Integration of new financial developments into the new worldwide statistical standards

Reimund Mink[1]

1. Introduction

One key challenge of compiling and using economic accounts is ensuring that they continue to capture the structure of the economic and financial system and provide a level of detail that is useful for policymaking and research. This is especially true as the use of these accounts helps to expand our knowledge of economic and financial relationships and of the determinants of household and corporate behaviour. The methodological framework to compile the accounts is being revised in the context of the current update of the statistical standards, the System of National Accounts (1993 SNA) and the European System of Accounts (1995 ESA).[2] One reason for this update was to keep track of developments in a financial system impacted by globalisation, rapid financial innovation, deregulation and capital market integration.

The paper describes, in section one, how the remarkable growth of global financial markets in recent years has led to an acceleration of financial innovation, especially in the form of credit risk transfer instruments. Section two illustrates how such developments in the form of new financial instruments and the creation of specific financial institutions are integrated into the international statistical standards, taking into account their relevance for monetary policy and financial stability analysis. Some examples, the classification of financial corporations, new financial instruments and the treatment of securitisation activity are described in section three. In this context, the paper takes note of the new accounting standards for financial instruments under the International Financial Reporting Standards (IFRS) in section four.

2. A remarkable growth of global financial markets

The pace of change in global financial markets has been remarkable with an acceleration of financial innovation. In particular, the use of credit risk transfer instruments expanded dramatically, permitting the distribution, hedging and active trading of credit risk as "separate" financial assets. Even the year 2007 can still be regarded as prosperous – with a global economic growth at around 5% of GDP mainly attributable to the continued momentum of emerging economies, notably in Asia. Looking further backwards, the 1990s were characterised by broad economic and financial market liberalisation and deregulation, accompanied by political breakthroughs like the collapse of the Soviet Union and the enforced political and economic integration process observed in Europe with the foundation

---

[1] Reimund Mink, Directorate General Statistics, Statistics Development and Coordination Division, European Central Bank, Kaiserstrasse 29, D 60311 Frankfurt am Main. E-mail: reimund.mink@ecb.int. The views expressed in this paper are those of the author and do not necessarily reflect the views of the European Central Bank. Comments made by Werner Bier, Peter Neudorfer, Antonio Sanchez, Patrick Sandars and Richard Walton have been much appreciated.

[2] In parallel to the update of the 1993 SNA, a new edition (the 6th) of the IMF's Balance of Payments Manual (BPM6) has been drafted, and a new OECD benchmark definition of foreign direct investment has been released.

of the ECB 10 years ago. Specifically, the liberalisation and deregulation efforts of the financial markets were far-reaching. They have led to a wide participation of countries in a rather long expansionary phase of economic growth. Looking, for instance, at the stock of debt securities issued worldwide, there were annual increases of almost 10% from 2001 to 2006 (Table 1).

Table 1

Stock of debt securities issues

Amounts outstanding, end of period

Debt securities issues	World	Four major developed economies	US	Euro area	Japan	UK	Emerging countries	o/w Asia	o/w Latin America
	USD billion								
2001	41,792	36,670	18,504	9,492	6,925	1,748	2,345	1,270	694
2006	68,734	57,521	26,736	18,768	8,719	3,298	6,056	3,518	1,557
	As a percentage of total issues								
2001	*100.0*	*87.7*	*44.3*	*22.7*	*16.6*	*4.2*	*5.6*	*3.0*	*1.7*
2006	*100.0*	*83.7*	*38.9*	*27.3*	*12.7*	*4.8*	*8.8*	*5.1*	*2.3*

Source: IMF, Global Financial Stability Report (various issues, latest issue in April 2008), Statistical Appendix, Table 3.

These securities issues data also show the geographical rearrangements of global financial markets. The four most important financial "markets" – the United States, the euro area, Japan and the United Kingdom – still accounted, in 2006, for more than 80% of the global stock of debt securities issues. But the corresponding stock of regions with currently much smaller shares, such as the emerging countries in Asia and in Latin America, is growing rapidly. Their average annual growth rates for the period from 2001 to 2006 amounted to 23% and 18%, respectively, compared with a 9% annual increase of stock of debt securities issued by the "big four".[3]

One important function of the financial system concerns the management of risks. The role of securitisation in the financial markets of developed countries has expanded dramatically in recent years.[4] Examples for financial instruments used in this context are credit default swaps (CDS) and, in particular, structured credit products, through which portfolios of credit

[3] See IMF, Global Financial Stability Report, April 2008, Statistical Appendix, Table 3. This table also covers other selected indicators on the size of the financial markets like total reserves minus gold, stock market capitalisation or bank assets.

[4] See J.M. González-Páramo, Member of the Executive Board of the ECB, Financial turmoil, securitisation and liquidity. Keynote speech presented at the Global ABS Conference 2008, Cannes, 1 June 2008; and also: ECB, Securitisation in the euro area, Monthly Bulletin, February 2008. The Bank for International Settlements reported the notional amount on outstanding OTC credit default swaps to be USD 57.9 trillion in December 2007, up from USD 28.9 trillion in December 2006 and USD 13.9 trillion in December 2005. See http://www.bis.org/statistics/otcder/dt1920a.pdf.

exposures could be sliced and repackaged to suit the needs of investors better.[5] This category includes, in particular, collateralised debt obligations (CDOs), backed by both cash instruments, such as "plain" securities, loans or asset-backed securities (ABS), and by financial derivatives, such as CDS and CDOs themselves. Monoline insurance corporations guarantee the timely repayment of debt security principal and interest when an issuer defaults.[6] Insured securities range from municipal bonds and structured finance bonds to CDOs. The expansion of these financial products has contributed to a strengthening of the "originate to distribute" model of financial intermediation: rather than holding the credit they originated, credit institutions and other financial intermediaries would sell them, possibly after having repackaged them, into the financial markets.

