EUROPEAN CENTRAL BANK

EUROSYSTEM

STATISTICS FOR ECONOMIC AND MONETARY UNION

ENHANCEMENTS AND NEW DIRECTIONS, 2003-12

BY PETER BULL
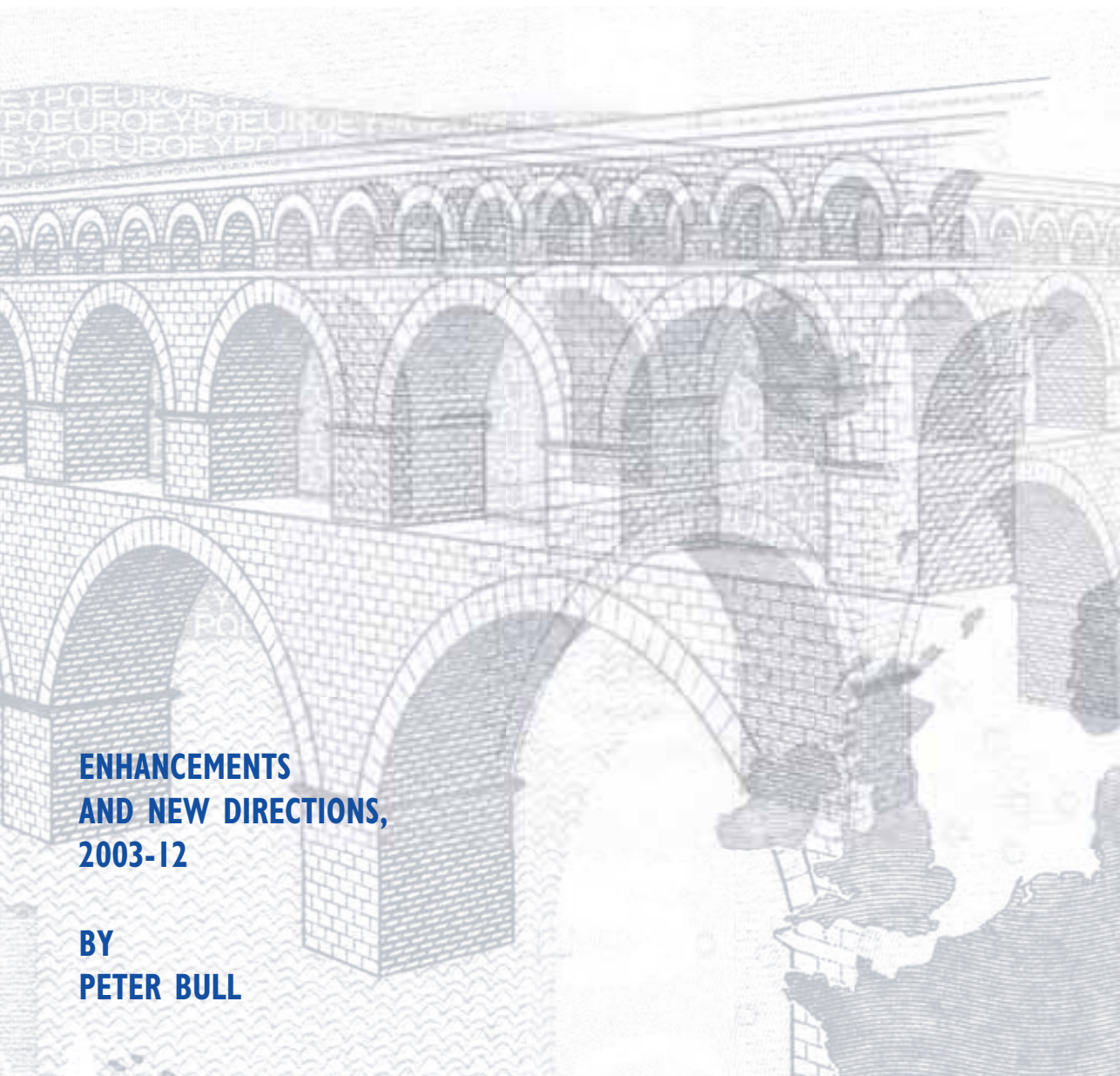
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CONTENTS

ABBREVIATIONS

The items listed are commonly used throughout. Other less frequent items are spelt out in the text.

BIS	Bank for International Settlements
CPIS	Coordinated Portfolio Investment Survey
CSDB	Centralised Securities Database
EBA	European Banking Authority
ECB	European Central Bank
EER	Effective Exchange Rate
EGR	EuroGroups Register
EIB	European Investment Bank
ESA	European System of Accounts
ESCB	European System of Central Banks
ESRB	European Systemic Risk Board
EU	European Union
FDI	Foreign Direct Investment
FVC	Financial Vehicle Corporation
GDP	Gross Domestic Product
IMF	International Monetary Fund
ISIN	International Securities Identification Number
MFI	Monetary Financial Institution
MMF	Money Market Fund
NCB	National Central Bank
OECD	Organisation for Economic Co-operation and Development
OJ	Official Journal
RIAD	Register of Institutions and Affiliates Database
SNA	System of National Accounts
SPE	Special Purpose Entity

All references to "the Treaty" in this publication, unless mentioned otherwise, are to the Treaty on the Functioning of the European Union.

AUTHOR'S NOTE AND ACKNOWLEDGEMENTS

This is the sequel to a book entitled "The development of statistics for Economic and Monetary Union", published by the ECB in 2004. The book would probably have appeared in summer 2012 covering the period 2003-11. Illness then delayed it for some time. In the circumstances I have extended the period to 2012 and even, at least briefly, added references to 2013. I have not however described in any detail the ECB statistical legislation adopted since mid-2013, other than to mention it in the context of the new ESA 2010 (itself adopted only in May 2013) and briefly elsewhere. Very largely the ECB's current regulations and guidelines in current effect, and their earlier versions, and the ESA 95, provide the framework supporting the developments in this period.

Although the main aim is to chronicle the work carried out since 2003, the book also explains some difficult issues or ideas in the process. Most of the material in this book is not original. It draws on many published and other sources and numerous conversations with ECB staff and others, in what has become a most difficult period. Some of them have made presentations to the ECB's statistical seminars which I have enjoyed chairing for several years. The majority of the publications listed in the bibliography at the end of the book have been written by ECB staff members, by name or anonymously. To a large extent the book represents a distillation of their efforts. I should however mention Steven Keuning and Aurel Schubert, my successors as Director General Statistics after my retirement in 2002, for much encouragement and support; Berit Knudsen, my former secretary; Catherine Ahsbahs, Adviser in DG Statistics, who has steered the book to completion; and editorial help from Claire Vaudry.

Peter Bull
December 2013

FOREWORD

In 2004 the ECB published a book entitled "The development of statistics for Economic and Monetary Union", written by Peter Bull, former Director General Statistics at the ECB. The book is a record of the development of euro area statistics from the start of Economic and Monetary Union (EMU) until 2003, following the lengthy statistical preparation in the period 1992-98 to ensure that essential euro area aggregates were available from the start of EMU in 1999. The book attracted a lot of attention from the whole central banking community as it provided a thorough factual account of all statistical developments necessary to support monetary policy and other central banking functions.

The ECB is now publishing a sequel to this book, also written by Peter Bull. It covers the period 2003-12 but also mentions the latest developments in 2013.

These years have been marked by important changes in data requirements to support policy-making, some of which were prompted by the lessons learned from the financial crisis. Compared with the earlier years of EMU, euro area aggregates are not the only or predominant requirement for analysts and policy-makers to compare and understand the underlying differences in financial structures, composition and dynamics. Rather, more national data are now also necessary. Although euro area aggregates remain essential, highly aggregated statistics are not detailed enough, as policy-makers and analysts need more breakdowns to allow a deeper analysis of credit, funding and asset portfolio developments. These changes in data requirements have led statisticians to develop more detailed data and have also brought about changes in the way statistics are compiled – moving, where feasible, towards the collection of micro or granular information.
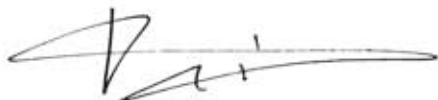
The crisis has shown that the aggregated statistics traditionally used for the "two-pillar" economic and monetary analysis in the context of the ECB's monetary policy strategy, although essential, were alone not enough. The increasing role of macro-prudential analysis and the new task assigned to the ECB to provide statistical support to the European Systemic Risk Board (established in January 2011) have led the ECB to place a higher priority on developing financial stability statistics. The focus is on sources of risk and interconnections in the financial system as a whole, including the shadow banking sector, with significant consequences for the ECB's statistical function. A large part of this information stems from supervisory data. Cooperation with relevant parties in changing circumstances is necessary to ensure that the reporting burden on banks and other financial institutions is kept to a minimum.

The book describes how the ECB has responded to these new requirements, which will certainly continue to evolve. Furthermore, the ECB may be required to make changes in the way statistics are compiled in contributing to the preparation and conduct of the Single Supervisory Mechanism. These are challenges which will have a significant impact on the organisation of statistical work at the ECB, entailing a new set-up in terms of data coverage and scope comparable to that required for EMU in the 1990s.

I know that Peter Bull has made a decisive contribution to the development of ECB statistics that paved the way for the further ambitious achievements described in this second book under the responsibility of his successors, Steven Keuning and Aurel Schubert. I am also grateful to Peter Bull for providing continued support to the ECB during his retirement, notably in the preparation of new statistical manuals, in his involvement in the ECB's statistical training seminars and in giving technical statistical assistance to euro area Member States, EU acceding countries and other non-EU countries on behalf of the ECB.

Frankfurt am Main, December 2013

Peter Praet
Member of the Executive Board of the European Central Bank

GENERAL INTRODUCTION

An earlier book, "The development of statistics for Economic and Monetary Union" published by the ECB in July 2004, described the statistical preparations for monetary union between adoption of the Treaty on European Union (Maastricht Treaty) in 1992 and the start of monetary union in 1999, and the subsequent work carried out over the following four years or so. This book continues the story to the end of 2012 and indeed beyond in some chapters, given the importance of recent events. It covers, broadly speaking, ECB (or ESCB or Eurosystem)[1] statistics, that is the areas for which the ECB and national central banks (NCBs) are responsible at European level, or share responsibility with the European Commission (Eurostat). These areas are monetary and other financial statistics, including data relating to financial institutions and financial markets; the balance of payments, international investment position and related statistics; and integrated economic and financial accounts for institutional sectors, jointly developed and compiled by the ECB and Eurostat. The ECB and Eurostat also share responsibility for the statistical infrastructure. Although it may refer to them in passing, and the ECB makes good use of them in carrying out its functions, the book does not cover in any detail government finance statistics (other than an annex to Chapter 15), national accounts (except the institutional sector accounts), price and cost, or labour market and other economic statistics, for which Eurostat is principally responsible at EU level and which in most countries are handled by national statistical institutes.

In July 1996 the European Monetary Institute, the ECB's predecessor, released a document entitled "Statistical requirements for Stage Three of Monetary Union (Implementation Package)" which set out the essentials for the start of monetary union and also included items which, although it would not be feasible to have them ready in time, were nevertheless highly desirable and should be planned for. The most important item in this second group was the integrated institutional sector accounts. However, there were many refinements to the initial package which began to be implemented from about 2000 and have continued well beyond 2003. These are the enhancements referred to in the title of this book – innovations or improvements either envisaged from the start, or which were natural developments of the original statistics provision.

Much of the work of the most recent years, however, does not fall into this category. Statistics for the start of monetary union were developed largely with the ECB's monetary policy function in mind. Indeed, the mandate from the Committee of central bank Governors to the Working Group on Statistics when it was set up in May 1992 to make statistical preparations for monetary union mentioned only the monetary policy function. While the ECB has always concerned itself with financial stability, as laid down in the Statute of the ESCB

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1   The European System of Central Banks comprises the European Central Bank and the central banks of the 28 countries in the European Union (with the accession of Croatia in July 2013). The Eurosystem currently comprises the ECB and the central banks of the 17 countries in the euro area. Latvia will adopt the euro in 2014.

and of the ECB,[2] the statistics used for that purpose were either adapted from data designed to support monetary policy, or were based on data supplied by national financial supervisors. A complication is that the monetary policy function relates exclusively to the euro area, to which the ECB's power to issue binding legislation is confined, whereas the financial stability function is EU-wide.

The financial crisis which began in 2007 has greatly increased the importance of the ECB's financial stability function and has led to radical changes in the structure of macro-prudential surveillance in Europe, including the establishment of the European Systemic Risk Board (ESRB) in 2011. The ECB ensures the Secretariat of the ESRB and provides, inter alia, statistical support.[3] These developments, together with the recommendations of the Group of Twenty leading countries (G20) and other reports arising from the financial crisis, have led statistical work in the ECB and the NCBs in new directions. Among them have brought a new emphasis in Europe on monitoring developments in individual countries, in particular incipient economic and financial imbalances which may prove destabilising, The ECB has now devoted much effort to meeting the needs of financial stability and macro-prudential supervision at EU level. A further development, although outside the scope of this book, is a banking supervision role for the ECB, for implementation in 2014, and other steps towards an EU banking union.

This new direction is important, but the departure from the previous path should not be exaggerated. In the first place, the importance of statistics to support monetary policy has in no way diminished. Moreover, although the focus for financial stability purposes is different in important respects – consolidated data for banking or other financial groups, for example, may cross the boundaries of residence and economic sector which are critical in the statistics used for monetary policy and other economic analysis purposes – enhancements to data for one purpose may have direct application to the other. Thus the integrated economic and financial sector accounts which are a prominent feature of the 2009 IMF-Financial Stability Board report to the G20[4] had already been introduced in the euro area to support monetary policy. Another initiative – from-whom-to-whom accounts, which enable exposures within and across sectors and national boundaries to be traced – was already planned. In the same context the ECB and NCBs had also already developed plans for obtaining detailed statistics on holdings of securities, with the first reporting starting in 2014. An instance of the "granular" (i.e. highly detailed, item-by-item) approach to statistical reporting which supports from-whom-to-whom accounts and securities holdings statistics was already in place at the ECB in the form of the

2   Protocol on the Statute of the European System of Central Banks and of the European Central Bank.
3   The European Systemic Risk Board, the three European Supervisory Authorities (responsible for banking, securities and markets, and insurance and occupational pensions respectively), the Joint Committee of the European Supervisory Authorities and the national supervisory authorities in the EU countries together make up the European System of Financial Supervision.
4   See the report entitled "The Financial Crisis and Information Gaps", 29 October 2009, prepared by the IMF and the Financial Stability Board, and endorsed by the G20 finance ministers and central bank governors in November 2009.

Centralised Securities Database, construction of which had started in 2002. Some NCBs had been following this approach for some time. In the area of banking statistics, the phenomenon of securitisation originally aroused interest because of its implications for the analysis of monetary data, leading the ECB to plan amendments to the regulation concerning bank (monetary financial institution, MFI) balance sheet statistics and a new data collection from financial vehicle corporations, the usual partners of MFIs in securitisation operations. Work had also begun in 2007 to improve statistics on insurance corporations and pension funds, which had become the subject of heightened interest; quarterly publication started in June 2011. Work has been done on surveys of households and small and medium-sized corporations to provide information in the G20 report about financial conditions within the broad economic sectors, and on property prices and household wealth in the form of residential property. These are all instances, and there are others recounted in this book, where work begun for monetary policy purposes, despite conceptual differences and the wider geographical scope of the ECB's financial stability responsibility, has proved to be directly relevant to addressing the problems arising from the financial crisis.

Another key development is the work carried out over recent years to revise the international and European statistical standards mentioned above, namely the System of National Accounts (SNA 93); its European counterpart, the European System of Accounts (ESA 95); and the fifth edition of the IMF's "Balance of Payments Manual" (BPM5). The revised SNA 2008 was published in 2009. The regulation on the ESA 2010 has recently been adopted by the European Parliament and Council, and the ESA 2010 will be implemented in the European Union in 2014. The BPM6 will also be implemented in the European Union in 2014. This book is based on the ESA 95 and refers, where necessary, to the SNA 93 and the BPM5, but there are many references to the new standards, especially in Chapter 20. A number of ECB legal instruments were adopted in the latter part of 2013, partly reflecting the requirements of the ESA 2010. Apart from Chapter 20, however, references to these 2013 regulations and guidelines are mentioned only briefly.

Although most of the book is about statistical developments, space is also devoted to organisational issues. The relationship with Eurostat and national statistical institutes matters to the ECB and the NCBs because statistical work is a cooperative effort within (very largely) a single coherent conceptual framework established by agreed international and European statistical standards. Statistical developments in recent years have necessitated some changes to the EU framework legislation on ECB statistics which underlies the relationship with the European Commission and national government statisticians. Meanwhile, the ECB has become closely involved in supporting statistical work for the new structure of financial supervision in Europe represented by the ESRB and the three European Supervisory Authorities, requiring new procedures. Also important is the organisation of statistical work within the ESCB and the Eurosystem. The Statute of the ESCB envisages a decentralised arrangement in which the ECB is "assisted" by the NCBs in collecting the necessary statistical information, although the NCBs are in fact to carry out this task to the extent possible. The NCBs must provide national data for use for national policy purposes as well

as closely harmonised contributions to area aggregates in a form designed for aggregation. Meanwhile the euro area has expanded from 11 members initially to 17 (and to 18, with Latvia), and the European Union from 15 in 1995 to 28 (with the accession of Croatia in mid-2013); most of the newcomers are small countries with few staff in the statistics departments of their central banks.

The structure of the book is as follows. Part I concerns balance sheet statistics relating to financial institutions – banks (MFIs), other (non-monetary) financial intermediaries, particularly investment funds, insurance corporations and pension funds, and financial vehicle corporations involved in securitisations. There is a box on what are called special purpose entities, although not all of them are financial institutions. Part I also compares statistics primarily designed for monetary policy purposes with the requirements for financial stability and macro-prudential supervision. Part II is about securities – issues and holdings statistics, securities databases and security-by-security reporting. Part III, on financial markets statistics, covers data on interest rates (including those paid and charged by MFIs), yields and financial asset prices, touching also on money market surveys and data relating to payment and securities trading, clearing and settlement systems. Part IV turns to external statistics. Foreign direct investment and portfolio investment are particularly difficult areas, but the growing errors and omissions in the external accounts from 2004 led the ECB to undertake a thorough reappraisal of data sources and compilation methods. Other topics covered in Part IV include the export (and re-import) of euro banknotes, data collection systems which have changed considerably in several European countries in recent years, and the monetary presentation of the balance of payments – an approach enabling the ECB to link monetary and external developments in the monthly statistics. Part V focuses on the euro area institutional sector accounts, which bring together in a consistent conceptual framework most of the areas of statistics discussed previously and, in the non-financial part of the accounts, the output, income and expenditure elements in the national accounts which are not otherwise discussed in this book. Part VI covers some other statistical issues, namely effective exchange rates and the harmonised national competitiveness indicators for individual euro area countries based on the same methodology, and other questions affecting many areas of statistics, namely the treatment of euro area enlargement, and statistical registers and identification standards. Part VI also looks ahead to implementation of the many changes introduced in the revised European and international statistical standards, planned for 2014.

Part VII turns to the organisation of statistical work in the Eurosystem, and amendments to the EU legislation concerning the collection of statistical information by the ECB. Part VII also discusses the ESCB's public commitment on statistics, the quality framework and related reporting, and dissemination and communication issues. Part VIII looks ahead to the full implementation of recommendations arising out of the financial crisis, and mentions other planned work.

PART I

STATISTICS RELATING TO FINANCIAL INSTITUTIONS

INTRODUCTION

In the preparations for monetary union, the name "monetary financial institution" (MFI) was coined for those financial institutions with at least some monetary liabilities. The term was chosen in preference to the familiar "bank", or the expression used in the global System of National Accounts (the SNA 93) of "depository corporation", because the sub-sector would include, in addition to central banks and commercial banks, a group of institutions called money market funds (MMFs), which are not considered to be banks and which do not take deposits. MMFs and some other, e.g. electronic money, institutions nevertheless issue liabilities which may be seen as close substitutes for deposits, and it became apparent that the future ECB would want to include them at least in euro area broad money.

From the start of monetary union, an ECB regulation addressed to MFIs, Regulation ECB/1998/16 on MFI balance sheets, required them to provide a detailed balance sheet on a monthly basis (with a provision exempting small institutions from the full obligation). In the area of financial institutions statistics, the ECB calls the issue of a regulation addressed to potential reporters the "steady-state" approach to data provision. For some years only MFIs were subject to such a steady-state approach. Data on other (non-monetary) financial institutions were, and to some extent still are, collected under what the ECB calls a "short-term approach", under which NCBs provide available information as specified in a guideline on a best efforts basis. As explained below, the ECB often moves from a short-term approach to the steady-state approach as experience with the area of statistics increases and requirements crystallise.

A regulation addressed to MFIs was adopted from the start for three reasons. It was clear that the ECB would attach particular importance to monetary aggregates and what are called their counterparts, in particular the credit counterpart. The ECB did not have a target for the growth of a monetary aggregate, but it did announce a "reference value" for the growth of broad money, M3. The MFI sub-sector covers practically all institutions with liabilities included in M3: the exceptions are post office giro institutions, and certain agencies of central government which have monetary liabilities in some countries. Timely, comprehensive, accurate and closely harmonised data were necessary on the institutions contributing to this key area of statistics. The second reason was the size of the MFI sector and its importance in financial intermediation in the euro area. While balance sheet size is not the whole story, the significance of MFIs is apparent from the table of selected magnitudes in the euro area below. (Some of

the aggregates overlap.) Indeed, MFIs are more important in relation to financial activity and balance sheets as a whole in the euro area than in the United States and the United Kingdom.

Table 1 Statistical magnitudes	
(EUR trillions, end-2012)	
MFI balance sheet – aggregated	38.0
– consolidated (excluding positions within MFI sector)	26.2
Investment funds (excluding money market funds, which are MFIs)	7.2
Financial vehicle corporations (FVCs)	2.0
Insurance corporations and pension funds	7.8
Debt securities and quoted shares issued by euro area residents	21.2
Households – financial assets	18.7
– liabilities	6.2
Non-financial corporations – financial assets	13.5
– liabilities	22.9
For comparison: euro area GDP (2012, whole year)	*9.5*

The third reason for adopting a regulation in preparation for monetary union was that credit institutions, by far the largest component of the sub-sector, must hold minimum reserves (deposits with the NCB), and their individual obligation to do so, the reserve base, is calculated each month from the information on their balance sheet. Accurate and closely harmonised data provided to a strict timetable were needed for this administrative purpose.

The requirements set out in Regulation ECB/1998/16 covered the bare essentials. Other needs had already been identified and were therefore expected from the start or quickly became apparent. The most important of these were a monthly (rather than the initial provision of a quarterly) sectoral breakdown of money holdings and MFI loans, and fuller information to enable the flow or transactional change in monetary aggregates and counterparts to be compiled. It should be explained here that growth rates of money holdings, MFI loans and other related variables are not calculated simply from the change in outstanding amounts in the month or quarter: rather, the outstanding amounts in successive dates reflect not only transactions in the intervening period, but also valuation changes, reclassifications and other non-transactional effects on balance sheets. Appropriate amendments were introduced in a 2001 update of the regulation, implemented in 2003. This was repealed when a further regulation, adopted in 2008, was implemented in 2010. The new requirements in Regulation ECB/2008/32 included many changes to take account of financial innovation, notably securitisation. A complementary regulation addressed to FVCs, the usual partners of MFIs in loan securitisations, was introduced at the same time – see further below. Other changes in Regulation ECB/2008/32 were made to support changes to a separate regulation on MFI interest rates – see Chapter 7.

The short-term approach to statistics on other (non-monetary) financial institutions continued until 2007, when the ECB adopted a regulation addressed to investment funds (other than MMFs, which were already covered by the earlier regulations

on MFI balance sheets – although MMFs may now, for convenience, use the investment fund reporting format). In fact the short-term approach within the framework of the predecessor guideline on monetary, financial institutions and markets statistics was providing data on investment funds which the ECB had considered to be of good enough quality for publication as euro area aggregates since early 2003. However, deficiencies in coverage and consistency resulted in the ECB publishing only balance sheet outstandings, not flows (or transactions). Regulation ECB/2007/8 on investment funds (implemented in 2009) requires similar information to that provided by MFIs, although it is somewhat simpler for investment funds. It includes the option of reporting holdings of securities individually. Security-by-security reporting, now quite widely used, is a new direction for ECB statistics in recent years (see Chapter 6.2).

The other group of non-monetary financial institutions, subject of an ECB regulation on statistics, is FVCs, which have become important because of the significance of loan securitisations in which they partner the MFIs making the loans in the first place. Because securitisations are complex operations, and both 2008 regulations on MFI balance sheets and FVCs work together to collect information on them, Chapter 2 devotes some space to explaining them.

Regarding insurance corporations and pension funds, the ECB has published aggregated balance sheet data as an adjunct to the institutional sector accounts (or their predecessors) since 2003. These data were substantially enhanced in 2011 and are now the subject of a quarterly press release. However, they are still collected on a best efforts basis and are not fully comparable across countries. Indeed, until a 2009 amendment to the EU framework legislation on ECB statistics (described in Chapter 22), the ECB was not empowered to address a regulation to insurance corporations and pension funds. When the legislation was introduced in 1998, it was thought they were not likely to be important for the ECB's monetary policy and other functions. On data relating to insurance corporations (but not yet pension funds), the ECB is planning to take a further new direction. One of the new entities set up at the beginning of 2011 under the de Larosière proposals for regulatory reform,[1] the European Insurance and Occupational Pensions Authority (EIOPA), is working on new reporting requirements for insurance corporations for supervisory purposes under the EU Directive Solvency II, adopted in 2009. The EIOPA is not empowered to issue regulations, although it can issue guidelines and recommendations as well as draft regulatory and technical standards. The intention is that the ECB will issue an ECB regulation addressed to insurance corporations which will enable NCBs to derive, as far as possible, the required data from insurance corporations' supervisory reporting, thus minimising their reporting burden. A similar arrangement is being considered for pension funds; however, the supervisory work is at an early stage and it is not certain that their future reporting requirements will be suitable for the ECB's statistical purposes.

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1   See the Report of 25 February 2009 of the High-Level Group chaired by Jacques de Larosière on financial supervision in the European Union, available on the Europa website (http://www.europa.eu).

Another group of enterprises discussed in Part I is special purpose entities (SPEs). These are entities which, although registered, incorporated or authorised in a country, have little or no physical presence there and conduct little or no business with residents of that country. Most SPEs are probably engaged in financial activity of some kind. Some are not, but it is convenient to discuss them in Chapter 2 (Box 3) because their common characteristics are more important than their exact line of business.

The relationship between statistical and supervisory data, though hardly an issue at the start of monetary union, has become a major concern in recent years. In addition to monetary policy, the Treaty on the Functioning of the European Union includes a responsibility on the ESCB to contribute to the smooth conduct of policies pursued by the competent authorities relating to the stability of the financial system. Data for monetary policy purposes relate strictly to the euro area, which defines the extent of the ECB's monetary policy responsibility. Thus the MFI sector in the euro area comprises all institutions resident in the euro area, including branches and subsidiaries in the euro area of institutions with headquarters outside the area, but excluding branches and subsidiaries outside the euro area of MFIs in the euro area. MFI balance sheet data and data on all other types of financial institution compiled by the ECB for statistical purposes are constructed on this basis. The data also observe strict sectoral boundaries, both in terms of the entity to which the data relate and counterparty information reported. These rules enable the data to fit into the integrated economic and financial accounts, which provide a comprehensive record of all economic and financial activity in the euro area and are also of great value for monetary policy purposes (see Chapters 14-15). Although supervisors may also look at data relating to the individual institution ("solo reporting"), the focus of supervisory data is the institution including its foreign branches and, very often, all or parts of its financial subsidiaries, whether or not they are located in the same economy and in the same financial sub-sector as the parent ("group reporting"). There are other differences between statistical and supervisory data, for example in valuation and other accounting practices and in what constitutes an on-balance-sheet asset or liability. Meeting the data needs of the financial stability function of the ECB at the least additional cost to reporting credit institutions had become an important concern at the time and led to a study, involving the European Banking Authority, of the links between these two types of data (this is the Joint Expert Group on Reconciliation described in Chapter 3). To support the ECB's financial stability function, consolidated banking data have been provided since 2003 based on supervisory reports collected by all EU Member States. From 2010, in addition to the annual reports, a significant subset of the consolidated banking data were also compiled on a semi-annual basis. Indeed the much increased significance of financial stability since the financial crisis began in 2007 and the establishment of the ESRB has brought this issue to the forefront. Chapter 3 describes the links between the MFI balance sheet statistics and the balance sheet data used for banking supervision and financial stability purposes.

I MONETARY FINANCIAL INSTITUTIONS AND OTHER CONTRIBUTORS TO MONETARY STATISTICS

The ECB's monetary aggregates are derived from balance sheet and related data reported by MFIs. In some countries however central government and post office giro institutions also have monetary liabilities. They are the "other" contributors to monetary statistics. Information provided by them is added to the data reported by MFIs.

The MFI balance sheet statistics discussed in this chapter were designed mainly to support monetary policy. Chapter 3 describes the links between them and the balance sheet data used for banking supervision and financial stability purposes.

1.1 MFI BALANCE SHEETS

There have been three regulations on MFI balance sheets: Regulation ECB/1998/16 (no longer in force), laying down requirements which were enhanced in 2001 (Regulation ECB/2001/13, in effect until mid-2010) and again in 2008 (Regulation (recast) ECB/2008/32). There has also been amending legislation, notably Regulation ECB/2011/12. In September 2013, the ECB's Governing Council adopted Regulation ECB/2013/33, which includes changes reflecting in the new ESA 2010 (Chapter 20); this new regulation, which will be implemented as from data for December 2014, will not be further discussed in this chapter except by brief reference.

BACKGROUND

As Regulation ECB/1998/16 established, the ECB coined the term "MFI" to cover all institutions some of whose liabilities are included in the ECB's definition of broad money, M3. MFIs comprise the Eurosystem (the ECB itself and NCBs), whose monetary liabilities are mainly in the form of banknotes and coins; credit institutions (broadly speaking, banks); MMFs (investment funds or collective investment institutions holding short-term and highly liquid assets, whose liabilities in the form of shares or units may be considered close substitutes for bank deposits); and a small number of other institutions which are not credit institutions. MFIs constitute the reporting population for the balance sheet statistics discussed in this chapter.

MFIs are currently defined in ECB legislation (Regulation ECB/2008/32, Article 1, as amended by Regulation ECB/2011/12), as resident undertakings falling in any of the following categories:

(a) central banks;

(b) credit institutions (as currently defined in Article 4(1) of Directive 2006/48/ EC on capital requirements);

(c) other MFIs, i.e. (1) other financial institutions whose business is (i) to receive deposits and/or close substitutes for deposits from entities other than MFIs, and (ii) for their own account, at least in economic terms, to grant credits and/or make investments in securities; or (2) electronic money institutions principally engaged in financial intermediation in the form of issuing electronic money (e-money institutions which are not credit institutions);

(d) MMFs. Article 1(a) of Regulation ECB/2008/32 (as amended) contains guidance on identifying MMFs.

The amended Regulation further notes that "electronic money institution" and "electronic money" follow the definitions laid down in Article 2(1) and 2(2) of EU Directive 2009/110/EC (see below).

A wide variety of institutions meets this definition, including all-purpose "universal" banks, investment banks, savings banks, building societies, rural credit banks, cooperative banks and credit unions, provided they take deposits or, in the case of MMFs, issue close substitutes for them, and extend credit or buy securities. MFIs are by far the most important category of financial institution in the euro area and the dominant financial intermediaries: in aggregate, their balance sheets amounted at the end of 2012 to €38 trillion, the equivalent of four times annual GDP in the euro area (netting out inter-MFI positions leaves some €26 trillion). As mentioned in the introduction, their size, importance in financial intermediation activity, and role in the creation of money led the ECB to pay particular attention to them from the start of monetary union. MFIs were the subject of the first and, for some years, only statistical regulation adopted by the ECB (Regulation ECB/1998/16). At the end of 2012 there were some 7,060 MFIs in the euro area (18 central banks, including the ECB; about 6,020 credit institutions; about 990 MMFs; and 35 other institutions). In the European Union as a whole there were some 9,080 MFIs. (These numbers have tended to decrease. Chapter 19.1 contains more information on lists of reporting institutions and the database containing them.)

The first regulation on MFI balance sheets was intended to provide the minimum initial dataset that the ECB would require to compile monetary statistics and enable each credit institution's reserve base to be calculated for purposes of the Eurosystem's minimum reserve requirements.[1] One difficulty arose in 2000. Except for euro-denominated banknotes and coins, only monetary instruments held by residents of the euro area are included in M3. The problem was not with the balance sheet information as such, but how to trace holdings by non-residents of the euro area of certain instruments included in M3. The Eurosystem had to establish a reporting system for non-resident holdings of negotiable monetary instruments (MMF shares/units and short-term debt instruments, i.e. debt securities issued with an initial maturity of up to two years) issued by MFIs. MMFs are concentrated (in terms of numbers) in France, Luxembourg and Ireland. In France, the market for shares and units of MMFs is primarily domestic. In Ireland and Luxembourg, foreign investors from non-euro area

1   The minimum reserves requirement is described briefly in the ECB publication entitled "The monetary policy of the ECB". The current edition dates from May 2011.

countries play a considerable role. Reflecting the structure of their markets, the NCBs adopted different data sources to estimate holdings of shares and units in MMFs by non-residents of the euro area – management companies, custodians, balance of payments data, or international security settlement systems in which securities are held and administered. They also estimated holdings of other negotiable monetary instruments. By autumn 2001 the data on non-resident holdings of negotiable instruments were considered to be at least adequate for use in compiling monetary aggregates, and were deducted from the aggregates, with revisions back to January 1999.

Regulation ECB/1998/16 proved to have two main deficiencies. The first concerned data on transactions. In principle transactions represent exchanges between economic agents by mutual agreement. Changes in market prices and exchange rates, reclassifications and other non-transactional changes affecting balance sheet outstandings must be excluded from transactions and the calculation of growth rates: the latter are not a simple difference between end-period stocks. Yet the regulation did not require MFIs to report transactions or valuation effects on their balance sheets: thus their monthly balance sheet (with additional quarterly detail) recorded only outstanding amounts of assets and liabilities. The other main shortcoming was that Regulation ECB/1998/16 provided only quarterly information on the sector of counterparties to items on the MFI balance sheet, so that sectoral holdings of M3 and the sectoral composition of bank lending were not available each month. This was important because it seemed highly likely that, for example, growth of M3 holdings of the household or non-financial corporations sectors would have different implications from the same growth of money holdings by other (non-monetary) financial corporations.

