on a nationality (globally consolidated) basis de facto requires the combination of business accounting, supervisory and statistical standards. However, adjustments to these standards have only begun to reflect the globalised financial landscape.

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[18]   Accordingly, these foreign units are not captured by the residency-based statistics of their home countries.

[19]   "Locational" information is always collected on a residency basis, even if a data set such as the BIS locational IBS can be complemented by an indication of the nationality of the residents (but this information is not consolidated, in contrast to the nationality-based approach described below).

[20]   The term "global" could have a different meaning for other approaches: for example, a residency-based approach could also be characterised as "global". In fact, the BIS locational IBS with nationality information cover all the global offices (resident or not in the country of the parent bank) of any parent bank with a given nationality, though not consolidated at the group level.

The business accounting framework

Business accounting frameworks follow the principle of global consolidation for corporate entities: for instance, the International Financial Reporting Standards[21] (IFRS10) state that the objective *"is to establish principles for the presentation and preparation of consolidated financial statements when an entity controls one or more other entities"* [IFRS 10:1]. Information on consolidated financial statements is thus available in (regular) financial reports. The reconciliation between financial accounts of entities operating in different jurisdictions requires consistent evaluation and consolidation rules. For instance, the IFRS require that a *"parent prepares consolidated financial statements using uniform accounting policies for like transactions and other events in similar circumstances* [IFRS 10:19]".

Financial positions on a residency and nationality basis   Chart 1

Source: *IFC, 2012.*

This can be complex in practice. If the consolidated financial statement of a group is compiled according to IFRS but the individual balance sheets of its local subsidiaries follow local generally accepted accounting principles (GAAP), there is a need to have parallel accounting systems. This is necessary for keeping track of the same transactions with different standards, so that the positions of

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[21]   These IFRS accounting standards are issued by the International Accounting Standards Board (IASB). Standards that were issued by the IASB's predecessor and that are still in use are called International Accounting Standards (IAS).

entities that belong to the same group but are resident in countries using different standards can be reconciled and consolidated.

The comparison of consolidated financial statements among different groups could also present challenges. This comparability issue (eg in the evaluation of derivatives positions) arises when the head offices are located in countries following different rules (eg a US banking group reporting according to US GAAP, compared to a EU banking group following IFRS). Moreover, even if the same accounting rules were used, principle-based standards always involve some judgment and can allow for national interpretation when they are implemented.

While differences remain and several countries still intend to continue following their national GAAP, there has been significant progress as regards harmonisation. A large and growing number of countries and regions have adopted, or will adopt, IFRS, especially in Europe.[22] In this context, the G20 and the FSB have emphasised the need to achieve a single set of high-quality global accounting standards after the crisis. A particular response has been the work of both the International Accounting Standards Board (IASB) and the US Financial Accounting Standards Board (FASB) to enhance convergence between IFRS and the US GAAP, notably regarding consolidation.[23]

The supervisory framework

As far as supervisory practices are concerned, specific consolidation approaches have also been developed in recent decades by regulators and supervisors of financial institutions. However, there is no single global supervisory concept of consolidation across different financial activities: supervisory consolidation is often partial, ie it does not include the full accounting perimeter of financial groups.

With few exceptions, the regular reporting of key supervisory information distinguishes between "*home*" and "*host*" country responsibilities. A supervisor typically acts both as home supervisor and host supervisor:

(i)   As home supervisor, it collects information on and supervises those financial groups for which the parent entity has the nationality of the home country – including activities conducted by the group in other countries; that monitoring is carried out on a consolidated basis.[24]

(ii)   As host supervisor, it collects information and supervises individual entities (or national subconsolidated entities, often including branches) that operate domestically.

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[22]   The IFRS Foundation continues to work towards the goal of having IFRS as the global accounting standard. Currently, 116 jurisdictions require IFRS for all or most domestic publicly accountable entities (for an assessment of the progress towards the goal of global accounting standards by the IFRS Foundation, see www.ifrs.org/Use-around-the-world/Pages/Analysis-of-the-IFRS-jurisdictional-profiles.aspx). In Europe, all publicly listed corporations are required to use IFRS (involving around 8,000 companies whose securities trade on a regulated market, with a few, temporary exceptions). In some countries, national GAAP for (non-consolidated) individual accounts may coexist with the IFRS required for consolidated accounts.

[23]   IFRS 10 (issued in 2011, and which started to be implemented after 2013) is converging substantially with the US GAAP approach towards consolidation. The FASB made further changes to the US GAAP consolidation model in February 2015 (see FASB accounting standard update ASU 2015-02). This update affects in particular whether fees received by asset managers are a variable interest, and thus whether they should consolidate the managed entity, which is addressed in IFRS standards in the so-called "principal versus agent analysis". In this regard, the FASB notes that "*the scope of the decision-maker's authority and the magnitude of the compensation are factors considered in IFRS and GAAP but may not be considered in the same manner*" and that "*the ultimate consolidation conclusion may be different under GAAP and IFRS for certain facts and circumstances*".

[24]   Different criteria could apply according to the mandate of the authority collecting data (eg banking supervisors, market authorities or central banks collecting data for monetary purposes).

In practice, the nationality of an institution can be identified as the country where the supervisor is in charge of its global consolidated supervision.[25]

Further actions have been undertaken over the years, especially after the Great Financial Crisis of 2007–09, to address the challenges posed by the global financial business models adopted by both banks and non-banks.[26] Indeed, global groups, even before the crisis, include banks and non-banks as well as a mixed and rapidly evolving nationality structure. Global standard-setting bodies, like the Basel Committee on Banking Supervision (BCBS), have published guidelines and principles[27] to avoid uncertainty as to which supervisor is in charge of the consolidated supervision of a banking group operating across countries (cf the examples of Fortis and Dexia).[28] The same would apply for a group operating across sectors, for instance when there is a need to identify the primary supervisor of a financial conglomerate comprising banks and insurance companies.[29]

However, attributing the nationality of a parent group to all of its foreign affiliates is a simplification of reality, for several reasons:

−   A financial group operating across sectors and countries remains subject to the supervision of multiple supervisors (BCBS (2014)). For instance, the bank subsidiary of an international group will generally be supervised by both the host supervisor (of the country where the subsidiary is located) and the home supervisor (who looks after the consolidated group), with different scopes of supervision.[30] This supervision is coordinated for most G-SIBs and internationally active banks by a "college of supervisors".[31]

−   The extent to which a parent is legally responsible for the liabilities of its controlled local entity will depend on several factors, including whether the local entity is a branch or subsidiary and the extent of the guarantee provided by the parent to the affiliate (eg implicit guarantee versus

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[25]   Noting that it is the responsibility of the home supervisor to supervise the parent company authorised in its country and to act as the consolidated supervisor for this parent group when the home and host supervisors interact.

[26]   For instance: the development of group-wide supervision in the insurance sector; specific entities (colleges of supervisors) set up to ensure sufficient cooperation between supervisory authorities and to strengthen the supervision of cross-border banking groups (BCBS (2014)); guidance on information sharing between home and host supervisors under the banking capital Basel frameworks (BCBS (2006b)). See also Joint Forum (2014) for a review of how far cross-sectoral issues, and specific questions related to financial conglomerates, are effectively addressed within supervisory colleges.

[27]   The broader aspects of home-host cooperation are covered in *Report on the supervision of banks' foreign establishments* (the Concordat; BCBS (1975)) and other documents related to cross-border supervision, accessible at www.bis.org/list/bcbs/tid_24/index.htm.

[28]   Fortis Group was a Belgian/Dutch financial conglomerate with substantial subsidiaries in Belgium, the Netherlands and Luxembourg. The consolidating and coordinating supervisor was Belgium's Commission Bancaire, Financière et des Assurances (CBFA). Fortis was resolved and divided along national lines in 2008–09, illustrating "*the tension between the cross-border nature of a group and the domestic focus of national frameworks and responsibilities for crisis management*" (BCBS (2010)).

As regards Dexia, it was established in 1996 as a result of a merger between a Belgian and a French bank – Crédit Communal de Belgique and Crédit Local de France, respectively – and had a significant presence in Luxembourg. Authorities in Belgium, France and Luxembourg agreed in 2008 to share the burden of guarantees in order to allow the institution to access financing and to provide time for the sale of certain operations and the retrenching of others; but the group was subsequently divided along national lines in 2011.

[29]   See Joint Forum (2012): "*Supervisors should ensure there is a clear process in place for coordinating various roles and responsibilities with clearly delineated responsibility for ensuring effective and comprehensive group-level supervision, including a coordination process to identify a group-level supervisor.*"

[30]   This situation of supervisory overlap is often the case with foreign-controlled corporations such as subsidiaries which are legal entities registered in the host country. That said, this situation can also exist for branches, which can be subject to host supervisory rules (eg for the management of their liquidity positions) even though they are part of a legal entity (eg the parent group, or the subsidiary of such a group) falling under the authority of another supervisor.

[31]   See BCBS (2015).

legally binding commitment). In particular, it may be difficult to assess ex ante the strength of the guarantee provided by a parent, as long as it has not been "tested" in real times of default.

–   Group policies, such as funding operations and practices, will also have an impact. For instance McGuire and Tarashev (2008) have argued that, for a given level of dependence on foreign banks, countries where most of the credit provided by those foreign banks is locally booked (that is, lending financed through the deposits of residents), in contrast to pure cross-border claims, are likely to be more insulated from shocks that affect these foreign creditor banks. That is because local claims are to some extent "ring-fenced", being generally funded by local liabilities (ie the funding of the banks' affiliates has low reliance on their parent). Moreover, such claims are often a reflection of banks' longer-term business commitments to particular markets.

–   Reputational risks, cross-default clauses (ie governing the access to loan accounts in case of one loan default), resolution strategies, or regulatory ring-fencing may also affect the extent to which a financial group can be seen as a single entity.

–   The above factors may play out differently depending on circumstances. For instance, a parent company may be willing to cover the liabilities of an affiliate in "normal times" – say for reputational issues – but may react otherwise if the liabilities exceed a certain threshold (for instance, exceed the equity stake of the parent company invested in the country) and/or if there is a risk of a systemic crisis.

–   Lastly, the measuring of risk transfers and the assessment of ultimate risk-bearing entities is prone to uncertainties. For instance, it is not always straightforward to determine whether an entity issuing debt benefits from an explicit formal guarantee provided by another entity.

A corollary is that cross-border exposures of banking systems on a consolidated basis may have different financial stability implications depending on circumstances. Thus, as highlighted by Fender and McGuire (2010), it is recommended to "*complement essential data on banks' consolidated balance sheets with information that provides a geographically disaggregated picture of those balance sheets*".

The statistical framework

Turning to international statistical standards, data compiled by national authorities, the IMF, the OECD and – to a lesser extent – the BIS are largely based on the residency concept. For example, the national accounts (including their financial dimension), the balance of payments statistics, the IMF's Coordinated Portfolio Investment Survey and the BIS locational banking statistics all rely on residency-based data. However, some statistics have extended the residency/local approach towards one based on nationality/global principles. In particular, the experience of the BIS in compiling the international banking statistics (IBS) and the database on international debt securities (IDS) illustrates the usefulness of assessing economic positions/flows based on nationality information (see Cecchetti et al (2011)). This BIS experience is, in fact, highlighted in the text of Recommendation #13.

As regards the BIS consolidated IBS, they track reporting banks' worldwide consolidated foreign financial positions by nationality of reporting bank.[32] The domestic banks of each country consolidate and report all the cross-border positions of all their offices worldwide, as well as the local claims of their controlled foreign affiliates (branches and majority-owned subsidiaries) in local and non-local currencies.