Enhanced risk management schemes have contributed to helping corporations and households to manage risks. A function of the financial system is to reduce the costs of financing for borrowers, to facilitate the accumulation of wealth and to increase the efficiency of the financial system as a whole. Innovation in financial instruments has extended the choice of risk management products available to corporations and households. At the same time, efficient markets for risk depend on having complete information. Concerns have emerged regarding the information provision, in particular on securitisation, hedge funds and credit risk transfer markets, and to a lack of transparency on the identity of the ultimate risk holders.

3. Capturing the structure and detail of the economic and financial system

a. Mechanics of globalisation and financial innovation and statistical work

Understanding the impact of globalisation and financial innovation on the performance of the financial system is one of the main challenges for central bank policy analysis, research and decision-making. It also significantly impacts on the statistical work, as high-quality and timely macroeconomic statistics are a key ingredient. Accordingly, financial statistics and – in a broader context – integrated institutional sector accounts have to capture the structure of the economic and the financial system and to provide the level of detail useful and necessary for policymaking and research.

To integrate new economic and financial phenomena into existing statistical standards involves long time lags. While the various project phases and their timelines are determined in advance, there is still a need to fine-tune this work to take new and unexpected developments into account. Careful planning is needed when dealing with integrated systems of national accounts in which systems are designed in a way to comply with the various (horizontal, vertical and stock-flow) identities and restrictions. Expanding the boundaries of assets and liabilities or increasing the coverage of institutional units has to be assessed thoroughly before including new items into the system. Statistical work is closely related also to the design of international financial reporting standards as, in both cases, economic and financial market developments have to be monitored and to be "translated" into appropriate and generally accepted statistical standards or accounting standards.

---

[5] See the paper of P. Poloni and J. Reynaud, ECB, How to measure credit risk transfer in EU, prepared for this conference.

[6] They are so named because they provide services to a single industry. Insurance regulations prevent insurance corporations from offering financial guaranty insurance. The monoline industry claims that it has the advantage over multilines of sole focus on capital markets.

b. Update of the System of National Accounts

How can one keep international statistical standards that underlie high-quality macroeconomic statistics and national accounts up to date and in line with the changes in economies due to globalisation and financial innovation? In 2003, the United Nations Statistical Commission (UNSC) approved a work programme for updating the 1993 SNA with the assistance of an advisory expert group on national accounts (AEG). The Inter-secretariat Working Group on National Accounts (ISWGNA) – comprising Eurostat, the IMF, the OECD, the UN and the World Bank – was mandated to coordinate and manage the update project. The project website at http://unstats.un.org/unsd/sna1993/snarev1.asp, maintained by the UN Statistics Division, covers a broad documentation on project management, draft chapters and materials supporting the worldwide comment process, the list of issues agreed to be considered during the update and the development of a set of recommendations, the forward-looking research agenda, and meetings.

In its report to the UNSC in 2003, the ISWGNA set the scope for updating the 1993 SNA. It clearly indicated that new issues should be identified that are emerging in the new economic environment for trends such as globalisation or financial innovation. It was also emphasised by the ISWGNA that in the 10 years since its adoption, the 1993 SNA has shown a remarkable resilience in its usefulness in a changing economic environment, and is a robust framework that has gained broad appreciation.[7]

c. How to reflect financial innovations in the new SNA?

The current update of the new SNA is based on a list of 44 updating issues for discussion.[8] Many of them are linked to topics related to relatively new financial phenomena such as the treatment of repurchase agreements, non-performing loans, index-linked debt instruments, or employee stock options in the accounts. Table 1 of the Annex provides an overview of these issues related to financial assets and liabilities.

To obtain a more complete picture of the updating process it is also necessary to look at the issues for discussion in the context of defining institutional units or of classifying sectors. One of the central topics refers to questions on how to determine the relevant features of institutional units and how to group them into institutional sectors or subsectors. Closely linked to these questions is the issue of how to separately identify financial corporations involved in financial intermediation activities like securitisation transactions, securities lending, and repurchase agreements. As many of these activities are increasingly cross-border, a related issue deals with the question of how to determine the main criteria of the residence of a unit (see Table 2 of the Annex). Looking more closely at the tasks of how to refine the current financial asset and liability classification and to subdivide the financial corporation sector, it is obvious that various new components have been included into the system as shown in Table 3 of the Annex.

Taking into account that many refinements of the SNA may have adverse effects on the continuity of the system, there is always some inertia towards substantially changing the system as a whole. This is also in line with the request of many researchers and analysts to keep macroeconomic time series as “stable” as possible over a rather long period of time. Nevertheless, financial innovations may have to be implemented into the SNA as

---

[7] United Nations, E/CN.3/2003/9, Statistical Commission, 34th session, 4–7 March 2003, Item 4 (a) of the provisional agenda: Economic statistics: National accounts. Report of the Task Force on National Accounts. Note by the Secretary-General. Volume 1 of the 2008 SNA has been by the UNSC in 2008 and Volume 2 of the 2008 SNA will be approved in 2009.

[8] These 44 issues for discussion are described on the UN website: http://unstats.un.org/unsd/sna1993/issues.asp.

recommended in the current update, keeping the overall relevance of the system in policy and analysis up to date.