Revaluation adjustments and monthly sectoral detail on the MFIs' counterparties were the main changes introduced in Regulation ECB/2001/13, which came into effect in early 2003.

CHANGES IN REGULATION ECB/2001/13

The monthly main sectoral detail provided a significant enhancement, which came on top of the existing instrument, maturity and currency breakdowns. Regulation ECB/2001/13 also provided more information on the purpose of lending to households (for house purchase, consumer credit, and for other purposes). In addition, a quarterly sector breakdown of MFIs' holdings of shares and other equity was added to enable total MFI credit by borrower sector to be measured (the ECB definition of MFI credit includes, in addition to MFI loans, holdings by MFIs of debt securities of all kinds and of equity issued by resident sectors other than by MFIs themselves). For the purposes of balance of payments statistics (and prospectively to meet the needs of financial accounts), some additional monthly and quarterly breakdowns were added for deposits and loans vis-à-vis the rest of the world (meaning entities outside the euro area). By summer 2003 the ECB was able to publish a monthly sectoral breakdown of deposits (by maturity, currency and type) with MFIs held by households, non-financial corporations, insurance corporations and pension funds, and other financial corporations (e.g. investment funds). Quarterly estimates of M3 deposits by sector were later published back to 1991, while monthly estimates based on interpolated quarterly

data were published from September 1997 to December 2002. With some assumptions about currency holdings, it was then possible to derive M1 and M2 monthly by sector. Total monthly M3 by sector had to await estimates of sectoral holdings of MMF shares/units and debt securities issued by MFIs with an original maturity of up to two years. For these instruments, statistical information could not be collected directly from reporting agents, as MFIs are typically unable to provide information on the holders of the traded securities they issue. The allocation of these M3 instruments to the various money-holding sectors was therefore based on estimates, in some cases using information assembled for the purpose of compiling sectoral financial accounts. It then (in 2007) became possible to publish sectoral M3 holdings, in terms of both outstanding amounts (stocks) and transactions (flows), back to 1999 (quarterly) and 2003 (monthly). On the assets side of the MFI balance sheet, monthly data became available for the loans granted by MFIs to these four sectors. Long time series (quarterly from 1980) of MFI loans to households and non-financial corporations in the euro area compiled from national sources and estimates became available in autumn 2007, with the further breakdown of loans to households into consumer credit, loans for house purchase and "other" lending. Lending to non-financial corporations was split between loans with an original maturity of up to one year and those with an original maturity of over one year. Some of these national data inevitably used definitions of the borrower sector and/ or loan purpose which were not in line with later ECB regulations, and accordingly are not fully comparable with more recent data.

A more challenging innovation in Regulation ECB/2001/13, however, concerned information needed to estimate transactions. The ESA 95 defines a transaction as "an economic flow that is an interaction between institutional units by mutual agreement …" (paragraph 1.33). Transactions cover (for example) the placement and withdrawal of deposits, granting and repayment of loans, and sales and purchases of securities and other marketable items. Although, as described in Box 1 below, transactions may be reported directly by MFIs, in most cases transactions are derived by residual after removing non-transactional changes from the difference in outstanding amounts. These non-transactional changes are as follows.

- *Reclassifications and other changes*, which mainly comprise breaks in series arising from changes in the MFI reporting population and from the reclassification of assets and liabilities. These effects are known to central banks and do not require data to be specially reported.

- *Price effects*, which are changes in the level outstanding of MFI assets and liabilities owing to valuation changes. Two types of effect are distinguished: *exchange rate changes*, which comprise changes in the euro value of assets or liabilities denominated in foreign currency that arise from exchange rate fluctuations; and *revaluation adjustments*, comprising two different effects, *write-offs/write-downs* of loans and *price revaluation* of securities.[2]

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2   The treatment of write-offs/write-downs as revaluation adjustments differs from their treatment in the ESA 95, where they are recorded as "other" changes in volume. The main point, however, is that they are nowhere treated as transactions.

The item *write-offs/write-downs* of loans refers to the impact of changes in the value caused by the removal from the balance sheet of loans considered to be partly or totally irrecoverable. A distinction should be made between write-offs and provisions against non-performing loans. A bank may record a loan as "non-performing" (in arrears for some months) and make a provision against it some time before it writes it off as irrecoverable. It is only when the bank actually removes all or part of the loan from its balance sheet that the loan is deemed to have been written off or written down. The decision to write off a loan depends on national regulations and corporate policies: there can be differences between banks and between countries in terms of the speed with which loans are written off. *Price revaluations* of securities are changes in the outstanding stock of securities that arise because of a change in the price at which the securities are recorded on the balance sheet (excluding the effect of exchange rate changes). Box 1 describes how the revaluation adjustments are used to derive transactions, together with information about reclassifications available to central banks and an adjustment for exchange rate changes affecting items denominated in foreign currency. The topic is covered in more detail in the ECB's "Manual on MFI balance sheet statistics" (April 2012).

The data on valuation adjustments required to compile transactions statistics and the growth rates derived from them thus relate to loans (write-offs/write-downs) and securities (price effects, but excluding effects of foreign exchange movements). Until Regulation ECB/2001/13 was implemented in 2003, central banks compiled these revaluation adjustments as best they could from available data sources following an agreed methodology. Information on write-offs/write-downs of loans was now required, with a breakdown by sub-sector of the borrower and, for loans to households, a further breakdown by "purpose". Since providing revaluation adjustments would be costly, the regulation allowed NCBs to grant a derogation to MMFs in respect of reporting them on the grounds that MMFs invest predominantly in securities with short maturities which were thought unlikely to experience much price volatility.[3] The amount of information to be reported on the revaluation adjustment was reduced to the minimum in terms of balance sheet items. Flexibility was provided to NCBs in defining the requirements to be addressed to the reporting institutions, subject to the mandatory reporting of a certain number of series considered to be the minimum requirement for good quality data.

In both reporting sectoral information and handling transaction data, the focus was on the provision of monthly data, in accordance with the requirements of ECB statistics users. However, users were willing to accept some flexibility in the provision of data for holdings of securities other than shares and of shares and other equity. Reflecting this, the sector breakdown of MFIs' holdings of securities other than shares continued to be collected quarterly and the new sector breakdown of holdings of shares and other equity was also quarterly. Although the reporting requirement for adjustment data relating to flows was to be monthly, Regulation ECB/2001/13 permitted NCBs to collect the data on price revaluations for securities quarterly, subject to meeting minimum

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3   Some MMFs have experienced falls in the price of their shares/units in recent years, and valuation adjustments may now be applied to these instruments – see further in Box 1.

standards and subject to review. More quarterly currency detail of MFI positions was required and, for balance of payments purposes, more information on the maturity composition of deposit and loan positions with non-residents of the euro area. The 15-working day timeliness requirement for the submission of monthly data from NCBs to the ECB was retained and extended to the new stock and flow adjustment data.

Regulation ECB/2001/13 incorporated some other changes that did not affect the reporting requirements, including merging the categories "money market paper" and "debt securities". Another change, mentioned previously, concerned the definition of electronic money, broadening the concept to cover software-based e-money in addition to pre-paid cards. The definition of MFI was extended to include e-money institutions as covered by the EU legislation. (See later in this chapter for an account of changes to the definition in 2011.)

Box 1 Transactions, revaluation adjustments, reclassifications and "other" adjustments, and the exchange rate adjustment

The distinction between transactions and other effects on balance sheet outstandings is discussed at length in the ECB's "Manual on MFI balance sheet statistics", published in April 2012, on which this box is based.

The main text noted the ESA 95 definition of a transaction as an economic flow representing an exchange between institutional units by mutual agreement. Placement and withdrawal of deposits, granting and repayment of loans, and sales and purchases of securities and other marketable items are all transactions. The ESA 95 states that financial transactions are to be recorded at transaction values (paragraph 5.134) regardless of the valuation principle used for balance sheet recording. It is transactions which measure the flow of financing between MFIs and other sectors, and the rest of the world, and it is from transactions that growth rates of monetary aggregates and certain counterparts are calculated.

An important element in MFI balance sheet statistics is therefore the distinction between transactions and other factors affecting balance sheet outstandings. Regarding financial transactions, Regulation ECB/2008/32 (the current legislation) provides that "Financial transactions are computed by the ECB as the difference between stock positions at end-month reporting dates, from which the effect of changes that arise due to influences other than transactions is removed." These other changes are *price revaluation adjustments* on assets and liabilities subject to price changes (principally, for MFIs, securities held) and *loan write-offs/write-downs*, both reported by MFIs; *reclassifications and "other" adjustments* (one category), derived by NCBs from available information; and *exchange rate adjustments* applied by the ECB to remove the effect of exchange rate changes on balance sheet items denominated in foreign currency.

Instead of reporting price revaluation adjustments, MFIs may report transactions directly. Although the former is the more usual practice for MFIs, it is nevertheless useful to consider first the direct reporting of transactions in securities.

MFIs report transactions in securities directly

MFIs may report transactions in securities in one of two ways: the transaction method or the balance sheet method. The two methods may give different results affecting the allocation among counterparts of changes in M3. The choice of method is also relevant to the use of MFI balance sheet data in financial accounts constructed on ESA 95 principles.

- The *transaction method* records all sales and purchases of items held on balance sheets at the start or end of a reporting period, and transactions reversed within the period, valued at the transaction price.

- The *balance sheet method* records all sales and purchases of items held on balance sheets at the start and/or end of a reporting period but not the transactions reversed within the reference period. Under the balance sheet method, the sale during the month of any securities held on the balance sheet at the end of the previous month is deemed to have taken place at the price at which the securities were recorded on the previous month's balance sheet, irrespective of the price at which the sale actually took place. Similarly, the purchase during the month of any securities retained on the balance sheet is deemed to have taken place at the price at which the securities are recorded on the current month's balance sheet. The balance sheet approach does not record transactions reversed during the reference period.

Each approach has advantages and disadvantages. The direct recording of transactions via the transaction method is in line with the ESA 95, is consistent with other statistics such as financial accounts and the balance of payments, and gives a clear meaning to the flow by identifying it as total net transactions measured at market value. But it complicates the comparison of transactions with balance sheet stocks. The balance sheet method gives a closer link between statistics on outstanding amounts and transactions, but omits an important element of transactions, namely those undertaken and reversed during the reference period.

The two approaches also have different implications for monetary statistics as they may attribute a change in M3 to different counterparts. This can be illustrated by an example. Suppose that, within the reference period, MFIs buy corporate bonds from households for 100 and sell them back to households for 105. However the transactions are recorded, M3 must fall by the net amount of the transactions (5), as households reduce deposits by 5. The transactions approach will record a withdrawal of credit by MFIs to non-financial corporations (-5 in the counterpart category credit to euro area residents) because MFIs have sold – in net terms – 5 of corporate bonds. But MFIs have not in fact withdrawn credit

from non-financial corporations: the amount of funds available to them is unchanged. The balance sheet method, on the other hand, will record no asset transaction to match the fall in M3 because the trades in corporate bonds took place within the reference period. By default, the counterpart for the decline in M3 will appear in the residual "other counterparts" category – as may be more appropriate for monetary analysis. (Box 2 explains more about the monetary aggregates and counterparts.)

MFIs report price revaluation adjustments on securities, and transactions are derived by applying them to the change in relevant balance sheet items

As indicated above, for the most part MFIs report monthly revaluation adjustments, not transactions.

The ECB prefers debt securities to be valued on the balance sheet at market price but accepts that they may be valued otherwise. What matters for this purpose is that revaluation adjustments on holdings of securities are consistent with the valuation applied to securities on the balance sheet. Transactions are then calculated as a residual, after taking account of reclassifications and any other non-transactional effects on balance sheet outstandings, and exchange rate changes. It will be apparent that transactions estimated using this approach exclude any trades reversed within the reference period. As noted earlier, this outcome is not consistent with the ESA 95, although it may facilitate monetary analysis.

Adjustment for the effect of exchange rate changes

Movements in exchange rates against the euro between reporting dates affect the euro value of assets and liabilities denominated in foreign currency. These changes are holding gains or losses and not financial transactions.

MFIs report price changes affecting balance sheet items in foreign currency but not the effect of exchange rate changes on their value in euro. Instead, they convert assets and liabilities denominated in foreign currencies into euro using market exchange rates on the balance sheet date. The result is reflected in the aggregated MFI balance sheet transmitted by NCBs to the ECB. Using the latest quarterly currency breakdown of balance sheet items, the ECB translates reported euro amounts back into foreign currency and then converts the implied transaction back into euro at the average exchange rate in the month. This procedure is acceptable because only small proportions of MFI balance sheets and key aggregates based on them like M3 are denominated in currencies other than the euro.

Valuation adjustments and money market funds

Until recently, increases in the market price of MMF shares/units were treated like a payment of interest on deposits, and so as transactions in shares/units,

not as revaluation effects. During the financial crisis, however, some funds experienced substantial declines in the value of their assets, reflected in the value of their shares/units. These could not be treated as negative interest. Regulation ECB/2008/32 therefore allows revaluation adjustments to be applied to shares/units issued. It may be added, however, that the new definition of these funds (see below) now has little or no relevance for valuation adjustments.

MMFs may hold foreign currency-denominated assets, the amount of which in euro may be affected by changes in exchange rates. The consequent change in shares/units on the liabilities side of their balance sheets is attributed to non-resident holdings of these instruments,[1] with no impact on monetary aggregates (stocks or flows).

Loan write-offs/write-downs

Like price revaluations on securities, the (whole or partial) removal from the balance sheet of loans written off or down needs to be taken into account when deriving transactions in loans, since a write-off or write-down affects the outstanding amount of loans without changing the amount of MFI financing to the economy and is not a transaction. Write-offs/write-downs are reported with sector details.

Loans should preferably be recorded on the balance sheet without regard to any provision made against them. Nevertheless, reporting net of provisions is acceptable, in which case only the marginal change compared with the value of the provision is to be deducted when the loan is subsequently written down or written off.

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1   The allocation of the exchange rate adjustment affecting MMF shares/units to non-resident holdings also reflects the observation that MMFs resident in the euro area which hold foreign currency-denominated securities tend to be those set up by non-euro area financial institutions for non-euro area investors.

MAIN CHANGES INTRODUCED IN REGULATION ECB/2008/32

The ECB tries to avoid major changes to reporting requirements at a higher frequency than five years. There were no changes to the definition of monetary aggregates between the implementation of Regulation ECB/2001/13 in 2003 and the introduction of its successor, Regulation ECB/2008/32, in 2010. However, work was done in 2003 to collect data on holdings of euro area residents of monetary instruments issued by banks outside the euro area, mainly to satisfy a user interest in data on a wider measure of liquidity and partly also to anticipate the needs of institutional sector financial accounts and balance sheets, of which holdings of claims on banks outside the euro area would form part. These wider liquidity data were based on BIS international banking statistics. Moreover – although the ECB generally tries to keep reporting costs down by accepting data which conform to the accounting standards in force – Regulation ECB/2004/21 was introduced (the provisions of which are now incorporated in Regulation ECB/2008/32) to prevent the adoption of fair value accounting from affecting

the reported value of deposits and loans. The requirement is that these should be reported at the principal amount outstanding to avoid an impact on money stock and the credit counterpart.

The main changes in Regulation ECB/2008/32 described below reflect developments in financial markets and instruments since the adoption of its predecessor in 2001 and also the changing needs for statistics on MFI interest rates insofar as the interest rate data match categories on the MFI balance sheet. (An extended discussion of how Regulation ECB/2008/32 interacts with the current regulation on MFI interest rates (ECB/2001/18, as amended notably by ECB/2009/7), is deferred to Chapter 7.)

Changes responding to innovation in financial markets

An important element of the changes in Regulation ECB/2008/32 relates to securitisation. Securitisation is a topic in itself developed in Chapter 2, which explains how Regulation ECB/2008/32 and a complementary regulation addressed to FVCs involved in securitisation transactions, the usual counterparties to MFIs in securitisation operations, work together to provide the information the ECB needs for monetary policy analysis of securitisation operations affecting the MFI credit counterpart of M3. It is sufficient here to explain that under "traditional" securitisations, portfolios of loans are transferred from the balance sheet of the originating MFI (the MFI which made the loans in the first place) to an FVC. Where accounting rules permit the securitised assets to be "derecognised" (removed) from the originator's balance sheet, these operations distort lending figures as they will be recorded as a negative transaction in loans. Looking at the MFI balance sheet alone would suggest that the loans had been repaid, whereas in fact there has been no withdrawal of credit. The main purpose of the change here is to track securitisations affecting MFI loans so that the information content of lending data for monetary policy purposes is preserved. (In practice the matter is complicated by the fact that some accounting standards do not permit derecognition of the transferred assets from the balance sheet of the originator because accounting criteria for their removal from the balance sheet are not met – in this case the securitised assets continue to be carried on the balance sheet of the originator.[4] MFI balance sheet reporting, in combination with FVC reporting, is designed to avoid omission or double-counting of loans involved in securitisations and to ensure that only "traditional" securitisations are recorded in MFI data.) The reporting requirements also provide other information on business between MFIs and FVCs, notably MFIs' deposit liabilities to FVCs and their holdings of securities issued by FVCs.

To avoid any distortion to lending statistics, the ECB started to publish lending data adjusted for this effect in January 2009, before Regulation ECB/2008/32 began to apply. Thus an estimate of the amount of loans removed from the MFI balance sheet (i.e. derecognised) related to securitisation was added to reported lending in the month. Information permitting, the adjustment also

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4   Traditional securitisations of loans "without derecognition" should not be confused with "synthetic" securitisations. In the latter case, the credit risk of a portfolio of loans is transferred through a guarantee, credit derivative or similar mechanism, without any transfer of the assets themselves.

took into consideration any buying-back of loans by MFIs. Although it could not be verified, most securitisation activities were believed to concern loans to households for house purchase. The MFI loan data adjusted for securitisation and sales were available as monthly flows, seasonally adjusted and unadjusted. Regulation ECB/2008/32 when implemented in 2010 provided more complete, detailed and reliable information on this phenomenon.

Another institutional change reflected in Regulation ECB/2008/32 is the involvement of "central counterparties" in the market for short-term interbank (or inter-MFI) deposits and loans. (In practice, their involvement is usually confined to repo (repurchase) and reverse repo transactions, and the MFI balance sheet reporting requirement is confined to these instruments. Since, however, repo-type transactions are treated statistically as borrowing and lending against collateral, and a sale and repurchase of securities by an MFI gives rise to a deposit liability included in M3, the following remarks are relevant.[5]) Where MFIs deal directly with each other in euro area money markets, the transactions cancel out in the consolidated MFI balance sheet from which the monetary aggregates and counterparts are derived. Central counterparties, however, are "other" (non-monetary) financial intermediaries (sub-sector S.123 in the ESA 95 classification), not MFIs.[6] If a central counterparty interposes itself between MFIs in the money market, the MFI statistics will show the MFI which placed the funds with the central counterparty as lending to other financial intermediaries, and the MFI which borrows as taking funds from them – specifically, incurring a deposit liability to other financial intermediaries. The effect is to inflate M3 and MFI credit compared with the case in which the MFIs deal directly with each other in the money market. Identifying positions with central counterparties on both sides of the MFI balance sheet allows this phenomenon to be measured and avoids misleading monetary analysis.[7]

Another innovation captured in Regulation ECB/2008/32 is the practice by some MFIs of issuing short-term bonds with less than 100% capital certainty. These are bonds with some features of a financial derivative embedded in them, with the effect that the redemption value is contingent on some event or development. Bonds issued by euro area MFIs with an initial maturity of up to two years are monetary instruments and are included in M3 if held within the euro area. Clearly such instruments with uncertain redemption value may be viewed differently by their holders from other monetary instruments. They remain in M3, but

5   A repo is a sale of a security with a commitment to buy it back, usually within a few days. Statistically repos are treated as borrowing against collateral, not as transactions in the underlying security which remains on the balance sheet of the original holder. To match the temporary receipt of funds, the MFI initiating the repo records a deposit liability to its counterpart, here a central counterparty. The counterparty promptly initiates a repo with another MFI, which temporarily transfers funds to the central counterparty and records a loan. The purpose of collecting data on MFIs' positions with central counterparties is to enable the effects of such transactions on M3 and MFI lending to be taken into account in monetary analysis.

6   "S" is a prefix used in the ESA and the SNA to indicate an institutional sector or sub-sector.

7   A recent change introduced by the ECB in September 2012 is the exclusion of repurchase agreements between MFIs and central counterparties from the euro area monetary aggregates and the credit counterpart. These items are instead included in the residual category "other counterparts of M3". The purpose is to avoid distorting money stock and credit. (Decision of the ECB's Governing Council, 5 July 2012, with effect from the August MFI balance sheet.)

identifying them on the liabilities side of the MFI balance sheet enables monetary analysis to take account of this feature.

Other changes introduced in Regulation ECB/2008/32

Before Regulation ECB/2008/32 began to apply in mid-2010, all maturity breakdowns on the MFI balance sheet were in terms of the original (or initial) maturity fixed when the deposit was placed, the loan extended, or the security issued. The reason was that the original maturity was considered to reveal the nature and purpose of the instrument. Regulation ECB/2008/32 introduces for certain loans limited breakdowns by residual maturity, with some information on the interest reset period – a concept explained in Chapter 7 on MFI interest rates.

Classifying most entities (or what the ESA 95 calls institutional units) by economic sector is straightforward. The borders between some sectors are however unclear (this is not so for MFIs themselves, of which the ECB maintains a list). An important example is households (S.14 in the ESA 95) and non-financial corporations (S.11). Despite the name, many unincorporated businesses are included in the S.11 sector. Nevertheless many unincorporated businesses (usually but not always small) are classified as households. The consequence is that recorded MFI lending to households is a mixture of lending to households proper (for house purchase, consumer credit, and other household purposes) and lending to small retailers, taxi firms, medical and legal practices, etc. for business purposes. To meet the analytical interest in distinguishing between such cases as far as possible, Regulation ECB/2008/32 adds sole proprietors and unincorporated partnerships as an "of which" category within lending to households.[8]

Although they have clear merits of their own, both of these changes were at least partly to support enhancements to the MFI interest rate regulation (introduced in Regulation ECB/2009/7 – see mainly in Chapter 7). Other changes were made in Regulation ECB/2008/32 for the same reason, namely identifying revolving loans and overdrafts, convenience credit card credit, and extended credit card credit within loans denominated in euro on the assets side of the MFI balance sheet; and identifying, within loans to households and non-financial corporations, loans backed by real estate collateral. (Perhaps it should be pointed out here that the established category of "lending for house purchase" is not intended to be restricted to mortgage loans – although they no doubt form a large part of it, some house purchase lending will not be collateralised by the property, while some lending secured on property will be incurred for purposes other than to acquire property and should not be recorded under "loans for house purchase".) The new breakdown showing real estate collateral in conjunction with the existing breakdown by purpose (credit for consumption, for house purchase, for other

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8   It is often difficult to know whether a loan to a sole proprietor/unincorporated partnership really is for business purposes, rather than for household use. The ECB offers pragmatic guidance. Loans to sole proprietors/unincorporated partnerships (SP/UP) should be allocated to the category "other lending of which SP/UP" if the reporting MFI has no information on the intended use of the item financed by the loan (for example, a car), or if the item is known to be intended predominantly for business use. Loans for house purchase to sole proprietors/ unincorporated partnerships should be reported as "other lending of which SP/UP" rather than as loans for house purchase if the reporting MFI knows that the property may be used partly for business purposes.

purposes) intends to throw light on the link between house prices, mortgage debt and household spending. At present, however, the collateral data are not fully comparable and are mainly used for country analysis.

Finally, Regulation ECB/2008/32 separately identifies, on the liabilities side, transferable deposits and, on the assets side, syndicated loans. The amount of transferable deposits is useful information relating to holdings of monetary assets for transactions purposes, although the criterion for inclusion in narrow money, M1, is same day or overnight maturity, not transferability. Syndicated loans, which have grown in importance in the euro area, particularly as a source of credit for large firms, have been a source of confusion. MFIs should report as assets only loans actually extended by them as part of a lending syndicate, not the whole amount of the loan or the amount they might be called upon to lend, and should record their claim as a claim on the ultimate borrower, not on the syndicate leader.

To reduce somewhat the reporting burden on MFIs, Regulation ECB/2008/32 reduced the requirement for quarterly currency breakdowns of certain assets and liabilities.

An article in the August 2011 issue of the ECB's Monthly Bulletin, entitled "Keeping the ECB's monetary and financial statistics fit for use", provides an overview of the changes introduced by Regulation ECB/2008/32.

FURTHER DEVELOPMENTS RELATING TO MFI BALANCE SHEET STATISTICS

An amended definition of money market funds

Since the adoption of Regulation ECB/2008/32, supervisors have developed changes to the criteria for defining money market instruments (in the form of guidelines adopted by the Committee of European Securities Regulators, CESR, in 2010),[9] which have led to a change in the definition of MMFs. To better align the reporting population for supervisory and statistical purposes, and also to minimise the reporting burden, Regulation ECB/2011/12 (amending Regulation ECB/2008/32) defines MMFs, broadly speaking, as undertakings which pursue the investment objective of maintaining the fund's principal and providing a return in line with the interest rates of money market instruments, as defined in EU legislation. Essentially MMFs must confine their investments to high-quality, liquid assets with short maturity; an MMF may not assume direct or indirect exposure to equities or commodities, must avoid currency exposure to currencies other than the fund's base currency (although it may hold assets denominated in other currencies, provided they are covered forward), and may not invest in other investment funds unless they are themselves MMFs. They may make only limited use of financial derivatives. The effect of the change is that some entities previously classified as MMFs are now classified as other investment funds and are covered by the reporting described in Chapter 2.

9   CESR's *Guidelines on a common definition of European money market funds*, CESR/10-049, 19 May 2010. The CESR was the predecessor of the European Securities and Markets Authority, one of the three supervisory authorities set up in January 2011.

As mentioned previously, for the convenience of fund managers, MMFs may when reporting use the format laid down for other investment funds described in Chapter 2. This does not however affect their classification as MFIs.

Institutions issuing electronic money

Electronic money means an electronically stored monetary value, issued on receipt of funds, for the purpose of making payments which are accepted by enterprises or persons other than the e-money issuer. (This distinguishes e-money from, e.g. a pre-paid card for use in a particular chain of shops or on public transport.)

Until recently, EU legislation treated all e-money issuers as credit institutions. They were therefore automatically included in the MFI population and reported accordingly under the successive MFI balance sheet regulations. However, an EU directive adopted in 2009 (2009/110/EC) provides that the issuance of electronic money does not constitute deposit taking and e-money issuers need no longer be classified as credit institutions. In order to retain them in the MFI population in view of their money-issuing nature, Regulation ECB/2011/12 (amending Regulation ECB/2008/32) adjusted the definition of "other" MFIs (that is, MFIs which are not central banks, credit institutions or MMFs) to include "such electronic money institutions that are principally engaged in financial intermediation in the form of issuing electronic money", clarifying that e-money and e-money institutions follow the definitions laid down in the directive. The position is that some of these entities remain credit institutions, some (exceptionally) are not but nevertheless engage in financial intermediation and are classified as "other" MFIs – this category actually refers to entities whose main activity is to issue e-money – and some are not MFIs, but central banks nevertheless provide data on them under the guideline on monetary, financial institutions and markets statistics (ECB/2007/9, as amended by ECB/2011/13). Information on non-MFIs – entities whose main economic activity is non-financial, such as telecoms – which are e-money issuers is collected from supervisory authorities in order to enable the ECB to monitor the size and development of issuance of e-money outside the MFI sector.

European Investment Bank

Like all other EU institutions except the ECB and the European Stability Mechanism, the European Investment Bank (EIB), although located in Luxembourg, is treated statistically at present as resident outside the euro area.[10] Moreover it is classified as an "other" (non-monetary) financial intermediary. Because however the EIB has been a potential counterparty of the Eurosystem in monetary policy operations since 2009, it is considered for market operations purposes to be a credit institution resident in the euro area: it is subject to the Eurosystem's minimum reserve regime, and other credit institutions in the euro area may exclude liabilities to the EIB from their own reserve base. An institution's reserve base is calculated from its monthly MFI balance sheet return. NCBs may

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10 This is because the EIB's centre of interest is the European Union as a whole, not just the euro area. International or supranational organisations are not treated statistically as resident in the country in which they are located. The European Stability Mechanism established in 2012 is an "other" (non-monetary) financial corporation under the ESA 95 classification, resident in the euro area but not in any particular country.

choose to ask reporting MFIs to record positions with the EIB as positions with a credit institution resident in the euro area, as is required for minimum reserves purposes, or as positions with a non-monetary financial intermediary resident outside the euro area, in accordance with the statistical classification. NCBs then adjust the national aggregated balance sheet as appropriate for transmission to the ECB, with the effect that in euro area aggregates, as in all other statistics, the EIB continues to be treated as resident outside the euro area.

This is the present position. The prospect is that the EIB will be treated statistically as resident of the euro area (though not resident of any particular country), and as an MFI.

"Bad banks" and MFI balance sheet reporting

The financial crisis has led European governments to take measures to ensure that financial institutions can continue to provide finance. In some euro area countries governments have created "bad banks". Broadly, "bad banks" (more correctly, "financial defeasance structures") are dedicated schemes set up and backed by governments to facilitate the removal from credit institutions' balance sheets of assets at risk of severe impairment or which are difficult to value. Alternatively, the performing part of the portfolio may be transferred, leaving the original lender as the "bad bank". Such schemes have implications for MFI balance sheet statistics.

The first issue is the statistical classification of "bad banks" and the treatment of transfers of assets to them in MFI balance sheet statistics (stocks and transactions). The "bad banks" set up so far do not take deposits and so do not form part of the money-creating sector. They are not MFIs (or, in the case where the original lender is left with the non-performing loans, are no longer MFIs); instead they are classified as non-monetary financial intermediaries other than insurance corporations and pension funds, or as part of general government. The case described here is the one in which a credit institution sells part of its loan portfolio to a "bad bank", as it might sell loans to an FVC in a securitisation. This transaction will be recorded in MFI balance sheet statistics as a reduction in the outstanding stock of loans and as a transaction in loans (a sale, or negative flow) to the other financial intermediary or general government sector. The loans will usually be transferred for less than the amount recorded on the MFI's balance sheet, thereby requiring a write-down in connection with the sale. Since write-downs are not considered to be financial transactions, this will result in a decline in recorded outstanding MFI loans greater than the transaction, with an accompanying decline in the MFI's capital and reserves. The consideration received by the MFI in exchange for the loans transferred will probably consist of debt securities issued by the "bad bank" with a government guarantee. Depending on the sectoral classification of the "bad bank" and the terms agreed for the asset transfer, the securities obtained will increase MFIs' holdings of debt securities issued by the other financial intermediary sector or by general government. While these transactions reduce credit institutions' loan books, they do not change the financing obtained by the non-MFI sector. It thus seems appropriate to correct the impact of these transactions in the same way as securitisations with similar effect. Assets other than loans at risk of severe impairment or which have become

difficult to value may also be transferred to "bad banks". The likeliest candidates (e.g. asset-backed securities and collateralised debt obligations) are usually recorded on the MFI balance sheet as holdings of debt securities. Transferring them to a "bad bank" will reduce the holdings in the MFI's balance sheet, with (probably) a matching increase in debt securities issued by the "bad bank" with a government guarantee. Whether the transaction is accompanied by a valuation adjustment depends on the price at which the assets were valued in the balance sheet of the MFI immediately before the transfer.

MFI loans to non-financial corporations by branch of activity

A sectoral breakdown of loans (and of other balance sheet items) has been a requirement in MFI balance sheet statistics from the start of monetary union. A breakdown of lending to non-financial corporations (S.11 in the ESA 95 coding) by branch of activity of the borrower (so-called NACE[11] sections) has never been a requirement in ECB statistics. Nevertheless, the breakdown is of interest, and in 2009 the ECB began to publish data provided by NCBs from available national data sources, for example surveys and credit registers.

The data, quarterly but provided at six-month intervals, are published with some caveats. Both the coverage and the level of detail differ across countries and, for a number of reasons, they are not fully consistent with other data relating to non-financial corporations. The derived breakdown of loans to non-financial corporations by branch of activity is fully comparable neither across countries nor with other statistics based on the NACE classification, such as value added or employment broken down by economic activity. A major difference from other statistics using NACE is that these are not confined to non-financial corporations, but often classify *all* economic activities by NACE. Under Regulation ECB/2008/32, the category non-financial corporations excludes sole proprietors and partnerships without independent legal status; however, the activities of these two groups may fall within the NACE sections covered by loan statistics. Likewise, loans to non-financial corporations exclude loans granted to the general government sector, although parts of this sector's activities may be classified in the same NACE sections as the activities of non-financial corporations (e.g. in the case of transport services).[12] Finally, estimates of euro area aggregates are compiled where necessary to replace missing data in individual sections or at the country level. Where the sum of the loan data provided on the basis of the NACE classification in national contributions differs from data on total loans to non-financial corporations collected under Regulation ECB/2008/32, the ECB takes the shares of the individual sections according to the NACE breakdown and applies these to total MFI loans to non-financial corporations as recorded on the MFI balance sheet. Despite some imperfections, therefore, these data have proved to be of interest for financial stability purposes as well as for monetary policy analysis.

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11 NACE is the European standard classification for economic activities.
12 Entities which cover less than half their costs from sales receipts are "non-market producers" and classified in the general government sector (S.13). They may nevertheless be included in the NACE category appropriate to their business.

Credit lines extended by MFIs to their customers

The amount of credit lines agreed between banks and their customers is relevant to analysis of monetary and credit developments. In 2009, in response to the financial crisis and fears of a credit crunch, euro area NCBs started sending the ECB data on credit lines extended by MFIs, mostly at a monthly frequency, and on a voluntary basis – neither Regulation ECB/2008/32 nor its complementary guideline on monetary, financial institutions and markets statistics (ECB/2007/9) requires information on credit lines to be provided. The ECB calculates an indicator of annual percentage changes of MFI credit lines based on a weighted average of country contributions, which can then be compared with the growth or contraction in short-term MFI lending. The results thus far have been used for internal purposes only. Although some volatility is apparent in the underlying series, and the series tend to be revised, the data have proved to be useful in analysing MFI loan developments particularly when significant changes in the provision of credit occur. Data on credit lines may be included in a later update of Guideline ECB/2007/9.