Turning to the IDS, work conducted at the BIS (Gruić and Wooldridge (2015)) has shown the usefulness to financial stability analysis of comparing residency- and nationality-based data on securities issuance – for instance, when assessing the international issuance of emerging market borrowers through the foreign entities controlled by them.

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[32]   See, for instance, McGuire and Wooldridge (2005) on the usefulness of the consolidated IBS, and Degryse et al (2010) for an application on cross-border exposures and risk contagion.

3.   Classification of economic units

A proper classification of economic entities is a prerequisite for any meaningful analysis at the "macro" level, ie at a level above the "micro" situation of a specific institutional unit. This is particularly true for those authorities tasked with dealing with financial stability issues: they have a keen interest in grouping economic agents by similar type of risk so as to monitor specific segments of the financial system, assess their vulnerabilities, and take appropriate preventive and/or remedial action. The application of the framework proposed in Section 2 for assessing financial positions on a nationality/globally consolidated approach can help those authorities wanting to assess risks by specific sectors and/or countries with an "ultimate risk" perspective.

Sectoral classification

For the sectoral classification, the SNA framework represents a key starting point for assessing financial positions at the level of any basic unit. Each unit is considered to be a resident of one (and only one) country. It is allocated to a specific institutional sector of that country according to its principal economic activity. In particular, the classification of financial institutions has been gradually refined in the SNA over time and provides a useful instrument for analysing the financial system (cf Box A).

Box A: Classification of financial corporations in institutional sectors

Macroeconomic statistics are based on a delineation of sectors (and subsectors); this sectoral delineation is well established by the SNA and is consistent across countries.

The starting point is the institutional unit. It is defined by the SNA as "*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*" (2008 SNA, #4.2). There are two main types of institutional units: *households*, which include persons or groups of persons; and *legal or social entities*, whose existence is recognised by law or society independently of the persons, or other entities, that may own or control them. These *legal or social entities* can be further broken down into corporations, non-profit institutions serving households (NPISH) and government units (and grouped together in the respective institutional sectors). The allocation to a specific sector (and its subsectors) depends on the principle of main economic activity.

A *legally constituted corporation* is "*a legal entity, created for the purpose of producing goods or services for the market, that 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*" (2008 SNA, #4.39). In the SNA, however, the term *corporation* is used more broadly than in the legal sense defined above: "*all entities that are a. capable of generating a profit or other financial gain for their owners, b. recognized at law as separate legal entities from their owners who enjoy limited liability, c. set up for purposes of engaging in market production, are treated as corporations*" (#4.38). So *corporations* include legally constituted corporations, cooperatives, limited liability partnerships, notional resident units and quasi corporations, and may be described by different names.

Most legal or social units operating as foreign affiliates are *corporations*; they are always considered to be institutional units, even if they do not constitute a separate legal entity – an important category being the quasi-corporations that are "*unincorporated enterprises that belong to institutional units resident abroad, referred to as "branches"*" (#4.43c).

Within corporations, the financial corporations (S.12) "consist of all resident corporations that are principally engaged in providing financial services, including insurance and pension funding services, to other institutional units" (2008 SNA, #4.98). The 2008 SNA provides nine subsectors on the basis of economic criteria (cf Table 1).[33] An important subsector is "deposit-taking corporations except the central bank" (S.122), often referred to as "(commercial) banks": they "have financial intermediation as their principal activity. To this end, they have liabilities in the form of deposits or financial instruments (such as short-term certificates of deposit) that are close substitutes for deposits" (2008 SNA, #4.105).

Financial corporations – subsectors in the 2008 SNA	Table 1
	SNA code
Financial corporations	S.12
Central bank	S.121
Deposit-taking corporations except the central bank	S.122
Money market funds (MMFs)	S.123
Non-MMF investment funds	S.124
Other financial intermediaries, except insurance corporations and pension funds (ICPFs)	S.125
Financial auxiliaries[34]	S.126
Captive financial institutions and money lenders	S.127
Insurance corporations (ICs)	S.128
Pension funds (PFs)	S.129

Source: European Commission et al, 2009.

One issue, however, is that the development of comprehensive financial accounts is still in its infancy in a number of countries. Another is that there may be room for refining sectoral classification: some financial subsectors such as hedge funds are not identified as a separate category, although they are playing an increasing role in today's financial markets. At the same time, the developments observed since the Great Financial Crisis of 2007–09 have led some observers to question why central banks are classified within the financial sector and not within the government sector. Since the actions of government debt managers and central banks – not least those actions related to the new quantitative easing policies undertaken after the 2007–09 crisis – jointly determine the size and maturity of sovereign debt held by the public, that puts a premium on considering the central bank balance sheet when assessing the "consolidated official debt" of a country (see BIS (2012)).

Another important point is how to approach the rest of the world ("ROW") sector. The transactions and positions of the domestic economy with the ROW are often treated as an aggregate in the national accounts framework. But it is also possible to split the ROW along several dimensions (eg by

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[33] This represents a significant refinement compared to the previous (1993) version of the SNA, which did not specifically distinguish a number of the subsectors now identified by the 2008 SNA (they were aggregated in the *Other financial intermediaries except insurance corporations and pension funds* subsector); see 2008 SNA (#A3.19) and Commission of the European Community et al (1993).

[34] Financial <u>auxiliaries</u> are "*institutional units principally engaged in serving financial markets, but do not take ownership of the financial assets and liabilities they handle*"; they differ from financial <u>intermediaries</u>, which are "*institutional units that incur liabilities on their own account for the purpose of acquiring financial assets by engaging in financial transactions on the market*" (2008 SNA, #4.101).

country or sector). Such a granularity is particularly useful in the context of balance of payments statistics as well as the newly developed approach to measure the "global flow of funds" (see Errico et al (2013)). The experience with the BIS IBS[35] is also that significant value can be derived from differentiating (i) between the countries comprising the "rest of the world" aggregate, and (ii) within each of these countries, between their various sectors (eg foreign governments, foreign households, etc).

Nationality classification

The situation is somewhat more challenging as far as the nationality classification is concerned. As explained in Section 2, institutional units need to be "associated with" or "assigned to" a particular home country.[36] The issue is being able to distinguish residents that have a truly domestic nationality from those that are foreign units because they are controlled by a resident of another country.

A key challenge is international consistency: the nationality of a specific economic unit could be identified differently by various national authorities. It may thus be useful to carry out a reconciliation exercise amongst various home and host countries. In the case of the BIS IBS, for instance, reporting central banks provide a list of all the surveyed institutions that reside in their respective countries, with an indication of the individual nationality that they assign to those institutions. The BIS ensures that the global list by bank nationality (in which all the reporting units are classified as either head offices with a specific nationality or as foreign affiliates of a head office located outside of the reporting country) is up to date, consistent and validated by all the reporting central banks.

For other financial and non-financial corporations, one view is that business registers could be shared by supervisors and statisticians to carry out such reconciliation exercises. A recent example is the Euro Groups Register (EGR) pilot project, launched by Eurostat in January 2006 for the creation of a European Business Register on Multinational Enterprise Groups, and which draws on various commercial data and national statistical data to build a coordinated business register for around 700 multinational groups in Europe.[37] How such registers could be effectively used in practice to correctly define the nationality of corporations remains an open question, however, given in particular the significant challenges related to the sharing of such information both across and within countries.

4. The concept of control

As discussed above, the basic principle of the nationality-based approach is that the nationality of a unit can be defined as the country of residence of the parent by which it is controlled.[38] Hence, in order to identify the controlling unit, one has to clarify the concept of "*control*", which can take various forms. Three different approaches are detailed in this section, based on business accounting, supervisory and statistical standards.

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[35] Both the residency-based, locational IBS, and the nationality-based, consolidated IBS. The two data sets basically capture cross-border flows between banks and debtor sectors.

[36] Note that this issue applies mostly to financial and non-financial corporations, since households and governments do not frequently operate with foreign affiliates (although there are cases where governments and households can be involved in cross-border activities).

[37] See http://ec.europa.eu/eurostat/statistics-explained/index.php/EuroGroups_register.

[38] For the sake of simplicity, it is assumed here that the controlling unit is the ultimate parent entity, ie it is not controlled by another entity. If that were the case, the same identification process would have to be repeated in turn, moving up along the control chain.

The business accounting framework

The IFRS define the principle of control and also establish control as the basis for determining which entities are to be consolidated in the financial statements; they also set out how to apply the principle of control to identify controlling entities (IFRS (2011)).[39] From this perspective, *"an investor controls an investee when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee"*. Thus, an investor controls an investee if and only if (s)he has: (i) power over the investee; (ii) exposure, or rights, to variable returns from involvement with the investee; <u>and</u> (iii) the ability to use power over the investee to affect the investor's returns.

Several definitions are important in this context:

− *"Return"* derived by the investor is the return resulting from its involvement with the investee. It can vary as a result of the investee's performance (for instance, dividends).

− *"The ability to use power to affect the returns"* means that an investor controls an investee not only if (s)he has power and exposure to its returns but also the ability to use its power to affect these returns. If not, an investor which has decision-making rights with regard to an investee but which cannot influence the investee's returns will be considered an *"agent"* − and not the *"principal"* that is in control of the investee.

− *"Power"* is defined as the investor having such rights that (s)he can direct the activities that affect the investee's returns. In the simplest cases, such power arises from the voting rights granted by shares. A parent company exerts power when it owns directly or through intermediate subsidiaries more than half of the voting power of the investee. Its vote allows it to direct the investee's activities and appoint key members of its governing body.

But the assessment of control can be more complex in practice:[40]

− Even when power is exercised through shares, it may be difficult for third parties to identify controlling entities. Most globally operating corporations have a very diversified and international shareholder base; ownership can change rapidly over time (though arguably less for large blocks of capital); it is difficult to trace shares because they can be held through different group entities; subsidiaries whose shares are unlisted may not be subject to the requirements to disclose the identity of significant owners of their voting securities, contrary to what is generally requested from listed entities.[41]

− Power can also result from other means than voting shares, for instance contractual arrangements. This may allow for the control of entities without ownership of shares, for instance in the case of special purpose entities (such as securitisation/structured vehicles, which played an important role during the Great Financial Crisis of 2007–09).

− Conversely, an investor with more than half of the voting rights would not control the investee if its relevant activities are directed by other entities (for instance, if the direction is set by a government).

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[39] *International Financial Reporting Standard 10 – Consolidated Financial Statements* (IFRS (2011)); IFRS 10 was issued in May 2011 and applies to annual periods beginning on or after 1 January 2013; see in particular [IFRS 10:5-8].

[40] Note that business accounting frameworks distinguish between *control* and *significant influence* – which is, under IFRS, typically when the investor has existing rights that give ability to participate in the financial and operating policy decisions of an entity but is not in control of those policies (it is presumed that the investor has significant influence if (s)he holds, directly or indirectly, 20% or more of the voting power of the investee); for details see [IAS 28(2011).5]. Interestingly, this 20% threshold differs from the 10% retained for the definition of *significant influence* in the SNA / FDI framework (see below).

[41] Note that there is an obligation under most listing rules to disclose a company with holdings of over 10%; see for instance IOSCO (2010).

The application of the business accounting approach may require the assessment of a variety of factors.[42] In particular, rights that give an investor power may be evidenced by rights to appoint or remove members of the investee's key management personnel, rights to direct the investee to enter into transactions, etc. In addition, power may be exercised due to other contractual arrangements, or even if there is no contractual right (ie if there is evidence that the power is de facto exerted). Power can also be exercised by an investor having a special relationship which suggests that he has more than a passive interest in the entity. This wide range of possibilities to define power relates to the fact that business accounting standards have been adapted in recent years to make more transparent the risks to which investors are exposed through their involvement with controlled entities and to better consolidate those exposures that used to be "off balance sheet" before.