4. Some examples of how the SNA is kept up to date

From an ECB monetary policy perspective, it is important to integrate new elements reflecting financial innovation into the wide range of statistics available at the ECB[9] and, in particular, to the framework of euro area accounts, which provides a consistent overview of the inter-linkages among the transactions and positions of the various institutional sectors like households, non-financial corporations, financial corporations, and general government, which are classified by their role in the economy. The euro area accounts require precise specifications of the institutional units and their classifications. Economic activities are reflected in both, transactions and other changes in stocks, and the architecture of the system is based on a complete sequence of accounts, including balance sheets. This framework is currently based on 1993 SNA, 1995 ESA and on other statistical handbooks like the IMF manuals on balance of payments, government finance and monetary and financial statistics.[10]

a. How to integrate money into the new SNA?

An initial step has been made towards allowing the integration of money into the new SNA, taking into account the appropriate breakdowns of financial corporations and financial assets.[11] A three-dimensional system of the accumulation accounts and balance sheets, with a breakdown of the financial corporation sector and of the financial asset and liability categories as proposed for the new SNA, and by counterpart, opens up the possibility of identifying money in a matrix, and so analysing monetary developments in the widest possible financial framework and in a way that permits them to be related more easily to the economic developments recorded in the production and income accounts. The monetary aggregates comprise money stock, and changes in it, and are reflected in the developments of the so-called “counterparts of money”, which are derived by exploiting certain accounting identities. All countries measure monetary developments, in many cases considering that monetary growth is related to developments in economic activity and, over the longer term, in inflation, or that it contains valuable information concerning financial stability. Numerous definitions of money are possible; the national choice is likely to be an empirical matter, depending on what measure or measures best relate to developments in the national economy. Nevertheless, the proposed integration of money might lead to internationally comparable monetary data derived from the national accounts framework.

---

9 See ECB, Monthly Bulletin, 10th Anniversary of the ECB, 2008. An update of available ECB statistics has been published recently/ See http://www.ecb.europa.eu/pub/pdf/other/ecbstatisticsanoverview2008en.pdf.

10 The 1993 SNA, the 1995 ESA and the related manuals are seen as the global international statistical standards. In Europe, the 1995 ESA functions as the counterpart to the 1993 SNA. However, its importance goes far beyond that of the SNA, as it is a legal instrument with a very significant impact on key policy decisions in the EU. Among other things, this refers to the so-called excessive deficit procedure, contribution to the EU budget allocation of regional funds by the EU, and the contributions of Member States to the capital of the ECB. As a consequence, changes in the current 1993 SNA will be assessed in the current process of revising the ESA.

11 This was already included in the 1995 ESA; see Annex 5.1: Link with measures of money of Chapter 5 on: Financial transactions.

A system is developed to identify the relevant holders, issuers, and financial assets, and, among the holders, to distinguish between financial and non-financial sectors, since their money holdings may have different implications for economic activity and inflation. The money-issuing sector is assumed to consist of the central bank, resident credit institutions and resident money market funds (MMFs), the monetary financial institutions (MFIs). Money holders are the remaining resident sectors, including the remaining subsectors in the financial corporate sector. Modifications might have to be incorporated in cases where central government is treated as a money issuer and only the remaining government subsectors as money holders. Holdings of money by the money-issuing sector itself are netted out. The rest of the world is assumed to be money-neutral, that is, neither the liabilities of non-residents, nor non-resident holdings of money issued by resident money issuers are counted in the national money stock.

Financial assets as monetary variables are considered to comprise currency (issued by the central bank), liquid deposits with the central bank and credit institutions (with an original maturity or period of notice of up to one year), marketable short-term debt securities issued by the money issuing sector (with an initial original maturity of up to one year), and shares or units issued by MMFs.[12]

b. Reviewing the categories of financial assets and liabilities

Beyond the specification of monetary variables as a subset, further refinements of the categories of financial assets and liabilities have been incorporated into the new SNA.

The accounting of repurchase agreements has been under discussion for some years. However, there is still insufficient agreement on how to improve the recording of repos. Nevertheless, some detailed changes have been included, for example that “on-selling is common” and that, in this case, a negative asset is recorded for the lender to avoid double-counting. Furthermore, repos should be covered in terms of a cash collateral as well as in terms of a security collateral, which also includes gold swaps, loans and deposits.

For securities, a more detailed breakdown is recommended: equity is split into shares (listed and unlisted), other equity and investment fund shares. For debt securities, a more comprehensive specification is foreseen, which takes into account the development of security-by-security databases. Debt securities are shown with breakdowns by (issuing and holding) sector, (original and residual) maturity, currency and type of interest. Specific attention is dedicated to the description of hybrids and asset-backed securities (ABS).[13] For financial derivatives, borderline cases with securities are discussed. Furthermore, a distinction is made between options and forwards. Employee stock options are shown separately. Further breakdowns are suggested such as supplementary items, for example credit derivatives or embedded derivatives.

On the accounting treatment of insurance technical provisions, questions have arisen as to whether all types of pension entitlements should be covered within the system. This question is closely linked to the issue of how far provisions, as shown in business accounting, should be treated as assets and liabilities. The decision taken on this subject is to include all pension entitlements of private schemes within the asset boundary but not most of the pension entitlements incurred by defined-benefit schemes sponsored by government.

---

[12] R. Mink, Money, financial investment and financing; paper presented at the ISI Conference in Lisbon, August 2007.

[13] See also the planned Handbook on Securities, prepared by the Working Group on Securities Databases.