Central credit registers (and credit bureaus)

Central credit registers, operated by central banks and established by legislation, or sometimes outsourced to an entity under the control of the central bank or supervisory authority, provide lists of loans made by participating institutions (usually credit institutions, although other lenders may contribute), and usually for large loans. Private credit bureaus, which may also be set up by law, perform a similar role but from a wider range of borrower, typically small or medium-sized enterprises and households. In the 28 EU Member States there were in mid-2013 14 central credit registers and 23 private credit bureaus; ten countries adopted both solutions.

The information below relates to central credit registers. Nine (soon ten)[13] euro area countries and five other EU Member States have central credit registers. Central credit registers began to generate interest some years ago and not only in the context of the ECB's statistical and financial stability functions; both the BIS and the IMF have done work on them. A credit register contains information on the borrower, the amount, and sometimes on other terms of the loan. Contributors to the register have access to the information it contains so that they can assess the level of indebtedness of the actual or potential borrower, at least to the other contributors to the register.

The registers vary in terms of the coverage and detail of the data held. They usually hold both "positive" and "negative" information, that is information on all qualifying loans with problem loans (however defined) separately identified. Some registers combine all reported loans to the same borrower, while others contain information on each loan separately. There is usually a threshold below which loans are not reported. It may be quite high, such that in practice the only loans to households registered are likely to represent mortgage debt. (The threshold may of course be low – €50 in Portugal.) Access to the register information is usually limited to resident actual or potential lenders, so a credit

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13 Ireland has recently developed a central credit register to be operated privately under the Central Bank of Ireland's responsibility.

institution in country A cannot access the register in country B to check whether a borrower has outstanding loans there also. However NCBs have formally arranged for some exchange of information in their national registers which may be made available to actual or potential lenders in another country on application to their NCB.[14] In addition, central credit registers vary in terms of the concepts and definitions used, such as the definition of maturity (original or residual) and the status and classification of non-performing loans.

Subject to protecting confidentiality, the information contained in central credit registers could be used for statistical and analytical purposes, thereby minimising the reporting burden and increasing the capacity to meet user demand. Similar to a comprehensive database of securities issues, such as the ECB's Centralised Securities Database described in Chapter 6, a credit register has considerable potential value to statistical compilers in providing detailed breakdowns of credit and credit risk data that would otherwise be very costly, or not feasible to obtain – e.g. loans by size of firm and/or by economic activity. Furthermore, it contains information of immediate value for economic research, financial stability and macro- and micro-prudential purposes. If a good measure of coverage and consistency can be achieved, and data in the national registers consolidated, the result, together with information from the CSDB, would be a considerable step towards the comprehensive risk map proposed by the 2009 Issing Committee Report and the information on "interconnectedness" requested by the IMF-Financial Stability Board report to the G20 discussed in Chapter 24. Although the presently available coverage and consistency both fall well short of what would be required for these purposes, in time it may be possible to introduce loan-by-loan or borrower-by-borrower reporting for certain categories of credit, as security-by-security reporting has replaced aggregated reporting for many purposes.

One of the working groups reporting to the ESCB's Statistics Committee, jointly with another working group developing the exchange of data across credit registers, set up a task force at the end of 2011 to pursue the use and further consistent development of credit registers in the euro area and European Union. The task force has been exploring the informational content of credit registers and the standards for managing them, including confidentiality rules. One important issue is how to identify borrower entities (see the reference to registers and the legal entity identifier in Chapter 19). The work, which continues, will be relevant for statistical and other purposes, namely monetary policy analysis and operations, financial stability and supervision, and research.

IMPLICATIONS OF THE NEW VERSION OF THE EUROPEAN SYSTEM OF ACCOUNTS (ESA 2010)

The regulation on the ESA 2010 has recently been adopted by the European Parliament and Council and the ESA 2010 will be implemented in the European Union in 2014. As noted earlier, the new Regulation ECB/2013/33 will reflect the requirements of the ESA 2010. The implications for MFI balance sheet reporting are discussed in Chapter 20.

14 *Memorandum of Understanding on the exchange of information among national central credit registers*, ECB, April 2010.

1.2 MONETARY LIABILITIES OF CENTRAL GOVERNMENT AND POST OFFICE GIRO INSTITUTIONS

It is not strictly the case that MFIs are the only institutions with monetary liabilities in the euro area. In some countries, central government entities take deposits from the public which have similar characteristics to MFI deposits, and are clearly monetary in nature.[15] The ECB is not empowered to address regulations to central government. Instead, Guideline ECB/2007/9 sets out the information required, and NCBs collect it from central government under some cooperative arrangement. Thus Article 6 of the guideline requires NCBs to provide monthly data on such deposits, which should be included in monetary aggregates, and on central governments' holdings of cash and other monetary instruments, which should be excluded from them, with the same timeliness as the MFI balance sheet data. The information relates to end-month stocks and reclassification adjustments. There is considerable instrument and sector detail on the liabilities side to allow proper incorporation in the monetary aggregates. On the assets side, the ECB requests only information necessary to identify central governments' claims on MFIs, with revaluation adjustments for holdings by central government of short-term debt securities issued by MFIs and MMF shares/units.

In some Member States post office giro institutions offer quasi-banking facilities. The EU framework legislation on ECB statistics (Council Regulation (EC) No 2533/98 on the collection of statistical information by the ECB as amended by Council Regulation (EC) No 951/2009 – see Chapter 22 for further discussion in the context of institutional arrangements) empowers the ECB to issue regulations addressed to post office giro institutions, which it did for the first time in 2006. Previously central banks had collected information on them under national arrangements. Regulation ECB/2006/8 on statistical reporting requirements in respect of post office giro institutions notes that post office giro institutions are classified as non-financial corporations (S.11 in the ESA 95) which however take deposits and provide money transfer services. The regulation requires them to report monthly stocks of liabilities, with the instrument breakdowns necessary to compile the various measures of money – although in less detail than is requested from MFIs – and a sectoral breakdown of counterparties. The information required on their assets is limited to that necessary to identify their claims on MFIs and to enable proper treatment in the monetary aggregates and counterparts. Post office giro institutions are not required to provide revaluation adjustments. Data on them should be provided to the ECB to the same deadline and frequency as the MFI balance sheet data.

The ECB incorporates the information on central government deposits and post office giro business with the consolidated MFI balance sheet in compiling the monthly monetary aggregates and counterparts.

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15 Coins, which are a liability of central government in euro area countries, might be thought to be another exception. By convention, however, to facilitate compilation of monetary statistics, coins are treated statistically as liabilities of central banks, with a notional matching entry on the assets side of the Eurosystem's balance sheet (a claim on central government).

Meanwhile, reflecting the new ESA 2010 and certain other needs, Regulation ECB/2013/39 will in due course replace Regulation ECB/2006/8, which will be repealed.

Box 2 Monetary aggregates and counterparts

Money stock everywhere consists of certain liabilities of banking institutions, including the central bank, possibly with some other components added. The international and European statistical standards do not however recommend a particular definition of the monetary sector, or of the instruments issued by it which should be considered as money. They acknowledge that different definitions may be appropriate depending on the national circumstances (or regional circumstances in the case of a monetary union).

In the euro area, the ECB uses a narrow (M1), intermediate (M2) and broad (M3) definition of money. In monetary analysis, most emphasis is given to M3. As explained in this chapter, the monetary or MFI sector comprises central banks, including the ECB itself, credit institutions, MMFs and a few other financial institutions with similar liabilities. Deposit liabilities of central government entities and post office giro institutions are included. The MFI sector is confined to resident institutions. Except for euro banknotes and coins, where the whole amount held outside the MFI sector (and central government and post office giro institutions) – "currency in circulation" – is included in all three measures of money, money stock is confined to resident holdings of monetary instruments. Non-resident holdings (which in this context means holdings by non-residents of the euro area) are excluded. The monetary aggregates also include instruments denominated in foreign currency, provided they are issued by MFIs resident in the euro area and are held by euro area residents. The monetary instruments included in the three measures are summarised in the table below.

Table A Definitions of euro area monetary aggregates

Liabilities of MFIs resident in the euro area in the form of:

	M1	M2	M3
Currency in circulation	x	x	x
Overnight deposits	x	x	x
Deposits with an agreed maturity of up to two years		x	x
Deposits redeemable at notice of up to three months		x	x
Repurchase agreements			x
Money market fund shares/units			x
Debt securities issued with an original maturity of up to two years			x

...where the instruments are held by euro area residents outside the MFI sector (excluding holdings by central government and post office giro institutions), except that currency in circulation includes non-resident holdings of euro banknotes and coins.

The counterparts of M3 are the items in the consolidated balance sheet of MFIs, including central banks, which do not form part of M3, arranged in an analytically useful way. Because the balance sheet adds up to zero, M3 equals the sum of the counterparts. This is shown by the simplified table below, which is also used in Chapter 13.

Table B A shortened MFI consolidated balance sheet

Liabilities		Assets	
Currency in circulation Resident holdings of: - deposits with up to two years' maturity - MMF shares/units - bonds with up to two years' maturity	**M3**	Claims on residents: - loans - securities (all forms)	**euro area credit**
Resident holdings of: - deposits with over two years' maturity - bonds with over two years' maturity	**"other" liabilities**	Non-financial assets (premises, equipment, etc.) Remaining assets	**"other" assets**
Capital and reserves Remaining liabilities			
Non-resident holdings of: - deposits (all) - MMF shares/units - bonds (all forms)[1]	**external liabilities**	Claims on non-residents: - loans - securities (all forms)	**external assets**

1) Non-resident holdings of bonds (or debt securities) with an original maturity of more than two years are for practical reasons included in "other" liabilities, not in external liabilities. (In addition, deposits redeemable within three months are included in the two-year agreed category in the simplified table.)

Total liabilities ≡ total assets; so changes in….

M3 ≡ domestic credit + (external assets – external liabilities) + ("other" assets
    – "other" liabilities)
  ≡ domestic credit + net external assets – "other" liabilities (net)

(where "domestic credit" comprises credit to general government and credit to other euro area residents).

These are the counterparts of M3. The above presentation enables developments in M3 to be linked to other components in the MFI balance sheet. Thus an increase of €X in M3 may be related to an increase of €Y in domestic credit (usually broken down into credit to general government and credit to other euro area residents) and a rise of €Z in the net external assets of MFIs (net claims on entities resident outside the euro area). This last item may be further linked to developments in the euro area balance of payments, as explained in Chapter 13.2 on the monetary presentation of the balance of payments. Note that domestic credit includes credit by MFIs in all forms, i.e. holdings of securities issued by other resident sectors as well as lending to them.

1.3 ENSURING COMPLIANCE WITH ECB STATISTICAL REQUIREMENTS

The ECB must ensure that reporting agents comply with their reporting obligations under ECB regulations. To this end, Article 7 of Council Regulation (EC) No 2533/98 empowers the ECB to impose sanctions within stated limits and another sets out the principles and procedures to be followed by the ECB when doing so.[16] These are further specified in an ECB regulation adopted in 1999.[17]

The ECB's non-compliance regime for MFI balance sheet statistics has been in place since 2004. A review of the framework took place in 2009 and a streamlined non-compliance regime concerning statistics on MFI balance sheets and interest rates was adopted in August 2010.

The current regime consists of an unpublished guideline (ECB/2010/NP15) and a published decision (ECB/2010/10). The latter explains the scope and application of the non-compliance framework and principles for applying sanctions, while the unpublished guideline contains detailed information regarding the logging and reporting of non-compliance and the calculation of sanctions.

To ensure equal treatment of reporting agents, the ECB's non-compliance regime has adopted a harmonised approach which recognises degrees of seriousness in non-compliance. Key aspects of the regime are as follows.

- *Types of infringement:* sanctions may be imposed in the event of failure by reporting MFIs to comply with the minimum standards set out in Annex IV to Regulation ECB/2008/32 or (for MFI interest rate statistics) in Annex III to Regulation ECB/2001/18. These standards relate to timeliness, accuracy and compliance with definitions and classifications. Sanctions may also be applied in the case of serious misconduct, such as systematic or intentional reporting of incorrect, delayed or incomplete data or an insufficient degree of diligence or cooperation with the NCB or the ECB.

- *Logging of infringements:* one of the circumstances taken into account in deciding whether to impose a sanction is the repetition and frequency of infringements. A sanction may however be imposed for a single case of serious misconduct.

- *Assessment phase and infringement procedure:* when a central bank detects a case of non-compliance, it may give an early warning to the MFI. However, after repeated non-compliance, an infringement procedure must be initiated unless: (i) the ECB or the NCB considers that the failure to comply was

16 Council Regulation (EC) No 2532/98 of 23 November 1998 concerning the powers of the European Central Bank to impose sanctions.
17 Regulation (EC) No 2157/1999 of the European Central Bank of 23 September 1999 on the powers of the European Central Bank to impose sanctions (ECB/1999/4), as amended by Regulation (EC) No 985/2001 of the European Central Bank of 10 May 2001 amending Regulation ECB/1999/4 on the powers of the European Central Bank to impose sanctions (ECB/2001/4).

beyond the reporting agent's control; or (ii) the potential fine does not reach the minimum established threshold for imposing a sanction.

- *Application of sanctions:* the determination of a sanction follows an assessment of the seriousness and materiality of the failure to comply and the circumstances of the case. Article 7(4) of Council Regulation (EC) No 2533/98 sets the maximum sanctions which the ECB may impose on reporting agents, i.e. €100,000 in the case of an infringement of the obligation of timeliness and €200,000 in the case of inaccuracy or conceptual non-compliance.

The aim of the non-compliance regime is to encourage good reporting by MFIs, rather than to impose sanctions.

2 STATISTICS ON OTHER (NON-MONETARY) FINANCIAL INSTITUTIONS

Although MFIs, the subject of Chapter 1, tend to dominate financial intermediation in the euro area, the non-monetary financial institutions described in Chapter 2 have substantial transactions and balance sheets, especially investment funds and insurance corporations and pension funds (Chapters 2.1 and 2.2). FVCs (Chapter 2.3) interact with MFIs in securitisation operations and present practical and conceptual issues. Chapter 2.4 describes a group of other (non-monetary) financial institutions, at present not subject to a specific ECB regulation on statistics.

2.1 INVESTMENT FUNDS

The ECB defines investment funds as collective investment undertakings (CIUs) whose business is to invest capital raised from the public in financial and non-financial assets. They include undertakings, the units/shares of which are, at the request of the holders, repurchased or redeemed directly or indirectly out of the fund's assets (these are called "open-end funds") and undertakings with a fixed number of shares, so holders entering or leaving the fund buy or sell existing shares ("closed-end funds" – in the euro area, most of these are real estate funds). Investment funds may be constituted according to EU law or national regulatory provisions. What determines whether a fund is included in the euro area statistics is the residency of the fund itself and not that of its manager. Consequently, while the statistics cover investment funds resident in the euro area which are managed from outside the euro area, they do not cover investment funds established outside the euro area which are operated by management companies in the euro area. However, some entities like private equity funds and venture capital companies may meet the definition of investment funds and be included. As mentioned previously, one important group of CIUs, MMFs, are included in the MFI sector because their shares/units are considered to be close substitutes for MFI deposits and are consequently included in broad money, M3. Monthly data on MMF balance sheets have been collected since the start of monetary union under the successive MFI balance sheet regulations.[1] Pension funds are also excluded from the definition of investment funds (see Section 2 below).

There are nearly 50,000 investment funds in the euro area, more than a quarter of them in Luxembourg. Investment funds are other (non-monetary) financial intermediaries, S.123 in the ESA 95 coding.

This section is therefore about investment funds which are not MMFs or pension funds. Balance sheets of these institutions resident in the euro area totalled some

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1 MMFs may however report monthly data under Regulation (EC) No 958/2007 of the European Central Bank of 27 July 2007 concerning statistics on the assets and liabilities of investment funds (ECB/2007/8). This is essentially for the convenience of fund managers. It does not mean that they are classified statistically as investment funds in S.123 under the ESA 95 (or indeed in due course in S.124 of the ESA 2010 – see Chapter 20).

€7.2 trillion at end-2012. The ECB first published statistics on them in early 2003, based not on harmonised reported data but on available information at national level provided to the ECB by the NCBs on a best efforts basis. The published data were broken down by type of fund (equity, bond, real estate and mixed funds) and also according to whether the funds were open to the general public or restricted to certain investors. The result was a useful but incomplete quarterly dataset with limited balance sheet outstandings and hardly any transaction data.

A regulation addressed to investment funds was adopted in 2007 and implemented in 2009 following the usual grace period. Regulation ECB/2007/8 concerning statistics on the assets and liabilities of investment funds other than MMFs (and pension funds) is similar in many respects to Regulation ECB/2008/32 on MFI balance sheets, but simpler. Thus in 2009 (starting with end-2008 balance sheets),[2] investment funds began to report the amount of shares/units outstanding monthly and full balance sheet information quarterly, in each case 28 working days after the reference date and accompanied by either revaluation adjustments or transaction data relating to the reference month or quarter. (Quarterly estimates for transactions from 1999 were released from July 2008.) Investment funds report individual securities held (where the securities have publicly available identification codes, such as the International Securities Identification Number (ISIN)) along with the corresponding amounts, rather than aggregate holdings of securities (security-by-security reporting is explained further below and in Chapter 6). Other assets and liabilities are reported in aggregate with the corresponding revaluation adjustments or transaction data. Regulation ECB/2007/8 envisages that NCBs collect complete, but possibly simplified, balance sheets monthly. Residency and sectoral breakdowns of the holders of registered shares/units issued by investment funds are reported by investment funds themselves; as regards bearer shares/units issued, the breakdown is compiled in a manner determined by the NCB, which may have recourse to MFIs or other resident custodians with which shares/units are lodged. This is similar to the procedure for identifying holdings of debt securities issued by MFIs, some of which (those with up to two years' original maturity) are monetary instruments, and also holdings of shares/units issued by MMFs. The question of identifying holdings of negotiable securities is discussed in Chapter 5. (Meanwhile, reflecting the new ESA 2010 and certain other needs, Regulation ECB/2007/8 will in due course be replaced by Regulation ECB/2013/38, adopted in October 2013.)

In fact the ECB has been able to publish a summary balance sheet for investment funds monthly since 2009. The monthly data show assets in the form of deposits and loans, securities other than shares, shares and other equity, shares or units issued by other investment funds including MMFs, and non-financial and other assets; and liabilities, predominantly in the form of investment fund shares issued, with a monthly breakdown of estimated holdings by euro area residents and holdings outside the euro area. These data are broken down by type of fund. There are currently no monthly transaction data. The fuller quarterly series show more detail on asset holdings, including a sector breakdown of issuers of the

2   Published data on earlier dates and periods rely on the older series and are not fully comparable with the data reported from 2009.

securities held by the investment funds to the extent that they represent claims on residents of the euro area, and a limited country or area breakdown of issuers where the securities represent claims on the rest of the world. The quarterly data also show transactions (net acquisitions of assets and incurrence of liabilities). These transaction data correspond to changes in balance sheet outstandings excluding the effect of changes in the market price of securities, exchange rate effects on values expressed in euro where the assets are denominated in foreign currency, and other non-transactional effects on balance sheets. Market price effects are excluded in calculating transactions either by running the security-by-security data against a comprehensive securities database which includes price information, or from revaluation adjustments provided by the reporting investment funds themselves. Alternatively, investment funds may report transactions directly. All this is much as for MFIs.

As mentioned above, data for investment funds are presented for each of several categories of fund according to investment policy (equity, bond, mixed, real estate, hedge and other funds). Each sub-category is further broken down into open-end and closed-end funds. Some of the categories (bond, equity, real estate funds) relate to the type of asset in which the fund primarily invests, where "primarily" means more than 50% of total holdings. The classification is based on national regulatory provisions, if they exist, or alternatively on what has been declared in the fund's prospectus. In practice these categories are not defined in a uniform way across the euro area. "Mixed" funds hold a variety of these asset types. "Funds of funds" hold predominantly shares issued by other investment funds and are classified according to the type of fund in which they primarily invest. A hedge fund is defined by the ECB (for statistical purposes) as a CIU which applies relatively unconstrained investment strategies to achieve positive absolute returns and whose managers, in addition to receiving management fees, are remunerated in relation to the fund's performance. Hedge funds have few if any restrictions on the type of financial instruments in which they may invest and are able to use leverage (i.e. borrow, rather than issue shares/units, to acquire assets), short-selling or any other technique. The definition also covers funds that invest in other hedge funds. Hedge funds are by some way the smallest group of investment funds in the euro area. The largest groups are bond, equity and mixed funds. Exchange traded funds, which have grown in importance in recent years, are not at present a separate category.

An important feature of the harmonised statistics is the reporting by investment funds on a security-by-security basis. This is an option offered in Regulation ECB/2007/8, but in practice all reporting by investment funds, at least where the securities have identifier codes, is security by security. This means that the investment funds report a list of individual securities held, together with their publicly available identification codes (usually the ISIN) and the corresponding amounts. This is in contrast to aggregated reporting of data, which requires the reporter to aggregate its holdings by type of instrument (e.g. bond, share), maturity, currency, and residence status (sometimes with geographical detail) and sector of the issuer. With security-by-security reporting, the NCB, not the reporting investment fund, compiles the required statistical aggregates by mapping the individual securities to the information available in a common

securities reference database. This saves the investment fund the cost and trouble of classifying items on its balance sheet and gives more flexibility to statistical compilers who can produce new aggregates to order without troubling the investment funds for new data or breakdowns. Security-by-security reporting probably also produces more accurate results. This "granular" approach to reporting, which also has the advantage of providing much more detail on risk exposures, is discussed further in Chapter 6.

The analytical value of data on investment funds was explored in the August 2010 issue of the ECB's Monthly Bulletin.[3] Briefly, it was explained that, together with other monetary and financial statistics for the euro area, investment fund statistics indicate changes in investors' confidence and risk appetite and reveal portfolio reallocations between monetary assets and longer-term asset classes. Data on investment funds also support financial stability analysis.

2.2 INSURANCE CORPORATIONS AND PENSION FUNDS

Until 2009 the EU framework legislation on ECB statistics (Council Regulation (EC) No 2533/98) excluded insurance corporations and pension funds (S.125 in the ESA 95 coding) from the reference population to which the ECB could address statistical regulations. The ECB has published quarterly balance sheet data for insurance corporations and pension funds since 2003 and (since 2007) alongside the quarterly integrated economic and financial accounts by institutional sector (see Chapters 14-15 for an explanation of these). The data were, however, highly aggregated and available only about 110 days after the reference quarter. Substantial improvements were introduced in mid-2011, as described below. Meanwhile the amendment to the EU framework legislation on ECB statistics (Council Regulation (EC) No 951/2009 amending Council Regulation (EC) No 2533/98) now includes euro area insurance corporations and pension funds in the ECB's reference reporting population. It should perhaps be noted that the ECB's main focus for monetary policy is on the life business of insurance companies, and not the interest in non-life insurance business (motor, fire, accident, etc.). For financial stability purposes, reinsurance business is also important.[4]

Balance sheets of euro area insurance corporations and pension funds amounted to some €7.8 trillion at end-2012, with insurance corporations representing 80% of the total. In view of their size and importance, which is likely to increase as populations age, the ECB and NCBs have given much attention to improving data on them and speeding up their provision, in particular for insurance corporations. So far however no regulation has been addressed to them. The intensive work began in 2006 when a joint ECB/Eurostat task force concluded that, although a considerable amount of data from statistical and supervisory sources was available, the data were not consistent across countries and there were

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3   "Harmonised ECB statistics on euro area investment funds and their analytical use for monetary policy purposes", *Monthly Bulletin*, ECB, August 2010, p.109.
4   Reinsurance is insurance provided by one insurer (usually a business specialising in reinsurance) to another whereby the reinsurer agrees, in exchange for a premium, to indemnify the latter for losses on one or more contracts issued by it. Reinsurers may themselves arrange reinsurance, called "retrocession".

shortcomings in terms of frequency, timeliness and detail. The task force made some proposals for further work, noting the likelihood that the EU framework legislation on ECB statistics might need to be amended to enable the collection of data from insurance corporations and pension funds. A task force of the ESCB's Statistics Committee was promptly appointed in 2007 to see how the most important user needs for insurance corporation and pension fund data could be better met. Eurostat and the Committee of European Insurance and Occupational Pensions Supervisors[5] were involved in the work. These needs were for a full insurance corporation and pension fund balance sheet with a counterparty split by sector/residency and instrument/maturity breakdowns, within 90 days of the end of the reference quarter. (Some would have welcomed monthly data, and/or quarterly data within about 30 days, but this was not considered practicable.)

Users emphasised the need for insurance corporation and pension fund data as both stocks and flows. Flows are particularly relevant for the analysis of portfolio shifts between households, insurance corporations and pension funds and MFIs, and for considering the impact of such shifts on developments in money and credit aggregates, either through insurance corporations' and pension funds' own deposit-holding or loan-taking or in their role as a destination for households' and non-financial corporations' financial investment. Stock data are relevant since the liabilities of insurance corporations and pension funds are an important part of the wealth portfolio of the non-financial private sector, especially households, and changes in wealth can affect economic activity.

Users saw merit in increasing the level of detail compared with what had hitherto been provided on insurance corporations and pension funds in the integrated euro area accounts described in Chapters 14-15. For instance, a breakdown of liabilities to policyholders and beneficiaries (called insurance technical reserves in the present international statistical standards) by maturity, for life insurance and pension funds in particular, would indicate the timing of benefit payments and the associated impact on household disposable income. A breakdown by type of plan would improve estimates of the propensity to consume out of different categories of financial wealth. Another useful breakdown of insurance corporation and pension fund data would be by type of entity (pension funds, life insurers, non-life insurers, and reinsurers), as these have different investment policies and money-holding behaviour and the information thus allows a better examination of the effects of portfolio allocation. Since these breakdowns were not expected to be highly volatile, a less stringent timeliness requirement and/or a lower frequency would be acceptable (although subject to the comments below).

Insurance corporation and pension fund statistics were also seen as primary statistics of interest in their own right which, in conjunction with other primary statistics, enhance monetary and economic analysis. Hence the requirements for detail and timeliness (around 90 days after the reference date). Users did not view them merely as an input to integrated euro area accounts, important as they are in that context.

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5   The CEIOPS was replaced in January 2011 by the European Insurance and Occupational Pensions Authority (EIOPA), one of the three European Supervisory Authorities.

While the task force was asked to assess user requirements mainly for monetary policy purposes, it was evident that data would also be very relevant to financial stability because insurance corporations and pension funds cover both sector-specific and systemic risks (especially reinsurers), and also because of their size. The high degree of concentration and extensive international investment activities of these entities make the sector particularly important for financial markets. Thus the timeliness and frequency of insurance corporation and pension fund data are also important for financial stability analysis.

As a first response to these requirements and following efforts to improve the data, the ECB began publishing new quarterly insurance corporations and pension funds data in June 2011 . The main national data sources are supervisory collection systems, complemented by other sources, such as data from MFIs, securities issues or balance of payments statistics, or, in some cases, direct reporting by insurers and pension funds and estimates made for the national financial accounts. The statistics are accordingly not fully harmonised across euro area countries. The ECB adjusts national contributions provided by central banks for missing data in order to compile euro area aggregates. Euro area insurance corporation and pension fund data are mostly available quarterly, with certain detailed breakdowns at an annual frequency. The data go back to 2008. They are available around 90 days after the reference date. These statistics present the assets and liabilities of insurance corporations and pension funds resident in the euro area. Data for insurance corporations and pension funds are shown separately (outstanding amounts and main instrument categories only). The insurance corporation data comprise both insurance (life and non-life) and reinsurance business. The pension funds included here are autonomous funds, i.e. independent institutional units. (Non-autonomous pension funds set up within an enterprise to provide its employees with pensions are not separate institutional units and are not covered; statistically, they are allocated to the sector of the enterprise of which they form part.) Social security schemes are not covered. The data coverage includes insurers and pension funds which are subsidiaries or branches resident in the euro area of foreign entities but – following the usual statistical practice – not branches and subsidiaries abroad of entities with headquarters in the euro area. The aggregate balance sheet of the sector is compiled as the sum of the balance sheet information of all individual insurance corporations and pension funds, without any consolidation of insurance group or insurance sector internal transactions. Assets and liabilities are presented with instrument and sector detail, distinguishing between domestic counterparties, counterparties resident elsewhere in the euro area, and those resident outside the euro area, and with (original) maturity information on some items. Deposits and loans are shown at nominal value, with accrued interest on them recorded in "other assets/other liabilities", following the practice in MFI balance sheets described in Chapter 1. Most other assets are at market value. The asset category *prepayments of insurance premiums and reserves for outstanding claims* includes insurance corporations' reinsurance claims. Outstanding amounts of assets and liabilities at end-quarter (or end-year) are available for all items. Transactions (in the sense described for monetary statistics – see Chapter 1) during the quarter or year are available for selected items.

For *insurance technical reserves*, the main liability category of insurance corporations and pension funds, data on financial transactions are also available for net equity of households in life insurance reserves, net equity of households in pension fund reserves, and non-life insurance reserves which represent prepayments of insurance premiums and reserves held against outstanding claims. (Net equity of households in these various reserves forms instrument category AF.6[6] in the ESA 95.) *Net equity of households in life insurance reserves*, which represents the part of household financial wealth invested in life insurance schemes, distinguishes between unit-linked and non-unit-linked insurance contracts. Unit-linked insurance contracts do not guarantee the policyholder a return, but rather offer a return which depends on the performance of the underlying portfolio. The investment risk is borne by the policyholder, any holding gain or loss being directly channelled from the insurer to the policyholder. This is not the case for non-unit-linked business, where the investment risk is borne by the insurer. Similarly, the asset category *net equity of households in pension fund reserves* represents the part of household financial wealth invested in pension fund schemes. This item includes three further breakdowns: defined contribution, defined benefit, and hybrid schemes. In a defined contribution pension scheme, the participant's contributions are determined in advance, but pension payments are not. During the accumulation phase, the contributions are invested in a portfolio and the policyholder bears the investment risk. Upon retirement, the participant usually exchanges the portfolio for a life annuity that provides protection against longevity risk and changes in interest rates. In a defined benefit scheme, future pension payments are determined in advance, based, for example, on the policyholder's pay and years of service. The level of contributions may, however, vary over time, depending on the reserves or funding shortfall of the fund. In practice, many schemes are hybrids, containing elements of both. The breakdowns by insurance scheme and pension plan are available on an annual basis, for outstanding amounts only. The liability category *prepayments of insurance premiums and reserves for outstanding claims* includes all insurance corporations' and pension funds' reserves against claims other than those related to life insurance and pension policies, so they are mainly related to non-life and reinsurance business.

As noted previously, the 2009 amendment to the EU framework legislation on ECB statistics empowers the ECB to address regulations to insurance corporations and pension funds resident in the euro area. Furthermore, it expressly entitles the ECB to collect data for financial stability purposes. The ESCB's Statistics Committee task force had considered the possibility of such a regulation (hypothetical at the time) when it was set up in 2007. Meanwhile an important related initiative is the development by the relevant European Supervisory Authority, EIOPA, of harmonised reporting templates for the purposes of supervising insurance corporations under the Solvency II Directive. (The EIOPA's plans for supervisory reporting standards for pension funds are at an early stage.) The present intention is to adopt an ECB regulation on insurance corporations statistics, while retaining the present (recently enhanced) approach for pension funds and cooperating closely with the EIOPA in both areas. This

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6   "AF" is a prefix used in the ESA and the SNA to indicate a position in a financial instrument.

regulation on insurance corporation statistics would cover all ECB/Eurosystem requirements for monetary and macroeconomic analysis, financial stability, external statistics and securities holdings statistics, and meet the needs of the ESRB, possibly with a recommendation addressed to EU insurers outside the euro area. In order to minimise the reporting burden on insurance corporations, the regulation would be "flexible". Thus the regulation would contain the statistical requirements but also a provision granting the NCBs a limited discretion to exempt certain reporting agents, in part or in full, from the reporting requirements of the regulation, provided that the required data could be derived from other data sources (such as information supplied under the Solvency II Directive) and subject to meeting minimum statistical standards. (There are some similarities here to the approach in the area of securitisation statistics, which uses complementary information reported by MFIs and FVCs, as described in Chapter 1 and in the section on FVCs below.)

Meanwhile, however, implementation of the Solvency II Directive, intended from 2014, has been further delayed. The ECB, in liaison with the EIOPA and national supervisors, and communicating with the European Commission and industry representatives, is considering a shortcut in order to implement a significant subset of data reporting from the latter part of 2015.

2.3 FINANCIAL VEHICLE CORPORATIONS AND THEIR ROLE IN SECURITISATIONS

Interest in FVCs has arisen owing to their role as partners of MFIs in securitisation operations and because it is important to monitor their activity given its consequences for the analysis of developments in MFI balance sheets, in particular credit. Securitisation data are also relevant to financial stability and for market operations purposes. The new data provide information on the development of securitisation during the financial crisis and on the increasing use of securitisations by MFIs to obtain paper useable as collateral in refinancing operations ("retained" securitisations – see further below).

The ESA 95 classifies FVCs as other (non-monetary) financial intermediaries, S.123. There are nearly 3,000 FVCs in the euro area, most of them located (in order of numbers) in Ireland, Luxembourg, the Netherlands and Spain. In response to the growing importance of FVCs within the financial sector, at the end of 2008 the ECB adopted a regulation concerning statistics on the assets and liabilities of FVCs engaged in securitisation transactions (ECB/2008/30); the first data became available in 2010. As well as vehicles engaged in the securitisation of loans originally granted ("originated") by MFIs, the regulation covers securitisation of non-loan assets and FVCs' repackaging debt securities issued by other FVCs into new securitisations ("re-securitisation"). The focus here is on first-time securitisations of loans originated by MFIs. (Meanwhile, reflecting the new ESA 2010, Regulation ECB/2013/40 will in due course replace Regulation ECB/2008/30. The concept of securitisation, and the relevant complementary provisions of the MFI balance sheet regulation as described below, will not change.)