Yet another complexity is that the rights have to be *substantive* to provide control, ie the holder must have the practical ability to exercise these rights. In contrast, *protective* rights only relate to fundamental changes to the activities of an investee or apply in exceptional circumstances. They are designed to protect the interests of their holder without giving that party power over the investee: as a result, an investor that holds only protective rights cannot have power [IFRS 10:11, 14]. IFRS recognises that determining whether rights are substantive requires judgement as several factors have to be considered for this purpose.

The supervisory framework

A second criterion, particularly important for financial corporations, is to look at the jurisdiction where the company's *home country supervisor* is located and under which its consolidated global operations are regulated and supervised. As seen above, the notion of control is key in defining the home country supervisor. For instance, a financial corporation may be passively owned by a financial holding entity located in country A.[43] But, if another company located in country B actually has an effective controlling interest or strong involvement (to an extent that has to be assessed on a case-by-case basis) in the management of the financial corporation, the financial authorities of country B (and not A) would be entitled to exercise consolidated supervision under current supervisory practices (BCBS (1979)).

In practice, the prudential view of control requires supervisors to assess risk exposures and attribute them to the controlling entity. Thus, the idea is to "look through" the chain of controls and identify the ultimate risk holder. The resulting information about who is the actual home supervisor is generally publicly available.

There are, however, a number of caveats. One is that a parent entity may be able to determine policy at the consolidated group level without necessarily having the majority of the ownership rights. Moreover, the complexity of the chain of ownership, control or power, can make identification challenging. Another issue is the need for adequate international supervisory coordination, even though substantial progress has been made in the past decades following high-profile events (eg BCCI,[44]

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[42]   These various factors would also need to be considered to determine among two investors that are directly involved in an investee's activities the one (the *principal*) that most significantly affects the investee's returns.

[43]   Cf BCBS (2006a): "*A holding company that is a parent of a banking group may itself have a parent holding company. In some structures, this parent holding company may not be subject to [the Basel] Framework because it is not considered a parent of a banking group*".

[44]   The Bank of Credit and Commerce International (BCCI) was an international bank registered in Luxembourg with head offices in Karachi and London. It represents one famous example of an institution for which it was unclear who the home supervisor of the bank effectively was. Authorities expressed significant concerns about the bank's activities in the 1980s and 1990s, and reported at that time that the bank had taken various steps to avoid regulatory scrutiny. Since then, a number of actions – eg establishing colleges of supervisors – have been taken by regulators to mitigate this issue.

Nordea[45]), as well as the Great Financial Crisis of 2007–09. Yet there may still be some uncertainty regarding the involvement of various jurisdictions in cases of stress, for instance in relation to the different depository safety schemes that would apply.

The statistical framework

Similar to the approach of the business accounting view, ownership is also a concept defined in the SNA-based statistical apparatus. Two types of ownership can be distinguished: legal and economic ownership.[46] In many cases, the economic owner and the legal owner of an entity are the same; if not, "ownership" is usually understood to be held by the economic owner.

Ownership is a precondition for exertion of control in the SNA: the "*control of a corporation is ultimately exercised by the shareholders collectively" (#4.40-f)* and "*in general an individual institutional unit or group of units owning more than half the voting shares of a corporation can exercise complete control by appointing directors of its own choice*" (#4.69).

But "*ownership of a listed corporation is diffused among several, possibly very many, institutional units*" and "*there may be exceptional cases in which certain shareholders enjoy privileged voting rights*" (#4.68, 69). In fact, specific arrangements can vary considerably and it would be difficult to establish a definitive list of factors. This is particularly the case for corporations controlled by government, for which the 2008 SNA provides more explicit guidance: "*Because the arrangements for the control of corporations can vary considerably, it is neither desirable nor feasible to prescribe a definitive list of factors to be taken into account. The following eight indicators, however, will normally be the most important and likely factors to consider: ownership of the majority of the voting interest; control of the board or other governing body; control of the appointment and removal of key personnel; control of key committees of the entity; golden shares and options; regulation and control; control by a dominant customer; and control attached to borrowing from the government. Although a single indicator could be sufficient to establish control, in other cases a number of separate indicators may collectively indicate control. A decision based on the totality of all indicators must necessarily be judgmental in nature*" (#4.80).

SNA guidance is less explicit for other cases, but the same type of reasoning can be applied to assess control relationships. For instance, as regards the control of a corporation by a non-resident unit, "*control may also be possible with a holding of less than half the equity if the non-resident unit can exercise some of the powers just described as indicating possible control by government…*" (#4.80). So the bottom line is that, when the "half of the voting shares" principal criteria cannot be followed, a number of separate indicators have to be looked at collectively to all intents and purposes.

There are indeed several examples where less than half of the ownership may still be compatible with controlling power. The ownership of shares can be widely diffused among a large number of shareholders. A small, organised group of shareholders may control the corporation, either by acting in concert so that its combined ownership of shares exceeds 50% of the total, or by benefiting from the fact that many shareholders do not exercise their voting rights (ie control would be obtained with less than 50% of voting rights). The 2008 SNA leaves open the issue of how such an organised group is defined, but one obvious situation is when its various units are in a control relationship with

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[45] See Grung Moe (2006) on the difficulties of determining who provided liquidity support in the event of a crisis faced by a subsidiary or branch of a group with entities incorporated in several countries – in this case Nordea. Headquartered in Sweden and owning hundreds of branches, Nordea was formed by the successive mergers and acquisitions of financial institutions from various Nordic countries in the 1990s and it stands for a well-known illustration of the coordination challenges that exist between multiple country supervisors for a multinational bank which has incorporated units in different countries.

[46] The legal owner of entities is the institutional unit entitled in law and sustainable under the law to claim the benefits associated with these entities. In contrast, the economic owner is entitled to claim the benefits associated with the use of an entity in the course of an economic activity by virtue of accepting the associated risks. See 2008 SNA (#3.21, 26, 27).

each other (for instance, if they are part of, or are somehow controlled by, a common entity). All in all, assessing control will require some dose of judgement.

Whatever the uncertainties mentioned above, the bottom line is that institutional units are primarily allocated in the SNA to sectors and subsectors based on their residency and principal economic activity, but they can also be presented under the concept of "control". The SNA in particular distinguishes between those controlled by the government ("*public corporations*"), those controlled by a non-resident unit ("*foreign-controlled corporations*"), and the remaining corporations, which form the national private corporations in an economy (see Table 2 for a codification of the related subsectors in the European System of Accounts).

Another type of control described in the SNA framework relates to head offices. According to the SNA (#4.53), the head office exercises some aspects of "*managerial control*" over its subsidiaries. Its types of activities, as described in the *International Standard Industrial Classification of All Economic Activities* (cf United Nations (2008)), include the "*overseeing and managing of other units of the company or enterprise; undertaking the strategic or organizational planning and decision making role of the company or enterprise; exercising operational control and managing the day-to-day operations of their related units*".[47]

Concept of control and classification of corporations in the case of the
European System of Accounts   Table 2

Sector and subsectors			Publicly controlled	National private	Foreign controlled
Non-financial corporations (S.11)			S.11001	S.11002	S.11003
Financial corporations (S.12)					
Monetary financial institutions (MFIs)	The central bank (S.121)				
	Other monetary financial institutions (OMFI)	Deposit-taking corporations except the central bank (S.122)	S.12201	S.12202	S.12203
		Money market funds (MMFs) (S.123)	S.12301	S.12302	S.12303
Financial corporations except MFIs and insurance corporations and pension funds (ICPFs)	Non-MMF investment funds (S.124)		S.12401	S.12402	S.12403
	Other financial intermediaries except insurance corporations and pension funds (S.125)		S.12501	S.12502	S.12503
	Financial auxiliaries (S.126)		S.12601	S.12602	S.12603
	Captive financial institutions and money lenders (S.127)		S.12701	S.12702	S.12703
ICPFs	Insurance corporations (S.128)		S.12801	S.12802	S.12803
	Pension funds (S.129)		S.12901	S.12902	S.12903

Source: Eurostat, 2013, Table 2.1.

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[47] The 2008 SNA recommends that the head office should be allocated to the institutional sector of the majority of its subsidiaries: "*the head office should be allocated to the non-financial corporations sector unless all or most of its subsidiaries are financial corporations, in which case it is treated by convention as a financial auxiliary in the financial corporations sector*" (2008 SNA (#A3.15)). Moreover, the SNA draws attention to the potential confusion between the concepts of "*holding company*" (see definition in Section 5) and "*head office*".

Moreover, the SNA concept of control allows differentiation between a corporation and the one by which it is controlled, the parent company. In practice, the parent unit is typically located where the corporation had its initial incorporation and/or has obtained its operating licence according to specific regulations (eg for financial services, telecommunication, energy). For a listed company, it can also be where its initial stock-market listing took place. Another option is to assign a corporation to the jurisdiction under which it files its financial accounts and where its taxes on "global" operations are paid.

Here, also, the application of the "statistical view" for identifying the parent entity can be tricky in some cases, especially when a parent unit with little controlling interest vis-à-vis an affiliate is still able to determine the general corporate policy of this affiliate. The difficulty here is to be able to differentiate between "*influence*" (which can be "*significant*" or not) and "*control*".

One example is that of an *associate corporation,* a form of entity over which the investor has a significant degree of influence but which is not a subsidiary or joint venture (2008 SNA (#4.75, 76)). Significant influence is usually assumed to arise when the investor owns between 10 and 50% of the equity/voting power of the entity – such a situation often applies to corporations controlled by government units. However, while the SNA recognises that some corporations can exert "*considerable influence*" over their associates, this is not always the case. The relationship between associates is weaker than that between parent and subsidiary corporations, and associates may not be well defined. As a result, associates would normally not be considered as controlled by a "corporate group", but again there may be exceptions.

Another example is a direct investment relationship between a foreign parent company and a resident entity: it is primarily based on the concept of "*significant influence*", but can also take the form of a "*controlling relationship*". The SNA (#4.82) states that "*all corporations with foreign holdings of 10 per cent or more*" (of equity) are foreign direct investment (FDI) enterprises.[48] The balance of payments statistics as well as the OECD FDI statistics have a definition that can appear somewhat broader: "*A direct investment arises when an investor resident in one economy makes an investment that gives control or a significant degree of influence on the management of an enterprise that is resident in another economy*" (OECD (2008)). In practice, however, they also recommend strictly applying the 10% threshold, not least to ensure statistical consistency across countries, so the approach is thus very similar to the SNA.

As stated above, a direct investment[49] relationship will typically be either based on "*control*" (ownership of more than 50% of voting power) or on "*significant degree of influence*" (between 10 and 50%).[50] To clarify the situation, especially as regards the analysis of multinationals, the OECD has decided to complement the "influence"-based approach of the FDI statistics with a "control"-based approach, which relies on the concept of the Ultimate Controlling Parent (see Box B). Accordingly, the country in which the ultimate investor is resident is defined as the Ultimate Investing Country (UIC) for the investment in the direct investment enterprise.

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[48] More precisely, "*Direct investment enterprises are corporations which may either be subsidiaries in which over 50 per cent of the voting power is held, or associates in which between 10 per cent and 50 per cent of the voting power is held or they may be quasi-corporations, such as branches, which are effectively 100 per cent owned by their respective parents*" (2008 SNA, #21.36). Direct investment in the reporting economy is called *inward* direct investment, and direct investment abroad is *outward* direct investment.

[49] Note that there is also the definition of an "*indirect direct investment relationship*": this can arise if an entity is able to exercise indirect control or influence through a chain of direct investment relationships (2008 SNA, #26.86).