Another modification refers to the enclosure as assets of standardised guarantees as a form of credit insurance.[14]

c. Subsectoring of financial corporations

The subsectors of the financial corporations sector have been expanded substantially to allow a more useful presentation of their activities in the context of financial innovation. The definition of which units make up the various subsectors of the financial corporation sector was changed to reflect the nature of their output (financial services) rather than their activities. Risk management and liquidity transformation were added to financial intermediation as activities that better capture the nature of the performance of the various financial corporations. Accordingly, the list of subsectors of the financial corporations sector has been expanded to accommodate the more detailed description of financial corporations as illustrated in Table 4 of the Annex.

Combining the subsectors "central bank", "credit institutions" and "MMFs" coincide with "MFIs" as defined by the ECB.[15] "Other monetary financial institutions" cover those financial intermediaries through which the effects of the monetary policy of the central bank are transmitted to the other entities of the economy. They are credit institutions and MMFs. Financial intermediaries dealing with the pooling of risks are included in the grouping "insurance corporations and pension funds". The "other financial institutions" cover the subsectors, investment funds except MMFs, other financial intermediaries except insurance corporations and pension funds, financial auxiliaries and captive financial institutions and money lenders.

d. Classifying specific institutional units within the financial corporation sector

Some efforts have been made to clarify the classification of specific institutional units within the financial corporation sector. The units "financial vehicle corporations engaged in the securitisation of assets" (FVCs), institutions like "special purpose entities" (SPEs), "conduits" and "brass plate companies", and "holding companies" are now included.

The new SNA foresees to classify *FVCs* as part of the subsector other financial intermediaries, except insurance corporations and pension funds (see Table 5 of the Annex). It has to be taken into account that a new Regulation of the ECB is currently in preparation to collect data on these types of financial corporations. According to the draft Regulation, FVCs are defined as institutional units carrying out securitisation transactions. They incur debt securities, the credit risk of which is transferred to the investors in these debt securities, and they also acquire assets underlying the issue of debt securities.[16] FVCs may be constituted under the contract law (as common funds managed by management companies), the trust law (as unit trusts), the company law (as public limited companies) or any other similar mechanisms.

Compared to FVCs, *SPEs, conduits, brass plate companies* and the like are also seen as institutional units providing financial services. But most of their assets or liabilities are not

---

[14] Three types of guarantees are distinguished in the new *2008 SNA*: standardised guarantees, one-off guarantees (not to be included in the system) and credit default swaps (treated as financial derivatives). See also *IAS 37 on Provisions, Contingent Liabilities and Contingent Assets*.

[15] See Regulation (EC) No 2423/2001 of the ECB of 22 November 2001 concerning the consolidated balance sheet of the monetary financial institutions sector *(ECB/2001/13)* and its corrections and amendments.

[16] A draft Regulation (EC) of the European Central Bank is being prepared concerning statistics on the assets and liabilities of financial vehicle corporations engaged in securitisation transactions.

transacted on open financial markets. Some SPEs and trusts hold assets and receive property income solely for their owners. Other entities transact only within a limited group of units, such as with subsidiaries of the same holding company or entities that provide loans from own funds. Thus they should be distinguished from financial intermediaries, which usually interact with a large number of various counterparts on at least one side of their balance sheet.

The labels mentioned above are all applied to flexible legal structures in particular jurisdictions, which offer various benefits that may include any or all of low or concessional tax rates, speedy and low-cost incorporation, limited regulatory burdens, and confidentiality. Other purposes for which such structures are used are holding and managing wealth for individuals or families, holding assets for securitisation, issuing debt securities on behalf of related companies (such a company may be called a conduit), as holding companies that own shares in subsidiaries but without actively directing them, securitisation vehicles, ancillary companies in different economies to their parent, and performing other financial functions.

While there is no internationally agreed standard definition of SPEs, in economies where they are important, they may be identified separately, according to either a national company law definition, or in terms of a functional description, possibly referring to their limited physical presence and ownership by non-residents.[17] Besides the fact that their owners are non-residents of the territory of incorporation, other parts of their balance sheets might also be vis-à-vis non-residents. Furthermore, they usually have few or no employees, and have little or no physical presence.

The "captive financial institutions and money lenders" subsector of financial corporations should cover: (a) Legal entities that are institutional units with the function of simply holding assets, such as, trusts, estates, agencies accounts, or some "brass plate" companies; (b) Units that provide financial services exclusively with their own funds, or funds provided by a sponsor to a range of clients and incur the financial risk of the debtor defaulting. Examples are money lenders and corporations engaged in lending (eg student loans, import/export loans) from funds received from a sponsor such as a government unit or a non-profit institution; (c) Pawnshops that predominantly engage in lending; (d) Financial corporations, such as SPEs that raise funds in open markets to be used by affiliated corporations (in contrast to FVCs); and (e) Conduits, intragroup financiers, and treasury functions when these functions are undertaken by a separate institutional unit.[18]

Depending on their activities *holding companies* are classified in different sectors and subsectors of financial corporations and non-financial corporations. There are holding companies as head offices that carry out some managerial control over their subsidiaries and undertake the strategic and organisational planning and decision-making on the basis of day-to-day operations of their related units. They are engaged actively in production. Depending on the type of their subsidiaries such head offices are classified as non-financial corporations (if all or most of the subsidiaries are non-financial corporations) or as financial