CONCEPT OF SECURITISATION

Securitisation is discussed at length in the ECB's "Manual on MFI balance sheet statistics" (April 2012). Briefly, a "traditional" securitisation allows the originator of a loan (usually an MFI) to transfer a portfolio of loans to another entity (the FVC). The loan transfer will enable the MFI to economise on capital. Alternatively, in a "synthetic" securitisation there is no transfer of loans but the default risk is transferred by means of derivatives, guarantees or contracts that resemble insurance from the perspective of the MFI.

More precisely, Regulation ECB/2008/30 defines securitisation as "a transaction or scheme whereby an asset or pool of assets is transferred to an entity that is separate from the originator and is created for or serves the purpose of the securitisation and/or [a scheme whereby] the credit risk of an asset or pool of assets, or part thereof, is transferred to the investors in the securities ...".

Regulation ECB/2008/30 explains that "'originator' means the transferor of the assets, or a pool of assets, and/or the credit risk of the asset or pool of assets to the securitisation structure".

The regulation defines an FVC as "an undertaking which is constituted pursuant to national or Community law under one of the following [legal forms]… and whose principal activity meets both of the following criteria:

(a) it intends to carry out, or carries out, one or more securitisation transactions and is insulated from the risk of bankruptcy or any other default of the originator;

(b) it issues, or intends to issue, securities, securitisation fund units, other debt instruments and/or financial derivatives and/or legally or economically owns, or may own, assets underlying the issue of securities, securitisation fund units, other debt instruments and/or financial derivatives that are offered for sale to the public or sold on the basis of private placements".

Guideline ECB/2008/31 (amending Guideline ECB/2007/9 on monetary, financial institutions and markets statistics) distinguishes between "traditional" and "synthetic" securitisation: "For the purpose of FVC statistics traditional securitisation refers to securitisations where the transfer of risk is achieved by the economic transfer of the assets being securitised to the FVC. This shall be accomplished by the transfer of ownership of the securitised assets from the originator or through sub-participation. Synthetic securitisation refers to securitisations where the transfer of risk is achieved by the use of credit derivatives, guarantees or any similar mechanism [and the FVC does not become owner of the loans]".

The ECB has elaborated on some of these definitions in a guidance note on the definitions of FVC and securitisation under Regulation ECB/2008/30 (February 2012). Thus, for an entity to be classified as an FVC, securitisation must be its principal activity. For example, an entity whose principal activity is granting loans but which incidentally engages in loan purchases (even if accompanied by

issuing securities) would not qualify as an FVC. It does not need however to buy loans directly from the originator – it may buy loans in the secondary market and yet qualify as an FVC. Indeed it does not need to buy loans at all – it may buy certain other types of asset from the holder and still be classified as an FVC. The entity must be insulated from the possible bankruptcy of the originator, i.e. it must be "bankruptcy remote". It must issue securities as defined in Regulation ECB/2008/30 and/or legally own assets underlying the issue of securities as part of a multi-vehicle structure in which some other vehicle issues them. (Generally, if the structure as a whole would qualify as an FVC if its components were consolidated, each entity within the structure qualifies as an FVC.) An entity engaged in synthetic securitisation merely relieves the originator of the credit risk. Only the credit risk of the original loans is transferred to holders of the securities, collateralised by the FVC's potential obligation to the originator in the event of default on the loans. The guidance note also provides that the classification of an entity as an FVC does not depend on the accounting rules applied concerning the derecognition of the loans subject to the securitisation operation. This means that the classification of the counterparty to the securitisation operation (the FVC) does not depend on whether accounting rules allow the original lender to remove the securitised loans from its balance sheet.

In the euro area, MFIs have securitised a wide range of financial assets, initially mostly mortgage loans but more recently extending to consumer credit and corporate loans. For some years the ECB has published figures for MFI lending after adjustment for securitisation. Until 2010 these were based on estimates. Interest in the provision of funding to households and non-financial corporations remains strong, and the new MFI and FVC data sources represent a considerable improvement in measuring securitisation activity, particularly with the breakdown by borrowing sector.

FURTHER EXPLANATION

Some further explanation may help clarify the statistical aspects of securitisation and explain how this part of reporting by MFIs and by FVCs interact. A true sale securitisation is straightforward. Loans pass from the balance sheet of the originating MFI to the FVC. Looking at MFI balance sheets alone suggests that loans have been repaid. If the originating MFI, or the MFI sector as a whole, purchases the securities issued by the FVC acquiring the loans, it will appear (if, for example, the loans are mortgage or consumer credit loans, or loans to non-financial businesses) that there has been a switch from lending to households/non-financial corporations to credit to other financial intermediaries. Although correct if the MFI balance sheet is considered in isolation, the operation does not capture the economic reality of what has happened, since households/non-financial corporations will have experienced no withdrawal of credit.

A complication arises where loans which have been the subject of a traditional securitisation nevertheless may not qualify for derecognition under the prevailing accounting rules. While the FVC may be the legal owner, in some circumstances the originating MFI is then not permitted to remove them from its balance sheet. Since it will have received a consideration from the sale of the loans, yet retains them on its balance sheet, the MFI must keep its accounts in balance by recording

a counterpart liability to the non-derecognised loans as a deposit. (The case is similar to that of a repurchase agreement, where the MFI borrowing funds against the collateral provided by the securities records a deposit liability to match the receipt of cash.) By convention, where a euro area FVC has been used in the securitisation, this liability of the MFI is recorded in deposits from FVCs with an agreed maturity of over two years, and thus remains outside the monetary aggregates. The danger here is not that the loans to households/non-financial corporations are missed but – as the FVC also reports them on its statistical balance sheet – that they are recorded twice. In order to resolve this problem, MFIs report separately those volumes of loans which have been securitised but not derecognised from their balance sheets, so that these may be netted out from the total credit to (say) households and non-financial corporations from the MFI and FVC sectors. If MFIs take up the securities issued by FVCs to finance the securitisation, in gross terms MFI credit to other (non-monetary) financial intermediaries will also increase.

The phenomenon of "retained securitisation" should also be mentioned, as a variant of traditional securitisation. Here the originating MFI transfers loans to an FVC and then promptly buys the asset-backed securities issued by the FVC. The MFI's purpose here is not to lighten its balance sheet, or to reduce capital requirements but to exchange assets in the form of loans for instruments which can be used as collateral in market operations. If the MFI balance sheet is viewed in isolation, retained securitisation again gives the impression of a switch in MFI credit from households/non-financial corporations to other financial intermediaries.

While a synthetic securitisation is not open to the same misinterpretation because the original loans remain on the balance sheet of the MFI, it will conceal where the credit risk lies, which is important for financial stability purposes.

It may also be noted that the FVC will issue securities in order to acquire assets to place as collateral for the credit default swap or to place on deposit with the originating MFI.

LINK BETWEEN REGULATION ECB/2008/32 AND REGULATION ECB/2008/30

The data on the assets side of an MFI's balance sheet therefore need to be supplemented, either by further information on its securitisation activities from the MFI itself, or by information from the partner FVC, or some combination of the two. Since synthetic securitisation is of no consequence for understanding developments in aggregated credit statistics, the MFI balance sheet reporting does not contain reporting requirements for synthetic securitisation (although any deposits placed by the FVC involved with the MFI in a synthetic securitisation, as well as any FVC securities held by the MFI, are identified on the MFI balance sheet, and information on synthetic securitisations is collected for supervisory purposes). But the reporting arrangements introduced by Regulations ECB/2008/32 (for MFIs) and ECB/2008/30 (for FVCs) require comprehensive information on traditional securitisation. Thus MFIs must report the net amount (disposals minus acquisitions) of loans securitised or otherwise transferred during the month, with a sector breakdown of the borrowers where these are domestic or other euro area residents.

The required distinction between transactions affecting the balance sheet total (where the loans are derecognised) and those not affecting it (when accounting rules prevent derecognition) is critical, as the former need to be taken into account when assessing MFI loan developments. MFIs must also report whether the counterparty to the operation is an FVC and, if so, whether it is resident in the euro area, in order that the data reported by MFIs and FVCs respectively can be matched up. MFIs are required to provide more detailed information quarterly: in addition to the full monthly sector breakdown of original borrowers, the quarterly data contain, for loans to households, information on the purpose of the original loan (consumption, house purchase, and "other", within which loans to sole proprietors/unincorporated partnerships); and the original maturity of the loan (with breaks at one and five years) where the original borrower is a non-financial corporation. MFIs must also report quarterly, with the same sector and maturity breakdowns, the outstanding amount of loans which they continue to service following securitisation. This provides the ECB and NCBs with information on the loans after they have been transferred. In particular, repayments will show in these outstanding amounts, as they would if the loans had remained on the balance sheet of the originating MFI. Identifying (as MFIs must) securitised loans serviced on behalf of FVCs resident in the euro area enables a link to be made with the information provided by FVCs themselves, and may partially substitute for it. MFIs also report monthly their deposit liabilities to FVCs in the euro area (with a maturity break at two years, so that the monetary component can be identified) and their holdings of securities issued by FVCs in the euro area (also broken down between domestic FVCs and FVCs resident in other euro area Member States), providing further links with data submitted under Regulation ECB/2008/30.

The above paragraphs explain the reporting by MFIs concerning securitisation operations. Regulation ECB/2008/30 addressed to FVCs complements Regulation ECB/2008/32. The preamble to Regulation ECB/2008/30 provides: "Given the close links between the securitisation activities of FVCs and ... MFIs, consistent, complementary and integrated reporting of MFIs and FVCs is required. Therefore, the statistical information provided in accordance with this Regulation needs to be considered together with the data requirements for MFIs on securitised loans, as laid down in Regulation … ECB/2008/32". The FVC reporting is quarterly, and FVCs report a balance sheet (assets and liabilities outstanding at end-quarter), transactions during the quarter, and any write-offs/write-downs of securitised loans held by them (as explained in Chapter 1 on MFIs, write-offs/write-downs affect balance sheets but are not transactions). On the assets side, the most detailed requirements concern (naturally enough) securitised loans originally extended by MFIs resident in the euro area, where FVCs are asked for full sectoral detail and also (for loans to non-financial corporations) maturity breakdowns. Holdings of securitised loans granted by entities which are not MFIs resident in the euro area are required as totals only. Among other assets of FVCs, holdings of debt securities are required with only broad sectoral information on the issuer (MFI/non-MFI/of which FVC, and all issuers resident outside the euro area); holdings of shares and other equity identify only securities issued by other FVCs. On the liabilities side, only deposits and loans received from other FVCs resident in the euro area and a total are required, and only totals for the other categories of liability (debt securities issued, capital and reserves, financial derivatives, and a residual category). A total

is to be reported for write-offs/write-downs of securitised loans. Data on securities issued and held may be reported on a security-by-security basis. The data must arrive at the ECB by the 28th working day following the end of the reference quarter. Finally, small institutions may be excused full reporting provided that 95% balance sheet coverage is achieved in each Member State. In addition, NCBs may grant derogations to FVCs for loans originated by euro area MFIs, where the MFIs continue to service the securitised loans and, subject to certain conditions, to the extent that the data can be derived from other statistical, public or supervisory data sources.

The point about loans serviced by MFIs is (again) the link to Regulation ECB/2008/32. Here, both Regulation ECB/2008/32 and Guideline ECB/2007/9 (as amended by ECB/2008/31) are relevant. The guideline states: "If the originators of the securitised loans are MFIs resident in the same country as the FVC, and these domestic MFIs continue to service the securitised assets, the NCB may compile this part of the data on the FVCs' loan portfolio … from data collected from domestic MFIs ... instead of directly collecting these data from FVCs. If the originators of the securitised loans are MFIs resident in another euro area Member State [other than the country in which the FVC is resident], and these MFIs continue to service the securitised assets, NCBs shall exchange the information collected from these MFIs ...".

For the purpose of exchanging cross-border information, each NCB transmits information on loans originated and serviced by domestic MFIs to the ECB which redistributes the data to the NCBs concerned. NCBs that are involved in the exchange of data for existing securitisations clarify any outstanding queries on a bilateral basis and may exchange relevant information.

2.4   OTHER NON-MONETARY FINANCIAL INSTITUTIONS

In addition to the institutions discussed in the previous sections, there are numerous other groups of financial corporations in the euro area. Some are financial auxiliaries (S.124 in the ESA 95) – these are financial businesses which are not engaged in financial intermediation, but act as brokers or agents. There are also many financial intermediaries which do not fall into the categories discussed so far, that is MFIs, investment funds, insurance corporations and pension funds or FVCs. These include (in S.123 in the ESA 95) entities granting consumer and export credit, leasing and factoring companies, and security and financial derivatives dealers trading on their own account. There are also financial holding companies, which are not strictly financial intermediaries despite their inclusion in S.123. With regard to central counterparties (which are also classified in S.123), Chapter 1 describes their involvement with MFIs in the context of MFI balance sheets and monetary aggregates and the credit counterpart. In total, the balance sheets of this mix of institutions amounted to some €7 trillion in the euro area at end-2012.

None of these entities are subject to a specific ECB regulation on statistics. Instead, Guideline ECB/2007/9 invites NCBs to send data on them to the ECB using whatever national sources are available. In practice the results are not

considered good enough for separate publication, although euro area aggregates for sub-sectors S.123 and S.124 combined are published as part of the quarterly integrated economic and financial accounts by institutional sector. (It is from this total that the figure of €7 trillion was derived by residual, by broad estimate.) It may, however, be useful to see how these groups of financial institutions are defined by the ECB.

Financial corporations engaged in lending are entities specialised in lending activity, comprising financial leasing, factoring, mortgage lending, consumer lending and any other type of lending as defined according to EU and/or national regulatory provisions.[7] The category includes entities the main purpose of which is financing non-resident entities belonging to the same corporate group. An example is the special financial institutions set up in the Netherlands and in some other euro area Member States (as elsewhere) to collect funds from non-resident group companies or to raise funds on the market by issuing securities for on-lending to other entities of the group located abroad.[8] Where entities of this kind set up in securitisation operations meet the definition of FVCs, they are to be classified as such.

Financial holding corporations are entities that hold shares representing a controlling interest in financial corporations or groups of subsidiary financial corporations without being involved in financial intermediation themselves.[9]

Although identifying *securities and derivatives dealers* (SDDs) that trade securities on their own account is feasible in many EU countries thanks to authorisation and supervision requirements, it is often not easy to distinguish between own-account and commissioned activities. The Markets in Financial Instruments Directive, which retains the principle of the "European passport" for institutions defined as investment firms, appeared to provide a sound basis for identifying SDDs.[10] However, it does not distinguish between investment firms

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7   Financial leasing, where the leasing period covers all or most of the economic lifetime of the durable good, and the lessee often has the option to buy the good at a nominal price when the lease expires, is treated statistically as lending against collateral. Operational leasing, where the lessee hires goods usually serviced by the lessor, is recorded statistically as a provision of services by the lessor. Factoring is the activity of buying trade receivables at a discount and claiming the amounts when they fall due.

8   Entities set up abroad, with little or no physical presence in or links with the host economy, are called special purpose entities (SPEs) in the SNA 2008 and ESA 2010 (they are not mentioned in the SNA 93 and ESA 95). Elsewhere they may be called special purpose vehicles or "brass-plate" companies. SPEs, like other entities, should be classified according to the nature of their business. However, by "SPE", the statistical standards are referring to a type of entity, not a type of activity. In practice, collecting data from entities with little or no physical presence in or other links with the host economy may be difficult. SPEs are discussed further in Box 3.

9   When the ESA 2010 is implemented in 2014, all holding companies will be classified without regard to the main activity of the group (financial or non-financial) – see Chapter 20 and Box 3 on the new sub-sector S.127, comprising captive financial institutions and money lenders. Holding companies are not intended to engage in management activities.

10 Directive 2004/39/EC of the European Parliament and of the Council of 21 April 2004 on markets in financial instruments amending Council Directives 85/611/EEC and 93/6/EEC and Directive 2000/12/EC of the European Parliament and of the Council and repealing Council Directive 93/22/EEC. The legislative proposals revising Directive 2004/39/EC (MiFID) were released on 20 October 2011.

operating on their own account and those operating on the account of third parties. The ECB's preferred approach is to include in this category institutions that have registered for or have obtained permission to perform, on a regular basis, own-account securities dealing, whether or not they actually engage in such business. Thus SDDs (classified as other (non-monetary) financial intermediaries, S.123 in the ESA 95) comprise investment firms which are authorised to carry out the business of investing in securities on their own account. For the purpose of this definition, own-account investment means trading in new or outstanding financial instruments through their acquisition and sale on the SDD's own account and/or at the SDD's risk, including market-making activities, and underwriting the issue of financial instruments or placing them.

No definition currently exists for the residual sub-category of other (non-monetary) intermediaries not falling under the definitions set out above. This residual sub-category comprises a variety of entities, including venture capital companies not structured as investment funds. The importance of this sub-category depends on the pace and nature of financial innovation. For instance, clearing houses, traditionally facilitators of financial transactions, may now take on some counterpart risk: the clearing counterparties involved in the money market are an example of this development, as discussed in Chapter 1.

IMPLICATIONS OF THE NEW VERSION OF THE EUROPEAN SYSTEM OF ACCOUNTS (ESA 2010)

As noted in Chapter 1, Regulation (EU) No 549/2013 on the ESA 2010 has recently been adopted and the ESA 2010 will be implemented in the European Union in 2014. The consequences for statistics on non-monetary financial corporations are already mentioned in Chapter 2.1 on investment funds and in Chapter 2.3 on FVCs (where new regulations have been adopted), and are discussed in Chapter 20.

Box 3 Special purpose entities

Nature of special purpose entities

Special purpose entity is the term now used to describe what have hitherto been called offshore entities, "brass-plate" companies and international trading companies. These are entities which, although registered, incorporated or authorised in a country, have little or no physical presence there.

The current international and European statistical standards – the ESA 95, SNA 93 and BPM5 – do not mention SPEs. Their criteria for residence focus on the physical location of the entity and its engagement in productive activity in the territory. The treatment of entities without a physical presence is not clear under these manuals. However, they are included in the new standards. A key clarification in the ESA 2010, SNA 2008 and BPM6 is that, in the absence of a physical presence in the territory, incorporation or registration determines the residence of an institutional unit. Once they are accepted as resident, the

classification of SPEs by economic sector and activity should reflect the SPE's main business, as for any other institutional unit. Many SPEs engage in some type of financial activity, in which case they will be classified in one or other sub-category of S.12. Some SPEs however may be principally engaged in non-financial activities (examples being companies set up to rent out mobile equipment, engage in merchanting and trading activities, and hold licences, patents and other forms of intellectual property), in which case they should be classified as non-financial corporations (S.11). Such entities will contribute to GDP in the host economy since they will be deemed to be producing services of various types, although their activities will probably not contribute to gross national income (GNI) as their earnings will be deemed payable as property income to the non-resident owners.

Treatment and classification in ECB statistics

For the purpose of ECB statistics, SPEs have been considered to be resident in their country of incorporation or registration. Entities with a banking licence have always been required to report as MFIs in the country in which they are authorised, regardless of whether they have premises and staff there and irrespective of the pattern of their business. Both Regulation ECB/2007/8 (investment funds) and Regulation ECB/2008/30 (FVCs) state that a legal entity lacking a physical dimension is resident in the economic territory under whose laws it is incorporated (Article 1). This means that if such an entity meets the definition of investment fund or FVC engaged in securitisation operations, it must, unless it benefits from a derogation, report under one or other of these regulations. Guideline ECB/2007/3 amending Guideline ECB/2004/15 on balance of payments and international investment position statistics expressly provides that "in the absence of any significant physical dimension to a legal entity… its residence is determined by the economic territory under whose laws the entity is incorporated." This wording is retained in the new external statistics Guideline ECB/2011/23. Thus SPEs have, at least in principle, been treated as resident in the (euro area) Member State in which they are registered, whether or not they are recognised as resident in the national data of that country. The reason is that, although their transactions and positions may be entirely offshore as far as the host country is concerned, they may not be offshore for the euro area as a whole, and treating them as resident in the euro area is likely to promote consistent recording of their business in the euro area statistics. The implication is that all transactions and positions of such an entity with non-residents of the country should be included in the balance of payments and international investment position, and will contribute to the euro area's external transactions and positions if they are with non-residents of the euro area. (Collecting the information may present serious practical difficulties, since SPEs tend to have a high turnover rate and may prove elusive – but that is another matter.)

SPEs may have very large balance sheets and transactions. In the Netherlands, for example, where there are some 12,000 SPEs and well-established arrangements to capture information on them, their total balance sheets are the equivalent

of some three years' GDP. Some may contribute directly to GDP in the host economy, if not to gross national income. Many may have substantial, even if largely offsetting, transactions in the balance of payments, and external financial assets and liabilities which should be recorded in the international investment position. The financial crisis has focused attention on SPEs' activities, as demonstrated by the recommendations of the IMF-Financial Stability Board report to the G20 adopted in November 2009 concerning consolidated data on financial institutions (including offshore affiliates) and the exposure of non-financial corporations through their offshore subsidiaries. (This report is discussed at length in Chapter 24.)

Captive financial institutions

Substantive discussion of the new statistical standards (the SNA 2008, ESA 2010 and BPM6) is deferred to Chapter 20. It might be noted here, however, that they introduce a new sub-category of financial corporation, namely captive financial institutions and money lenders (S.127). Money lenders are not relevant here. Captive financial institutions are institutional units providing financial services, where most of either their assets or their liabilities are not transacted on open financial markets. The category includes entities transacting with a limited group of units (such as with their own subsidiaries or with subsidiaries of the same holding corporation as themselves). Trusts or estates may also be classified as captive financial institutions.

A particular group of interest is holding companies. Their function is to hold assets in the form of shares in a group of subsidiary corporations (whether financial or non-financial; this is a difference here from the ESA 95 and SNA 93, where holding companies have been classified according to the predominant activity of the group). Their principal activity is owning the group without providing any other service to the enterprises in which the equity is held, that is, they do not administer or manage other units or otherwise produce services such as intellectual property, royalties, etc. In practice the distinction between holding companies (in S.127) and "head offices" engaged in the management of the enterprise group (reflecting the main function of their business, in S.11 or some other sub-sector in S.12) is a matter for further consideration by international statisticians. Wherever such entities have the nature of an SPE, however, their residence status should be clear.

The ESA 2010 with the new sub-sector S.127 will be implemented in Europe in 2014. An important point is that SPEs which meet the definition of investment fund, FVC engaged in securitisation activity, insurance corporation, pension fund or even conceivably MFI will continue to be classified accordingly and not under S.127, even if they exhibit some characteristics of a captive financial institution.

3 STATISTICAL COMPARED WITH SUPERVISORY AND FINANCIAL STABILITY DATA REQUIREMENTS

The MFI balance sheet, the monetary aggregates and counterparts, and the various data series on other (non-monetary) financial intermediaries were essentially designed for monetary policy. The conceptual framework for these data is the ESA 95 and, more widely, the international statistical standards with which the ESA 95 is consistent.

The financial stability function of the ECB has been present from the start of monetary union (see Chapter 3.2 below). However, the ECB's financial stability role has increased greatly in the aftermath of the financial crisis to become a significant part of its work. Data of this kind are needed also for the ESRB, established in 2011, to which the ECB provides, inter alia, statistical support. The ECB itself is now preparing a banking supervisory role, with consequences for the statistical function.

Chapter 3 considers the different statistical needs for monetary policy and economic analysis on the one hand and, on the other, the financial stability and financial supervision functions.

3.1 MAIN DIFFERENCES AND COMMON ELEMENTS

It may be useful to start by explaining why statistical and supervisory (or financial stability) data are significantly different.

The main use of the *statistical* balance sheet data reported by credit institutions and other MFIs[1] is to support monetary policy analysis. For this purpose, the focus of interest is the total amount of their monetary liabilities and credit extended, and on the holders of the money and the takers of the credit. The emphasis is on the counterparties rather than on the credit institutions because it is their spending and saving decisions which influence economic developments. The monetary and lending data with the vital counterparty information are not viewed in isolation but, as explained elsewhere, are embedded in comprehensive and integrated economic and financial accounts compiled quarterly within a conceptual framework laid out in the international System of National Accounts and the European System of Accounts derived from it. These manuals define sectors (households, non-financial corporations, financial corporations, government) as groups of entities displaying similar economic behaviour and make a strict distinction between resident and non-resident entities. The sector definitions are important for monetary analysis because, for example, an increase in the money holdings of households or non-financial corporations may have different implications from an increase in money held by (non-monetary) financial

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1   As noted previously, credit institutions form by far the largest part of the MFI sector in Europe, and the MFI sub-sector dominates the financial sector as a whole.

corporations, and similarly the provision of credit. The residence distinction matters because the ECB's monetary policy responsibility is confined to the euro area – the ECB has no direct means or intention for its monetary policy to influence the behaviour of banking institutions or other entities outside the euro area – and is predominantly concerned with the area as a whole, not in national developments. Viewing monetary developments within a complete framework of economic and financial accounts enables them to be seen in the widest relevant context. These concepts of sector and residence (sometimes called the host approach – the country hosting the economic activity undertaken by the entity) are standard for statistical purposes globally to enable economic developments to be easily compared across countries. Harmonisation is particularly important so that coherent area aggregates can be compiled. Consistency of data over time is also necessary to enable economic and financial developments to be viewed over long periods. For similar reasons the ECB's statistical reporting requirements addressed to other groups of financial institutions (currently investment funds and FVCs) observe the same sectoral and residence boundaries, and also seek consistency over time.

The MFI interest rate data are described in Chapter 7. Here, it is necessary only to note that they comprise almost entirely data on interest rates paid and charged by credit institutions, i.e. rates paid and charged in business with households and non-financial corporations resident in the euro area – the sectors whose spending and saving are the most relevant for monetary policy purposes. As in the definitions of sector and residence, the instruments covered correspond as far as possible to the MFI balance sheet categories, the outstanding amounts of which are used to weight the results. The two reporting schemes are thus complementary.

For *supervisory* purposes, the focus is the individual bank or banking group, and in particular the various kinds of risk (credit, market, operational, etc.) to which it is exposed and the adequacy of its capital in view of these risks. It is worth noting that the exposures, and potential risks therein, are assessed vis-à-vis any counterparts, including institutions within the same sector. Similarly, financial stability (or macro-prudential) analysis deals with the measurement of such risks as well as the systemic risk that may develop within and spread to the wider economy from the aggregate banking, or even financial, system.

Looking at resident banking offices alone is insufficient: the position of branches abroad is also relevant for gauging the risk profile of the institution, as may be that of resident non-banking financial affiliates and similar affiliates located abroad, which may also need to be consolidated. Counterparties are of interest mainly from the perspective of risk concentration and diversification. Their residence status is only relevant in that context. The banking group may cross national, euro area and EU boundaries and may include institutions which are not classified as credit institutions or MFIs more broadly, in which case group consolidated data will cut across statistical categories. In contrast to the host basis for statistical purposes, the supervision of banking groups follows the so-called home approach, in that the national competent authority determines the residency of the parent of the banking group, including branches located in other countries

and, for certain purposes, financial subsidiaries regardless of their location (see Box 6). Risks concern also currency, interest rate, liquidity and residual maturity mismatches, and operational risks of various kinds which are not relevant for statistical purposes. Rules in the context of supervision concerning the valuation of assets and liabilities, the timing of recording of transactions, and whether certain items are recorded on the balance sheet at all may differ from the statistical standards. Supervisors are interested not only in banks' balance sheets, but also in their profit and loss account and their off-balance-sheet exposures, since risks may arise from contracts or operations which do not feature on the statistical balance sheet. Moreover, although the development of a bank's business over time and with peer groups may be relevant, the supervisory function is less interested in time series and more concerned with a snapshot of the bank's or banking group's current position and in assessing its prospects.[2]

Thus there are important differences between statistical and supervisory data. But there are also many similarities and exploiting them may help to keep down the costs to reporting institutions of providing data. To identify common elements in definitions, concepts, valuation rules and reporting templates in the statistical and revised supervisory reporting frameworks relating to credit institutions, the ESCB (notably the Statistics Committee and the Financial Stability Committee) and the European Banking Authority set up a Joint Expert Group on Reconciliation of credit institutions' statistical and supervisory reporting requirements (JEGR) in June 2008. Participants are drawn from the statistical and supervisory sides. One of the main aims is where possible to reconcile the statistical and supervisory reporting frameworks thereby reducing the reporting burden. The JEGR has published various documents, on which this chapter is based. The most recent (March 2012) is the second edition of a methodological manual entitled "MFI balance sheet and interest rate statistics and EBA guidelines on FINREP and COREP/Large Exposures – bridging the reporting requirements". There is also a relational database which links the data categories in detail.

Apart from the MFI balance sheet and interest rate systems,[3] the relevant frameworks analysed in the JEGR manual are as follows.

- The FINancial REPorting (FINREP) framework, designed for use by credit institutions that use the International Accounting Standards (IAS)/International Financial Reporting Standards (IFRS) for their published financial statements and must provide similar information in the reports they are required to submit to their supervisory authorities. FINREP dates from 2005; a new Rev.2 took effect in January 2012. (Box 4 at the end of this section briefly explains the IAS and IFRS.)

- The Common solvency ratio REPorting (COREP) framework for credit institutions relates to the future EU capital requirements regime which, in turn,

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2   On the methodological differences between statistical and supervisory data, see also Borgioli, S., Gouveia, A.C. and Labanca, C., "Financial stability analysis: insights gained from consolidated banking data for the EU", *Occasional Paper Series*, No 140, ECB, January 2013.
3   Securities holding statistics (Chapter 5) will be introduced in a new version of the JEGR manual to be published in 2014.

will be in line with the Basel III banking accords mentioned in Box 5. COREP dates from 2006; the current version, Rev. 3, was published in April 2011 and took effect in December 2011. Rev.3 is mandatory in all EU countries since end-2012.

- Also relevant here is the reporting of large exposures. A large exposure is an exposure of a credit institution to a counterparty, to connected counterparties or to a group of connected clients, in the banking or trading book, which (broadly) in total exceeds 10% of the credit institution's capital.

It is worth noting that, while the MFI balance sheet and interest rate statistics (for credit institutions in the euro area) and COREP/Large Exposures reporting are mandatory, FINREP is not yet compulsory. However, a mandatory reporting framework for all EU banks, called Implementing Technical Standards on supervisory reporting, recently adopted by the EBA, will conform to the new regulatory framework replacing Directives 2006/48/EC (capital requirements) and 2006/49/EC (capital adequacy) with a new Capital Requirements Regulation and an accompanying directive to take effect in 2014 (the so-called CRD IV package transposing the new global standards on bank capital, the Basel III agreement, into EU law).[4] These technical standards will cover reporting relating to financial information compliant with international accounting standards (in FINREP), requirements for own funds, losses stemming from lending collateralised by immovable property, large exposures, leverage ratio, liquidity ratios (and other capital adequacy data requirements in COREP) and asset encumbrance. The technical standards will be complemented by other specific reporting templates introduced by the Capital Requirements Regulation (liquidity coverage and stable funding, leverage, asset encumbrance, forbearance and non-performing exposures). They will apply throughout the European Union under a European Commission regulation.

While FINREP will be applied only at the consolidated level and for IFRS banks, national competent authorities may have the discretion to apply FINREP also at the solo level and for non-IFRS banks. It is expected therefore that the number of credit institutions reporting FINREP information will increase over time bringing more overlap with the MFI population, although perhaps not in all euro area countries.

Much of the content of the JEGR's manual is necessarily detailed and technical. The main conclusions are summarised here.

The degree of *consolidation* differs considerably across the reporting systems for the reasons explained above: thus the scope of consolidation of banks' branches and subsidiaries defined in the MFI balance sheet and interest rate regulations is

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4   Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012, and Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC.

different from that of the supervisory reporting, where there is no statistical need to distinguish clearly matters of residence and sector. As noted earlier, statistical balance sheet reporting is based on the so-called "host" residency principle on an individual institution basis, so that each entity reports to the statistical authority in the country in which it is resident. COREP on an individual or solo basis – which, unlike the MFI balance sheet statistics, includes foreign banking branches – and FINREP, where applicable, follow the "home" approach, and reporting is to the authority in the country in which the parent institution is resident. Moreover, the FINREP and COREP frameworks are applied also on a group consolidated basis using the consolidation approach in (at present) Directive 2006/48/EU on capital requirements (to be replaced by Directive 2013/36/EU); for FINREP, the IFRS consolidation approach is also an option. These varying practices make a large difference to the data for many credit institutions. (The definitions of consolidation used in the IMF's Financial Soundness Indicators are summarised in Box 6 at the end of this chapter.)

Valuation rules are different in these reporting frameworks. Regulation ECB/2008/32 on MFI balance sheets requires loans and deposits to be reported at nominal value, without deduction of provisions from loans until the point at which they are written off or written down as wholly or partially irrecoverable (although central banks may in practice allow reporting net of loan provisions). In FINREP loans are reported in the balance sheet net of accumulated provisions (although data on the latter are separately available). For other instruments the valuation rules in Regulation ECB/2008/32 are flexible, and in practice differences between the statistical and supervisory frameworks may not be very important. In particular, the recommendation for statistical reporting of holdings and issues of securities at market/fair values, irrespective of whether the securities are held for trading or until maturity, is not binding. Furthermore, as noted elsewhere, in practice valuations used by MFIs in their balance sheet reporting vary across countries and sometimes between the same institution's trading and investment books. In legal terms, institutions required or allowed to use the IAS/IFRS and which report supervisory information on the basis of FINREP may use the same valuation concepts when reporting for MFI balance sheet purposes, except for loans and deposits. For the latter instruments some sort of reconciliation is possible between fair value and the nominal value or amortised cost. Also, as noted elsewhere, the growing practice of security-by-security reporting, at least of items with an ISIN identifier, may in time much reduce the problem of different valuation practices.

MFI balance sheet and FINREP requirements are consistent as regards the need to record interest on an *accruals basis*, but differ in their requirement regarding the classification of accrued interest. Regulation ECB/2008/32 requires accrued interest on loans and deposits to be reported under remaining assets/liabilities, with a requirement under the related Guideline ECB/2007/9 for accrued interest to be separately identified where possible. In FINREP accrued interest is recorded with the underlying instrument (as indeed is the preference of the ESA 95). The ESA 2010 will make this a requirement, and Regulation ECB/2013/33, the successor of Regulation ECB/2008/32, will formalise the approach, making supplementary information on accrued interest receivable/payable mandatory.