[50] Apart from direct investment, the international accounts' functional categories comprise four other items: portfolio investment (which will generally include investment below the FDI 10% threshold); financial derivatives (other than reserves) and employee stock options; other investment; and reserve assets (2008 SNA, #26.80).

Box B: OECD statistics on Multinational Enterprises (MNEs) and Foreign Direct Investment (FDI)

The Activities of Multinational Enterprises (AMNE) statistics provide measures of the activities of multinational enterprises, covering both parent companies and affiliates (see OECD (2005)). These data are collected in a manner consistent with the SNA and capture the residency of both the affiliate and its owner. Since MNEs often have complex group structures and a variety of activities, the OECD relies on the notion of "control" and not just "influence" to ensure a globally coherent data collection.

The starting point for the collection of these data is that MNEs correspond to the SNA concept of the "foreign-controlled enterprise". In general (#4.81), it is assumed that "*a non-resident unit controls a resident corporation if the non-resident unit owns more than 50% of the equity of the corporation*".[51] But control may still be possible if ownership is lower than the 50% threshold: for instance, if the entity can appoint a majority of administrators empowered to direct the controlled enterprise, guide its activities and determine its strategy; in some countries, control can also be determined by law (see 2008 SNA, #4.71, 80, 81 for the general control of a corporation, its control by government, and its control by a non-resident unit, respectively).

In practice, the usual criterion for assessing effective foreign control is whether or not a majority of ordinary shares or voting power is held by a single foreign investor (or a group). But "special cases" of minority control are also possible, and the Globalisation Handbook (OECD (2005)) presents such examples, for instance for countries where restrictions are imposed on majority ownership by foreigners. Moreover, the complex power relationships between multinationals can lead to other forms of control, in particular via technology and knowledge flows (eg when the local firm is completely dependent on the technology owned by its "parent").

The notions of "*influence*" and "*control*" reflect two different rationales. In the case of control, the focus is on the power "to make decisions" and "decide corporate strategy": the scope of AMNE data is therefore primarily to define who controls what and where. This differs from the FDI scope, which is to analyse who invests where and the impact on local company management of "foreign influence" – a direct investment enterprise being either a quasi-corporation, such as a *branch*, fully owned by a foreign group; a *subsidiary* controlled by a foreign parent; or an *associate*, which is not controlled but simply influenced by the foreign entity holding between 10 and 50% of its voting power (2008 SNA, #21.36). In practice, however, the concepts are very close since "*the great majority of direct investment enterprises are subsidiaries of foreign corporations or the unincorporated branches of foreign enterprises, which are completely controlled by their parent corporations or owners*" (2008 SNA, #7.138).

The notion of control allows all of a company's activities to be attributed to a controlling investor (and to its respective country). There are two approaches: (i) immediate control (by the first foreign parent), and (ii) ultimate control. In the latter, the Ultimate Controlling Parent (UCP) is defined as the entity on top of the ownership chain which is not controlled by another entity. In practice, the identification of the ultimate controller is not always straightforward, especially if there is no clear majority investor, for instance, for specific joint ventures.[52] The AMNE data try to define only one country of control, taking into consideration several features for selecting the UCP country: presence of a dominant investor or of investors acting in concert; preference given to an investor exercising direct control (instead of indirect); and, when there are two equal investors, preference is given to a public entity (in contrast, investors based in a tax haven and/or who constitute a portfolio enterprise are not preferred when selecting the UCP).

The OECD has proposed the MNE framework to supplement the AMNE statistics with FDI statistics, allowing the monitoring of international exposures by both residency and nationality. This combination provides

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[51] Hence, while all *foreign-controlled* corporations are *FDI* enterprises, the reverse is not true: all corporations with foreign holdings of 10% or more are FDI enterprises. Note that the SNA (#21.47) recognises that "*There is a small distinction between the BD* [OECD Benchmark Definition of Foreign Direct Investment; see OECD (2008)] *and BPM6 and the SNA on the question of control. For the BD and in the BPM6, the 50 per cent of voting power rule is applied rigidly but the SNA is more flexible*".

[52] The 2008 SNA (#22.56) states that "*A joint venture involves the establishment of a corporation, partnership or other institutional unit in which each party legally has joint control over the activities of the unit*". Normally, the percentage of ownership will be sufficient to determine who is exerting primary control, but more criteria may have to be considered for assessing specific situations (eg unincorporated joint ventures, equal ownership percentages).

useful information on multinational firms, the related control relationships, and the various sources of financing (eg domestic sources, FDI, and other cross-border sources other than FDI). Moreover, the AMNE concept of ultimate investor allows FDI positions to be attributed to the country of the ultimate investor(s).

The concept of the UCP is also used in recording transactions and positions between fellow enterprises in FDI statistics. Fellow enterprises (2008 SNA, #21.36) are "*enterprises that have no direct investment influence upon one another (that is the 10 per cent voting power criterion is not met) but are directly or indirectly influenced in the ownership hierarchy by the same enterprise (which must be a direct investor in at least one of them)*". For example, consistent with the IMF Coordinated Direct Investment Survey Guide (IMF (2015)), "*…asset and liability positions between fellow enterprises are to be recorded in outward direct investment where the ultimate controlling parent (UCP) is a resident, and in inward direct investment where the UCP is a non-resident…*" (CDIS Guide, #4.10).

5.   The concept of the corporate group

Once the "sector" and "nationality" of a specific institutional unit have been determined, the question arises as to which units form part of the same global entity, or "corporate group" (including banks and financial groups). This concept should be harmonised to the extent possible to ensure that globally active firms are monitored in a consistent way. The concept of control between institutional units, as defined in Section 4, is obviously crucial for delineating a corporate group.[53]

Approaches to measuring financial positions of a group   Chart 2
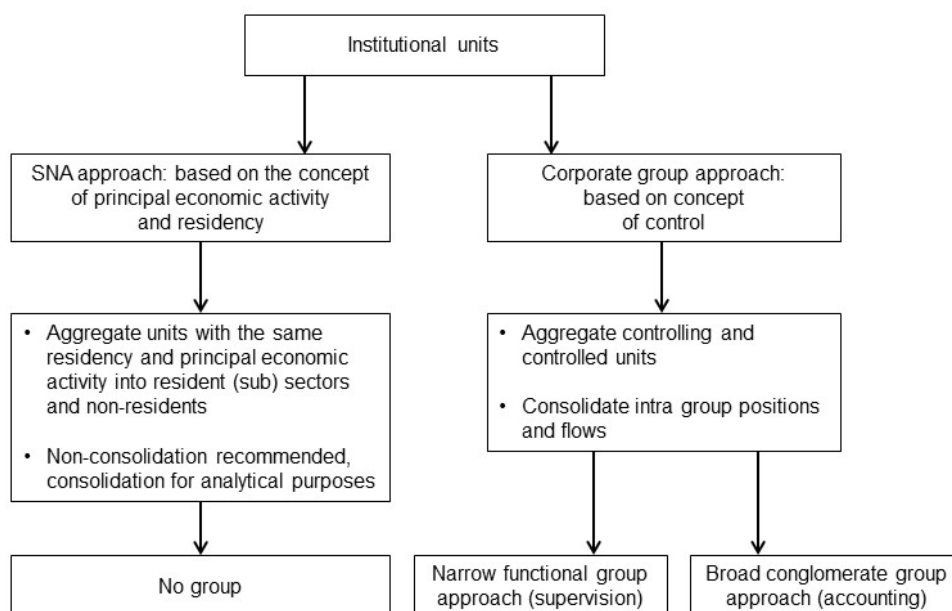
Source: IFC, 2012; see also BIS et al, Handbook on Securities Statistics, 2015, Figure A.7.1, p 138.

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[53]   Since the relationship of a parent corporation to a subsidiary is defined in terms of control in the SNA framework, "*this relationship must be transitive*", ie control can be passed down the chain of ownership as long as control exists at each stage – "*if C is a subsidiary of B and B is a subsidiary of A, then C must also be a subsidiary of A*" (2008 SNA, #4.74). A parent company therefore controls a subsidiary of its subsidiary.

There are three different possible approaches, each related to one of the three main ways of defining a controlling relationship – business accounting, supervisory and statistical (cf Chart 2). In general, business accounting standards take a very broad view of group definitions. The functional view of supervisors is somewhat narrower but can be more meaningful for the purpose of financial stability analysis. The SNA framework does provide a concept for "*conglomerates*",[54] but in practice the financial positions of corporate groups are usually not presented on a consolidated basis.

Group financial positions according to business accounting standards (the "conglomerate" view of a group)

Accounting standards require a group to be considered as a single economic entity for the purpose of presenting its consolidated financial statements.[55] Typically, a group encompasses a parent company and all its subsidiaries, and the parent company will be required to present consolidated financial statements (ie covering all the entities under its control). This general principle is applied depending on the specifics of the accounting standard considered. As regards the IFRS, for instance, a group comprises all the entities that it is required to consolidate in the financial statements according to the IFRS control definition (see above).

However, there are exceptions to the general business accounting approach, as specific treatments may apply in some cases. In general, assets under custody or under management – for which the ownership, including the holding of the related risks, is exercised by a third party – are treated differently from the group's own assets (although some disclosure standards may be applied). In particular, financial institutions are typically not required to include in their consolidated financial statements the assets managed through dedicated funds. Furthermore, the presentation of financial statements can vary along the controlling chain: when an entity's parent does not produce consolidated financial statements, the next most senior parent is defined as the first parent in the group above the immediate parent that produces consolidated financial statements.

Considering again the specific case of IFRS, one exception to the principle that all subsidiaries should be consolidated relates to "investment entities": a parent that is an investment entity measures its investments (in particular its subsidiaries) at fair value through the profit and loss account.[56] Other exceptions apply when several cumulative conditions are met, including when no debt or equity investment is traded in a public market and the parent entity or any intermediate parent produces consolidated financial statements that are available for public use and comply with IFRS (see IFRS 10:4(a) for the precise list of conditions).

In any case, the application of the business accounting view can be very broad. The "group" identified this way can be a conglomerate, covering all subsidiaries and joint ventures controlled by the parent unit, for all the locations of its business and all the sectors of its activities.

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[54] "*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, and so on*" (2008 SNA, #4.51).

[55] Nevertheless, certain jurisdictions may also require the presentation of separate (non-consolidated or so-called "solo level") financial statements.

[56] "*Where an entity meets the definition of an 'investment entity', it does not consolidate its subsidiaries, or apply IFRS 3 Business Combinations when it obtains control of another entity*" [IFRS 10:31]. An investment entity obtains funds from investors to provide investment management services; its purpose is to invest funds solely for returns from capital appreciation and/or investment income. It measures its investments on a fair value basis. For the consolidation exemption of investment entities, see IFRS 10, *Consolidated Financial Statements* (IFRS (2011)) and subsequent amendments, in particular [IFRS 10:28, 31]. However the parent of an investment entity shall consolidate all entities that it controls unless the parent itself is an investment entity.

The prudential view of group financial positions

The functional approach followed by supervisors is significantly different: compared to the business accounting approach, the prudential view of a consolidated group will generally be narrower.

In banking regulation, for instance, the scope of application of the framework developed by the BCBS for internationally active banks includes "*on a fully consolidated basis, any holding company that is the parent entity within a banking group to ensure that it captures the risk of the whole banking group. Banking groups are groups that engage predominantly in banking activities and, in some countries, a banking group may be registered as a bank.*" (BCBS (2006a)). A holding company that is a parent of a banking group may itself have a parent holding company. In some structures, this parent holding company may not be subject to the BCBS framework because it is not considered a parent of a banking group.