---

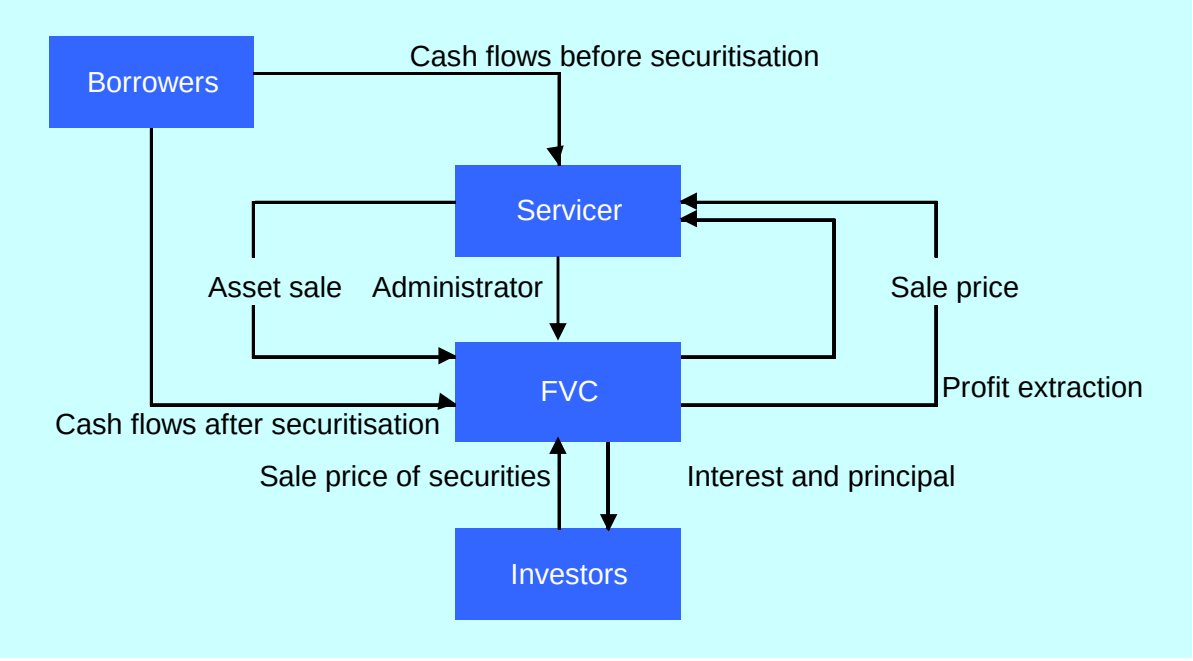
[17] IFRS contain a broad definition of an SPE in SIC 12, paragraphs 1, 2 and 3. See SIC Interpretation 12, Consolidation – Special Purpose Entities. SIC 12 *Consolidation – Special Purpose Entities* was developed by the Standing Interpretations Committee and issued in December 1998.

[18] Conduits are entities that raise funds on open financial markets for passing on to other affiliated enterprises. Often, the conduit's liabilities are guaranteed by a parent company. If a conduit issues new financial instruments that represent a claim on the conduit, it is acting as a captive financial institution. Conduits are cases of "pass-through funds" or "funds in transit". These are funds that pass through an enterprise resident in an economy to an affiliate in another economy, so that the funds do not stay in the economy of that enterprise. Such flows have little impact on the economy through which they pass. While SPEs, holding companies and financial institutions that serve other non-financial affiliates route funds in transit, other enterprises transmit funds in direct investment flows.

corporations (if all or most of the subsidiaries are financial corporations).[19] Holding companies are distinguished by the assets held (owning controlling levels of equity) of a group of subsidiary corporations and by principal activities in owning the group. Such holding companies do not provide any other services to the businesses in which the equity is held, ie they do not administer or manage other units and do not undertake any management activities. They are classified as captive financial institutions even if all the subsidiary corporations are non-financial corporations. Table 6 of the Annex provides an overview of the several types of holding companies.

e. Securitisation activities

Taking into account the modifications in terms of financial assets and liabilities and of financial corporations, the updated SNA provides the ingredients for the recording of securitisation activities within the system. Securitisations usually encompass the issuance of debt securities through an off-balance sheet process involving an FVC or a trust. In particular, once the originator, usually a MFI, has selected a pool of assets from its portfolio, it then sells them to the FVC.[20] This entity legally separates the underlying assets from the originator and finances the purchase of the assets by issuing debt securities to investors, while holding the assets in trust.[21] Once the debt securities are issued, the interest and principal of the underlying assets are collected and managed by a "servicer" and rechannelled to investors through the FVC. The diagram below describes the typical transactions with this separate institutional unit (usually referred to as an FVC or a special purpose vehicle (SPV) or, in the United States, as a special purpose entity (SPE).



[19] There might also be holding companies that hold and manage subsidiaries and that may also have substantial operations in their own right. Such holding corporations are classified according to those operations if they are predominant.

[20] Usually assets are homogeneous, in terms of credit quality, maturity and interest risk.

[21] Legal separation is important in the securitisation process. It determines whether, in the event of bankruptcy of the original holder, the assets pledged continue to service the issue on the terms originally agreed on, thus making the FVC "bankruptcy-remote".

The FVC also insures the pool of assets against default, thus improving the quality of the underlying assets through a process known as credit enhancement. This can take several forms, including over-collateralisation (according to which the value of the assets exceeds the value of the debt securities issued), insurance contracts, letters of credit, subordination of tranches that absorb losses first, and the use of sponsor agencies (eg governments or multilaterals) to guarantee payments or reserve funds. A credit derivative is also generally used to change the credit quality of the underlying portfolio so that it will be acceptable to the final investors. A credit derivative is a financial derivative, the price and value of which derives from the creditworthiness of the obligations of a third party, which is isolated and traded. Credit default products are the most commonly traded credit derivatives and include unfunded products such as credit default swaps (CDS) and funded products such as synthetic credit default options (CDOs).