The treatment of items subject to *securitisation* operations is complex, and is explained more fully in Chapter 2. The main point to stress here is the need, for monetary policy purposes, to ensure that loans which have been removed from credit institutions' balance sheets under a traditional "true sale" securitisation are not lost to view (or indeed that loans which have been securitised but not derecognised and so remain on the balance sheet are not counted twice). Synthetic securitisations, where only the credit risk is transferred, are not recorded in MFI balance sheet statistics and the complementary reporting by FVCs. Regulation ECB/2008/32 does not contain rules for recognition/derecognition as such; (de)recognition practice may follow either the IAS/IFRS approach or local accounting principles. For financial stability and supervisory purposes, however, the main concern is how far the credit institution has reduced its exposure to credit risk through the securitisation operation. Synthetic securitisations and so-called "tranching" of the securities issued by the partner FVC, which are not reported for statistical purposes, are relevant here.

Regulation ECB/2008/32 avoids *netting* (offsetting assets against related liabilities). The rules defined in the IAS/IFRS for netting are broadly in line with the requirements for monetary statistics reporting. FINREP however allows cross-border offsetting, which Regulation ECB/2008/32 never permits.

The definitions of *residence* and *economic sector* are largely consistent in statistical and supervisory reporting, although as explained earlier the application is different.

MFI balance sheet requirements are mainly according to original *maturity* of financial assets and liabilities, with some residual maturity breakdowns also. FINREP has no requirements for original or residual maturity breakdowns, although IFRS 7 requires institutions to disclose the residual maturities of liabilities, without standardising time bands.

It is possible to set up a bridge between the *instruments* requested in the two reporting schemes despite differences in their balance sheet structure.

The MFI balance sheet Regulation ECB/2008/32 includes a requirement for information on loans backed by real estate *collateral* with a loan-to-value ratio of 1 or below (i.e. where the collateral at least covers the amount of the loan), whereas FINREP records any loans collateralised against real estate regardless of the loan-to-value ratio.

The IFRS definition of *equity instruments* excludes instruments which may sound similar to equity but are in fact treated as debt liabilities for the issuer (e.g. certain cooperative shares). By contrast, the definition of equity exposures in the current Directive 2006/48/EU includes certain debt exposures the economic substance of which is similar to that of residual claims on the assets or income of the issuer. The MFI balance sheet instrument class "shares and other equity" is intended to include only instruments that are classified as equity for the issuer. In particular, the definition of "equity exposures" in the directive and the FINREP category

"equity instruments" seem to be equivalent to the MFI balance sheet definition of "shares and other equity".

Despite these differences, the statistical and supervisory data have much in common. This is particularly so for credit institutions' statistical balance sheet and the FINREP framework. Links between the statistical balance sheet and the COREP framework, and between MFI interest rate statistics and the supervisory framework, are weaker.

Box 4 Accounting standards

Many of the standards forming part of the International Financial Reporting Standards (IFRS) are known by the older name of International Accounting Standards (IAS). IAS were issued between 1973 and 2001 by the International Accounting Standards Committee. In 2001 the new International Accounting Standards Board took over responsibility for the standards. Thus standards issued before 2001 are IAS and standards issued from 2001 are IFRS.

The Accounting Regulatory Committee is composed of representatives from Member States and is chaired by the European Commission. It provides opinions on European Commission proposals to adopt an international accounting standard. As a consequence the IFRS may be applied differently in the European Union.

All listed EU companies, including banks and insurance companies, have been required to use the IFRS in their consolidated financial statements since 2005, under Regulation (EC) No 1606/2002/EC on the application of international accounting standards.[1] Member States may require other companies to use them, and for their solo accounts. Member States may also permit or require EU-listed companies to use these standards for their annual accounts, and non-EU-listed companies to use them for their annual and/or consolidated accounts, with the aim of harmonising the financial information presented by companies.

IAS/IFRS are used in many parts of the world outside Europe, but not in the United States, which uses Generally Accepted Accounting Principles (GAAP). Some of the differences are substantive, while others arise from different interpretations. However convergence of accounting standards is a high priority for both the IASB and the US Financial Accounting Standards Board, with strong support from the US Securities and Exchange Commission.

1 As amended by Regulation (EC) No 297/2008 of the European Parliament and of the Council of 11 March 2008 amending Regulation (EC) No 1606/2002 on the application of international accounting standards, as regards the implementing powers conferred on the Commission.

The Basel Committee on Banking Supervision, comprising Group of Ten (G10) central banks and banking supervisors, designed the 1988 Basel Capital Accord (Basel I) as a simple standard for bank capital capable of wide application. It required banks to divide their exposures into broad classes reflecting similar types of borrower. Exposures to the same kind of borrower were subject to the same capital requirement, regardless of potential differences in creditworthiness.

The Basel II framework (2004) offered a new set of standards for establishing minimum capital requirements which took more account of credit risk and reflected developing practices such as securitisation.

A further reform package (Basel III), strengthening capital requirements and introducing regulation of global liquidity risk, was published in December 2010 (revised in June 2011) with a view to full implementation by 2019. Basel III capital requirements focus on elements with the highest loss-absorbing capacity, such as common equity. They increase the effective total capital ratio from 8.0% to 10.5% of risk-weighted assets; provide for a counter-cyclical buffer which could add a further 2.5%; and introduce a non-risk-weighted constraint on total leverage (including off-balance-sheet exposures). In addition, Basel III will introduce capital surcharges for systemically important banks. Basel III also limits liquidity mismatches and aims over time to reduce banks' dependence on volatile funding sources.

The Financial Stability Board (which coordinates work of national financial authorities and international standard-setting bodies in the interest of financial stability; formerly called the Financial Stability Forum) is meanwhile working to make systemically important financial institutions safer. The approach includes capital requirements for these institutions beyond the standards laid down in Basel III.

3.2 ECB STATISTICAL NEEDS FOR FINANCIAL STABILITY PURPOSES AND THE NEEDS OF THE EUROPEAN SYSTEMIC RISK BOARD

In accordance with the tasks listed in the Treaty and the Statute of the ESCB, the ECB has a financial stability function which is supported by the statistics department and other sources, including consolidated banking data provided by national supervisors as noted below.[5] In recent years this function has become more important and the statistical need has grown. For instance, the twice-yearly Financial Stability Review, which assesses the stability of the euro area financial system and provides an overview of sources of risk and vulnerability for financial stability, relies for its analysis mainly on an assessment of indicators

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5   The tasks of the ECB/Eurosystem in the field of financial stability are laid down in Articles 127(4), 127(5) and 282(5) of the Treaty on the Functioning of the European Union, as well as Articles 3.3, 4 and 25.1 of the Statute of the ESCB. Two recent papers in the ECB's *Occasional Paper Series*, Nos 140 and 145, are also relevant here.

based on aggregated supervisory and macro-prudential information (published in a statistical annex). The ECB's financial stability function has not replaced the ESRB following its establishment, but continues as a separate entity within the ECB. EU legislation on the ESRB[6] requires the ECB to provide analytical, statistical, logistical and administrative support to the ESRB. Furthermore, the ECB provides statistical support to the European Supervisory Authorities which also supply the ESRB with (supervisory) data, as noted below. An ESRB decision (ESRB/2011/6) sets out the aggregated data required by the ESRB for the performance of its tasks. In particular it specifies what is required in the short term, until end-2013. The ECB must provide MFI balance sheet and (see Chapter 7 below) interest rate data, data on the balance sheets of investment funds (see Chapter 2), securitisation data obtained under Regulation ECB/2008/30 on FVCs (also Chapter 2) and selected other statistics as defined in Guideline ECB/2007/9 on monetary, financial institutions and markets statistics. These data are provided as country aggregates for countries in the euro area (where ECB regulations and guidelines are binding) and also for EU Member States outside the euro area where the data are made available to the ECB on a voluntary basis. The ESRB decision also requires the ECB to provide consolidated banking data covering the balance sheet, profit and loss account and solvency of banking groups and standalone banks on an aggregated basis, derived from FINREP and COREP.

The ECB, as part of its analytical and statistical support to the ESRB, has actively participated in developing the ESRB's "risk dashboard". It comprises a common set of quantitative and qualitative indicators to identify and measure systemic risk in the EU financial system, as required by the ESRB Regulation (Article 3(2) (g)).[7] The dashboard has been published quarterly since September 2012, with numerous charts, description of the data and a narrative.

In addition to the ESRB risk dashboard, the ECB provides statistical support by:

- data transmitted regularly to the ESRB under ESRB Decision 2011/6;

- transmission of supervisory data channelled via the ECB;

- ad hoc requests to support the analytical work of ESRB expert groups;

- a regular quarterly collection of more than 100 indicators;

- a semi-annual analysis of 32 country-level banking indicators for each EU Member State.

In the context of meeting the ESRB's data needs, the ECB has taken a leading role along with the three European Supervisory Authorities to promote better

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6 Regulation (EU) No 1092/2010 of the European Parliament and of the Council of 24 November 2010 on European Union macro-prudential oversight of the financial system and establishing a European Systemic Risk Board, and Council Regulation (EU) No 1096/2010 of 17 November 2010 conferring specific tasks upon the European Central Bank concerning the functioning of the European Systemic Risk Board.
7 See also the ESRB Annual Report 2012, http://www.esrb.europa.eu/pub/pdf/ar/2012/esrbar2012en.pdf

supervisory data and support the technical arrangements for transmission of that data to the ESRB. The aggregated data transmitted by the three supervisory authorities to the ESRB defined in Decision ESRB/2011/6 comprise: quarterly key risk indicators by the European Banking Authority; annual/quarterly fast-track survey data provided by the European Insurance and Occupational Pensions Authority; and data on markets and financial instruments from the European Securities and Markets Authority.

The ECB, in carrying out its financial stability function, has long used consolidated banking data provided by national supervisory authorities. These data, collected since 2002 on an annual basis five months after the year end, consist of aggregated cross-sectoral and cross-country consolidated data on banks' profitability, balance sheets, assets quality and solvency ratios for all EU countries. Data on the domestic banks of each EU country are reported broken down by bank size (large, medium-sized and small). In addition, data are also separately reported for foreign-controlled branches and subsidiaries active in EU countries. A recent improvement has increased the frequency from annual to twice yearly (for a subset of indicators), reported with a lag of three months. Timely information is essential, especially in the light of the statistical support to the ESRB and its developing needs for data and analysis.

The consolidated banking data based on aggregated supervisory returns are used as a benchmark for the entire EU banking population. This dataset has provided essential statistical support for macro-prudential analysis at the ECB since 2004, including a report on "EU banking sector stability" prepared by the ESCB's Banking Supervision Committee (BSC) (last issue published in September 2010).[8] Consolidated banking data are currently released twice a year and, from spring 2013, support the analysis of national banking systems carried out by the ESRB.

The main features of the consolidated banking data are described in the following headings.

ACCOUNTING PRINCIPLES

Data compliant with the IFRS and those compliant with local GAAP are treated separately, since the valuation differences between the two accounting regimes may make aggregation of IFRS and non-IFRS data difficult, although feasible at instrument level. Six EU Member States do not report FINREP (i.e. IFRS-compliant data): Germany, Luxembourg, Hungary, Austria, Sweden and the United Kingdom. In these countries, FINREP reporting for supervisory purposes is not yet required, although listed banks have already adopted the new accounting standards and publish results accordingly. The remaining EU countries implemented the new standards in or before 2005 or allow the co-existence of IFRS-compliant and local GAAP-based reporting for supervisory purposes. Unlike MFI statistics, the consolidated banking data are collected under voluntary agreement, without a binding legal act.

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8   http://www.ecb.int/pub/pdf/other/eubankingsectorstability201009en.pdf

The aim is for the data to cover the entire EU banking sector, although in practice coverage is not yet complete. A shortcoming of these semi-annual consolidated banking statistics is a lack of information on sectoral and regional lending exposures, particularly important for large banking groups. Such data, following the structure of the BIS international banking statistics, are already available in NCBs. The recent updates of FINREP and COREP are expected to make more data available, with improvements in terms of harmonisation and timeliness for analytical purposes and assessment of risks.

CONSOLIDATION

The consolidated banking data refer to all EU Member States and are provided to the ECB by national competent authorities as national aggregates for the ECB's financial stability function and the ESRB's statistical support. In order to provide a fully consolidated view of risk, the national supervisors report data on domestically-controlled banks consolidated across borders and sectors. In cross-border consolidation, data on branches and subsidiaries located abroad (from the reporting country's point of view) are included in the data reported by the parent institution. In cross-sector consolidation, domestically-controlled credit institutions' branches and their subsidiaries classified as financial institutions are included. In a departure from the IFRS, but in conformity with the Basel framework, the perimeter of consolidation excludes insurance companies and non-financial companies. Consolidated banking data also cover foreign-controlled banks, defined as resident subsidiaries and their branches that are controlled by either an EU or a non-EU parent that is "foreign" from the reporting country's point of view. For some items (mostly referring to solvency indicators) it is not possible to distinguish the data for domestically and foreign-controlled banks: these data are reported for all banks only. (See Box 6 below for more on the definitions of consolidation based on the IMF's Financial Soundness Indicators.)

SIZE OF GROUPS

Banks with total assets greater than 0.5% of the total consolidated assets of EU banks are defined as large domestic banks, while medium-sized banks have assets of between 0.5% and 0.005% of total consolidated assets. Banks with assets of less than 0.005% of the total are considered small.

COUNTRY DATA AND AGGREGATION

Although the consolidated banking data aim to reflect banking sector developments at EU level, additional information at the country level is also provided. Country-level indicators differ in terms of coverage and definitions, and national banking structures are not the same.

The country data are presented for "all banks" (both domestic and foreign banks in each country). Aggregation of the country-level "all banks" data accordingly leads to some double-counting.

3.3 LARGE BANKING AND INSURANCE GROUPS

While consolidated banking data on the whole banking sector broken down by size of institution are essential, more detailed data on large financial institutions

on a consolidated group basis are a prerequisite for risk identification and assessment and are therefore essential for macro-prudential analysis. The priority for the ECB and the ESRB is large banking and insurance groups: equivalent data on other types of financial institution (such as pension funds) will be developed as the need arises.

The definition of a banking group for this purpose is based on Directive 2006/48/EC (to be replaced in 2014 by the CRD IV package transposing the new global standards) on the taking-up and pursuit of the business of credit institutions. In broad terms, a banking group comprises a resident parent credit institution (or a resident parent financial holding company) and all its subsidiaries and branches. An insurance group is correspondingly based on the regulatory legislation for insurance undertakings, namely Directive 98/78/EC, and subsequently on Directive 2009/138/EC on the taking-up and pursuit of the business of insurance and reinsurance ("Solvency II"). (As noted previously, implementation of Solvency II, intended from 2014, has been delayed.)

A threshold for total asset value defines "large" groups. Following the ESRB decision mentioned previously (ESRB/2011/6), since early 2012 quarterly aggregated data for two samples of 56 and 36 large banking groups with headquarters in the European Union have been transmitted by the European Banking Authority to the ECB for the use of the ESRB. The data are known as key risk indicators and feature prominently in the ESRB's (and the European Banking Authority's) analyses. Similar data on large insurance groups are being provided by the European Insurance and Occupational Pensions Authority. In the medium term, the list of key risk indicators and the samples of banking groups and insurance groups are expected to grow.

The detailed data will be used to develop measures of leverage, portfolio liquidity and risk concentrations among financial institutions and connections between them; to identify large exposures to other financial institutions and sectors (including contingent liabilities); and to calculate correlations among assets, positions in derivatives and open foreign exchange positions.

Box 6 Consolidated group reporting – different concepts in use

The IMF's "Financial Soundness Indicators – Compilation Guide" (March 2006, amended in 2008) provides a useful description of the various approaches to consolidation. The information below is closely based on Chapter V of the Guide.

Consolidated group reporting by a resident deposit-taker covers not only its own activities but also those of its branches and subsidiaries, with any transactions and positions among these entities eliminated on consolidation. There are different ways of doing this.

Cross-border consolidated data

This approach consolidates flows and positions of the domestically-incorporated deposit-taker with its branches (foreign and domestic) and deposit-taking subsidiaries (foreign and domestic). A variant, called the "legal control approach", covers all domestically-incorporated deposit-takers and their branches but not their subsidiaries. (Note that the domestically-incorporated entity may be a subsidiary of a non-resident parent.)

Domestically-controlled, cross-border consolidated data

This approach consolidates the data of domestically-controlled and incorporated deposit-takers with their branches (domestic and foreign) and all deposit-taking subsidiaries (domestic and foreign).

Foreign-controlled, cross-border consolidated data

This approach consolidates the data of branches (domestic and foreign) and all deposit-taking subsidiaries (domestic and foreign) with the data of their domestically-incorporated but foreign-controlled parent.

Domestically-controlled, cross-sector consolidated data

Another option is to consolidate information from all branches and subsidiaries involved in financial intermediation with that of the domestically-controlled and incorporated parent entity. This approach includes resident and foreign branches and subsidiaries which are financial businesses but are not necessarily deposit-takers, although insurance activity is typically excluded.

Domestic consolidated data

This approach consolidates flows and positions of resident deposit-takers with those of their branches and deposit-taking subsidiaries (if any) resident in the domestic economy. This is the approach used in the MFI balance sheet and other statistics (resident branches are always included in the consolidation; including resident subsidiaries which are themselves MFIs is permitted but not compulsory in MFI balance sheet reporting).

PART II

SECURITIES STATISTICS

INTRODUCTION

As the table in the introduction to Part I showed, some €21 trillion worth of securities issued by euro area residents were outstanding at end-2012, equivalent to more than double a year's GDP in the area. Debt securities of various kinds are the largest group of instruments, most of them issued by the general government sector in euro area countries or by monetary financial institutions (MFIs).

In view of their size and clear relevance to monetary policy, the ECB began to publish data on securities issues, redemptions and outstanding amounts in 1999. The data were initially confined to debt securities; quoted shares were added later. They cover issues by euro area residents in any currency – in practice nearly 90% of debt securities issued by euro area residents are denominated in euro – and securities issued by non-residents of the euro area denominated in euro. There are breakdowns by sector of the euro area issuers, with some maturity and instrument detail. New issues and redemptions are valued at the prices at which they are made; amounts outstanding are valued at nominal (debt securities) or at market prices (equities). The data in principle include private placements but not unquoted shares, investment fund issues, and financial derivatives.

The securities issues, redemptions and outstandings statistics have always included short-term commercial paper. In 2006, at the request of the market association which wanted to encourage an integrated market in short-term commercial paper issued under the STEP (short-term European paper) label, the ECB began to publish data on such issues separately. The scope and frequency of publication has since increased considerably, as noted in Chapter 4.

All this information relates to the security itself and the issuer. There is nothing in these well-established data about holdings. In practice, however, the ECB has long had information about holdings, from data reported by MFIs and, more recently, other financial institutions (see Chapters 1-2 in Part I), and from balance of payments and financial accounts sources (see Chapters 9-10 in Part IV and Chapters 14-15 in Part V). The development of institutional sector accounts for the euro area (see Chapters 14-15 in Part V), and in particular the plan to extend the basic accounts so as to provide from-whom-to-whom information, creates an obvious need for data on holdings. In 2008 the ESCB's Statistics Committee set up an advisory group to investigate how the coverage and quality of holdings data could be improved. Their work, which is now being implemented under a new ECB regulation on securities holdings statistics (and a related guideline), is discussed in Chapter 5. Holdings data are (or will be) provided by a mixture of direct reporting by the holders themselves, and indirect reporting by someone else, usually a securities custodian. At about the same time the financial

crisis underlined the importance of detailed information on holdings, so that interconnections between sectors and associated risk exposures can be better assessed.

These statistical and policy-related needs were to some extent anticipated by the development in the ECB of the Centralised Securities Database (CSDB) (Chapter 6). The project was first envisaged in the context of balance of payments and international investment position statistics as long ago as the late 1990s, although because of other priorities it did not get under way until spring 2002. The CSDB currently contains information on some ten million individual securities. The priority is securities issued by euro area residents, issues by non-residents of the euro area denominated in euro, and other securities which are likely to be held by residents of the euro area (although the CSDB does not contain information on who holds the securities). The database is fed by commercial data providers and institutional sources, including central banks, and is able to choose the most reliable data where sources conflict, as well as fill in missing data.

The CSDB accepts reporting of issues and holdings of instruments security by security. That may seem a heavy burden on reporting agents. Those that are highly automated do not however regard it as onerous, since they can transmit a list of securities each with a unique identifier (usually the ISIN code) and do not need to classify the securities by country of residence and sector of the issuer, type of instrument, maturity, accrued interest receivable or payable, etc. All the relevant information is contained in the database and the statistical compiler in the NCB or the ECB need only to run the list of securities with their nominal or market value to provide all the information needed for statistical purposes. Security-by-security reporting, which in practice is now used in all balance of payments and international investment position reporting in the euro area, by investment funds and many financial vehicle corporations (FVCs) and MFIs in their reporting, and the new securities holdings statistics, is the most developed aspect of granular reporting, meaning the provision of highly detailed item-by-item information. It is probably the only way to satisfy the need for a detailed risk map enabling connections to be identified within and across economic sectors and across national borders, for supervisory and financial stability purposes (see Chapter 24 on statistical consequences of the financial crisis). Granular information also improves the quality of statistical data, since misclassifications are common in statistical returns and many probably go undetected, and provides useful information for monetary policy and economic analysis generally. (See also the work on developing credit registers described in Chapter 1.1.)

Better statistics on securities issues, amounts outstanding and who holds the paper have become more important in the aftermath of the financial crisis. One consequence has been the publication of a three-part "Handbook on Securities Statistics" prepared jointly by the BIS, the ECB and the IMF (Part 1 – Debt Securities Issues, May 2009; Part 2 – Debt Securities Holdings, September 2010; Part 3 – Equity Securities, November 2012). The handbook provides detailed descriptions of instruments and their recommended statistical treatment.

4 SECURITIES ISSUES STATISTICS

4.1 IMPORTANCE OF SECURITIES ISSUES AND MAIN DEVELOPMENTS SINCE 2003

At end-2012 the nominal value of debt securities issued by euro area residents amounted to €16.7 trillion, nearly 90% of them denominated in euro. Monthly gross issuance of euro-denominated securities issued by euro area residents was nearly €1.0 trillion. At end-2012 the market value of quoted shares issued by euro area residents amounted to some €4.5 trillion. Outstanding debt securities denominated in euro and issued by non-residents of the euro area amounted to a further €2.3 trillion at end-2012. Cross-border transactions and positions in securities and related income flows are important for euro area balance of payments and international investment position purposes: thus at the end of 2012 the portfolio investments of non-residents of the euro area in euro area debt securities and shares amounted to €8.3 trillion, while euro area investors held €5.3 trillion in securities issued by entities outside the euro area.

Statistics on securities issues, redemptions and outstandings were a priority for monetary policy analysis from the start of monetary union, for various reasons. Securities are an alternative to bank finance for borrowers. Holders of financial assets may view MFI deposits, negotiable instruments issued by MFIs and other securities as partial substitutes. Over time, any shifts between direct finance (through securities markets) and indirect finance (through the banking system) may affect among other things the transmission mechanism of monetary policy. Data on the outstanding amount of securities indicate the depth of capital markets. Information on issues of securities denominated in euro by non-residents of the euro area is relevant to assessing the role of the euro in international financial markets. In the balance of payments, related income has become the third largest component of current account transactions, just behind trade in services. Their significance in money and banking statistics and the balance of payments, together with their importance as a source of finance for non-financial corporations, non-monetary financial institutions and governments, gives securities a prominent place in the financial accounts.

The ECB began to publish data on securities issues, redemptions and outstanding amounts in 1999. The exercise began with debt securities of various kinds. In January 2003 the ECB added quoted shares outstanding to the published series, with backdata to 1999, and also published for the first time growth rates for debt securities, based, like the growth rates of monetary aggregates and MFI credit, on an index of notional stocks calculated from cumulative transactions and an initial level. Data on transactions (issues and redemptions) in quoted shares were added a year later. The ECB began to publish seasonally adjusted data for debt securities in 2005. Like the established statistics of growth rates, the seasonally adjusted data are based on indexes of notional stocks.

For the purposes of these statistics, issues include all issues of debt securities and quoted shares where the issuer sells newly created securities for cash,

including newly created shares issued for cash when corporations are quoted on a stock exchange for the first time. Such shares may be issued in conjunction with a stock market listing when newly created companies or existing private companies become publicly traded companies. Also included are newly created shares issued against cash in the course of privatising public corporations, when the corporation's shares are quoted on a stock exchange. The issue of bonus shares is excluded because such issues do not raise cash. Similarly, an issue of securities is not recorded when a corporation is listed on a stock exchange for the first time but no new money is raised. The exchange or transfer of existing securities during a takeover or merger is also not covered unless in the process new instruments are created and issued for cash by an entity resident in the euro area. The data include private placements where these can be identified but not unquoted shares, shares or units issued by investment funds, and financial derivatives of any kind (although some of the securities included have derivative features embedded in them).

The data cover debt issues by euro area residents in any currency and debt securities issued by non-residents of the euro area denominated in euro. Quoted shares cover all issues by euro area residents. In each case there are breakdowns by sector of the euro area issuer, with a distinction between short and long-term securities in terms of original maturity and with some instrument detail and information on coupon type (fixed or variable rate). The only instrument split is between debt securities and quoted shares. New issues and redemptions are valued at the prices at which the transactions take place; amounts outstanding are valued at nominal (debt securities) or at market prices (equities). An issue is considered to have occurred when the issuer receives payment. Similar practices apply to the coverage of redemptions and consequently of net issues.

4.2 SHORT-TERM EUROPEAN PAPER

A more recent development in the area of securities statistics is the growth of the STEP market. Enterprises were already issuing short-term paper (covered by the ECB's aggregate securities issues, etc. statistics described above) and indeed continue to do so under the existing European and national legislative, supervisory and regulatory frameworks. Work to promote a common standard for short-term European paper began as early as 2002 and led to the STEP initiative, set up by the ACI–The Financial Markets Association (an association of foreign exchange dealers) and the European Banking Federation in 2006. The STEP initiative aims to promote the integration of European markets for short-term securities through the voluntary adoption by the market of the standards set out in the STEP Market Convention. These standards relate to disclosure of information, documentation format, settlement procedures and the provision of data to the ECB/ESCB so that statistics on yields and volumes can be compiled and published. The significance of this development is that paper issued under the STEP programme gains from a deeper and more liquid market than before; it is also accepted as collateral in Eurosystem market operations. When the ACI and European Banking Federation took the initiative to establish the programme, they asked the ECB to collect, process and publish the data to be

supplied by the data providers (see below) on the grounds that publicly available data on issues and issuers would promote the development of the market. While however a STEP label granted to an issuance programme acknowledges the adoption of the standards, it does not guarantee either the creditworthiness of the issuer or the accuracy of the information provided.

The ECB began to publish the outstanding amounts of all STEP securities in September 2006. The STEP statistics include aggregated volumes (outstanding amounts and new issues on the primary market) and prices collected security by security. Yields are reported as annualised percentages. The ECB also publishes spreads in relation to underlying benchmark rates for euro-denominated issues. The data are broken down by original and residual maturity and by ESA 95 sector of the issuer, and are put into one of three rating classes. The frequency and scope of publication has increased: new issues and outstanding amounts, spreads and yields are now published daily. The data providers are not the issuers themselves but eligible securities settlement systems, NCBs and other institutions able to fulfil the STEP reporting requirements. Each data provider covers all STEP issues settled in its system or deposited in a domestic securities settlement system for which the data provider has data coverage. In addition to the daily data transmission, all eligible settlement systems and/or data providers report the outstanding amounts of STEP securities monthly.

Some issues made under STEP-labelled programmes are not covered by the daily STEP statistics but are in the comprehensive weekly statistics, including individual programmes broken down by currency. STEP-labelled paper accounts for a substantial share of all euro-denominated short-term debt issues by non-government borrowers in the monthly securities issues and related statistics. A new (October 2010) STEP Market Convention allows the ECB to use STEP data for non-statistical as well as statistical purposes.

It should perhaps be stressed that all the statistics described thus far relate to issues of securities, redemptions and outstanding amounts. The question of who holds the securities is discussed in Chapter 5.

5   STATISTICS ON HOLDINGS OF SECURITIES

The data described in Chapter 4 relate to securities issues and outstandings, with information about the issuers. They do not cover holdings of securities. Much is known already however about holdings of securities from reports by MFIs and, more recently, by investment funds and FVCs. Thus substantial information on securities holdings is directly reported by the holders under one or other of the ECB's regulations addressed to financial institutions. This source provides a mixture of aggregated data (mostly MFIs) and granular information (some MFIs, investment funds and FVCs). Data collected by NCBs concerning insurance corporations and pension funds also provide data on securities holdings. Balance of payments and international investment position sources record cross-border transactions and positions in securities; granular data are available on cross-border transactions and positions. It is difficult, however, for these sources to pick up especially households' and non-financial businesses' cross-border acquisitions and sales of securities. As Chapter 10 explains, cross-border liabilities of the euro area in security form are derived by residual owing to a lack of direct information about the holders.

In short, there have been deficiencies in the data on holdings. The institutional sector financial accounts (transactions and balance sheets), as noted in Chapter 15, rely on much estimation at national level and by the ECB in assembling accounts for the euro area as a whole.

To fill in the gaps in information on security holdings of euro area residents, the ESCB's Statistics Committee in 2008 asked an advisory group to look into the availability of securities holdings statistics and how to improve them. The request followed an earlier expression of strong interest in full counterpart information (from-whom-to-whom accounts) from another Statistics Committee group considering enhancements to euro area financial accounts.[1] The advisory group recommended extending security-by-security collection to cover information on all euro area resident sectors as holders of securities issued by euro area residents. It recommended leaving it to the national sources to decide whether to collect security-by-security statistics directly from the institutional sectors concerned or indirectly via custodians. The financial crisis and growing interest in tracing exposures gave further impetus to work in this area.

The advisory group consulted users representing a wide range of interests. All expressed a need for data on holdings of securities. While most of the needs

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1   This is the Groupe de Réflexion, whose work is discussed at some length in Chapter 15 on euro area issues concerning integrated economic and financial accounts by institutional sector. A brief explanation of counterpart information may be useful here (for simplicity, the point is made in terms of outstanding amounts). Financial accounts show outstanding liabilities of each sector in each instrument category and holdings of each sector in each instrument, but they do not reveal the specific sectors on which these holdings represent claims. From-whom-to-whom accounts, however, would show, for example, that of 100 of long-term debt securities held by households, 60 were claims on government, ten on non-financial corporations, 25 on financial corporations and five on non-residents.

summarised below are likely to be lasting, economic analysis must always adapt to changing circumstances so it is wise to provide some flexibility in the statistical output. Users considered that the analytical framework for monetary policy would benefit from various innovations.

- From-whom-to-whom information on securities holdings (at euro area and national level).

- Detailed data on the holdings of financial entities with headquarters in the euro area to shed more light on the funding of the corporate sector.

- Identification of monetary assets (among securities) and the sub-sector of their holders. Estimating how much of the negotiable component of monetary instruments is in the hands of the money-holding sectors has long been difficult.

- More details on the characteristics of the securities held by residents, including information on collateral (if any), credit rating, type of interest (fixed or variable) and interest rate fixation period, residual maturity and currency of issue, as well as information on residents' holdings of securities arising from securitisation operations.

- Identification of holdings of securities issued by affiliated entities (e.g. issues of all entities in a multinational group), which should become possible using the CSDB and the results of the EuroGroups Register and RIAD projects (Register of Institutions and Affiliates Database) discussed in Chapter 19.

In order to be useful for policy-making purposes, the advisory group considered that data should be at least quarterly, preferably available within 60 days and not more than 90 days. They should include positions but also allow changes in positions to be distinguished from transactions, on the one hand, and price and exchange rate effects, reclassifications and any other non-transactional effects on the other. (This is the distinction discussed at length in Chapter 1 in connection with MFI balance sheet statistics and the monetary aggregates and counterparts based on them.)

The advisory group discovered that the availability of security-by-security information on holdings was already rather high in the euro area, covering around two-thirds of euro area holdings of long-term debt securities and quoted shares. Reporting schemes relied on information from resident investors (direct reporters), resident custodians (including central securities depositories), or a mixture of the two. Direct reporters provided security-by-security data or aggregates, depending on institutional sectors and countries. Data were in most cases collected from custodians on a security-by-security basis. Even in countries using mostly custodian data (notably Austria and Portugal), there was a legal obligation for resident investors to report securities held in custody abroad, although the coverage of the information collected from households in particular was known to be incomplete. Countries using mainly direct reporting usually supplemented the information with data collected from resident custodians on holdings of resident households.

Much work has been done since the advisory group reported in 2009. In the meantime the position is briefly as follows. There are shortcomings in both custodial and direct reporting and limits to what can be expected from them. Existing national custodial data cover only residents' holdings of securities deposited with resident custodians. While data collection from custodians reduces the reporting burden, at least in terms of the number of reporting institutions, it raises some data quality issues. Thus resident custodians may cover only a limited part of holdings by resident investors. They can identify only the account holders in their systems, some of which may be other custodians and not beneficial holders. Securities may be lodged with a custodian in the euro area but in a country in which neither the issuer of the security nor the holder is resident. For instance, a security issued by a German issuer may be held by an Italian investor with a custodian in Belgium or Luxembourg. These are "third-party holdings": information on them is not collected by the country in which the custodian is resident, since it has not been relevant for national statistics. Consequently aggregating national data on custodial holdings for all euro area countries does not at present cover all holdings by euro area investors of securities issued by entities resident in the euro area and deposited with custodians in the euro area. (To overcome this, provision for third-party holdings is included in the new Regulation ECB/2012/24 on securities holdings, as described below.) In addition, some such holdings may be lodged with custodians outside the euro area, or outside the European Union. Other aspects of the data reported by custodians need to be carefully monitored. Custodians may not be good at classifying their clients into the correct institutional sector. Custodians are often unable to identify securities lodged with them under repurchase agreements (repos) and similar transactions, with the consequence that some holdings may be erroneously allocated to the temporary holder (the point here being that securities traded in repo operations are treated statistically as being owned by the original holder, not by the entity which has acquired them under the repurchase agreement). Finally, custodians may be unable to distinguish between direct investment transactions/positions and portfolio investment, which are recorded separately in the balance of payments and international investment position (see Chapters 9-10). While many of these limitations do not apply to data collected through direct reporting, the latter is also subject to limitations in coverage, especially of households and non-financial corporations. Although a combination of direct reporting and custodian reporting may resolve some of these issues, care is needed to avoid double-counting of holdings by certain investors.