Under this functional approach, an individual reporting bank of a given nationality has to consolidate all its positions independently of the residency of the institutional units that are part of the banking group. Such globally consolidated positions may provide a much better reflection of the overall risks and exposures and therefore of the underlying solvency of the considered banking group. That is clearly of interest to banks' internal risk managers and their supervisors, as well as to financial stability analysts. But, while this functional delineation may be analytically appealing in general, many special cases and exceptions exist in practice.

In particular, the common supervisory practice followed under the auspices of the BCBS is to encompass the various activities that are ancillary to the business of banking. Examples of such activities that financial entities might be involved in include financial leasing, issuing credit cards, portfolio management, investment advisory, custodial and safekeeping services and other similar activities. However, the BCBS framework does not include insurance activities within "financial activities", and "financial entities" do not include insurance entities; as a result, insurance corporations are treated separately from banks, sometimes even if they are subsidiaries of a bank.[57] Other financial entities, such as pension funds and non-financial corporations, are also excluded. Lastly, and depending on national supervisory practices and applied accounting frameworks, the following may also be excluded in the supervised financial positions of a banking group:[58]

− Entities not considered as controlled under the accounting and supervisory definition (eg mutual funds with retail investors where the fund is managed but not controlled by the bank);

− Entities controlled under the accounting approach but not under the supervisory framework (eg some structured entities such as securitisation vehicles).

Using the supervisory approach, three types of groups of corporations can thus be considered:

− A *banking group* would typically consist of a deposit-taking institution parent, its bank branches and subsidiaries, its other banking-related subsidiaries and its banking joint ventures.[59]

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[57] The BCBS continues its review of the scope of consolidation for prudential regulatory purposes with a view to developing guidance to ensure all banking activities, including banks' on- and off-balance sheet interactions with the shadow banking system, are appropriately captured in prudential regimes. It plans to develop proposals for public consultation by the end of 2015.

[58] For instance, activities such as the management of assets through dedicated funds may not be reported in the financial statements of the group (cf above) and will therefore be excluded from its supervisory scope. As stated above, the same holds for the business accounting framework: third-party assets under management are not included in the balance sheet of the asset manager and thus of its consolidated group.

[59] The parent can also be a pure (ie non-operating) holding company, and the banking-related subsidiaries can cover several specific cases of subsidiaries. In the case of Europe, a banking group shall mean a euro area resident parent credit institution

– *Non-bank financial groups* would generally consist of a non-bank financial parent, non-bank financial subsidiaries and other subsidiaries. In practice, this mainly relates to insurance corporations that are typically expected to form a non-bank financial group.

– *Non-financial groups* are not subject to financial supervision and would predominantly comprise non-financial corporations.

One example of the functional approach is followed by the BIS for consolidating its IBS data.[60] Guidelines have been set up to deal with specific cases,[61] for instance a situation in which a bank (or banking group) is controlled by a non-financial corporation,[62] or in which non-financial subsidiaries are controlled by a bank parent. In such cases, the nationality of the bank is that of the highest-level controlling entity over which consolidated supervision is exercised by prudential authorities (ie insurance, banking or securities supervisors), regardless of whether that highest entity is a bank or a non-bank. As a result, the BIS consolidated IBS may include a number of banks with nationality X that are controlled by non-financial corporations located outside country X. Another, related example of the functional approach is the data collection regarding Global Systemically Important Banks (G-SIBs) by the International Data Hub (see FSB (2011a) for the initial overview of this project).

The statistical view of corporate groups

In principle, the 2008 SNA recommends classification according to the main economic activity at the level of the institutional unit, and not at the corporate group level. Moreover, this framework by design describes the economic activities of the units residing in the economic territory of the country of interest: this de facto limits the scope for having a consolidated view of (cross-border) groups.

For specific purposes, however, the 2008 SNA suggests arranging institutional units into groups of corporations according to the concept of control, irrespective of their principal functions, behaviour and objectives. This SNA approach is theoretically in line with business accounting practices: "*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, and so on. For certain purposes, it may be desirable to have information relating to a group of corporations as a whole*" (2008 SNA, #4.51). Conglomerates that include corporations resident in different countries are usually described as "*multinational corporations*" (2008 SNA, #4.74).

That said, the broad approach is not recommended in the SNA, for the following reasons:

– Although the *management* of a subsidiary may be subject to the control of another corporation, the subsidiaries often remain responsible and accountable for the conduct of their own activities (these subsidiaries are required by law and the tax authorities to produce complete sets of accounts including balance sheets);

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and all its subsidiaries, joint ventures and branches, or a euro area resident financial holding company parent and all its subsidiaries, joint ventures and branches.

[60] That approach differs slightly from the functional approach usually followed by banking supervisors as regards the treatment of insurance companies: the level of (banking) supervisory consolidation does not typically include insurance entities, while the whole spectrum of prudential regulation is considered for defining control in the context of the BIS consolidated IBS: "*For the purpose of identifying the controlling parent in the international banking statistics, the nationality of a reporting bank may be defined as the country where the bank's group-level supervisor (or "home" supervisor) is located, regardless of whether the group itself is a banking or non-banking entity. What is relevant for the identification of the controlling parent is the highest level entity over which consolidated supervision is exercised by prudential authorities. The controlling parent institution may thus be the ultimate parent, or may be the head of a financial group that is a subset of a diversified conglomerate*"; see BIS (2013).

[61] www.bis.org/statistics/bankstatsguide.pdf.

[62] Note that the situation is unambiguous if the controlling entity is simply a non-operating holding company: as stated above, that holding company is a financial entity and should de facto be in the consolidation perimeter.

– Groups are not always well defined, stable or easily identified in practice;

– It may be difficult to obtain data for groups whose activities are not closely integrated; and

– Many conglomerates are too large and heterogeneous to be treated as single units; their size and composition may be constantly shifting over time as a result of mergers and takeovers.

Consequently, for statistical purposes, the 2008 SNA basically requires that each individual corporation be treated as a separate institutional unit, whether or not it forms part of a group, including subsidiaries that are wholly owned by non-resident corporations.

The specific case of conglomerates – the prudential supervision of large complex financial services companies

As noted above, the term "*conglomerate*" is de facto understood in the business accounting framework as encompassing the full spectrum of a group, made up of different, seemingly unrelated businesses in various sectors. In the SNA framework, a conglomerate is synonymous with a "*large group of corporations*", with a key role played by *"holding companies"*.[63] In contrast, the financial supervision view of a group is typically narrower, with a separate focus on "banking groups" and "non-bank financial groups".

However, a key financial stability issue is whether it makes sense, especially for financial stability and statistical purposes, to construct broader aggregates and consolidated statistics for financial conglomerates or large, complex financial services companies. As mentioned above, financial groups can comprise different types of financial corporations, and perhaps also some non-financial corporations and non-profit institutions, located both at home and abroad.

According to the definition of the Joint Forum (Joint Forum (2012)), a financial conglomerate is an organisation whose primary business is financial and whose regulated entities engage to a significant extent in at least two of the activities of banking, insurance and securities. This definition allows different combinations of such financial activities. Of particular interest – especially from a European perspective – are so-called bancassurance groups, which are financial conglomerates that combine banking services and insurance activities.[64]

For sure, one risk is that excessively aggregated group-level information would reduce transparency for those authorities in charge of monitoring parts of the conglomerate's activities. The accounting standards in Europe in fact emphasise that a group may undertake various activities (eg insurance, banking), be subject to a number of different capital and other regulatory requirements, and operate in several jurisdictions. Hence, "*when an aggregate disclosure of capital requirements (...) would not provide useful information or distorts a financial statement (...), the entity shall disclose separate information for each capital requirement to which the entity is subject*" (EC (2008)).

Information on large complex financial institutions, financial conglomerates or holding companies can usefully complement information provided along functional lines. That would definitely be the case for microprudential analysis, ie at the level of the individual complex institution being

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[63] The 2008 SNA (#4.54) defines a holding company as "*a unit that holds the assets of subsidiary corporations but does not undertake any management activities*". Such a unit, therefore, produces only a financial service and should accordingly be assigned to the financial corporations sector even if all its subsidiaries are non-financial corporations. Sometimes, a holding company is loosely described as a head office, but a head office typically plays an active management role (cf Section 4), while the principal activity of the holding company is to (passively) own the group. For an informed discussion on these issues, see United Nations and European Central Bank (2014) – for instance Box 2.2 entitled "The delineation of head offices, holding corporations and special purpose entities".

[64] See EC (2014) for EU rules on capital requirements for credit institutions and investment firms, updated at: http://ec.europa.eu/internal_market/bank/regcapital/index_en.htm.

considered. Aggregate information on complex groups may also be appealing from a more macroprudential or financial stability perspective.

There are therefore pros and cons associated with the appropriate degree of group-level supervisory information, for instance for analysing the interconnections between financial and non-financial entities that are controlled by the same parent. One example relates to elements of the so-called "shadow banking system". As analysed in Section 7 below, a significant part of the broad range of "shadow banking services" is provided by entities that are within the consolidation perimeter of their (regulated) parent company. A narrow approach applying full consolidation would make sense in order to focus attention on those parts of the shadow banking system that are not covered by consolidated prudential regulation. But capturing shadow banking activities at a subconsolidated level of the group would also be useful, for instance by allowing a distinction to be made between the "traditional banking activities" of the group and its non-banking financial operations.

6.   Consolidation of intragroup positions

Once a group has been identified, how can the various interested authorities get a comprehensive picture of all its cross-border and cross-sectoral exposures? The starting point is to require consolidated information, at the various levels of the parent company and its affiliates. In general terms, consolidation can thus be defined as a way to present statistics for a set of units as if they formed a single, encompassing unit. But this concept may be applied differently in the business accounting, supervisory and statistical spheres.

The business accounting framework

Consolidation is a term used by company and business accountants to describe the method[65] for combining the transactions and positions of individual entities that form part of a corporate group. For instance, there are clear procedures to follow in the IFRS, which require "*an entity (the parent) that controls one or more other entities (subsidiaries) to present consolidated financial statements*" – noting that consolidation of an investee shall begin from the date the investor obtains control of the investee.

The procedure for producing consolidated financial statements in the IFRS is to ([IFRS 10:B86]): (i) "*combine like items of assets, liabilities, equity, income, expenses and cash flows of the parent with those of its subsidiaries*"; (ii) "*offset (eliminate) the carrying amount of the parent's investment in each subsidiary and the parent's portion of equity of each subsidiary*"; and (iii) "*eliminate in full intragroup assets and liabilities, equity, income, expenses and cash flows relating to transactions between entities of the group*".[66] The objective is to compile "[group] *financial statements [...] in which the assets, liabilities, equity, income, expenses and cash flows of the parent and its subsidiaries are presented as those of a single economic entity*". Basically, this leads to the line-by-line removal of intragroup transactions and positions.[67]

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[65]   This section relates to "pure" accounting consolidation, also referred to as full consolidation, eg when a parent controls its subsidiary. There are additional methods for a parent company as investor to measure its investments (esp. when they do not ensure control) in subsidiaries, joint ventures and associates (eg the cost method, the equity method). As regards these issues, see, for instance, *IAS 27 Separate Financial Statements* and *IFRS 10 Consolidated Financial Statements*.

[66]   *IFRS 10 – Consolidated Financial Statements* (2011); see in particular [IFRS 10:B86].

[67]   "*Consolidation*" has to be distinguished from "*netting*" (see 2008 SNA (#11.40)). Netting is the process whereby "gross" entries on alternate sides of the account for the same transaction item and the same institutional unit (say, interest payments paid and received by a household) are offset against one another and presented in "net" terms.