All assets can be securitised as long as they are associated with cash flows. Hence, the debt securities, which are the outcome of securitisation processes, are termed ABS. They are based on pools of assets, or collateralised by the cash flows from a specified pool of underlying assets. Assets are pooled, which can make otherwise minor and uneconomical investments worthwhile, while also reducing risk by diversifying the underlying assets. Securitisation makes these assets available for investment to a broader set of investors. These asset pools can be made of any type of loans like credit card payments, auto loans and mortgages. There are different securitisation and more complex techniques exist that can be applied to different asset classes and institutions. In developed markets, financial derivatives have allowed the introduction of synthetic securitisation in which the credit risk of the pool of securitised assets is transferred to a third party using credit derivatives rather than the direct transfer of ownership of assets.

In the context of national accounts, issues that need to be clarified depend on which types of securitisation transactions take place. Securitisations in the form of “true sales” imply that cash flows related to securitised loans are sold to a FVC together with all risks and rewards. This leads to the disposal of the loans by a financial institution (probably a MFI) and their acquisition by the FVC, which is being financed by the issuance of debt securities and the proceeds of which are paid back to the financial institution.

In the case of “synthetic securitisations”, only the credit risk is transferred from the financial institution (the credit protection buyer) to the FVC (the credit protection seller) by entering a CDS. The financial institution pays a premium to the FVC in return for a payment in the case of a credit default. The payment in the case of a credit default may be collateralised and financed by the FVC through the issuance of credit-linked notes or other debt securities.

A new ECB Regulation will facilitate the collection of data on FVCs and will cover transactions, other flows and positions of these institutional units vis-à-vis other market participants, specifically MFIs. Given the role of MFIs as originators and loan servicers for many FVCs, an integrated reporting scheme is necessary for FVCs and MFIs to limit the reporting burden as far as possible, and to achieve the best possible quality of statistics. Data on securitised loans will have to be reported which are granted by these institutions, but originated and continued to be serviced by MFIs and by other resident sectors and by non-residents. Questions will remain how to establish reporting schemes to collect supplementary data on synthetic securitisations and on FVCs created outside the euro area and by non-MFIs.

f. The balance sheet approach

Compared to the more traditional examination of transaction data, the balance sheet approach focuses on the analysis of stock data in an economy's sectoral balance sheets and its aggregate balance sheet, of financial and non-financial assets, liabilities and net worth.[22] This approach – specially developed by the IMF, but also described in the context of euro area balance sheets – can be applied to the analysis of financial stability using an institutional sector approach. The innovative part is that the focus of attention is not solely on the activity and strength of the economy as a whole vis-à-vis the rest of the world, but also within the economy and in the interrelations between institutional sectors and subsectors, as described above. The sectors generally covered in the approach may be further divided into subsectors such as various kinds of financial institutions, eg the central bank, credit institutions and other financial intermediaries, as referred to above.

The balance-sheet approach is important for analysing financial stability. Institutions like the IMF or the ECB stress its advantages in monitoring and supervising financial activity, alongside the analysis of financial stability, on the basis of (i) assessing the quality and diversification of each sector's and subsector's portfolio of assets and liabilities; (ii) identifying points of weaknesses in the financial system; (iii) measuring exposure to sectoral financial risks; and (iv) mapping the connections between the sectors, and assessing the dynamics between them at times of shocks.[23]

The framework for assessing balance sheet risks focuses on four types of balance sheet mismatches, all of which help to determine a country's, sector's or subsector's ability to service debt in the face of shocks: (i) maturity mismatches, where a gap between liabilities due in the short term and liquid assets leaves a sector or subsector unable to honour its contractual commitments if the market declines to roll over debt; (ii) currency mismatches, where a change in the exchange rate leads to a capital loss; (iii) capital structure problems, where a heavy reliance on debt rather than equity financing leaves a firm or bank less able to weather a shortfall in current revenue; and (iv) solvency problems, where assets are insufficient to cover all liabilities, including contingent liabilities. Maturity mismatches, currency mismatches, and a poor capital structure all contribute to solvency risk.

From this perspective, a financial crisis occurs when there is (i) a fall in demand for financial assets of one or more sectors; (ii) a loss of confidence in a country's ability to earn foreign exchange to service the external debt; (iii) a loss of confidence in the government's ability to service its debt; (iv) in the banking system's ability to meet deposit outflows; or (v) in the households' or non-financial corporations' ability to repay loans and other debt.

---

[22] See, for example, Mark Allen, Christoph Rosenberg, Christian Keller, Brad Setser, and Nouriel Roubini, "A Balance Sheet Approach to Financial Crisis," IMF Working Paper, WP/02/210. 2002; Dale F. Gray, Robert C. Merton, and Zvi Bodie, "A New Framework for Analyzing and Managing Macrofinancial Risks," CV Starr/RED Conference on Finance and Macroeconomics, NYU 2002; Reimund, Mink, "Selected Key Issues of Financial Accounts Statistics," ECB, August 2004.

[23] See, for instance, the most recent issues of the IMF's Global Financial Stability Report, Washington, D.C., April 2008, and of the ECB's Financial Stability Review, Frankfurt, June 2008.