Meanwhile, and before adoption of the new Regulation ECB/2012/24, a temporary prototype database developed in collaboration with the Oesterreichische Nationalbank has been used by the ECB to collect experimental data on securities holdings, using data collected by NCBs under national legislation.

Following a merits and costs exercise launched in 2011 (see Chapter 21, Box 12), the ECB has moved to a "steady-state approach" to security-by-security data provision. Regulation ECB/2012/24 on securities holdings statistics was adopted in October 2012; Guideline ECB/2013/7 followed in March 2013. The new instruments will be consistent with the ESA 2010 (see Chapter 20).

A brief summary may be helpful. Data collection will start in March 2014 for data referring to the last quarter of 2013. Under Regulation ECB/2012/24, the ECB will receive security-by-security data on securities holdings from the NCBs and transmit them to the Deutsche Bundesbank for checking, cleaning and data quality management referring to individual securities. The ECB will then receive a clean copy of the security-by-security data, calculate aggregates, undertake plausibility checks of the aggregates in close contact with NCBs and, where necessary, compile other aggregates. The final version of the data will be stored and disseminated. The reporting will cover holdings by each institutional (sub-)sector, whether reported directly (MFIs, investment funds and FVCs – the institutions subject to other ECB regulations on statistical reporting requirements, as described in Chapters 1 and 2 – and custodians on their own account) or indirectly via custodians for other financial corporations, general government, non-financial corporations, and households, as explained above. It is further expected that insurance corporations, and possibly later pension funds, will require security-by-security data under a proposed ECB regulation designed to cover both statistical and the European Insurance and Occupational Pensions Authority's supervisory needs (see Chapter 2). The data collection will also cover securities issued by residents of the euro area and placed by non-resident investors (including holders resident outside the European Union) with euro area custodians. The aim is to cover both holdings of all types of security in the hands of entities in the euro area and, insofar as possible, holdings by non-residents of the euro area of securities issued by euro area issuers and deposited with euro area custodians.

Regulation ECB/2012/24 also relates to banking groups. Because of their importance for macro-prudential and financial stability purposes, holdings of securities by large banking groups, including non-resident affiliates, will be reported to the ECB more quickly, after 55 days, following a phasing-in period starting with a timeliness of 70 days as for the rest of the data collection. The data collection will initially focus on the 25 largest banking groups in the euro area, namely those classed as large banks for the purposes of the consolidated banking data, and potentially large banking groups from other EU countries (see Chapter 3 for an explanation of the concept of large banking groups in this context). Regulation ECB/2012/24 also envisages the possibility for the ECB's Governing Council to address reporting requirements to smaller banking groups, provided that they are important for the stability and functioning of the financial system in the euro area and/or in individual euro area Member States. The European Insurance and Occupational Pensions Authority is considering a similar data collection scheme for large insurance groups.

6 SECURITIES DATABASES AND SECURITY-BY-SECURITY REPORTING

6.1 CENTRALISED SECURITIES DATABASE

Although the published securities issues, redemptions and outstandings statistics have always been in aggregated form with no information on individual securities, and the securities issues statistics and (largely) securities items on the MFI balance sheet continue to be collected in aggregated form, the need for detailed information at the level of individual securities has long been apparent. A project to build a centralised securities database at the ECB started over ten years ago. As the internal initiation document noted in April 2002, changes in the financial behaviour of the main economic sectors were already generating a close interest in detailed securities statistics from central banks, market regulators, financial supervisors and others. Developments in securities were seen to be of clear interest for financial stability, risk management, and operations (e.g. in connection with collateral). The document assumed that MFIs, in their aggregated reporting, recorded their assets and liabilities in the form of securities accurately. But in almost all other respects, securities were thought at that time to present statistical difficulties and in some cases acutely so. It was not clear that the sector or even the residency status of issuers was correctly identified in the securities issues data. Valuation of securities was a constant problem; there were almost certainly serious inconsistencies in any statistics of outstandings. Where data were (and still largely are) produced by residual in the balance of payments and international investment position portfolio liabilities account, inconsistencies of this kind were especially troublesome. Moreover, corporate mergers and acquisitions might have an impact on statistical classification which could not be easily captured.

These were the main reasons for undertaking the CSDB project and, when the database was sufficiently developed to handle it, security-by-security reporting.

The aim of the CSDB is to hold complete, accurate, consistent and up-to-date information on all individual securities relevant for the statistical purposes of the ESCB. This means securities issued by EU residents, securities likely to be held and transacted in by EU residents, and securities denominated in euro, whoever the issuer is and wherever they are held. The CSDB contains information on some ten million debt securities, equities and investment fund shares/units, with information on the residence and sector of the issuer, the type of instrument, its issue and redemption dates, the coupon (if there is one) and when it is payable, the price of the security, and much else.

Most debt and equity securities have a unique identifier, usually the ISIN. Alongside the residency of the issuer, the two most important classifications are the institutional sector of the issuer and the instrument class. Institutional sectors

in the CSDB conform to the ESA 95:[1] non-financial corporations (S.11 in the ESA 95), financial corporations (S.12), and general government (S.13). Financial corporations and general government are further broken down into sub-sectors. A standard classification of securities already exists, namely the Classification of Financial Instruments (CFI), and this is used in the CSDB. Although the CFI (like the ISIN and other identifier codes) is a commercial application which was not developed for statistical purposes, it fits the classification of securities in the ESA 95: securities other than shares (AF.3), further divided according to original maturity; and shares and other equity (AF.5), including quoted and unquoted shares and investment fund shares/units.

The ESA 95 requires transactions, including issues and redemptions, to be recorded at the price at which they were carried out and outstanding amounts to be valued at current market prices. The CSDB conforms to these valuation principles and either records market prices for individual instruments as observed, estimates them according to International Capital Market Association standards, or provides a default price when the price cannot be estimated. In the ESA 95, the change in the value of the stock of securities over a defined period can be reconciled with cumulative transactions in them arising from new issues, redemptions and purchases/sales, changes in classification and structure, and price and (for securities denominated in foreign currencies) foreign exchange rate changes. The CSDB contains information enabling this reconciliation to be carried out. The CSDB also records "corporate actions", like stock splits, takeovers, mergers and other organisational changes affecting issuers and/or outstanding securities.

The database is fed by several commercial data providers and institutional sources, including NCBs and the ECB itself. The sources are chosen for their quality and coverage. Nevertheless, the information from the sources is often incomplete and may be contradictory. Data from the different sources are assembled and compared. Invalid data are filtered out. The pooled data will usually contain some inconsistent information and so the data need to be cleaned. This is done using rules built into the system to choose the most reliable value for each attribute where the sources are contradictory, making use of expertise within the ESCB. The result of this process is a cleaned database with one entry for each attribute for each security.

Prices and other information may be missing for some securities, especially private placements, unquoted equities and rarely traded securities. The CSDB contains automatic routines for estimating missing prices. The procedure varies depending on the nature of the missing information, what other relevant information is available, and the nature of the security concerned. For debt securities, for example, it is possible to estimate a price using the reference information available for the security, such as the coupon and payment dates,

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1 When the ESA 2010 is implemented, shares/units issued by investment funds will form a separate instrument class. The ESA 2010 will introduce more sub-sectors in S.12 as well as many other changes not relevant here – see further in Chapter 20 – with parallel categories in the meantime.

currency of denomination, residual maturity, and credit standing of the issuer. Pricing equity without direct information is more difficult. A pricing model relates past rates of return on the instrument to rates of return on a market index and uses the current values of that index to update the price. Appropriate indices are mapped for each instrument using country, currency, industry and sector information. Only where there are no observed market prices and the estimation described here cannot be performed are default prices automatically applied by the CSDB system.

Using information from the same or similar securities, and statistical estimation methods where necessary, the CSDB fills the gaps in the most consistent way possible. The result is a "golden copy" of the data, which combines the best features of the sources drawn on. The golden copy is stored in a reference database. Aggregations, yield curves, residual maturities, interest accruals and many other calculations performed on the data to produce results used in further statistical and analytical work are based on the golden copy. The data are then released to users. The CSDB is updated daily, although in practice the information on many of the attributes of the securities listed in the database changes much less frequently. EU central banks and a few other institutions have online access; under new contracts entered into with the commercial data providers, the ECB can use the commercial data in the CSDB for any of the ESCB's statutory functions, as from January 2012.

The CSDB operates as a network coordinated by the ECB. The contributing institutions use the best sources available to them and check the data loaded in the CSDB against other related statistics and national information sources. The ECB seeks to ensure that no gap or overlap remains in the data. The ECB, assisted by the NCBs, also sets standards for data compilation in order to ensure that the information collected is accurate and consistent. This arrangement shares out the responsibility for monitoring the coverage and quality of information according to the location of relevant expertise. The ECB has formalised the procedures for data quality for the CSDB in a guideline, with an accompanying recommendation addressed to EU central banks outside the euro area.[2]

There is more discussion on granular databases in Chapter 24 on statistical consequences of the financial crisis, and some references also in connection with credit registers (Chapter 1).

6.2 SECURITY-BY-SECURITY REPORTING

Aggregate data collection requires reporters to group their transactions and holdings into prescribed statistical categories and report them accordingly. Compilers rely on reporters doing this correctly: to do so, the latter must

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2   The data quality management framework for the CSDB was adopted in September 2012. See Guideline of the European Central Bank of 26 September 2012 on the data quality management framework for the Centralised Securities Database (ECB/2012/21), and Recommendation on the data quality management framework for the Centralised Securities Database (ECB/2012/22).

understand the reporting instructions and adhere to them. The only way for the compiler to check the quality of the data is to contact reporters and ask them. If data requirements change for any reason, compilers must present respondents with amended reporting instructions and possibly request backdata according to the new requirements in order to rebuild historical series. All this can be burdensome and time consuming and may not be productive.

Security-by-security reporting means that the compiler receives raw information on issues, redemptions, transactions and holdings for individual securities and produces all relevant statistical breakdowns from this raw material. The compiler runs the reported information on individual securities against a securities database like the CSDB. From information in the database, the compiler classifies the securities by instrument, and residence and sector of the issuer. Reporting agents are not expected to do so as they may not understand the statistical requirement or need to hold such information for internal purposes. Security-by-security reporting has many advantages. The problem of differences between valuation rules for accounting and statistical purposes can be overcome. Statistical operations like accruing interest and calculating valuation adjustments are more likely to be done correctly, promoting consistency across the range of statistics. Reconciliation between transactions and (starting and end-period) positions is possible. Detailed comparisons of outstanding amounts of individual securities issued and held may indicate gaps or double-counting. Granular information of this kind is also of great value in constructing from-whom-to-whom accounts (described in Chapter 15). New requirements can be met and new ways of arranging or presenting the data can be implemented without troubling reporting agents. (The financial crisis has given rise to many new demands of this kind.) As well as improving the quality of securities data and contributing to monetary analysis, security-by-security reporting provides much more useful information than aggregated reporting for financial stability and micro-financial analysis and market operational use.

The adoption of security-by-security reporting was preceded by studies to establish the feasibility of collecting data on individual securities across the euro area. It might be thought that reporting transactions or outstanding amounts security by security would be burdensome for reporting agents, and indeed the ECB did not proceed without an exhaustive merits and costs analysis covering both the start-up and running costs for respondents. Where reporting agents are highly automated, as is increasingly the case, it seems that security-by-security reporting actually reduces their costs, since sorting and rearranging data for statistical purposes is more difficult for them than transmitting a large amount of data held internally. Compilers certainly have more to do under security-by-security reporting, but the extra work is considered worthwhile given the improvements in accuracy and flexibility it achieves. Overall, costs are reduced. Effective arrangements to protect the confidentiality of the detailed data are however essential.

Balance of payments and international investment position information and data collected under Regulation ECB/2007/8 on investment funds became available in 2009. Since then the security-by-security approach has been extended to a wide range of financial statistics.

PART III

FINANCIAL MARKETS STATISTICS

INTRODUCTION

Parts I and II were about measuring amounts – balance sheets of monetary financial institutions (MFIs) and other financial institutions, the monetary aggregates and counterparts, their growth rates, amounts of securities in issue and held, and the flow of new issues and redemptions. These magnitudes are closely related to current economic developments and provide pointers for the future. They are ingredients in the integrated economic and financial accounts by institutional sector, which constitute a comprehensive record of economic and financial transactions and balance sheets in the euro area, as described in Chapters 14-15. They also contribute to financial stability and macro-prudential analysis.

Much of Part III on financial markets statistics is concerned with interest rates and yields – the "prices" attached to the various balance sheets and other amounts discussed in Parts I and II. A key example is the MFI interest rate statistics described in Chapter 7, but this chapter also describes the market prices and yields on negotiable financial instruments. Prices relating to financial instruments in this broad sense are determined by demand and supply conditions in the relevant financial markets. These conditions are influenced by the ECB's monetary policy initiatives and the corresponding reactions in interest rates, bond yields and financial asset prices are, to a large extent, the means by which monetary policy affects activity and inflation in the euro area economy. Interest rates, yields and financial asset prices are also relevant to financial stability, and developments in interest rates, both on new business and on outstanding amounts (much of which may be on variable interest terms), have implications for the distribution of disposable income which in turn may affect developments in the economy as a whole. (Information on the distributional effects within economic sectors, as revealed by the Eurosystem surveys of households and small and medium-sized enterprises described in Chapter 17, is relevant here, as are prices of non-financial assets, notably residential and commercial property.)

Yields on and prices of negotiable instruments are readily available, and the ECB has collected high-frequency data on them from the start of monetary union. However representative interest rates paid and charged by banks on deposits and loans present a statistical challenge. In practice the focus is on interest rates paid and charged by MFIs, given their dominant role in financial intermediation in the euro area and the fact that – with very limited exceptions – only they can take deposits. The ECB began by asking NCBs for available data on each of ten broad deposit and loan categories. These data, not harmonised, were published from the start of monetary union with the proviso that, while interest rate behaviour might indicate what was happening, the data should nevertheless be interpreted with caution.

It was clear that something better was needed. Data provided under the first regulation on MFI interest rates (ECB/2001/18) were a major advance. These data, first published in 2003, measured rates paid and charged by MFIs on euro-denominated business with households and non-financial corporations in the euro area, on new and outstanding business respectively, in altogether 45 deposit and loan categories.

Enhancements suggested by experience with the data were introduced in an amending regulation in 2009 (Regulation ECB/2009/7, effective in 2010). Although the main purpose of the MFI interest rate data was and remains to measure developments in the euro area as a whole – the ECB cannot fine tune its monetary policy to circumstances in individual countries – it was nevertheless a cross-country comparison of developments in euro area countries which did much to influence the enhancements. The comparison revealed large differences in the data of individual countries in some of the deposit and loan categories. This raised the question of how far, despite financial integration, they reflected continuing real differences in financial conditions across the countries (at least as affecting the terms on which households and non-financial corporations transact business with MFIs), or whether they were merely a statistical phenomenon arising from different (even if superficially similar) financial instruments, maturity structures, collateral practices and other market features.

Financial markets data and reported interest rates provide information on a wide range of financial instruments at the required frequencies. Yield curves relate yields on very similar financial instruments with different residual maturities at each point in time. The ECB began in 2007 to publish daily yield curves for comparable bonds issued by the central governments of euro area Member States, distinguishing between those with the highest (AAA) credit rating and others. The curves cover all maturities from three months to 30 years, care being taken to exclude bonds with special features the yield on which may be influenced by factors other than maturity and credit ratings. Implicit in yield curves are market expectations about interest rates over the period covered by the curve, from which in turn may be inferred expectations about inflation, which are of the closest concern to the ECB.

Chapter 7 also notes the (further) development of periodic money market surveys and studies conducted by the ECB with the help of NCBs.

The purpose of this book is to describe the development of statistics in recent years, not their use (except insofar as user needs have shaped their evolution), nor their interpretation. It should perhaps be noted, however, that many of the statistics described in Part III relate to financial integration and the ECB's periodic publication "Financial integration in Europe" draws extensively on them and other sources. These statistics have also been widely used in ECB publications on financial stability (in particular the six-monthly Financial Stability Review) and, more recently, in the context of the ESRB and its risk dashboard. While, as explained in Chapter 7, interest rates paid and charged by MFIs in their business with households and non-financial corporations have always varied considerably across the euro area, money market rates and yields on securities issued by central

government converged rapidly during the approach to and immediately following monetary union. The spread for sovereign bonds of similar remaining maturity and other features remained only a few basis points until 2008, and has since widened to the levels observed in the mid-1990s. This is so even for countries whose fiscal positions are similar and is true of both levels and changes in yields. It does not follow that financial integration has reversed: most or perhaps all of the dispersion may reflect renewed awareness of sovereign credit risk in the perception of investors and also of the liquidity characteristics of bonds issued by different governments. Similar developments have been seen in yields on instruments issued by banks and other enterprises in different euro area countries. Meanwhile, the integration of financial markets much depends on the degree of integration of the underlying infrastructure, notably in the form of payment and securities settlement systems, and progress here continues. Chapter 8 concludes Part III with data concerning payment and settlement systems.

7 DATA ON INTEREST RATES, YIELDS, FINANCIAL ASSET PRICES AND RELATED DATA

7.1 MFI INTEREST RATES

STARTING POINT, AND THE MAIN CHANGES INTRODUCED BY REGULATION ECB/2001/18

In the area of interest rate and related data, considerable efforts have been made by ECB and NCB statisticians and reporting agents to develop data on interest rates paid and charged by MFIs (in practice, almost entirely credit institutions) on their business in euro with households and non-financial corporations resident in the euro area.

Changes in the Eurosystem's monetary policy interest rates (the rates on its main refinancing operations and on the deposit and marginal lending facilities) have little direct impact on the euro area economy. Rather, they influence developments through their pervasive effect on conditions in financial markets and on interest rates paid and charged in borrowing and lending operations throughout the euro area, which, in turn, through financing costs and income distribution and wealth effects, influence spending and saving decisions. Given the size of the MFI sector in the euro area, and MFIs' dominant role in financial intermediation, in particular for the household and non-financial corporations sectors, it may be that nothing is more important for transmitting the Eurosystem's monetary policy decisions than the interest rates paid and charged by euro area MFIs in their business with households and non-financial enterprises. The pass-through from Eurosystem interest rates via wholesale money market rates to the rates paid and charged to banks' customers naturally varies with circumstances, and other conditions (e.g. credit rationing) may affect the terms on which households and non-financial corporations can borrow. That said, the behaviour of these interest rates is a matter of the closest concern for policy analysis.

The interest rates reported by MFIs at the start of monetary union were not harmonised. The ECB, with the help of NCBs, identified ten deposit and loan rates on what were considered to be fairly standard financial products in the then eleven countries in the euro area and published monthly averages across the area with a warning that the rates were not well harmonised and should be interpreted with care. Work quickly started on designing something better. The outcome was Regulation ECB/2001/18 on MFI interest rates, adopted in late 2001 and implemented (after the usual grace period to allow MFIs to prepare) in early 2003. As had been expected, it took some months for the new reporting to settle down and produce reliable results. The ECB began to publish the new monthly series in December 2003, with data back to the start of the year.

The use to which the new data would be put was explained in the April 2002 issue of the ECB's Monthly Bulletin.[1] The article noted that MFI interest rate statistics provide important input for the analysis of monetary transmission. The interest rates that MFIs pay to and charge their customers are a key step in the transmission of changes in monetary policy to the real economy. The interest rates on various categories of deposit represent the own rate of return on components of monetary aggregates and thus help analysts understand their development. The interest rates on lending provide information on financing conditions in the economy. Looking at the rates on loans for particular purposes (e.g. house purchase) permits a finer analysis, and the distinction between rates on new and outstanding business is relevant to judging the speed and extent of the transmission, and income effects. The information serves other purposes beyond monetary policy. Spreads between lending and borrowing rates can be indications of competition and bank profitability – information which is highly relevant to financial stability. A comparison of interest rates paid and charged across the euro area indicates the progress of financial integration. (In fact difficulties in using the data for this purpose gave rise to a number of enhancements in Regulation ECB/2009/7, discussed below. Meanwhile Regulation ECB/2013/34 (recast), adopted in September 2013, will replace Regulations ECB/2001/18 and ECB/2009/7, to be implemented from data for December 2014.)

Although the data are called MFI interest rates (and the term is included in the title of the regulation), in practice the reporting requirement is addressed almost entirely to credit institutions. Central banks are excluded and the business of MMFs is not relevant to the purpose. NCBs may either collect data from a census of the entire reporting population or take a sample approach, in which latter case the potential reporting population is stratified and a selection of reporting agents taken from each stratum. A minimum national sample size is defined for each Member State; the sample must be regularly assessed to keep it representative.[2]

The requirement covers interest rates paid and charged by credit institutions (and a handful of other institutions) on euro-denominated deposits and loans vis-à-vis households and non-financial corporations resident in the euro area. Interest rates are recorded from the perspective of the credit institution. Thus, for example, if banks charge 7% on student loans, but students can claim a subsidy such as to reduce the effective interest rate applied to them to 5%, it is the 7% which is recorded. The reporting is monthly, although to a slightly slower timetable than MFI balance sheet statistics.[3] The reported rates apply to

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1   "Enhancements to MFI balance sheet and interest rate statistics", *Monthly Bulletin*, ECB, April 2002.
2   This sampling approach is different from the "cutting off the tail" approach used to limit the reporting burden in MFI balance sheet statistics, which allows small MFIs to be excused full reporting provided their balance sheets do not exceed a certain proportion of the total national (or euro area) MFI balance sheet. A technical expert group has recently defined operational criteria to assess the quality of sampling (which will be reflected, when implemented, by Regulation ECB/2013/34 – see also a recent publication in the ECB's Statistics Paper Series in September 2013).
3   The provision of MFI interest rate statistics was speeded up in July 2009. They are now available for the first ECB Governing Council meeting of the month so that they can be considered alongside the balance sheet statistics and monetary aggregates and counterparts derived from them.

outstanding amounts and new business. As in the MFI balance sheet regulations, outstanding amounts are the stock of all deposits placed by customers with credit institutions and the stock of all loans granted by credit institutions to their customers. New business is any new agreement concluded in the reference month between the customer and the credit institution, i.e. all financial contracts (the terms and conditions of which specify for the first time the interest rate on the deposit or loan) and all renegotiations of existing interest rates on deposits and loans. It is not necessary for the deposit to have been placed or the loan drawn down for the item to be recorded as new business. Where a loan is to be drawn in tranches the whole amount will be recorded as new business in the month in which the agreement is concluded. Rollovers without renegotiation of terms are not new business. The data on outstanding amounts – which change, even in the absence of new deposits or lending, because many deposits and loans are on variable interest rate terms – indicate how changes in administered interest rates affect depositors and borrowers through their impact on variable deposit and loan rates. The rates paid and charged on new business reveal conditions in the deposit and loan markets in the reference month and show how monetary policy initiatives, and indeed other changes in market conditions, are affecting new contracts between credit institutions and their customers.

In total 45 indicators were requested in Regulation ECB/2001/18 (14 on outstanding amounts, 25 on new business and six on "hybrid" items[4]), covering all main instrument categories of euro-denominated deposit liabilities and loans. The instrument categories were (and still are) largely consistent with those in MFI balance sheet statistics, enabling the use of MFI balance sheet data to weight reported interest rates on outstanding amounts. Data on new contracts are collected for the purpose of weighting the interest rates on new business. Regulation ECB/2001/18 provides breakdowns by original maturity, notice periods or periods of fixation (the periods for which interest rates are fixed, on expiry of which they may change without a new deposit being placed or loan contract entered into). For loans to non-financial corporations, there is a further split (initially only at €1 million) by size of loan, principally to give some indication of the financing terms faced by small and medium-sized business (SMEs) on the one hand and large corporations on the other. For almost all instrument categories there are further breakdowns by sector (households and non-financial corporations).

The interest rates reported are, for the most part, annualised agreed rates (AAR), i.e. the interest rate individually agreed between the reporting agent and the household or non-financial corporation for a deposit or loan, converted to an annual basis. The AAR covers all interest payable on deposits and loans but no other charges like fees and commissions. Alternatively reporting agents can be asked for the narrowly defined effective rate which differs from the AAR only in the method of annualising interest. To monitor other (non-interest)

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4   For example, sight deposits and overdrafts, where the outstanding amounts change frequently without any new agreement between the credit institution and the customer. By leaving a net (credit/debit) balance on such accounts, the customer is assumed to have implicitly agreed to the related terms and conditions whenever they change.

charges related to loans for consumer credit and for house purchase, the annual percentage rate of charge used in EU consumer protection legislation, which includes fees, commissions and any other non-interest charges, is also collected for these items.

SHORTCOMINGS REVEALED

These data required under Regulation ECB/2001/18 proved to be a great improvement on the limited and temporary dataset which was the best that could be done for the start of monetary union. As mentioned above, however, the data proved to have some shortcomings when compared across the euro area, as they soon began to be. The results of a thorough investigation were published in an ECB booklet entitled "Differences in MFI interest rates across euro area countries" in September 2006. The booklet noted that these interest rates varied considerably across the euro area, at that time consisting of twelve Member States. Much of the difference no doubt reflected the reality of the different financial conditions faced by households and non-financial businesses in the different countries, notably institutional factors like national regulation or taxation, but also differences in credit risk, market structure and the degree of competition in domestic retail banking markets. But at least some of it seemed to be attributable to statistical effects in the form of classification and other methodological issues. Different practices across the euro area, for instance, the extent of collateralisation, the typical maturities of deposits and loans, or the initial periods of rate fixation may have meant that the categories on the reporting form were too wide for "like-to-like" comparison. What follows is a summary of the salient points in the booklet.

- The most plausible explanation for cross-country differences in MFI interest rates on *deposits from households* was differences in product characteristics and business practices and, more specifically, sizeable differences in the degree of liquidity and the return structure of deposits. Market regulation or market practices and differences in the fiscal framework were also relevant. Differences in the prevailing maturity within a given maturity band might also have contributed.

- Differences in collateral practices seemed to explain a significant portion of the cross-country dispersion for MFI interest rates on *bank overdrafts and other loans to households for consumption purposes*. Interest rates may tend to be lower when loans are secured, and loans are collateralised to varying degrees across the euro area. (Alternatively, and with the contrary effect, borrowers of questionable creditworthiness are more likely to be asked for collateral than more creditworthy borrowers. In practice, the analytical value of collateral information has thus far been limited.) Probably of similar importance was the impact of differences in the statistical treatment of credit card credit, as the interest rates on these loans, if not settled within the period of free credit, are typically significantly higher than those for other consumer loans.

- Possibly the most important factor explaining differences in MFI interest rates on *loans to households for house purchase* was thought to relate to the differences in the period of initial rate fixation. In addition, the existence

of dedicated housing finance schemes in some countries and the fiscal and regulatory framework might also have been relevant.

• Among the reasons for cross-country differences in MFI interest rates on *loans to non-financial corporations*, the differences in the average period of initial rate fixation and in collateral practices stood out. Firm size and access to market finance were perhaps also important.

The main purpose of the MFI interest rate statistics introduced by Regulation ECB/2001/18 was to enable policy analysts to see how monetary policy initiatives were affecting interest rates paid and charged in this predominant area of financial intermediation in the euro area as a whole, and not to make cross-border comparisons. Nevertheless it was acknowledged that removing or reducing the statistical inconsistencies revealed by cross-border comparison would make euro area aggregates more reliable and useful. Influenced by these findings, the reporting was substantially enhanced in 2010 following implementation of amending Regulation ECB/2009/7.

NEW REQUIREMENTS IN AMENDING REGULATION ECB/2009/7

The requirements in amending Regulation ECB/2009/7 distinguish – within the household sector – loans that are granted to sole proprietors/unincorporated partnerships, given that they are likely to show rather different economic behaviour from households viewed principally as family units. As noted above, use of credit cards probably also accounted for different results across countries. The practice in most euro area countries had been to classify credit card credit granted by MFIs (i.e. convenience credit, on which no interest is usually charged, and extended credit which may carry a high interest rate) indistinguishably in the overdraft category, with no separate entry for credit card credit. The use of MFI credit cards compared with other means of payment – and, within credit card credit, the use of convenience and extended credit – differed considerably in euro area Member States, giving rise to sizeable cross-country differences in the recorded interest rates for overdrafts even if, instrument for instrument, there was no difference in interest rates. The separate reporting, introduced by Regulation ECB/2009/7, of credit card debt in new business, with a distinction between convenience and extended credit improves the homogeneity of MFI interest rate categories and, as a consequence, the analytical usefulness of the data. Moreover, the original requirements for interest rate data made no distinction between collateralised and uncollateralised loans, although the practice of backing loans with collateral varied considerably across countries. Regulation ECB/2009/7 provides for information on interest rates on collateralised or guaranteed loans, which in conjunction with the previously existing breakdown by purpose (credit for consumption, for house purchase, for other purposes), allows mortgage equity withdrawal to be identified.[5] It enhances understanding of the link between house prices, mortgage debt and household spending, and provides a clearer picture on

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5   The practice, common in some countries especially when house prices are rising strongly, of taking out additional mortgage loans backed by the increased value of the property. It should be recalled here that a mortgage loan granted or extended for household consumption or "other" purposes should not be recorded as lending for house purchase.

the classes of debtors obtaining loans from MFIs. In practice, however, the use of collateral has proved difficult. (Work on residential property prices and on measuring household wealth in the form of housing is discussed in Chapter 17.)

The original Regulation ECB/2001/18 required, for lending to non-financial corporations, a breakdown of size of loan at €1 million, as a proxy for the size of the borrowing enterprise on the premise that, in general, small enterprises are charged more for loans than large ones. Since experience suggested that up to €1 million was too broad a range, amending Regulation ECB/2009/7 has introduced a break at €250,000 (size of loan remains a proxy for the size of the borrowing enterprise – direct recording of company size, although perhaps difficult for reporting MFIs at present, may in time become a feature of the reporting since there is both monetary policy and financial stability interest in this variable). The further break also indicates the different financing conditions facing SMEs as against large enterprises, which may be affected differently by monetary policy, and therefore helps to better assess the role of credit in the economic cycle. As noted above, a further problem with making cross-country comparisons proved to be the width of maturity bands, so that what is in fact a consequence of a different maturity structure appeared instead as a difference in loan market conditions in the two countries compared. Wide maturity ranges (or periods of initial rate fixation) also reduced the analytical value of the averaged data in each category. Regulation ECB/2009/7 accordingly provides more detail on new business loans to non-financial corporations, especially on the period of interest rate fixation: floating rate and up to three months' initial period of fixation; three months and up to one year; over one year and up to three years; over three years and up to five years; over five years and up to ten years; and over ten years.

Following amending Regulation ECB/2009/7, the number of additional breakdowns is now to more than double (to 101) the number of data items reported, the increase being entirely in lending rates applied to new business.

As noted in connection with Regulation ECB/2008/32 on MFI balance sheets, the balance sheet and interest rate requirements are closely linked. The interest rate categories relate as far as possible to the balance sheet outstandings to aid weighting of interest rates. Indeed, some of the changes in Regulation ECB/2008/32 outlined in Chapter 1 were introduced to accommodate changes in the complementary MFI interest rates regulation described above. Meanwhile – in view of the particular importance of lending rates to households and businesses in the present circumstances – work is being done to develop cost of lending interest rates for short and long-term maturities filtered by using a moving window, together with more information on volumes of business to better reflect the position. Regulation ECB/2001/18 (amended) will be replaced by Regulation ECB/2013/34 and implemented from data for December 2014.

7.2 FINANCIAL MARKETS: PRICES AND INDICATORS

STARTING POINT

Like all central banks, the ECB took an early interest in collecting data on financial market prices, interest rates, yields and activity, as well as in the

statistical classification of financial market instruments and related terminology, with detailed documentation. A financial markets database was developed to hold such information and give convenient access to a range of users in the ECB. The database, which contained around 50,000 instruments, provided five snapshots of data each working day. The database was also the source of the ECB's published data on financial market developments and held data collected by the ECB under special arrangements.

MARKET DATA PROVISION PROJECT

The ECB replaced the original financial markets database in early 2009. The new database collects data from commercial data providers. The data consist of actual "close of business" data provided by these sources, and "tick-by-tick" and high frequency data from one of them, available only to certain users for licensing reasons.

The database covers, among other things, the following rates and prices:

- money market rates (such as EONIA, EURIBOR, and the London benchmark for various maturities and currencies, LIBOR);

- yields on and prices of nominal government bonds (including benchmark bonds) and inflation-linked bonds;

- spreads between government and corporate bonds, by maturity brackets and ratings;

- stock market indices;

- nominal exchange rates;

- futures and options related to, e.g. interest rates and oil prices;

- interest rate swaps;

- commodity prices;

- forward rate agreements;

- sovereign and corporate credit default swaps.

The collection of data is highly automated and includes some limited filtering and outlier detection to ensure high quality data. Derived indicators (e.g. euro area aggregates) are also produced using the data collected from commercial data providers as input. New indicators are regularly added to the dataset, in particular to cover the data needs of the ESRB or for financial stability analysis.

Since January 2010 a subset of the database has been shared with most NCBs through the ECB's Statistical Data Warehouse, with the benefit of making optimal use of financial markets data and minimising costs (see Box 13 in Chapter 23).

The first recourse of any new requirements is to extend the use of existing data series, including from commercial sources. Only if the data are inadequate, in content, coverage or quality, is the prospect of new reporting considered to be necessary (see Chapter 21, Box 12 on the merits and costs procedures).

PROBABILITY DENSITY FUNCTIONS

Probability density functions are a means of quantifying market participants' expectations regarding future asset prices on different markets, allowing the ECB to understand market sentiment and behaviour. They have proved to be particularly relevant in periods of financial market tension.

The ECB's work was introduced in 2010: the ECB publishes relevant daily data relating to the key money, bond and equity, commodities, and foreign exchange markets.

7.3   YIELD CURVES FOR CENTRAL GOVERNMENT BONDS

Yield curves trace the relationship between the yield on debt securities and their remaining period to maturity. Implicit in the yield curve are expectations about future short-term interest rates, which in turn may reveal market expectations about economic activity and inflation and are therefore of close interest to the ECB. (Inflation expectations may be gauged more directly by comparing the yields on conventional bonds with the yields on otherwise comparable bonds indexed to the harmonised index of consumer prices, although in practice there are rather few indexed bonds issued by euro area governments.) The results also have practical application in areas such as actuarial calculations relating to pension schemes and determining interest rates used in official lending schemes.