In practice, several issues may arise, such as the exemption of some entities from consolidation requirements, the treatment of different reporting dates, the case of joint-ventures through which an entity is controlled by several stakeholders, the accounting for foreign operations, valuation adjustments, etc.

The supervisory framework

As argued above, supervisory analysis puts a premium on having globally consolidated group information, similar to the business accounting approach, but with a narrower definition of a group. One example is the consolidation of intrabank positions and flows, which eliminates from the banking group's aggregate balance sheet the financial assets and liabilities held by each bank office vis-à-vis another unit within the same group. Such intragroup positions can be sizeable and, if not taken out, could distort the analysis of the group's financial position.

As discussed in Section 5, in principle all banking and other relevant[68] financial activities (both regulated and unregulated) conducted by all the entities of a group that comprises an internationally active bank should be captured through supervisory consolidation. Thus, full consolidation should be applied to all the intragroup positions, including between majority-owned or majority-controlled banking entities, securities entities and other financial entities (BCBS (2006a)). The situation can, however, be complicated by the length and diversity of the controlling chain. For instance, credit institution A may be required to consolidate the business of subsidiary C of an entity B which is not itself included in the group consolidation of entity A: if C is an investment firm that is a subsidiary of an insurance corporation B (B not being consolidated by the banking regulators within the group headed by credit institution A), C would have to be fully consolidated with A.[69] Whether this complexity has an impact in terms of the consistency of the netting operated by supervisors across the various situations they face is hard to judge.

Box C: Examples of consolidated data sets in the European Union

The Consolidated Banking Data

The Consolidated Banking Data (CBD) of the ESCB (European System of Central Banks) consist of prudential data on banks' profitability, balance sheets, asset quality, and solvency ratios for all EU countries. They cover domestic banks and the foreign-controlled ones active in the EU.[70] The data aim to cover the totality of the European Union's banking sector, grouped by size.

For each bank, the "solo level" supervisory data include all its direct offices without regard to the country in which they are located, which is an important difference from "solo" reporting in other macroeconomic statistics (under which branches located abroad are treated as separate institutional units).

Information is also compiled at the consolidated banking group level, with two forms of group consolidation: full consolidation on a cross-border basis (including affiliates located outside the domestic market) and full consolidation on a cross-sector basis (including branches and subsidiaries classified as non-bank financial institutions).[71] Insurance companies, however, are excluded. Some jurisdictions do not report IFRS-compliant data for the whole banking system, and local GAAP-compliant data have to be treated separately.

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[68] Except the activities that are explicitly excluded from the scope of banking supervision (eg insurance activities, cf above).

[69] As noted in Section 5, the practice for the BIS IBS differs slightly as they take into consideration the whole spectrum of prudential regulation for defining control.

[70] See www.ecb.europa.eu/stats/money/consolidated/html/index.en.html.

[71] See Agresti et al (2008) for a review of the macroprudential indicators derived from these data by the ECB and a comparison with the IMF Financial Soundness Indicators referred to in Box E.

Banking data under the Single Supervisory Mechanism (SSM)

In 2014, the European Union formally set up the Single Supervisory Mechanism (SSM) for banking activities, conferring specific supervision tasks to the ECB.[72] A first important difference with the CBD is that the SSM covers only euro area banks (though EU non-euro zone states can participate voluntarily). A second is that the CBD are made publicly available on an aggregated basis (that is, by country); the ECB Banking Supervision also publishes aggregated SSM data, but these data can be presented in a more granular way for specific institutions and purposes.[73] The ECB and the national supervisors have developed a common approach for collecting data from the banking sector under the SSM. As a result, around 4,600 banks, comprising 123 significant banks (ie directly supervised by the ECB) and the less significant banks in the euro area, have to report harmonised supervisory reports. This will undoubtedly enhance the quality and comparability of their reporting, thereby helping ensure the safety and soundness of the European banking system, increasing financial integration and stability, and ensuring consistent supervision.

The SSM implementation required adequate procedures for supervisory banking data and metadata collection, storage, processing (including validation rules and plausibility checks), confidentiality protection and basic dissemination. All supervisory data is now processed through the Supervisory Banking (SUBA) data system. SUBA also provides a data quality assessment of the supervisory reports. Further progress has been made and is also expected to be made to close current data gaps (eg non-IFRS reporting banks, reporting of the affiliates of SSM groups located outside the SSM area).

Consolidation within financial conglomerates

A financial conglomerate – to qualify as such for prudential purposes – must have significant business in both the insurance and banking areas. The EU Directive (EC (2002)), which provides for the supervision of conglomerates and promotes supervisory coordination, establishes characteristic thresholds for qualifying as a financial conglomerate: in particular, the activities of a group are considered to occur mainly in the financial sector when the total balance sheet of the regulated and non-regulated financial sector entities in the group exceeds 40% of the group's total balance sheet. The most important financial sector of the financial conglomerate is defined as the sector with the highest balance sheet share.

A conglomerate can thus be a group headed by a regulated entity (a credit institution, insurance undertaking or investment firm), or a group where at least one of the subsidiaries in the group is a regulated entity, and at least one of the entities in the group belongs to the insurance sector and at least one to the banking or investment services sector.

From a business accounting perspective, the applicable scope of consolidation is the IFRS framework. From a prudential perspective, supplementary capital adequacy can be required and calculated using one of the following three methods (or a combination of them):

- The "*accounting consolidation*" method (consistent with IFRS) requires the supplementary capital adequacy needs of the regulated entities in a financial conglomerate to be based on the consolidated accounts.

- The "*deduction and aggregation*" method requires the calculation to be based on the accounts of each of the entities in the group, by comparing the sum of each of the entities' own funds with their solvency requirements and the book value of their participations in other entities of the group.

- The "*book value / deduction requirement*" method is also based on the accounts of each of the entities in the group, but compares the parents' own funds with its solvency requirements and its book value participation in other entities of the group.

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[72]   See www.bankingsupervision.europa.eu/about/ssmexplained/html/supervisory_statistics.en.html.

[73]   For instance, the comprehensive assessment, an institution-by-institution financial health check of 130 banks in the euro area published in October 2014 in preparation for the SSM.

Moreover, competent authorities may allow institutions to apply different consolidation practices with the various affiliates and to consolidate them under certain conditions. Hence, the concepts at stake can vary significantly from one country to another (see Box C for the European example). It is essential therefore that the scope of consolidation is accurately defined to ensure international consistency and regulatory cooperation, and the BCBS is continuing to work on this issue accordingly.

The statistical framework

The 2008 SNA framework refers to consolidation as the "*elimination from both uses and resources of transactions which occur between units that are grouped together and to the elimination of financial assets and the counterpart liabilities*" (#2.68). It involves the elimination of those transactions or debtor or creditor relationships (ie the stock positions) that occur between the two transactors being consolidated.

The statistical approach to consolidation can thus, in theory, be applied at (i) the macro perspective of economic sectors or subsectors; and (ii) the micro level of individual institutional units.

(i)   From a macro perspective, the financial flows and positions of institutional units can be aggregated and consolidated at subsector, sector or national economy level. That is done by offsetting the same stock or flow on both the asset and liability sides of the balance sheets of institutional units belonging to the same subsector, sector or economy. This type of consolidation is called sectoral consolidation.

But a basic SNA principle is that such sectoral consolidation is not encouraged, meaning that, in principle, flows and positions between constituent units within a subsector should not be consolidated (except for complementary analyses). One explanation behind the SNA's recommendation discouraging consolidation is that consolidated data make it more difficult to compile information for different subgroupings: when information is required that is not readily available, one has to go back to non-consolidated data. A further reason is that gross exposures usually allow a richer economic analysis of emerging risks and vulnerabilities than consolidated exposures. Another is the practical difficulties and errors encountered when consolidating. In theory, these errors should be limited because the SNA framework aims at having data that are consistent within and across sectors. But, in practice, and as underlined by the 2008 SNA, when a transaction is identified for one unit, its corresponding transaction in the accounts of the other unit "*may not be recorded there, it may be recorded in a different period, it may be recorded at a different value, or it may be classified as a different type of transaction*" (2008 SNA, #22.84).

Another advantage of not consolidating financial flows between institutional units of the same sector is to allow the lending relationships within each single sector to be captured. That can be useful, for instance, for financial stability analysis. Indeed, netting credit relationships within the private non-financial sector would be misleading for debt sustainability assessment, since intrasector financial flows can be large and may have destabilising systemic effects, as seen in the Great Financial Crisis of 2007–09 (Dembiermont et al (2013)). This is why the credit series derived from national accounts data and produced by the BIS[74] for the private non-financial sectors are not consolidated.[75]

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[74]   Available at www.bis.org/statistics/credtopriv.htm?m=6%7C326.

[75]   That is, the credits between institutional units of the non-financial sector excluding government are not netted out, thus leading to a higher measure of the level of total credit than otherwise.

The implication is that, in the SNA, sectoral balance sheets often follow an aggregation basis rather than a consolidation basis: an asset held by a sector unit vis-à-vis another unit of the same sector will not be netted out.[76] This approach has some important drawbacks, however. For instance, the total debt of the corporate sector comprises debt between two corporations, but one could argue that, when looking at the corporate sector as a whole, the debt of the debtor company should be "offset" by the corresponding asset held by the creditor firm. Moreover, one benefit of using consolidated data is to overcome the difficulties posed by the heterogeneity of the concepts used by countries for delineating institutional units (this heterogeneity can, for instance, significantly distort the international comparison of gross debt indicators based on non-consolidated data).

Nevertheless, the SNA recognises the importance of consolidated data by (sub)sectors and proposes a way forward in the form of supplementary tables for specific types of analysis, depending on the policy usefulness of these data. For instance, it can be instructive at the country level to assess its financial position with the rest of the world – cf the "Balance Sheet Approach" (BSA) developed by the IMF[77] – or at the level of the subsector of financial corporations to better analyse the extent of financial intermediation in the economy. Another notable case is the general government sector, for which the consolidation of transactions between the various levels of government is not "*encouraged*" by the SNA but is recognised to be "*instructive*" and "*relevant*", especially for policy purposes.[78]

(ii)   The SNA consolidation approach can also be performed at micro level. Indeed, transactions and positions within an institutional unit comprising several legal units should always be consolidated (with certain exceptions).[79] In theory, consolidation can also be performed at the level of group corporates, both across sectors (ie by consolidating two institutional units whose main economic activity is different) and across borders (by consolidating two units resident in different countries). This would enable the financial position of a corporate group to be captured on a consolidated basis, in line with the business accounting framework. In fact, the concept of "consolidation of enterprise groups" is being considered for future methodological enhancements by the 2008 SNA, since "*it may be sometimes desirable to consider an enterprise group as a single entity and to consolidate the accounts of its members [...which...] are usually engaged in different activities and sometimes in more than one sector*" (2008 SNA, #A4.12).

However, in practice, the current SNA framework is not suitable for such group-level consolidation. It is fundamentally based on sectors within the resident economy, while conglomerate groups operate across sectors and across countries (see Box D for a comparison of sectoral and group-level consolidation). These two perspectives "don't add up" at the country level and so it is impossible to reconcile these perspectives, as long as there is no SNA view of the worldwide economy and its subsectors. As a result, SNA consolidation is generally only performed at the sectoral level, and on a supplementary basis only (see above).

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[76]   (Non-consolidated) financial SNA *aggregates* can be conceptually regarded as a simple summation of entries of all resident institutional units belonging to a specific sector (sectoral aggregates) or economic territory (economy-wide aggregates).

[77]   See Allen et al (2002) for the analytical framework for understanding crises in emerging markets based on an examination of stock variables in the aggregate balance sheet of a country.