5. Aligning the work between international accounting standards and statistical standards

It is important to align international statistical standards with international financial reporting standards.[24] This has been clearly reflected in the various tasks of the working groups and committees contributing to the SNA review process. International initiatives have also looked at the consistency between government accounting practices and international statistical standards. This started with the release of the various IMF Manuals and their implementation. Valuable work has also been done by the *OECD/IMF Task Force on the Harmonisation of Public Sector Accounting*, which brought together government accountants and national accountants. Harmonisation of international statistical and accounting standards as far as possible will enable the same source data to be used for several purposes, which will contribute to the reliability of macroeconomic statistics and at the same time reduce the reporting burden for corporations.

The specific accounting standards that are relevant for the statistical standards are the *International Accounting Standards Board (IASB) Framework for the Preparation and Presentation of Financial Statements*. This framework was approved by the IASC Board in April 1989 for publication in July 1989, and adopted by the IASB in April 2001. It sets out the concepts that underlie the preparation and presentation of financial statements for external users and deals with: (a) the objective of financial statements; (b) the qualitative characteristics that determine the usefulness of information in financial statements; (c) the definition, recognition and measurement of the elements from which financial statements are constructed; and (d) concepts of capital and capital maintenance.

The accounting statements directly related to the measurement of financial positions are assets, liabilities and equity: (i) an asset is a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity; (ii) a liability is a present obligation of the entity arising from past events, the settlement of which is expected to result in an outflow from the entity of resources embodying economic benefits; and (iii) equity is the residual interest in the assets of the entity after deducting all its liabilities.

Accounting for financial instruments under the IFRS is complex. The revised IAS 32, the revised IAS 39 and the IFRS 7 are current references. The IAS 32 *(Financial Instruments: Presentation)* deals with the classification of financial instruments, from the perspective of the issuer, into financial assets, financial liabilities and equity instruments; the classification of related interest, dividends, losses and gains; and the circumstances in which financial assets and liabilities should be offset. The principles in this standard complement the principles for recognising and measuring financial assets and financial liabilities in *IAS 39 Financial Instruments: Recognition and Measurement*, and for disclosing information about them in *IFRS 7 Financial Instruments: Disclosures*. Examples of financial instruments within the scope of *IAS 32, IAS 39 or IFRS 7* are shown in Table 7 of the Annex.

Looking at the various financial instruments according to IFRS, the asset categories shown in balance sheets generally include cash and cash balances; debt instruments; loans and advances; equity instruments; derivatives; tangible (fixed) and intangible (eg goodwill) assets, tax assets and other assets. On the liability side, the main categories are debt (mainly deposits in the case of banks), provisions, derivatives, tax and other liabilities and capital and reserves. Debt might be further broken down by counterpart and financial instrument, while provisions are shown separately for pensions and similar obligations.

[24] See R. Mink, P. Sandars, and N. Silva, Financial and non-financial accounts for monitoring financial stability, IFC Bulletin 23, October 2005.

Capital and reserves are split into issued capital, share premium, reserves and retained earnings.

For national accounts, the balance sheet items are mainly classified by type of instrument and liquidity. Although some obligations (eg provisions) are not always recognised as liabilities in the *SNA*, most of the national accounts instrument categories coincide with those of the balance sheet. Table 8 of the Annex provides a link between the *SNA* asset and liability categories and the corresponding financial instrument categories according to *IFRS*.

Annex

Table 1

Issues related to new financial products discussed in the context of the SNA update

Issue	Item
1	Repurchase agreements
2	Employer retirement pension schemes
3	Employee stock options
4	Valuation of non-performing loans, loans and deposits
4.a	Non-performing loans
4.b	Valuation of loans and deposits; write-off and interest accrual on impaired loans
5	Non-life insurance services
6	Financial services
35	Tax revenue, uncollectible taxes, and tax credits (recording of taxes)
37	Activation of guarantees (contingent assets) and constructive obligations
42	Retained earnings of mutual funds, insurance corporations and pension funds
43	Interest and related issues
43.a	Treatment of index linked debt instruments
43.c	Fees payable on securities lending and gold loans
44	Financial assets classification

Source: http://unstats.un.org/unsd/sna1993/issues.asp.

Table 2

Issues related to institutional units, groupings of units and residence of units

Issue	Item
24	Public-private partnerships (PPPs) (including buy-own-operate-transfer (BOOT) schemes)
25	Units
25.a	Ancillary units
25.b	Holding companies, special purpose entities, trusts; treatment multi-territory enterprises; recognition of unincorporated branches
25.c	Privatisation, restructuring agencies, securitisation and special purpose vehicles (SPVs)
38.a	Change of economic ownership (as term)
39	Residence
39.a	Meaning of national economy
39.b	Predominant centre of economic interest (as term)
39.c	Clarification of non-permanent workers and entities with little or no physical presence
C26	Currency unions
C.30	Financial corporations classification

Source: http://unstats.un.org/unsd/sna1993/issues.asp.