As noted in Chapter 7.2 above, all central banks monitor market interest rates, yields and financial asset prices closely. In the early years of monetary union, the European Commission (Eurostat) produced a daily yield curve for euro-denominated bonds issued by central governments in the euro area. The ECB took over this task several years ago and since July 2007 has published every day a set of nominal euro area yield curves based on high, i.e. AAA-rated euro-denominated bonds issued by euro area central governments, covering residual maturities from three months to 30 years. Bonds within three months of redemption tend to be traded less and may have more volatile prices/yields than other bonds. At the other end of the spectrum, rather few bonds exist with a remaining maturity exceeding 30 years, and often their price reflects the exceptional demand of institutional investors like pension funds with a need to match long-term liabilities.

In addition to the yield curve for AAA bonds, euro area yield curves covering all euro area central government bonds (regardless of their credit rating), the spreads between the two curves and the daily model parameters are also published daily. The yield curve data have been extended back to September 2004.

The yield curves are based on a selection of the most liquid and representative bonds. They reflect closing market prices as provided by EuroMTS. Ratings are

provided by Fitch Ratings. Approximately 160 government bonds are regularly used to calculate the AAA credit rating and some 340 bonds are used to calculate the "all euro area" yield curves.

Each day the ECB receives and checks the prices and yields of the euro area government bonds traded/quoted during the previous trading day. Bonds with special features, including inflation-linked bonds, perpetual bonds and variable rate coupon bonds, are removed. Only fixed coupon bonds with a finite maturity and zero coupon bonds (i.e. bonds paying no coupon and sold at a discount relative to face value) are selected, including STRIPS, which are bonds formed by separating coupon payments from the parent bond so that they and the original bond, now without coupons, can be traded in their own right.[6]

Liquidity considerations play a major role in selecting the bonds. The more liquid a market is, the better the information content of prices there. Typical liquidity measures are total turnover in the bond, average trade size and bid-ask spreads. Since small issues are often rather illiquid, only bonds with an outstanding amount of at least €5 billion are included. Only debt securities with a maximum bid-ask spread of three basis points are retained. While it is clear that market expectations can be gauged from the yield curve only if the bonds contributing to the calculation are reasonably homogeneous, it is also necessary to take yield or price data at about the same time. The dataset used for the estimation of the euro area yield curves comprises closing market prices. An outlier detection system is used to ensure high quality data. Bonds whose yield exceeds the mean plus or minus twice the standard deviation of the corresponding residual maturity bracket are considered to be outliers and are excluded from the estimation of the yield curves.

Until the financial crisis, the observed yields on euro area central government bonds were tightly clustered around the estimated curve. Thus in summer 2007, at least around the most populated part of the curve, some 90% of yield observations lay within two basis points of the curve. More recently the yields have been much more dispersed.

7.4   MONEY MARKET SURVEYS AND STUDIES

The ECB conducts a money market survey annually and publishes a money market study every second year. The survey has been conducted each year since 1999 and always compares data for the second quarter of the current year with data for the second quarter of the previous year. It is carried out by money market experts from the ECB and all NCBs in the EU Member States, with the technical support of Directorate General Statistics in the ECB. The survey comprises a constant panel of 105 banks for longer time series comparisons but also includes data based on a larger panel of about 170 banks in order to give a fuller picture of the market. The survey covers the euro interbank money market (excluding all business in other currencies, and business with non-bank customers, intragroup

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6   STRIPS stands for Separate Trading of Registered Interest and Principal Securities.

flows, and transactions with central banks). The data cover turnover, maturity and market structure in the unsecured market, the secured (repo) market, the over-the-counter market in swaps and forward rate agreements, and the market in short-term securities.

8 PAYMENT AND SECURITIES TRADING, CLEARING AND SETTLEMENT SYSTEMS DATA

Payment and securities settlement and related systems provide the infrastructure for financial markets. While both the quality and reliability of the infrastructure have important implications for the conduct of monetary policy and indeed financial stability, the associated data differ from the economic and financial data discussed in other parts of this book. Nor do they have the same use in monetary policy analysis. Central banks use these statistics mainly for market oversight and in monitoring developments in the payment and securities processing fields; they are also of interest to market participants and for wider analysis.

The NCBs began collecting payment and securities trading, clearing and settlement statistics in the late 1980s using a decentralised approach based largely on voluntary reporting. The scope of these data was extended in line with market developments (e.g. to take account of e-money transactions), with continued reliance on a non-binding methodological framework and simple data processing. Although data on payment and securities settlement systems had been collected and published for some years,[1] the ECB's Directorate General Statistics was not involved in their production until a review of ECB functions in 2004-05 led to statistical work being centralised at the ECB. The transfer coincided with a comprehensive review of this area of statistics conducted in 2004-06. The ECB, NCBs and data providers developed an enhanced statistical framework for payment and securities trading, clearing and settlement, with a much greater degree of harmonisation in the data than before and a legal framework with common reporting requirements. Timely monthly data are published on payment instructions processed by TARGET/TARGET2 and other large-value interbank funds transfer systems.[2] Other data are provided at various frequencies (monthly, quarterly and annual) and submitted annually.

The data, currently supplied to the ECB under Guideline ECB/2007/9 on monetary, financial institutions and markets statistics, include statistics on cashless payments by non-MFIs and statistics on interbank funds transfer systems. Statistics on cashless payments by non-MFIs cover all transactions, both domestic and cross-border, where one or both of the payer and the beneficiary is not an MFI, and include the number and value of transactions back to 2000. The statistics are broken down by payment instrument: credit transfers, direct debits, cards by function, cheques and e-money transactions (excluding however pre-paid cards restricted to certain uses, e.g. travel cards). Cashless payments

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1 In the statistical annex to successive editions of "Payment and securities settlement systems in the European Union" (the former "Blue Book Addendum"). The data are now presented in the ECB's Statistical Data Warehouse. The data were first published under the auspices of the Committee of Governors of the Central Banks of the Member States of the European Economic Community in 1992.

2 The first-generation TARGET system was replaced by TARGET2 in May 2008. Quarterly issues of the ECB's "Monthly Bulletin" contain an annex on the recent performance of TARGET2.

are cleared and settled in different ways in the Member States, depending on how national payment systems are set up. As a result, there are several thousand institutions reporting statistics on cashless payments – mostly banks or banking associations, but also card schemes, payment institutions, providers of clearing and settlement infrastructures and other institutions offering payment services as defined in EU legislation (Directive 2007/64/EC on payment services in the internal market). For cards, information is also provided on devices such as automated teller machines and point-of-sale terminals.

The large number of entities offering cashless payment facilities explains some of the difficulties faced in the past in applying harmonised concepts and methodologies to the collection of payment and securities data. There are fewer statistics on interbank funds transfer systems, which are formal arrangements, mostly among credit institutions, for transmitting funds to settle obligations arising from cashless payments of all kinds. They cover both direct and indirect participation in payment systems, as well as payment transactions by credit institutions and non-bank clients according to a harmonised list of transaction types. The 60 or so payment systems reporting data in 2012 (which also go back to the year 2000) represent the most significant systems in terms of total value of transactions in the European Union. Some are pan-European large-value payment systems, CLS (concerned with settlement of foreign exchange transactions)[3] and TARGET2 being the largest. Others are retail systems. The statistics provide a picture of how payment systems are used in each country. This depends on a variety of factors, such as the banking structure, how the national payment system is organised institutionally and the legal framework for payment instruments. Given that the number of systems is relatively small and the range of transactions in any given system is limited and specified by the system's rules, data collection is less complex than for the statistics on cashless payments by non-MFIs. The information to be provided is currently under review and may be changed from 2014 on account of SEPA implementation (the Single Euro Payments Area initiative to facilitate cross-border retail payments),[4] as well as other developments in European payments. Following a merits and costs procedure to harmonise the necessary data while minimising costs (see Box 12 in Chapter 21), a regulation is about to be adopted by the ECB, and will be implemented in 2014.

Statistics on securities trading, clearing and settlement were less developed than those on payments and payment systems. However, since the review in 2004-06, more comprehensive and comparable annual statistics following harmonised methodologies have become available, from 2005 for securities settlement and from 2006 for securities trading and clearing. They are based on national legislation or agreements with data providers, not on ECB legislation, and published with a timeliness of six to seven months. Statistics on securities trading include activities of stock exchanges and other regulated markets, covering the number of direct participants, the number of listed securities, the market

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3   CLS stands for Continuous Linked Settlement.
4   The deadline for migration to the new SEPA instruments – SEPA credit transfer and SEPA direct debit – is 1 February 2014.

capitalisation of listed companies and the total number and value of executed trades. Statistics on securities clearing relate to activities of central clearing counterparties, some of which provide clearing services in several European countries. These data cover the various types of transaction cleared, such as over-the-counter (OTC) and non-OTC derivatives, repurchase agreements and outright transactions. Statistics on securities settlement cover activities of central securities depositories (CSDs), including the international depositories located in Belgium and Luxembourg. These data relate to direct participation in the CSDs, securities held on accounts, the number and value of delivery instructions for securities moved between accounts, and new issues and redemptions of securities issued through or originally held for safekeeping in the depositories. With the involvement of CSDs, the Eurosystem is developing a single platform for securities settlement in central bank money, called TARGET2-Securities (T2S). T2S is scheduled to go live in mid-2015.

PART IV

EXTERNAL STATISTICS

INTRODUCTION

Although the ECB is empowered under the EU legislation providing a framework for its statistical activities (Council Regulation (EC) No 2533/98, as amended by Regulation No 951/2009) to adopt regulations directly addressing entities with cross-border transactions or positions, it has not yet done so. Rather, balance of payments and related statistics ("external statistics") have been the subject of guidelines addressed to the Eurosystem and "recommendations", identical in substance to guidelines but not legally binding, addressed to other national authorities involved in collecting and compiling external statistics. The only statistics regulations adopted by the ECB address monetary financial institutions (MFIs), investment funds, financial vehicle corporations (FVCs) and post office giro institutions respectively (with Regulation ECB/2012/24 concerning securities holdings adopted in autumn 2012 and proposed legislation relating to payment systems). These groups are well defined and their members not too numerous, whereas almost any household or business may undertake cross-border transactions or hold cross-border positions. Moreover, the reporting systems for financial corporations are largely standard, while reporting arrangements for external statistics were and still are more heterogeneous. Finally, other national bodies and the European Union have adopted legislation in the area of external statistics, unlike the statistical legislation related to the financial institutions addressed by ECB statistical regulations. This is because external statistics, unlike the statistics on financial institutions and markets discussed in earlier chapters, are not the sole responsibility of the ECB at European level but are an area of shared responsibility with the European Commission (Eurostat). Within the shared responsibility, Eurostat takes special interest in most of the current and capital accounts,[1] and compiles EU quarterly and annual aggregates. The ECB largely focuses on the financial account and international investment position and compiles monthly and more detailed quarterly balance of payments and international investment position aggregates for the euro area. Statistics on foreign direct investment (FDI) are a shared responsibility, given the relevance of FDI to the structure of industry as well as its importance for the financial account and international investment position. This division of responsibilities is set out in a memorandum of understanding, a recent version of which (now as a document of the ESCB and the European Statistical System) was recently adopted in April 2013 – see further in Chapter 22. (The ECB, Eurostat, NCBs and national statistical institutes work together, often under the Committee on Monetary, Financial and Balance of Payments statistics (CMFB), to improve

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1   The capital account covers cross-border capital transfers and transactions in non-produced, non-financial assets. It does not cover financial transactions (popularly called "capital flows") which are recorded in the financial account.

harmonisation, consistency across countries, and the question of statistics collection as explained in the following chapters.)

It may be useful to explain that most financial account transactions in the balance of payments and cross-border positions recorded in the international investment position are grouped into functional categories depending on their nature or purpose or, in the case of reserve assets, the identity/sector of the transactor or holder of the position. Each functional category covers a variety of financial instruments. Thus the first functional category, FDI, covers cross-border financial transactions between entities in an FDI relationship (defined below), almost regardless of the financial instrument involved. Portfolio investment covers cross-border transactions and positions in marketable instruments (other than financial derivatives) where there is no direct investment relationship between the entities involved. Similarly "other investment" comprises transactions and positions mostly in currency, deposits, loans and trade credits, again where the parties involved are not in a direct investment relationship. The category reserve assets is confined to certain transactions and positions of monetary authorities (the Eurosystem in the euro area). Reserve assets include transactions and positions that would be recorded in portfolio or "other investment" if any other resident entity except the monetary authorities was involved. Reserve assets also include financial derivatives held by or transacted in by monetary authorities. All other cross-border transactions and positions in financial derivatives, even where the contracts are between entities in a direct investment relationship, are exceptionally recorded in a separate instrument category.

Direct and portfolio investment present many statistical difficulties, and much of the effort to improve external statistics since 2003 has been devoted to these areas. Very briefly – more detailed explanations are set out in Chapter 9 – entities are in a direct investment relationship if they are resident in different countries and one holds at least 10% of the shares or voting rights in the other. Entities with a common direct investor are also in a direct investment relationship with each other, even in the absence of any cross-shareholding. Unless they are both financial institutions, most financial transactions and positions between entities in a direct investment relationship are recorded as FDI. Thus for example a loan or trade credit between a direct investor and a direct investment enterprise is recorded as FDI and not in "other investment", as it would be if the parties were not in a direct investment relationship.

Identifying enterprises in a direct investment relationship is not easy. Valuation problems, especially concerning participations in unquoted entities and the treatment of earnings retained in the direct investment enterprise, add to the difficulties.[2] A further point is that much FDI is channelled through special purpose vehicles (SPEs, see Box 3 in Chapter 2). Some of these measurement problems have a knock-on effect on portfolio investment (Chapter 10), since it comprises cross-border transactions and positions in securities where the parties are not in a direct investment relationship.

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2   Earnings retained in the direct investment enterprise are deemed to be distributed to the direct investor in proportion to its shareholding, and promptly reinvested in the enterprise.

Direct and portfolio investment were the subject of task force reports issued early during the period covered by this book. The collection of data on euro banknotes held outside the euro area (Chapter 11) has recently been formalised in Guideline ECB/2011/23 on external statistics . An effort to tackle a range of measurement issues and reduce errors and omissions in the euro area balance of payments is described in Chapter 12. The geographical breakdown of transactions and positions with non-residents of the euro area is discussed in detail in Chapter 13. This chapter also describes the monetary presentation of the balance of payments, the purpose of which is to relate developments in broad money, M3, to the cross-border transactions of the money-holding sector in the euro area, using identities in the MFI balance sheet and balance of payments. The monetary approach has been substantially improved by enhancements to the balance of payments requiring a split between MFIs' and other resident sectors' transactions in the FDI, portfolio and "other investment" categories. Chapter 13 also discusses the changes in collection systems for external statistics in recent years.

The quarterly euro area balance of payments and international investment position, with some rearrangement, provide the rest of the world account/column in the euro area economic and financial accounts discussed in detail in Part V. Since every transaction or position of residents of the euro area must have its counterpart either within the euro area or in a transaction or position with non-residents of the area, the rest of the world column completes the accounts. The difficulty is that the external accounts, with their emphasis on functional categories, may not provide all the detail needed to complement the resident sector accounts where the breakdowns are by instrument. Most of the additional detail necessary to bridge the two concepts has been required since 2007 (in Guideline ECB/2007/3 amending Guideline ECB/2004/15 on balance of payments and international investment position statistics, and by the new Guideline on external statistics, ECB/2011/23, which will apply from mid-2014). The euro area accounts include balance sheets, so a quarterly international investment position is also needed. The international investment position, originally compiled only annually, has since increased in importance. It was prominent in the 2009 IMF-Financial Stability Board report to the G20 on the financial crisis and information gaps, and the ensuing initiatives, and the IMF is preparing to increase its required frequency in the Special Data Dissemination Standard in 2014. It also features in the European Commission's "scoreboard" designed to highlight imbalances in national economies (see Chapter 24 for more detail).

As part of the revision of international statistical standards, the IMF issued in 2009 the sixth edition of its Balance of Payments Manual, now entitled the "Balance of Payments and International Investment Position Manual", BPM6. The new standards will be implemented in the European Union in 2014, leading to some necessary further changes in euro area external statistics which are set out in Guideline ECB/2011/23. Discussion of these changes, which affect most areas of economic and financial statistics, can be found in Chapter 20.

9 FOREIGN DIRECT INVESTMENT

9.1 CONCEPT

Foreign direct investment comprises cross-border financial transactions and positions between related entities in a direct investment relationship, usually enterprises. What a direct investment relationship means is described in summary below. The assets and liabilities included in the FDI functional category may take the form of equity, debt securities, trade credits and various other instruments. They are allocated to one of three categories within FDI: equity capital, reinvested earnings and other capital (not to be confused with the separate functional category "other investment").

FDI is an important but intrinsically difficult area of statistics because of the need to gather information on equity relationships. It also poses some problems for euro area statistics because of the importance of consistent recording across all euro area Member States and the fact that data for portfolio investment rely on a residual approach – which is likely to be affected if FDI is incorrectly classified.[1] FDI is large: the average of outstanding euro area assets and liabilities at end-2012 (excluding all FDI positions within the euro area) was around €5.0 trillion.

The ESA 95 regards two entities as being in a direct investment relationship if they are resident in different countries (the FDI concept does not apply within a country), and one (the direct investor) holds at least 10% of the shares or voting rights in the other (the direct investment enterprise).[2] 10% is deemed to give "significant influence"; "control" is deemed to require a majority (more than 50%) holding, when one entity is said to be a subsidiary of the other. Once the entities are in a direct investment relationship, all financial transactions between them, or market transactions in which one acquires (for example) debt securities issued by the other, are recorded in the functional category direct investment – this also applies to inter-company loans and trade credits, although not to financial derivatives contracts. (The FDI rules are not however applied to financial corporations in a direct investment relationship, except for equity or – at present – for permanent debt. See the mention later in this chapter, and also in Chapter 20.6.) Moreover, all profits of the direct investment enterprise are considered to be distributed to the direct investor in proportion to the latter's shareholding, whether or not they are actually distributed: to the extent that

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1   It might be noted here that the distinction between loans and securities is important for a similar reason – to obtain consistent data for the portfolio investment account in the euro area balance of payments and international investment position.

2   The concept of FDI in the ESA 95 is consistent with the international standards (here, the IMF's fifth edition of the "Balance of Payments Manual" (BPM5) and the third edition of the OECD's "Benchmark Definition of Foreign Direct Investment" (BD3). The ESA 2010 will be consistent with the new standards set out in the BPM6 and the BD4 (which, like the other international standards, has not yet been implemented by many countries). It might be noted that the BPM6 focuses only on voting rights (not shares). The international standards explain in more detail the connections between entities in an FDI relationship, and other points discussed in Chapter 20.

they are retained, an imputed direct investment flow is recorded in the financial account, as if the direct investor promptly reinvested the retained profits in the direct investment enterprise.[3]

Moreover the FDI relationship extends to indirect relationships, for example to subsidiaries of subsidiaries. In the standards applicable during the period covered by this book, FDI introduces another complication in that it currently follows the "directional" principle, meaning that (for example) trade credit extended by a subsidiary in country A to its parent in country B is recorded statistically as a disinvestment in FDI by B in A. (Trade credit extended by a company to a sister company however follows the so-called asset/liability principle, and is recorded as a direct investment by the creditor to the debtor.)[4] Further complications are that flows between affiliates in a multinational corporation often pass through SPEs located in a third country inside or outside the euro area – SPEs are often direct investors, direct investment enterprises, or both[5] – and that part of what are in essence direct investment flows may take the form of transfers, free or at notional prices, of licences, copyright and other forms of intellectual property, or of tangible investment goods, in which case they are likely to be incorrectly recorded in the external accounts.

These considerations relate to measuring transactions in direct investment. Measuring outstanding amounts for the purposes of the international investment position may also present serious problems because shareholdings are often in the form of unquoted shares and other equity.[6]

9.2 CONSISTENT TREATMENT

The treatment of FDI is a matter of much interest in its own right. As will be evident from the issues discussed above, it is very difficult to achieve a correct and consistent treatment of FDI across the euro area, yet failure to do so will affect the overall quality of the accounts and, in particular, the portfolio investment account. This is not only because portfolio investment comprises all transactions

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3 Note that this creates a problem for euro area economic and financial accounts. The country contributions to the euro area accounts (at least in principle) treat all profits on inward and outward FDI as distributed, as described here. National accounts for the area as a whole, however, should apply this treatment only to FDI relationships with entities outside the euro area. Cross-border relationships within the euro area, which are correctly treated in national statistics as FDI, are not FDI for the euro area. Adding up investment income flows recorded in national accounts data provided by national statisticians therefore overstates income flows in the euro area by the amount of undistributed profits where the entities concerned are in an FDI relationship and resident in other euro area countries.

4 Once implemented in 2014, however, BPM6 will give more prominence to the asset/liability presentation, and flows from the direct investment enterprise to the direct investor will be recorded separately.

5 Although a somewhat different point from the issues discussed here, the effect may be to distort severely geographical breakdowns of FDI. Thus, at end-2009, Luxembourg was recorded as the second largest source and destination of FDI in the world, after the United States.

6 There is also the question of the treatment of real-estate ownership by non-residents, which is considered statistically to be a form of FDI, and which can be difficult to identify and measure correctly. Both transactions and outstanding amounts present statistical challenges here.

and positions in negotiable securities (equity and debt securities of all types) where the issuer and holder are not in an FDI relationship. It is also because data on the portfolio investment liabilities of the euro area as a whole (i.e. portfolio investment holdings of entities resident outside the euro area representing claims on residents of the euro area) are obtained, not from direct information on them, but by residual. Inconsistency in FDI data may then give rise to errors and omissions in the balance of payments of the euro area as a whole,[7] although *national* balances of payments may show no errors and omissions.

The difficulty of identifying FDI relationships and then of measuring transactions and positions between enterprises in an FDI relationship, together with the importance of the phenomenon, have led statisticians in Europe to make major efforts in this area in recent years. Developments concern the identification of FDI relationships, and arrangements to exchange information on large FDI transactions and positions between national statisticians and with the ECB and Eurostat (the FDI Network, see Chapter 19). The IMF's Coordinated Direct Investment Survey and initiatives by the OECD, including a forum for statisticians expert in FDI work, are also relevant, as mentioned in Chapters 12 and 19. Conceptual measurement issues are discussed below.

9.3   2004 PROPOSALS

A report was prepared by the joint ECB/Eurostat Task Force on Foreign Direct Investment and published by the ECB in April 2004.[8] The task force addressed various topics, including the measurement of indirect FDI relationships and the question of SPEs (see Box 3 in Chapter 2). In what follows the proposals mainly concern the valuation of FDI stocks, the treatment of reinvested earnings (which they considered to be the most critical issue in this area of statistics), and the allocation of certain items to particular instrument categories.

VALUATION
Concerning the valuation of FDI equity stocks, the task force recommended as follows.

• FDI in listed companies should be valued in the euro area international investment position on the basis of stock exchange prices.

• FDI in non-listed companies should be valued in the international investment position on the basis of book values, reflecting the direct investor's share in the direct investment enterprise's own funds at book value (OFBV) which in turn represents selected items on the liabilities side of the balance sheet.

• Memorandum items would be compiled on inward and outward euro area FDI based on market values and book values for all types of company (with no geographical or sector details). The collection of FDI stocks for listed

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7   The build-up in errors and omissions in the euro area balance of payments from 2004, and the efforts to reduce them, are discussed in Chapter 12.
8   *Foreign direct investment – Task Force Report*, ECB, April 2004.

companies on the basis of two different valuation methods (market values and book values on the basis of the common definition of OFBV) was deemed feasible and not too costly for countries running FDI surveys. It might be noted here that a Eurostat working group tackled the question of valuing unquoted shares at much the same time. To provide an estimate of the market value of FDI holdings in the form of unquoted shares and other equity, the working group suggested (with qualifications) multiplying the book value of unquoted corporations by the ratio of the value of quoted corporations to their book value. The requirement in Guideline ECB/2004/15 on balance of payments and international investment position statistics is accordingly book value, using a common definition comprising the following accounting items: paid-up capital (excluding own shares and including share premium accounts); all types of reserves (including investment grants when accounting guidelines consider them as a company's reserves); and non-distributed profits net of losses, including results for the current year when available. As memorandum items, the book values of equity holdings in listed direct investment companies are also required using the same common definition. The relationship between book value and market value of quoted enterprises helps compilers who have only book value data for unlisted enterprises.

• For this purpose, inward and outward FDI equity stocks should be reported on an annual basis to the ECB with a split between listed and non-listed FDI companies.

The task force saw the absence of FDI surveys in some countries as a major obstacle to compiling stock statistics on FDI. It recommended that the provision of annual FDI stocks (at that time the euro area international investment position was an annual exercise) based on an accumulation of balance of payments flows should be discontinued as soon as possible, except perhaps to provide provisional estimates until the results of FDI surveys became available. Aggregating (transactions) flows would not capture valuation changes affecting FDI stocks. In the absence of suitable surveys, valuation based on stock exchange prices combined with internal databases and publicly available information could be a viable source, at least for inward FDI. In this respect, distinguishing between listed and non-listed companies might be difficult. The task force considered various acceptable sources: registers of (resident) listed companies maintained by stock exchange authorities, information provided by respondents, internal databases and/or publicly available sources (the financial press, stock exchange websites, etc.). Initiatives such as Eurostat's EuroGroups Register and the FDI Network run jointly by the ECB and Eurostat are a response to these problems (see Chapter 19).

The task force's proposals have worn well. Nevertheless, the valuation of direct investment holdings in unlisted companies is acknowledged to be a continuing problem. Although OFBV has the advantage of simplicity and consistency across countries, it is not the best international practice, which is market value or a close equivalent. It also has the disadvantage of inconsistency with the valuation of listed companies, and may distort the picture (and affect the international investment position) where, for example, a resident listed company in which

non-residents hold a direct investment interest valued at market price itself holds FDI interests in unlisted companies which are not recorded at market value. Guideline ECB/2011/23 on external statistics retains the OFBV basis for valuation of holdings in unlisted companies, but the ECB now allows alternative valuation methods (as defined by the BPM6) for some specific purposes (see a recent Guideline ECB/2013/25, amending Guideline ECB/2011/23).

RETAINED EARNINGS

As noted earlier, current earnings retained by the direct investment enterprise are deemed to be paid out to the direct investor and promptly reinvested in the direct investment enterprise. This treatment extends to reinvested earnings generated by indirectly owned direct investment enterprises in proportion to the direct investor's ownership share. However, some EU Member States did not follow this treatment. Excluding reinvested earnings from FDI transactions and from outstanding stocks in the international investment position (as some countries did) was considered by the task force to be the most critical problem in FDI statistics. This difficulty was closely connected with a lack of FDI surveys (for the assessment of total profits, which is a necessary component of the calculations) and needed to be resolved promptly. Apart from the practical difficulty of dealing correctly with reinvested profits arising in companies with an indirect relationship with the direct investor (e.g. subsidiaries of subsidiaries), other issues were how to specify the overall concept used to evaluate total profits (the current operating performance concept), and the timing of recording of dividends paid (which has an effect on the calculation of reinvested earnings). Most countries calculated reinvested earnings as the difference between total profits (projected from the previous year until the final results became available) and monthly data on dividends distributed. While international standards recommend recording when dividends are declared payable, almost all countries were recording them when actually paid, and this was considered acceptable. Finally, the task force suggested that the provision of funds by parent companies to their affiliates to cover losses should be recorded in the financial account (i.e. as a disinvestment under FDI/equity capital), rather than in the current account.

The current recommended practice in this important area, as set out in the ECB's manual entitled "European Union balance of payments/international investment position statistical methods" (May 2007), is as follows.

"The calculation of reinvested earnings should be based on:

– the *net operational profit* which may itself be subject to various estimation methods in case of (i) delays in obtaining the definitive data or (ii) the total absence of a recording procedure to collect them;

– *interpolation* procedures to adjust the data to the required monthly frequency;

– the inclusion of any *uncovered losses* by the direct investor as negative reinvested earnings (and decrease in the claims of the affiliate for the offsetting entry in the financial account).

As to the methods of estimating the net operational profit in the event of delays occurring in obtaining the definitive data from any direct collection procedure, such as a direct investment survey or balance sheet reports, the figures related to the results of enterprises for the previous (two) year(s), adjusted by a correction factor to better reflect developments in the global economy and to capture its turning points, may be used as a proxy for the results of the current year. The correction factor should preferably refer to forecasts (i) on general developments in the results of enterprises, such as those provided by certain private associations and public institutions, or (ii) on the evolution of a variable which is representative of the global trend of the economy, such as GDP."

INSTRUMENT CATEGORIES

The task force clarified the instrument classification of some borderline cases within FDI.

- Preferred shares should be included in equity capital unless they are non-participating shares.

- Permanent debt (e.g. subordinated loans, perpetual bonds, etc.) should be included in the FDI sub-category "other capital", regardless of whether or not it takes the form of securities.

- Trade credits, financial leasing, and any other types of inter-company loan between related enterprises should be included in the FDI sub-category "other capital".

- Financial derivatives should be excluded from FDI statistics. (The financial account of the balance of payments and the international investment position have a special category for them – financial derivatives contracts between related enterprises are not part of FDI.)

- When both parties involved in lending activities are financial corporations (MFIs, other financial intermediaries or financial auxiliaries), only permanent debt – in addition to equity capital – should be included in FDI, where it should be recorded in the sub-category "other capital".[9] This treatment of many financial transactions and positions between related financial corporations is an exception to the rule that, once a direct investment relationship has been established, all financial transactions and positions between the related enterprises are part of FDI.

9 BPM6 also excludes permanent debt from FDI where both entities are financial corporations (other than captive financial institutions, money lenders, financial auxiliaries, and insurance corporations and pension funds). The new standards will be implemented in the European Union in 2014.

10 PORTFOLIO INVESTMENT

10.1 CONCEPT AND PRACTICE

Portfolio investment comprises all cross-border transactions and positions in negotiable securities (equity and debt securities of all types) where the issuer and holder are not in a direct investment (FDI) relationship and where the resident entity engaged in the transaction or holding the position is not the monetary authority. Transactions and positions in financial derivatives are excluded. As a consequence, the difficulties in identifying direct investment relationships as described in Chapter 9 also have implications for portfolio investment. But portfolio investment presents difficulties of its own: applying the debtor/creditor approach which underlies portfolio investment; valuing transactions and (especially) positions in some components of portfolio investment; and treatment of the borderline cases, not this time with FDI but in a limited way with the functional categories "other investment", financial derivatives and reserve assets. An additional challenge, mentioned previously, is that portfolio investment liabilities are *holdings* by non-residents of the euro area of instruments issued by residents of the euro area. Portfolio investment liabilities are in practice compiled in a roundabout way. Thus euro area countries report issues of portfolio instruments by their residents. They also record portfolio holdings by their residents of securities issued by residents of their own and other euro area countries. Portfolio liabilities of the euro area as a whole are then obtained as a residual, by deducting the second amount from the first, in each case aggregated across the euro area. In principle the result also provides (since 2006) a sector breakdown of the issuers/debtors.

10.2 DEBTOR/CREDITOR PRINCIPLE

The debtor/creditor principle requires transactions and positions to be allocated according to who originally issued the instrument and who acquires or holds it. This sounds simple, but it raises some practical difficulties. Thus, in a country's balance of payments and international investment position, foreign assets are geographically allocated to the country of the debtor (issuer), while liabilities are allocated to the country of the creditor (the holder). However the more natural allocation in a bank payments-based collection system (to be discussed in Chapter 13.3) is to the country in which the counterpart to the transaction is resident. Inconsistency across countries may occur if standards are different. The focus is not only the external accounts but the pattern of credit risk. In practice, recording in the portfolio investment account no doubt sometimes does follow the transactor principle and, as mentioned above, inconsistency across countries may occur if standards are different. Security-by-security reporting with a detailed securities database (see Chapter 6, and also Chapter 13) should help to reduce this inconsistency. Mirror data provided by the IMF's data collection exercise (the Coordinated Portfolio Investment Survey, CPIS), previously annual but now carried out every six months from mid-2013, may also provide some check on the classification by residence. The BIS-ECB-IMF "Handbook on

Securities Statistics – Part 2" explains this matter in the context of from-whom-to-whom information, especially in Chapter 15.6.

10.3 ACCRUAL OF INTEREST

Accrual of income is a particularly important, but difficult, issue in portfolio investment. A principle of the international statistical standards is that transactions are to be recorded, not payments. In this case, the return for the use of capital is to be recorded throughout the life of the instrument on which it is payable, not when it is actually paid. This means that, for example, one-twelfth of the coupon on a bond which pays interest on 31 December is deemed to be payable each month. If it is a cross-border security, the current account (investment income) of the balance of payments records the interest each month as if it were paid, with a matching entry in the financial account as if the amount were immediately reinvested in the bond. When the interest is actually paid in December, the current account (investment income) records nothing; the financial account records a receipt of cash, and a simultaneous disinvestment in the foreign security equal to the amount of accrued interest in the bond now paid out.[1] In the case of zero coupon and deep-discount bonds, the difference between the issue price and the redemption price is treated as interest accruing over the life of the bond. The indexed part of the return on instruments indexed to a general price index (e.g. a consumer price index) is treated as interest and is accrued over the life of the instrument; the capital adjustment to instruments indexed to, e.g. a commodity index is treated as a holding gain or loss, with no entry in the investment income or financial account. The treatment of dividends is different; they are recorded, at least in principle, when they become due for payment. Unlike the treatment of FDI income, the portfolio income account does not record undistributed profits.[2]

An ESCB Statistics Committee task force looked into the question of portfolio investment income, reporting in 2003. The task force considered the absence of accruals in many Member States to be the biggest problem, much as the task force on FDI considered the treatment of retained earnings to be the main problem in the FDI functional category. At the time only six EU countries compiled interest income on a full accruals basis, as required by the IMF's BPM5 and the then-current guideline on external statistics; three countries applied it to a limited range of financial instruments, and two others recorded accrued interest without any offsetting entry in the financial account (so generating errors and omissions in their national balance of payments). The task force also considered whether the calculation of interest accruals should be based on the interest rates prevailing at the time the security was issued (the debtor or issuer approach), or whether accrued interest should be allocated at the time (the creditor or market approach).