[78]   "*Another area where consolidation can be instructive is within the general government sector when transactions between the various levels of government are consolidated (...)* (2008 SNA, #11.43). But "*in the SNA, consolidation is discouraged. Even in the government finance presentation, where consolidation is often useful, it takes place only within a single account where the matching revenue and expense entries appear...*" (#22.80). For a recent discussion of the issues related to the consolidation of the government sector, see Dembiermont et al (2015).

[79]   *Artificial subsidiaries of corporations* are a case in point. "*These sorts of corporations do not satisfy the definition of an institutional unit in the SNA because they lack the ability to act independently from their parent corporation and may be subject to restrictions on their ability to hold or transact assets held on their balance sheets (...) They are thus not treated as separate institutional units in the SNA but are treated as an integral part of the parent and their accounts are consolidated with those of the parent*" (2008 SNA, #4.64).

Box D: Comparison of sectoral and global consolidation of financial positions	
Sectoral consolidation	Global consolidation
SNA framework used for economic, monetary, fiscal and financial analysis	Business accounting, supervisory, micro and macro risk management frameworks
Aggregated balance sheets of institutional (sub)sectors within a country • Assets • Liabilities • Income and expenditure	Cross-border and cross-sector aggregated balance sheets of corporate groups on a functional basis • Assets • Liabilities • Off-balance sheet items • Profit and loss
All resident sectors, no distinction of nationality (ie domestic- and foreign-controlled resident units)	Domestically controlled entities (domestic residents that are not foreign-controlled, and including their affiliates abroad)
Breakdowns by • Financial instruments (loans, debt securities, financial derivatives) • Counterparties (resident institutional (sub)sectors, rest of the world) • Currency and maturity aggregate mismatches (eg Balance Sheet Approach)	Breakdowns by • Financial instruments (loans, debt securities, financial derivatives) • Currency and maturity • Counterparties (institutional sectors, vis-à-vis countries) • Immediate and ultimate risk
In principle, non-consolidated presentation (including for financial positions on a from-whom-to-whom approach) Consolidation by economy, sector (esp. the government sector), subsector possible for analytical purposes	Global consolidation of positions/exposures at the level of individual corporate groups No intrasector or inter-sector consolidation between different groups Option to identify inter-office (intragroup) positions

7. Examples of consolidation and potential challenges

As discussed above, consolidation can be done at geographical (eg cross-border) and/or sectoral level (eg cross-sector), for single units or for a group of them. A number of data sets already exist that can serve as interesting examples in analysing the best way forward, although they show that these approaches can face significant challenges.

Examples of consolidated data

As indicated in Section 2, the BIS consolidated IBS comprise quarterly data on internationally active banks' foreign claims broken down by the nationality of the reporting parent banks at the top level of consolidation and by the country of residence of the counterparties.[80] They build on measures used by banks in their internal risk management systems and are broadly consistent with the consolidation scope followed by banking supervisors (for details on prudential versus accounting scope for a corporate group, see Section 5). As such, the IBS consolidated data yield a comprehensive picture of 31 national

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[80] For the IBS guidelines, see BIS (2013) and www.bis.org/statistics/about_banking_stats.htm.

banking systems' risk exposures, in particular their country risk.[81] For banks headquartered in the BIS reporting area, their worldwide consolidated foreign claims comprise cross-border claims on a specific foreign country and also the local claims of their affiliates located in that foreign country (excluding positions between related offices of the same banking group). In addition, the statistics include information on the reallocation of claims (ie risk transfers) from the original borrower to the country of ultimate risk (the country where the guarantor of a claim resides). A key issue is country coverage, since banking offices are not captured by these statistics if their head offices are located outside the set of reporting countries – one alternative way is to use the other, residency-based locational IBS data set, which can then be reordered by nationality, but this only constitutes a partial mitigation since this IBS locational data set is not consolidated for inter-office positions.

Two sets of consolidated statistics are compiled. In the first, which consists of data on an *immediate counterparty basis,* claims are attributed to the country where the original risk lies, so consolidation is applied at the level of the reporting entities (measuring the exposures of the parent bank, comprising its foreign affiliates, to the borrowers that are resident in a counterparty country). In the second set of consolidated statistics, which provides data on *an ultimate risk basis*, claims are attributed to the country where the final counterparty resides, taking account of risk transfer mechanisms such as guarantees. For simplicity's sake, the consolidation concept is applied here at the reporting bank level, as for the immediate counterparty basis, but also at the level of the counterparties of the reporting bank. That is, the positions of each initial (immediate) borrower are reassessed to take into account the transfer of risks to the ultimate borrower, which can be the parent company guaranteeing the immediate borrower, or a different entity (outside of the parent group) which has, for instance, sold protection to cover the potential default of the initial (immediate) borrower.

Another important BIS data set collected on a consolidated basis is the international debt securities statistics (IDS). It is compiled from a granular, security-by-security database that enables unique identification of each security. This allows each bond to be identified by the specific residency of the issuer and by its nationality defined as the residency of the parent company controlling it. Users are thus able to compare debt issuance activity from a residency- and a nationality-based perspective. In addition, they can distinguish between the risks associated with the issuer ("immediate risk") or the economic group it belongs to ("ultimate risk").

A third BIS data set collected on a consolidated basis relates to the over-the-counter (OTC) derivatives markets (Tissot (2015)). These BIS statistics are split into two data sets. One is the Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity (amounts outstanding), which is the most comprehensive source of information on the size and structure of derivatives markets conducted every three years. Its coverage, initially limited to 26 countries in 1995, has been progressively expanded, to 53 jurisdictions in 2013, representing data collected from around 1,300 banks and other dealers. This survey takes a snapshot of the market at a specific date (end-June 2013 for the most recent one at the time of writing). The second data set is the semiannual survey of OTC derivatives, whose collection started in June 1998 and involves only 13 jurisdictions. Because of its higher frequency, this survey is a key source supporting the regular monitoring of activity in the largest OTC derivatives markets.

A key element is that the triennial and semiannual surveys both cover the worldwide consolidated positions of reporting dealers. They include the information reported by all the worldwide affiliates (ie the branches and majority-owned subsidiaries) of the head offices located in the reporting countries. This has several important implications. First, it explains why the coverage of the global market by the semiannual survey is quite good, despite what the limited number of reporting jurisdictions (13

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[81]   On an immediate counterparty basis (only 25 countries report the consolidated IBS on an ultimate risk basis). For the list of BIS reporting countries, see www.bis.org/statistics/rep_countries.htm.

versus 53) may suggest. The reason is that the financial institutions of the 13 jurisdictions participating in the semiannual survey control a large number of affiliates around the world and report a very large part of the market activity that is located outside these jurisdictions. The second implication is that operations between affiliates of the same institution are excluded from the reporting: for instance, hedging operations conducted by a local branch with its parent entity, which merely reflect intragroup risk management practices, are excluded.[82]

Turning to the IMF, the Financial Soundness Indicators Guide (IMF (2006)) presents consolidation concepts and rules for compiling Financial Soundness Indicators (FSIs). It is geared towards meeting the specific needs of countries as regards financial soundness analysis. When possible and depending on country-specific circumstances, the compilation of FSIs uses data on a consolidated basis for deposit-takers.[83] Specific recommendations are made for consolidation bases, with the aim of maintaining cross-country comparability (cf Box E).

Box E: The IMF's FSI guide as a basis for consolidation practices

Consolidation is an important dimension as regards the Financial Soundness Indicators (FSIs) promoted by the IMF, not least to ensure better comparability and homogeneity across countries. The FSIs are indicators of the financial health and soundness of the financial institutions in a country.[84]

The main bases for consolidation of group data relate to (i) control (eg domestic- versus foreign-controlled); (ii) residency (eg domestically incorporated versus non-resident); and (iii) institutional sector (eg cross-sector, in line with the sector classification under SNA). In this respect, the FSI Guide (IMF (2006)) distinguishes between four key consolidation concepts:

- *Intragroup* consolidation involves the elimination of all flows as well as all positions among members of an enterprise group. An enterprise group consists of the parent and its branches and subsidiaries (all institutional units controlled by the parent representing a single institutional unit are consolidated).

- *Inter-group* consolidation is applicable to data at the sectoral level and involves the elimination of flows and positions among the different enterprise groups belonging to the same sector.[85] All enterprise groups within the same sector are consolidated as if they represented a single institutional unit. So sector-consolidated data eliminate flows and positions among units of the same sector that are not in a control relationship.

- *Cross-border* consolidation involves a parent and units (residents and non-residents) under its control that are classified in the same sector.

- *Cross-sector* consolidation involves a parent and units under its control that are classified in more than one sector.

- In addition, the approach differentiates between (i) all domestically incorporated entities, ie deposit-takers that are incorporated in the economy and are either domestically controlled or are affiliates of foreign deposit-takers; and (ii) domestically controlled entities, which do not include the domestically incorporated entities that are controlled by a foreign entity.

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[82] In contrast, the BIS conducts another "Triennial Survey" to measure turnover in derivatives transactions. That Triennial Survey ("turnover part") provides a split between local and cross-border transactions, so as to allow an estimation of the size of local turnover (ie when both counterparties reside in the same country) versus cross-border activity. A key element is that the trades are collected from sales desks on an unconsolidated basis, ie at the level of the location of the sales desk.

[83] However, the FSI Guide recognises that in many countries there is a relative lack of consolidated data for some sectors, so national accounts-based data (that is, non-consolidated) could be used in the first instance.

[84] See http://fsi.imf.org and also Agresti et al (2008) for a comparative analysis with European indicators.

[85] Since 2007, the FSI Guide refrains from recommending sector-level consolidation adjustments, but leaves this option open to data compilers.

Different consolidation practices can be developed on the basis of these key concepts, combining them in different ways as needed. It is recognised that the FSI data compiled for domestically controlled deposit-takers on a cross-border consolidated basis are best suited for financial soundness analysis when deposit-takers have international operations. For deposit-taking institutions, the FSI Guide hence recommends the following two consolidation bases:

- **Cross-border and cross-sector consolidation basis for all domestically incorporated entities (CBCSDI)**. This covers the data of (i) domestically incorporated and domestically controlled deposit-takers; (ii) domestically incorporated deposit-taking subsidiaries which are controlled by foreign entities (not including the branches of foreign deposit-takers operating in the domestic economy); (iii) the deposit-taking branches and subsidiaries (incorporated either in the domestic economy considered or in foreign countries) of the deposit-takers mentioned in (i) and (ii); and branches and subsidiaries of (i) and (ii) that are in other financial sectors (although insurance activity is typically excluded). The CBCSDI approach **focuses on domestically incorporated entities,** and provides an indication of their financial soundness regardless of where their business is undertaken.

- **Domestically controlled[86] cross-border and cross-sector (DCCBS) consolidation.** This covers the data of (i) domestically incorporated deposit-takers which are also domestically controlled; (ii) their deposit-taking branches and subsidiaries (incorporated either in the domestic economy considered or in foreign countries); and (iii) their branches and subsidiaries in other financial sectors (again, insurance activity is typically excluded). The DCCBS therefore focuses on the **soundness of domestically controlled deposit-takers** and excludes foreign-controlled deposit-takers.

As an alternative, the Guide also sets out the following approaches depending on specific circumstances: (i) domestically controlled, cross-border consolidation basis (DCCB), (ii) cross-border consolidation basis for all domestically incorporated deposit-takers (CBDI), and (iii) domestic consolidation basis (DC). Furthermore, a country is encouraged to compile and disseminate FSIs for the branches of foreign institutions (Foreign Bank Branches (FBB)) as supplementary information, if the presence of such branches is deemed significant.