Table 3

Financial assets and liabilities classification (issue 44) by category (2008 SNA)

Financial asset and liability category / subcategory	Issues discussed within the context of updating 1993 SNA and BPM5	Embedding			
		Money (liabilities of MFIs)	**House-hold and corporate debt**	**Govern-ment debt**	**Credit (financial assets of MFIs)**
Monetary gold and SDRs					
Monetary gold	Treatment of subcomponents of monetary gold				
	Fees payable on gold loans (43c)				
SDRs	SDRs as an asset and as a liability				
Currency and deposits					
Currency					
Transferable deposits	Repurchase agreements (1);				
Interbank positions	Valuation of loans and deposits (4b);				
Other transferable deposits	Financial services (6)				
Other deposits		Additional breakdown by original maturity			
Debt securities	Treatment of index linked debt instruments (43a)				
Short-term	Fees payable on securities lending (43c)	Additional breakdown by original maturity			
Long-term					
Loans	Repurchase agreements (1)				
Short-term	Non-performing loans (4a)				
Long-term	Valuation of loans and deposits; write-off and interest accrual on impaired loans (4b)				
	Financial services (6)				

Table 3 (cont)

Financial assets and liabilities classification (issue 44) by category (2008 SNA)

Financial asset and liability category / subcategory	Issues discussed within the context of updating 1993 SNA and BPM5	Embedding			
		Money (liabilities of MFIs)	House-hold and corporate debt	Govern-ment debt	Credit (financial assets of MFIs)
Equity and investment fund shares					
Equity					
Listed shares					
Unlisted shares	Valuation				
Other equity					
Investment fund shares/units	Retained earnings of investment funds (42)				
Money market fund shares/units					
Other investment fund shares/units					
Insurance technical provisions	Retained earnings of insurance corporations and pension funds (42)				
Non-life insurance technical provisions (including provisions for calls under standardised guarantees)	Non-life insurance services (5) Activation of guaran-tees (contingent assets) and constructive obligations (37)				
Life insurance and annuity entitlements					
Pension entitlements	Employer retirement pension schemes (2)				
Financial derivatives and employee stock options					
Financial derivatives					
Options					
Forwards					
Employee stock options	Employee stock options (3)				
Other accounts receivable/payable	Tax revenue, uncollectible taxes, and tax credits (recording of taxes) (35)				
Trade credits and advances					
Other accounts receivable/payable					

Table 4

Subsectors of the financial corporations sector in the 2008 SNA and draft ESA

2008 SNA / draft ESA	Groupings as described in the draft ESA	
Central bank	Central bank	Monetary financial institutions (MFIs)
Credit institutions Money market funds	Other monetary financial institutions (oMFIs)	
Investment funds, except money market funds Other financial intermediaries Financial auxiliaries Captive financial institutions and money lenders	Other financial institutions	Non-monetary financial institutions
Insurance corporations Pension funds	Insurance corporations and pension funds	

Table 5

Subsector *other financial intermediaries, except insurance corporations and pension funds* and its subdivision

Other financial intermediaries, except insurance corporations and pension funds
• Financial vehicle corporations engaged in securitisation transactions (FVCs)
• Security and derivative dealers
• Financial corporations engaged in lending
• Specialised financial corporations

Table 6

Holding companies

Holding companies are included in the subsectors financial auxiliaries, captive financial institutions or in the sector non-financial corporations according to which functions they undertake.		
Type of holding company	Unit holds equity in one or more subsidiary corporations but does not undertake any management activities.	Head office that exercises some aspects of managerial control over its subsidiaries. This may sometimes have noticeably fewer employees, and at a more senior level than its subsidiaries, but it is actively engaged in production.
Description	This class includes the activities of holding companies, ie units that hold the assets (owning controlling-levels of equity) of a group of subsidiary corporations and whose principal activity owns the group. The holding companies in this class do not provide any other service to the businesses in which the equity is held, ie they do not administer or manage other units.	This class includes the overseeing and managing of other units of the company or enterprise; undertaking the strategic or organisational planning and decision-making role of the company or enterprise; exercising operational control and manage the day-to-day operations of their related units.
Sector / subsector	***Captive financial institutions*** even if all the subsidiary corporations are non-financial corporations.	Such units are allocated to the ***non-financial corporations sector*** unless all or most of their subsidiaries are financial corporations. Other entities that hold and manage subsidiaries may have substantial operations in their own right, in which case they are classified according to those operations if they are predominant.

Table 7

Examples of financial instruments within the scope of IAS 32, IAS 39 or IFRS 7

- Cash
- Demand and time deposits
- Commercial paper
- Accounts, notes, and loans receivable and payable
- Debt and equity securities. These are financial instruments from the perspectives of both the holder and the issuer. This category includes investments in subsidiaries, associates, and joint ventures
- Asset backed securities such as collateralised mortgage obligations, repurchase agreements, and securitised packages of receivables
- Derivatives, including options, rights, warrants, futures contracts, forward contracts, and swaps

Table 8

Financial assets and liabilities (SNA, ESA) versus financial instruments (IFRS)

SNA, ESA	***Broad financial instrument categories according to IFRS***
Monetary gold and SDRs	
Monetary gold	
Gold bullion	Tangible assets
Unallocated gold accounts	Other financial assets and liabilities
SDRs	Debt instruments
Currency and deposits	Debt instruments
Currency	
Deposits	
Transferable deposits	
Interbank positions	
Other transferable deposits	
Debt securities	Debt instruments
Short-term	
Long-term	
Loans	Debt instruments
Short-term	Loans and receivables (holder)
Long-term	
Equity and investment fund shares	Equity instruments
Equity	
Listed shares	
Unlisted shares	
Other equity	
Investment fund shares	
Money market fund shares/units	
Other investment fund shares/units	
Insurance, pension and standardised guarantee schemes	Debt instruments
Non-life insurance technical reserves	
Life insurance and pension entitlements	
Financial derivatives and employee stock options	Other financial assets and liabilities
Financial derivatives	Equity instruments (at least in the case of warrants and stock options) (issuer)
Forward-type contracts	
Options	Hedging assets and liabilities (if the derivatives are used in hedging operations) (holder)
Employee stock options	
Other accounts receivable/payable	Debt instruments
Trade credit and advances	Loans and receivables (holder)
Other	