As regards the work undertaken by the OECD, its MNE framework (presented in Box B), which harmonises and integrates the FDI and AMNE statistics, recommends that the financial measures be consolidated for the group, so as to eliminate so-called "funds in transit"[87] and "round-tripping"[88]. The consolidation is done by netting investments between the affiliates of a group from the group's total assets. This consolidation not only removes funds that go into and out of affiliates simultaneously (funds-in-transit) but also eliminates funds that are invested by one affiliate in another affiliate on behalf of the same UCP. The resulting statistics show the assets controlled by the UCP in each country on aggregate, and also stripped of intrafirm positions between affiliates (OECD (2013)). This MNE framework could thus serve as a framework for collecting data as envisaged by Recommendation #13, especially for non-financial corporations.

One note of caution is that these consolidation exercises can yield different results. For instance, a comparison of FSI and BIS data for a few countries suggests that the implication of using different consolidation bases can be significant, and that even similar methodologies in the BIS and IMF guidelines can be interpreted differently by individual countries.

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[86]   Excluding, from the domestically incorporated, entities that are controlled by a foreign entity.

[87]   *"Pass through funds"* or *"funds in transit"* are *"funds that pass through an enterprise resident in one economy to an affiliate in another economy, so that the funds do not stay in the economy of the affiliate. These funds are often associated with direct investment"* (2008 SNA, #21.41).

[88]   *"Round-tripping involves funds from an entity in one economy being invested in an entity resident in a second economy, that are then invested in another entity in the first economy"* (BPM6, #6.46).

Challenges posed by geographical consolidation: the example of external flows

One type of consolidation of increasing interest to users of financial statistics is geographical consolidation. Such consolidation can be performed at regional level, as in the case of the euro area, or at global level. Transactions and positions between units are offset across different economic territories. One telling example relates to Europe. Many of the euro area statistics are indeed consolidated across euro area countries to eliminate, for instance, intra-euro area "external" transactions and positions in the balance of payments. This is not easy, and a large discrepancy can be observed for the euro area between the balance of its current account position and the sum of the balances of the current account positions of its constituent countries (the two numbers should theoretically be equal).

From a statistical perspective, it could be argued that geographical consolidation entails an unwarranted reduction in information on global flows. Indeed, the intra- and/or inter-institutional unit positions are offset against one another, when "net" rather than "gross" positions are shown. Borio and Disyatat (2011) have argued that such netting can be misleading, taking the example of gross capital flows, which are key for assessing global financing patterns (as opposed to the "net flows" perspective of the balance of payments, which consolidates operations of individual firms across borders).

Challenges posed by sectoral consolidation: the example of shadow banking entities

Consolidation is an important issue to be considered when analysing the size of the "shadow banking system", which can broadly be described as credit intermediation involving entities and activities outside the regular banking system – see the comprehensive data set presented in the annual shadow banking monitoring exercise (FSB (2014)), which follows the approach set out in the FSB report to the G20 in 2011 (FSB (2011b)). The FSB has indeed defined another, narrower concept which excludes from the scope of shadow banking those entities that are already prudentially consolidated into banking groups. One example of such financial intermediaries excluded from the narrow shadow banking definition is provided by the institutions in Europe which have prudential reporting requirements on a consolidated basis. This is because the corporations are obliged to fully consolidate all the financial institutions that are their subsidiaries or are the subsidiaries of the same (mixed) parent financial holding company.

In practice, the FSB's "*narrow measure of the shadow banking system*" only includes entities that meet all of the following three criteria. Firstly, they must be part of a credit intermediation chain. Secondly, they must <u>not</u> be consolidated into a banking group for the purposes of prudential regulation. Thirdly, they must exhibit risks associated with shadow banking, including but not limited to maturity and liquidity transformation, and/or leverage. That "stricter" measure may in some cases more accurately reflect the size and composition of the shadow banking sector. Based on a sample of 23 jurisdictions, the FSB estimated in 2014 that a proper consolidation of the shadow banking sector would reduce its size by $9 trillion (-15%), from a total of $62 trillion.[89]

However, some caution should be exercised in removing consolidated non-bank entities. In some jurisdictions, certain entities may be consolidated into the business accounts of a banking group even when waivers or exceptions exempt them from prudential requirements (ie these entities would not be within the supervisory consolidated perimeter of the group).[90] Consequently, holdings in those

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[89]   The $9 trillion figure represents only the impact of consolidation of shadow banks within the banking perimeter (ie entities already prudentially consolidated into banking groups such as finance companies and broker-dealers) and the Structured Finance Vehicles (SFVs) when the related products remain on the balance sheet of the bank that originally provided the asset to be securitised ("self-securitisation"). Note that the narrowing down exercise operated by the FSB also takes into consideration other factors, such as the removal of those entities not directly involved in credit intermediation (in addition to the sole impact of the consolidation referred to here). See FSB (2014).

[90]   One example already highlighted above is in the EU: for supervisory purposes, parent banks usually consolidate their financial institution subsidiaries, but not the insurance undertakings or the non-financial subsidiaries (which, in contrast, are normally included in the consolidated business accounts of the group).

unconsolidated undertakings have to be deducted when assessing the banking group's capital position for supervisory requirements, to ensure that the bank is not bolstering its own capital (used to support its banking risks) with capital that is also used to support the risks of, say, its insurance subsidiary).

Challenges posed by the consolidation of individual transactions: the example of the reporting of derivatives trades to Trade Repositories (TR)

The obligations to report individual derivatives trades in major jurisdictions require that market participants be identified by the recently introduced Legal Entity Identifier (LEI). The LEI is a 20-digit reference code to uniquely identify legally distinct entities that engage in financial transactions. As of September 2015, over 390,000 entities from 195 countries had obtained LEIs from 27 operational issuers endorsed by the LEI ROC.[91] Work is ongoing to develop principles and standards for collecting in the Global LEI System information on the direct and ultimate parents of legal entities. In particular, the ROC has endorsed the accounting consolidation approach as a first step for developing the LEI relationship data. Another limited form of relationship, between an investment fund and its manager, can already be recorded in the Global LEI System.[92]

The combination of individual transaction reporting with a unique entity identifier and the incremental introduction of different types of data on the relationships between entities into the Global LEI System could offer new perspectives for consolidating or aggregating data using different perimeters. However, further progress in the standardisation of reporting financial operations – including the definition of a unique transaction identifier (UTI) and unique product identifier (UPI) – and in the ability to share granular data, as well as a massive collection of relationship information, will be required.

8.   Looking ahead

The ultimate aim of this exercise is to attain a proper measuring and monitoring of (cross-border) exposures of financial and non-financial corporations, including foreign exchange and derivatives exposures. A first step is to take stock of the currently existing cross-border data, which measure financial positions, revaluations and transactions of financial and non-financial corporations. One primary source is the balance of payments and international investment position statistics, whose methodology is fully aligned with the residency-based approach described in the 2008 SNA. In addition, the national accounts framework provides a way to distinguish corporations under the concept of control. Certainly, the aggregated data are usually non-consolidated, but consolidated presentations can be occasionally applied to specific sectors or subsectors for analytical or policy purposes.

As discussed above, the residency-based approach could be usefully complemented by a "corporate group" approach as it is already implemented in the business accounting and the financial supervisory frameworks (and also hinted at to some extent in statistical frameworks such as the SNA). On the basis of the concept of control, controlling and controlled units can be aggregated and their financial statements consolidated so as to eliminate intragroup positions and flows. The resultant corporate groups usually include units resident in different economies and operating in different sectors/subsectors. The problem, however, is the impossibility to reconcile aggregated data compiled on a residency basis and those constructed under the corporate group approach (one would have to split a corporate group into the various subgroups residing in each of the relevant countries). That means that

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[91]   See http://www.leiroc.org/.

[92]   Currently, funds are not mandated to register the LEI of the asset manager, and the name of the manager is also accepted, which limits the possibilities of automated use of this information.

further research needs to be done to facilitate the comparison between the existing business accounting, supervisory and statistical standards and practices, and to combine them in an analytically useful way. The implementation of the LEI initiative would represent an instrumental step in facilitating this endeavour.

This reference paper has provided an overview of the various dimensions of the exercise, with a focus on the key concepts of control and residency versus nationality. It has also reviewed the methodological and practical issues of handling the concept of consolidation and the definition of corporate groups (including banks and financial groups). It is hoped that it can serve as a useful starting point for those initiatives aimed at measuring and monitoring (cross-border) exposures of non-financial and financial corporations, as envisaged by Recommendation #13.

In addition, the paper has identified a number of areas in which further work could be carried out, namely to:

− Promote the measurement of domestic and foreign assets and liabilities of financial and non-financial corporations, especially through the international investment position statistics based on the residency approach.

− Enhance the comprehensiveness and consistency of the data collected under existing residency, nationality and consolidated approaches so as to explore possible consistent measures for monitoring corporations' cross-border exposures, both on- and off-balance sheet (especially through the operations of their overseas subsidiaries). To this end, mobilise to the extent possible information on controlling entities and intragroup positions so as to better understand intragroup funding and risk transfer issues.

− In the context of the second phase of the Data Gaps Initiative, scheduled to be initiated in 2016, rely to the extent possible on existing data collections, especially those of the BIS (eg IBS, debt securities) and the IMF (intragroup funding through the Coordinated Direct Investment Survey – CDIS – and Standardized Report Forms for Reporting Monetary Data – SRFs), as well as the OECD (multinational enterprises – MNEs). This second phase will in particular be a key opportunity to encourage greater participation in these data collections from the countries with systemic impact on the global financial system.

− Encourage current OECD work on integrating FDI and MNE statistics so as to build consistent data series for large globally operating corporates. A case in point is the assessment of the actual cross-border exposures of MNEs headquartered in a country, especially those booked through their overseas subsidiaries.

− Address data gaps related to corporate hedging activities and other derivatives-related positions, especially via improved business accounting disclosures, reduced gaps in statistical reporting and increased availability of (consolidated) outstanding derivatives positions.

− Encourage countries and international and supranational organisations to work together on promoting the convergence in definitions of consolidation applicable to corporations, improving the definition and measurement of risk exposures, in coordination with the relevant bodies, and supporting the ongoing initiatives already taken in the context of the statistical collections of the BIS.

− Further improve the "infrastructure" for an easier consolidation of statistical data at a granular corporate level, in particular by (i) promoting the reporting of "relationships" amongst individual firms through the development of registers that draw on the LEI initiative to facilitate

the identification of foreign subsidiaries and the approach of group-level information; and (ii) enhancing the standardisation of the identification of financial instruments.[93]

– Encourage international and supranational initiatives to identify and regularly review the structure and nationality of corporations included in groups operating at global level, by mobilising existing information (eg business registers, supervisory public information, consolidated balance sheet) and conducting reconciliation exercises. The disclosure of reconciled and updated reference lists should be supported to improve the consistency of consolidated statistics and remove double-counting. The inclusion of relationship data in the Global LEI System could be a way to record and compare more cost-effectively the lists of entities included in different perimeters of consolidation.

– Support the regular organisation of conferences on these issues so as to promote academic research and policy-oriented recommendations.

This document has been shared with and benefited from comments by the secretariats of the various international regulatory, statistical and policy groups using the national accounts 2008 SNA methodology as well as the nationality concept developed by the BIS and the consolidation procedures developed at corporate group level. Looking ahead, this report is intended to facilitate more in-depth discussion of the various concepts. The IAG, also through its representatives in various groups, will continue to monitor future discussions on these issues in order to achieve more consistency across various international (statistical) standards and data collection initiatives.

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[93] Eg the International Securities Identification Number (ISIN) that uniquely identifies a security.

Perspectives on Consolidation Concepts

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