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1 Any estimation methods used to calculate accrued interest should be based (i) on the market value for stocks, and (ii) on the prevailing interest rate in the market at the time of compiling the accrued interest ("market principle"). The prevailing interest rate at the time of issuance ("debtor principle") may be a pragmatic approach in the case of fixed interest rate bonds (e.g. government bonds), if data in accordance with the market principle are difficult to obtain.

2 This is not so, however, where the instruments issued or held are investment fund shares/units – see later in this chapter.

The task force chose consistency, recommending that the same approach should be applied to the calculation/estimation of income on both assets and liabilities to eliminate discrepancies between income credits and debits. Furthermore, a consistent approach should be adopted across countries in order to reduce asymmetries. (It seems that security-by-security reporting – see further below – permits interest in most cases to be accrued on the creditor or market principle, an approach favoured by the ECB. Chapter 13.1 is also relevant.)

The task force report also recommended that all income received by an investment fund should be attributed to the holders of the units. This practice, which is the recommended treatment in Guideline ECB/2004/15 (to be repealed in 2014 in the place of ECB/2011/23) and retained in the BPM6, is more difficult to apply to income credits (involving non-resident investment funds) than to income debits (involving domestic investment funds), since the statistical compiler may not have access to the results of a non-resident fund. Finally, the task force accepted that, for practical reasons, dividends are recorded in the period in which they are paid rather than when they are declared payable. Similarly, as a practical way to avoid asymmetries, the task force considered it acceptable to record dividends from both operating profits and from holding gains under investment income, although dividends reflecting holding gains should strictly speaking be recorded as a disinvestment in the foreign enterprise, not as a receipt of current income. It also chose to accept the recording of income flows net of tax (although they should ideally be recorded gross, with the tax payable recorded as a transfer to the country in which the tax authority is resident).

10.4 VALUATION

Valuation is usually more straightforward for portfolio investment than for FDI because holdings are more likely to take the form of listed securities for which a price is ascertainable. Where the portfolio holding includes unlisted securities, valuation should be at the best approximation to market price. The Centralised Securities Database (CSDB) is programmed to impute a price to instruments for which no recent market price is available. In this respect, consistency across the euro area is highly desirable. Thus, if the statistical compiler in country A (where the issuer of a security is resident) values it at a different price from the compiler in country B where the holder resides, the discrepancy will affect the estimate of portfolio investment liabilities of the euro area as a whole, because these data are produced by residual for the euro area external accounts. Using the CSDB helps to promote consistency.

10.5 BORDERLINE BETWEEN PORTFOLIO INVESTMENT AND OTHER FUNCTIONAL CATEGORIES

The distinction between portfolio and FDI was explained in Chapter 9 and the introduction to Part IV above. Borderline situations between portfolio investment and other categories in the financial account are explained in the ECB's manual "European Union balance of payments/international investment position statistical methods" (May 2007). In the following sections, only cases affecting the allocation of items between portfolio investment and other categories are

considered, not those affecting classification within the portfolio investment account.

TRADABILITY

Instruments in which transactions and positions are included in portfolio investment should be tradable. This characteristic distinguishes them from instruments such as loans and deposits, which generally speaking are not classified in the portfolio investment account – although loans may occasionally be traded, and they are routinely bundled together and transferred between entities in securitisation operations (see Chapter 2 for more on this). By tradability, the IMF's BPM5 means instruments which are usually traded or tradable in organised and other financial markets. The definition includes those instruments structured in a form identical to instruments of a negotiable nature, even though they may not actually be traded in organised (secondary) markets and may be placed directly with investors through publicly announced private offerings and held to maturity. Privately arranged placements on the other hand should be recorded in the "other investment" account unless or until the instruments become tradable.[3]

Transactions in and holdings of negotiable certificates of deposit are therefore classified as portfolio investment. Occasionally certificates of deposit are non-negotiable, and transactions and positions in any such instruments which can be identified as non-negotiable should be classified as "other investment". Although the instrument has characteristics of both a loan and a security, tradable loans ("Schuldscheine") are classified as debt securities under portfolio investment.[4]

REPURCHASE AGREEMENTS

An important point relates to repurchase agreements. Under a "genuine" repurchase agreement (repo), the holder of a bond sells the bond for cash but agrees to repurchase the bond, or an equivalent security, at a fixed price on a fixed date. There is a formal contract between the two parties, which sets out the legal standing of the transaction. There is an obligation to return the securities and not merely an option to do so. The key point for the portfolio investment account is that such instruments are treated statistically as a form of collateralised lending (the entity selling the securities for later repurchase is considered to be borrowing money against collateral represented by the securities). The transaction and outstanding positions to which it gives rise are recorded in the "other investment" account and not as a transaction in the underlying securities. Thus the portfolio investment account (transactions and positions) should not reflect cross-border repos. In some Member States instruments exist which appear to be similar to

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3   The distinction between loans and securities in MFI balance sheet statistics is slightly different: Regulation (EC) No 25/2009 of the European Central Bank of 19 December 2008 concerning the balance sheet of the monetary financial institutions sector (Recast) (ECB/2008/32) provides that "Loans that have de facto become negotiable are to be classified under the asset item 'loans' [i.e. not classified as securities] provided that they continue to be evidenced by a single document and are, as a general rule, only traded occasionally" (Annex II, Part 2). This definition of tradability is narrower than the one used in external statistics.

4   In MFI balance sheets, on the other hand, such instruments are classified as loans – see above.

repo agreements, or have the same name, but do not contain an obligation to return the underlying securities. Instead, there is only an option to return them. Unlike genuine repos, such transactions should be recorded under portfolio investment, as transactions in the underlying securities.

DEPOSITORY RECEIPTS

Depository receipts are instruments issued by some financial institutions to enable securities listed on a stock exchange to be traded on other exchanges. The statistical treatment in effect looks through the issuer of the depository receipt. The holder of a depository receipt is regarded as holding the underlying security, and transactions and positions in depository receipts are recorded in the portfolio investment account (if appropriate) as claims on the country in which the issuer of the underlying security is resident.

INVESTMENT FUND SHARES OR UNITS

Transactions in shares or units issued by investment funds abroad, and the consequent positions, should be recorded in the portfolio investment account. Income earned by an investment fund is treated as if it were paid out in full to the holders of the shares/units, even if some or all of it is retained in the fund. This is the same as the treatment of reinvested earnings of direct investment enterprises, and differs from the treatment of undistributed dividends elsewhere in the portfolio investment account. A consequence is that an imputed investment transaction to match the notional payment of dividends recorded in investment income must be recorded in the financial account.

FINANCIAL DERIVATIVES

Financial derivatives are not part of the portfolio investment account in the financial account. Rather, financial derivatives are a separate category in the financial account and international investment position. They are linked to a specific financial instrument, indicator or commodity through which specific financial risks can be traded in financial markets in their own right. For practical reasons, embedded derivatives (financial derivatives which form an integral part of the underlying instrument) are usually not distinguished from the underlying instrument to which they are linked and are thus classified in the portfolio investment account. A key point for external statistics (and for other statistical purposes for that matter) is that financial derivatives are recorded in the balance of payments (transactions) and in the international investment position (positions) at market value, not at the nominal amount set out for the contract (Chapter 20, Box 11, explains more on financial derivatives.)

10.6 ACCEPTED MODELS LINKED BETWEEN TRANSACTIONS AND STOCKS

In the 1990s most of the EU Member States collected cross-border payments data from commercial banks. It was difficult for these bank payments-based collection systems to meet the new requirements set down in the international standards (particularly the BPM5, released in 1993) and the needs for monetary union, notably in the ECB's first external statistics Guideline ECB/1998/17. Even if banks were able to classify payments and receipts passing through customers'

accounts correctly, distinguishing between direct and portfolio investment transactions would be difficult. Accruing interest, the debtor/creditor approach and valuation issues would be a challenge. Moreover, adding up transactions over a period would not provide reliable estimates of outstanding portfolio investment assets and liabilities for the international investment position, given that many components would be subject to valuation changes which should be reflected in outstanding positions but could not be derived from transactions. For such reasons, a 2002 task force on collection systems recommended that outstanding portfolio investment assets and liabilities in the international investment position should be compiled from stock data and not from the accumulation of transactions, which would not take proper account of revaluation effects, write-offs, and other non-transactional influences on outstanding positions. The task force also emphasised the benefits of security-by-security reporting in conjunction with a comprehensive database of securities. The best solution in their view was monthly stocks and flows, each reported security by security. The worst approach was thought to be collecting monthly flows in aggregate, with no information on individual securities, and adding them up to provide periodic estimates of stocks. (Chapter 13.3 on collection systems explains more about the work of the 2002 task force.)

11 EURO BANKNOTES HELD OUTSIDE THE EURO AREA

11.1 CASH CHANGEOVER IN 2002 AND CONTINUING ARRANGEMENTS TO CAPTURE DATA

Euro-denominated banknotes are liabilities of the Eurosystem.[1] The flow of banknotes out of and back into the euro area should be recorded in the euro area balance of payments.[2] Since the ECB and Eurosystem NCBs are classified as MFIs, and banknotes are in the instrument category "currency and deposits" (AF.2 in the ESA 95 coding), the entry should be in the "other investment" functional category in the financial account. Similarly, the stock of euro banknotes held by non-residents of the euro area should be included in the international investment position of the euro area as a liability under "other investment". Any movements of banknotes out of the euro area and any return must have a counterpart in the balance of payments (for example in the tourism account, elsewhere in goods or services, in current transfers or – where banknotes are being bought or sold – in the financial account).

Given the nature of the instrument, the amount of euro banknotes held outside the euro area cannot be measured with any precision. A rough estimate may suggest that 15-25% of euro-denominated currency in circulation may be held outside the euro area. This is not surprising. It has been estimated that before monetary union about a third of Deutsche Mark banknotes circulated abroad, and at present a considerably higher proportion of US dollar notes are probably held outside the United States.

Large amounts are probably carried out and back in wallets and luggage. However, at the time of the cash changeover at the beginning of 2002, efforts were made to estimate the amount of notes going out of the euro area. Similar efforts continue and have recently been formalised in Guideline ECB/2011/23 on external statistics: under the guideline, the first transmission of data relating to cross-border shipments of euro banknotes took place in March 2013, earlier than its other provisions. The interest is not only statistical, since banknote production plans must take account of demand abroad.

NCBs provide the ECB with monthly survey data covering wholesale shipments of banknotes by euro area MFIs to banks and other wholesale distributors outside the euro area, and returns of banknotes by the same route. As the supply of euro banknotes abroad within the framework of the "frontloading" arrangement

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1 Most of this chapter also applies to euro coins, but it nevertheless focuses on banknotes on the grounds that holdings of coins outside the euro area are likely to be negligible. (Coins are in fact liabilities of central governments. Statistically, however, they are treated in the same way as banknotes, as a liability of the Eurosystem matched in this case by a notional asset.)

2 In principle, foreign holdings of banknotes (and coins) should be excluded from the ECB's monetary aggregates. Measurement difficulties, however, and the small impact on monetary growth rates have led to their inclusion.

in December 2001 was entirely channelled through central banks and commercial banks, the initial amount of banknotes that foreigners received (meaning non-residents of the then twelve countries in the euro area) was captured in the data on banknote shipments. This source continues to be available, although apparently with some reduction in coverage. Cumulative reported net banknote shipments are thought to be lower than the actual amount of euro banknotes held outside the area. This is because there is a net outflow through tourists and foreign workers in the euro area taking euro banknotes to their home countries ("hand carry") and because there has been some diminution (before the new provision in Guideline ECB/2011/23) in the coverage of the banknote shipment data. The outflow of banknotes was very large in the months around and following the cash changeover, as holders traded in the former national (i.e. legacy) currencies; the net outflow then tailed off but has remained positive. Cumulative net shipments through MFIs amounted to around €120 billion by end-2011 (and slightly more in 2012). Many of the notes go to banks in Switzerland and the United Kingdom, presumably to satisfy national tourism demand but perhaps also because these banks are themselves international distributors of euro banknotes. A six-monthly survey of households, carried out by the Oesterreichische Nationalbank, on the use of the euro in (currently) ten central, eastern and south-eastern European countries outside the euro area provides valuable supplementary information.[3] It shows that a high proportion of respondents in south-eastern Europe hold comparatively large amounts of euro cash. While the share of respondents holding euro cash is also considerable in central and eastern Europe, the amounts reported are substantially lower. This may be explained by differences in the motives for holding euro cash in central and eastern Europe (mainly for shopping abroad) as opposed to south-eastern Europe (mainly as a store of value). The survey showed, notably, a large increase in cash withdrawals from banks in some of these countries following the intensification of the crisis in autumn 2008 after the collapse of Lehman Brothers, much of it in euro. The pattern of this development was reflected also in the bank shipments data where, in the peak month of October 2008, net shipments of banknotes by euro area MFIs to banks and other wholesale distributors rose sharply outside the euro area.

Other sources (e.g. data on foreign exchange cash transactions by Russian banks) indicate that the euro is used in Russia by businesses and households for trade and tourism purposes. To judge from the development of figures obtained from banks active globally in wholesale banknote distribution, the use of euro banknotes in other parts of the world also seems to be increasing, although volumes remain modest relative to those in Europe. Other approaches – for example, looking at developments in the ratio of euro banknotes in circulation in relation to euro area GDP, and analogous approaches to those used by the US Department of the Treasury in analysing demand for US banknotes,[4] although

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3   The Oesterreichische Nationalbank began these surveys in 1997, initially on a more limited scale.
4   It might be noted here that the Federal Reserve System collects, through the Federal Reserve Bank of New York, detailed monthly data on shipments of US dollar banknotes, including breakdowns by denomination and by counterpart country. The reported data are complemented by data sources outside the United States and information gathered through regular interviews with banks active in the market.

inevitably with much more limited runs of data in the case of the euro – support the conclusion that a substantial proportion of euro banknotes do indeed circulate outside the euro area.

11.2 MORE FORMAL APPROACH – GUIDELINE ECB/2011/23

As noted earlier, there has been some diminution in the coverage of banknote shipment data. In the absence of a legal instrument requiring the transmission of these data to the ECB, several central banks stopped providing this information when changing their data collection systems for balance of payments statistics, while others were reassessing the priority of the work, or were facing increasing reluctance from respondents to report these data. In 2009 the Statistics Committee consulted the ESCB committees that regularly use statistics on shipments of euro banknotes, asking if they intended to continue making regular use of such statistics and for what purposes. All wanted to retain the statistics. None of the committees were aware of alternative sources for the euro banknote shipments data. As a result, Guideline ECB/2011/23 on external statistics contains a provision requiring data on banknote shipments. The guideline specifies the information needed, including a best estimate of the breakdown by denomination. The requirement is for monthly data on exports (or imports) of euro banknotes, where export of euro banknotes means any delivery of euro banknotes from NCBs or other MFIs resident in the euro area to any entity outside the euro area. Data need to be provided only where the best estimate of the total of cross-border shipments within the previous year exceeds €1 billion. The first transmission of data under Guideline ECB/2011/23 began in 2013.

Identifying the counterpart in the balance of payments to the movement in euro banknotes is straightforward when the notes are sent abroad by (or returned to) a euro area MFI. The net export of banknotes through a euro area MFI active in banknote distribution will have been reflected in its net external assets, as it either receives payment for the notes on an account with a bank abroad, or debits the account of, or advances funds to, its counterpart in its own books. The increase in MFIs' net external assets is the corresponding entry matching the export of banknotes and is also recorded in the balance of payments category "other investment". The net effect in other investment is therefore zero: the external claims of commercial banks in the euro area have increased, matching the increase in non-resident holdings of euro banknotes, which are a liability of the euro area MFI sector, this time of the Eurosystem. Similarly the international investment position should reflect both a euro area liability (the banknotes) and an asset (the increased net external assets of commercial banks representing the sale of banknotes to non-residents). More difficult, as mentioned above, is the case where banknotes are exported (or reimported) through "hand carry": such movements are probably mostly linked to leisure or business travel or "informal" business activity, and to remittances and other migrants' transfers abroad. Neither the movement of banknotes nor the associated transaction is likely to be recorded accurately – either or both may be missed entirely. In adjusting the relevant parts of the balance of payments, the statistical compiler must take care. For example, the associated tourism expenditure abroad may be picked up separately in an airport survey, or migrant workers taking euro banknotes home

with them may be non-resident statistically in the euro area, so that their pay is (or should be) already reflected in the balance of payments as "compensation of [non-resident] employees".

It might be added that other methods have been attempted to calculate the amount of euro banknotes circulating abroad. In addition, estimates of euro banknotes and coins within the euro area (and holdings of foreign currency banknotes and coins) are needed in the euro area integrated institutional accounts (see Chapters 14-15). The ECB has also conducted surveys in the euro area of households' and non-financial corporations' holdings of euro banknotes (2008-09).[5]

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5 See the article entitled "The use of euro banknotes – results of two surveys among households and firms", *Monthly Bulletin*, ECB, April 2011.

12 REDUCING ERRORS AND OMISSIONS IN THE EURO AREA BALANCE OF PAYMENTS

12.1 THE ISSUE

Euro area balance of payments and international investment position statistics are mostly compiled by aggregating estimates from euro area countries of their residents' transactions and positions with non-residents of the euro area. The ECB's transactions and positions with non-residents of the euro area are then added.[1] As noted in Chapter 10 in particular, an important exception to this approach is in the area of portfolio investment liabilities (*holdings* by non-residents of the euro area of equities, debt securities, etc. *issued* by residents of the euro area where the issuer and the holder are not in a direct investment relationship). Here non-resident holdings are estimated by residual, as the difference between the amounts issued (transactions in the case of the balance of payments, outstanding amounts in the case of the international investment position) and recorded holdings by domestic residents and residents of other euro area countries. Income debits on portfolio investment liabilities are estimated in a similar way.

It is probably fair to say that it has become more difficult to compile balance of payments and related statistics in recent years. The adoption of the single currency may itself have made it harder to compile cross-border flows within the euro area for the purposes of national statistics. Measures to make cross-border payments simpler and cheaper have not been confined to the euro area – this is relevant to the euro area as well as to national balance of payments because EU Member States outside the euro area are substantial partners of the euro area. The use of bank accounts abroad (and custodians abroad, where custodians are used as a data source) and "treasury centres", through which many multinational companies settle transactions at intervals and on a net basis, have made the bank payments-based balance of payments reporting systems hitherto widely used in Europe much less effective (see Chapter 13.3). Indeed most euro area countries no longer use these systems as the main data source but rather, where they still exist, supplement direct surveys of entities known to have regular and/or sizeable cross-border transactions. Meanwhile, surveys have difficulty in picking up household and small business transactions. The growing importance of special purpose entities, or SPEs – offshore enterprises set up for tax or organisational reasons in a host country in which they have no physical presence, through which substantial transactions may be channelled – is another challenge. It can be difficult to collect data from such entities. Furthermore, although resident SPEs may be offshore for the host economy, they are not for the euro area as a whole,

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1   It will be recalled that all other EU institutions, except the ECB and the European Stability Mechanism, are treated statistically as resident outside the euro area irrespective of their physical location (this is also the case for the European Investment Bank, although for some market operational purposes it is treated as an MFI resident in the euro area – the position however is likely to change, see Chapter 1). This approach has the advantage of giving them the same residence status in national and euro area statistics.

and they may be a source of discrepancies in the euro area statistics. (SPEs are the subject of Box 3 in Chapter 2.)

Despite some of these developments, errors and omissions in the national balance of payments of euro area countries were mostly modest in the years immediately following monetary union. However, from 2004, errors and omissions in the euro area balance of payments increased markedly and became consistently negative, cumulating to some €550 billion in mid-2009. This indicates that current/capital account debits were understated in relation to credits, and/or that financial account outflows were understated in relation to inflows, and by large amounts. This development in the euro area aggregates, in the absence of a similar trend in the national data, is only superficially paradoxical: even if there were no errors in the national balance of payments accounts, errors and omissions would appear in the euro area accounts if there were discrepancies in national recording of cross-border transactions within the euro area. Thus (as an example to illustrate the point in a simple way) if country A exports goods to country B, also in the euro area, but incorrectly records the transaction as an export to the United Kingdom, while country B correctly records an import from A, both A and B will have accurate national balance of payments, but the euro area balance of payments accounts will incorrectly show an export to the United Kingdom and (other things being equal) negative errors and omissions.

Errors and omissions, given the size they had reached and mostly with the same sign indicating persistent bias, were casting doubt on the quality of the euro area balance of payments. The ESCB's Statistics Committee accordingly in 2007 appointed a working group to seek improvements in consistency in the euro area balance of payments. The group succeeded in identifying several likely sources of errors and, with close cooperation among national compilers, reduced errors and omissions in relation to gross flows or the size of the euro area economy.

12.2 IDENTIFICATION AND CORRECTION

The work confirmed that the high errors and omissions were closely related to intra-euro area asymmetries but also to differences in coverage and valuation methods. It was perhaps no coincidence that the problem began at around the same time as the switch by several countries from bank payments-based to survey-based systems. Although this change is thought to have improved the quality of individual country data, the changeover was itself disruptive and may have contributed to discrepancies at the time. (It might also be added that some of the errors went in the other direction.)

An analysis of intra-euro area asymmetries broken down by balance of payments functional categories highlighted the need to further examine the categories of direct investment and "other investment".[2] With regard to direct investment,

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2 "Other investment" is a residual category containing whatever is not included in direct or portfolio investment, reserve assets, or financial derivatives. Much inter-company lending and trade credit is recorded there (intra-company lending and trade credit will probably be recorded in direct investment).

coverage and difficulties related to geographical allocation were seen as the two main issues. The existence of SPEs appeared to be the biggest challenge because of complex group structures and the difficulty of obtaining data from them. As noted earlier, though offshore from the perspective of the national economy, they are often not offshore for the euro area as a whole. In the category of "other investment", most asymmetries were detected in loans between non-MFIs.

The work also identified transit trade as one of the items creating imbalances in the euro area balance of payments. Goods imported into the euro area through, for example, Rotterdam are recorded at the price declared there. They may then, while still owned by the exporter resident outside the euro area (or, indeed, outside the European Union), be shipped to another Member State and sold at a substantially higher price. The Member State in which the buyer is resident records them as payable to the non-resident seller at this higher price, but this higher price is not reflected in euro area imports unless an adjustment (currently an imputed import of "branding" services) is made. The working group found that this apparently was often not done.

Moreover, a comparison between reported portfolio investment liabilities of the euro area and data derived from the IMF's Coordinated Portfolio Investment Survey (CPIS) revealed that residents of other euro area countries were holding more equity securities (mainly investment fund shares and units) issued in Ireland and Luxembourg than were recorded in the euro area external accounts. In effect, because of the residual approach explained in Chapter 10, euro area households were understating holdings of these instruments, consequently overstating amounts in portfolio investment liabilities in the euro area balance of payments. In addition, evidence from the BIS locational banking statistics showed that euro area (non-MFI) residents' holdings of deposits with banks outside the euro area were now known to be higher, having previously entered negative errors and omissions. Other discrepancies in intra-euro area flows uncovered in the course of the exercise were resolved through closer cooperation between the central banks concerned.

Most of the effect of the consequent adjustments has been confined to only a few items in the financial account. Although errors and omissions have been substantially reduced, the pattern over time in balance of payments flows has not been much affected. Adjustments to the international investment position reflected the changed financial flows.

Some of these errors were revealed by examining detailed but low-frequency data sources – the CPIS, for example, has been hitherto an annual exercise.[3] Indeed, much of the information on which the adjustments to the initially reported data are based does not meet the monthly production timetable for the euro area

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3   In addition to the portfolio investment survey (see also Chapter 13), the IMF introduced in 2010 a Coordinated Direct Investment Survey in which all euro area Member States participate (starting with data relating to end-2009), but the ESCB's errors and omissions exercise predated this. The IMF has made the CPIS six-monthly from June 2013 (reference date).

balance of payments. At the euro area level, therefore, initial adjustments are inevitably based on estimates. The methodology used is similar to that applied in the euro area integrated economic and financial accounts by institutional sector, which also rely (in part) on aggregating national data. The weakest items with regard to the coverage and quality of primary data are identified. The adjustments are then allocated accordingly to the balance of payments components and to the corresponding items in the international investment position.

The exercise carried out by the working group highlighted the importance of harmonising collection systems, in particular regarding the geographical dimension. Common principles for performing geographical allocations are necessary for achieving consistent results at the euro area level. This requires, for instance, that all compilers strictly apply the debtor/creditor principle in the financial account (where, for example, a debt security acquired is recorded as a claim on the issuer and not on the entity from whom the security was bought, or the country in which the transaction is settled or in whose currency the instrument is denominated). The introduction of new manuals by the IMF and the OECD (the BPM6 and the BD4) was seen as a valuable opportunity to promote common collection and compilation practices.[4]

It was also evident that sources such as the EU Savings Directive[5] and BIS locational banking statistics might improve information on the household sector. As another response to the large asymmetries in direct investment and "other investment", the need to exchange data was stressed. A template for exchanging data related to FDI transactions exceeding €2 billion was developed as a step towards implementing the proposal to link FDI databases (see the April 2004 report on FDI discussed in Chapter 9). In this respect the FDI Network – a Eurostat/ECB initiative enabling national statistical compilers to discuss direct investment transactions and positions – allows information to be exchanged on potential bilateral discrepancies and to address them in a timely manner (see Chapter 19).

4   As noted earlier, the OECD has now published four editions of its "Benchmark Definition of Foreign Direct Investment". The fourth edition was completed in 2008.
5   Council Directive 2003/48/EC of 3 June 2003 on taxation of savings income in the form of interest payments.

13 OTHER DEVELOPMENTS IN EXTERNAL STATISTICS

13.1 GEOGRAPHICAL ANALYSIS OF THE EURO AREA BALANCE OF PAYMENTS AND INTERNATIONAL INVESTMENT POSITION

STARTING POINT

Since the start of monetary union, euro area Member States have distinguished between cross-border transactions with residents of other euro area countries and all other (extra-euro area) cross-border transactions. A similar breakdown of outstanding cross-border assets and liabilities constituting the international investment position was introduced somewhat later, following a period in which the end-year international investment position for the euro area was published on a net basis only, on the heroic assumption that cross-border positions within the euro area were consistently recorded and would cancel out. This distinction between cross-border transactions and positions within the area and those with residents of countries outside the euro area is fundamental to the compilation of euro area external accounts. This is because transactions and positions within the area are not balance of payments and international investment position items for the euro area as a whole. However, this distinction is still not possible for transactions and positions in financial derivatives, which are accordingly published on a net basis only. Portfolio investment liabilities – holdings by non-residents of the euro area of equities, debt securities, etc. issued by residents of the euro area, where there is no direct investment relationship – are moreover compiled in the euro area external accounts using a residual approach, as described in Chapter 10.

GEOGRAPHICAL BREAKDOWN INTRODUCED IN 2005 AND LATER ENHANCEMENTS

Although a country or area breakdown of transactions and positions with non-residents of the euro area is of considerable interest, compilation of the euro area balance of payments and international investment position did not initially require it. The breakdown was not introduced until 2005, with data back to the first quarter of 2003 (balance of payments) and end-2002 (the international investment position). The geographical breakdown is quarterly for the balance of payments and annual for the international investment position. It is not available for reserve assets (the ECB does not publish data on which countries the Eurosystem's reserve assets represent claims) and, as mentioned above, the breakdown is not at present possible for financial derivatives and portfolio investment liabilities and related income. (However, partial mirror data from partner countries are available for outstanding amounts of portfolio investment liabilities, see below.)

The geographical breakdown relates to the main items of the balance of payments and international investment position, and provides more detailed information on investment income and the financial account than on the rest of the current and capital accounts. The breakdown of the quarterly balance of payments and annual

international investment position identifies a number of different counterparts and counterpart groupings. Initially these were the three main partner countries within the European Union but outside the euro area (Denmark, Sweden and the United Kingdom); the other (initially ten) EU Member States together; Canada, Japan, Switzerland and the United States individually; offshore financial centres; and all other countries. The breakdown also identifies as counterparts to euro area transactions and positions international organisations outside the European Union, as well as EU institutions and other bodies (for example the European Commission) which, as mentioned before, are treated statistically as resident outside the euro area irrespective of their physical location.[1] The composition of the euro area has since changed: Bulgaria and Romania joined the European Union in 2007 (and Croatia in mid-2013). In the rest of the world, Brazil, China, India and Russia are now separately identified as counterparties to euro area transactions and positions, as is Hong Kong within offshore centres.

Among the balance of payments categories, exports of goods are broken down geographically by country of destination, while imports are allocated to the country of origin. (This means, for example, that goods supplied to a resident of France from Canada via Antwerp are recorded as imports from Canada.) The data for extra-EU transactions are taken from customs documentation, whereas the Intrastat reporting system is used for transactions with EU Member States outside the euro area.[2] Trade in services is broken down according to service provider or service acquirer. For current and capital transfers, allocation is to the donor's country or the recipient's country, as appropriate.

The breakdowns of financial transactions and positions and related investment income follow the internationally recommended debtor/creditor principle, i.e. the euro area's financial claims are allocated to the debtor's country of residence, while the euro area's liabilities are allocated to the non-resident investor's country of residence. In the case of direct investment, the geographical breakdown refers to the residence of the foreign affiliate (outward investment) or of the non-resident investor company (inward investment). Multinational companies may route their financial transactions through affiliates or intermediaries located in financial centres, although the main activities of the group may be conducted elsewhere. For example, many corporations channel direct and portfolio investments through special purpose entities, SPEs (see the box in Chapter 2), often to increase efficiency in administrative or accounting activities, or for tax reasons; intra-group cash management may be centralised in an SPE. Many SPEs are resident in a few euro area countries; many others are set up outside the euro area and therefore offshore centres elsewhere form a category in the geographical breakdown. The practice of channelling funds through SPEs may exaggerate FDI flows in the euro area external accounts. Thus a German enterprise may

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1   Exceptions are the ECB itself and, since 2012, the European Stability Mechanism. For some market operational purposes, the European Investment Bank is treated as an MFI resident in the euro area. As noted earlier, the statistical treatment is expected to change.
2   The European Union uses two systems to measure cross-border trade in goods: Extrastat, based on customs documentation, for trade with countries outside the European Union, and Intrastat, based on surveys, for cross-border trade between Member States. Trade in goods in the euro area balance of payments thus draws on both Extrastat and Intrastat data.

acquire shares in a French company through a holding company resident in the Cayman Islands. This would show in both outward and inward FDI in the euro area, although the item would not show in the FDI of the euro area at all if the German enterprise dealt directly with the French company and its shareholders were resident in the euro area. Similarly a US company may acquire an FDI interest in a UK enterprise via a holding company in Luxembourg; the effect will be to show inward and outward FDI in the euro area, although in substance there has been none. Recorded geographical breakdowns must therefore be viewed with some caution.

Application of the debtor/creditor approach is not difficult on the assets side (for transactions in the balance of payments and outstanding claims in the international investment position), since the holder of securities can usually identify the debtor. In the case of liabilities, geographical breakdown is more difficult because reporting agents in the euro area often cannot identify the current holder of the securities that they have issued. The source for estimating the breakdown of liabilities is the CPIS, first conducted by the IMF at end-1997 and annually since 2002 (in respect of end-2001 data).[3] 73 countries supplied a geographical breakdown of their residents' portfolio claims abroad at end-year 2011, using information provided by the resident asset holders or by resident custodians. All euro area Member States contributed to the survey. Their liabilities are reported as claims by counterpart countries, and this is indeed the direct source of information on euro area portfolio liabilities. The survey distinguishes between debt securities (long and short-term) and equities held as portfolio investment. The CPIS provides a reliable geographical breakdown of most securities held as portfolio investment. It does not, however, cover (mostly debt) securities held by monetary authorities and international organisations. The IMF conducts two such complementary annual surveys – "Securities held as Foreign Exchange Reserves" (SEFER) and "Securities held by International Organizations" (SSIO). The SEFER and SSIO cover as much as one-fifth of euro area debt securities held outside the euro area. Based partly on estimates (because the SEFER and SSIO are not broken down by holding countries/organisations), the three sources provide a geographical breakdown of euro area portfolio investment liabilities in the form of equity and debt securities. However, these IMF surveys have had limited value for the ECB's purposes, given their annual frequency and the delay after the reference period. Furthermore, the country coverage may omit some important holders of portfolio instruments issued by euro area residents. The IMF will however encourage the frequency, coverage and timeliness of these further surveys, in response to the financial crisis and the October 2009 IMF-Financial Stability Board report to the G20 – see Chapter 24.

Broadly speaking, the geographical analysis of euro area balance of payments transactions shows that the United Kingdom and the United States, together with Switzerland, are the most important partners in most categories (and also in the euro area's international investment position). Though there is no simple feed-through to weights used in calculating the effective exchange rate (EER)

3   The CPIS is now carried out every six months, from mid-2013.

of the euro, it is not surprising that the currencies of these countries have the largest weights. The EER, and the related national competitiveness indicators, are discussed in Chapter 16.

13.2 MONETARY PRESENTATION OF THE BALANCE OF PAYMENTS

CONCEPT OF THE MONETARY PRESENTATION

The ECB had always intended to link monetary and balance of payments developments.[4] The implementation package released by the European Monetary Institute in July 1996 explicitly linked a monthly balance of payments for the euro area with the needs of monetary analysis: "a monthly balance of payments of the euro area showing the main items affecting monetary conditions ...". Indeed the approach was mentioned in the ECB's Monthly Bulletin as long ago as August 1999. It was not until June 2003, however, that the first quarterly data were published; monthly data followed in June 2004.

The idea behind the monetary presentation of the balance of payments is simple, but there are many complications in practice. These are discussed in detail elsewhere[5] and summarised in Box 7 below. The simple idea is that the MFI balance sheet and the balance of payments contain a common element and that both use double-entry accounting and so, by construction, sum to zero. The common element can therefore be expressed as the sum of all other items in the two accounts, which in turn must be equal.

Because the balance of payments is a flow of transactions, it is best to think here of changes in the MFI balance sheet reflecting transactions, rather than outstanding assets and liabilities. The presentation used by the ECB relates the external counterpart of M3 (changes in net external assets of the MFI sector arising from transactions – see Box 2 in Chapter 1) to the balance of payments transactions of other (non-MFI) resident sectors in the euro area. The non-MFI sectors are non-financial corporations, financial corporations which are not MFIs, general government, and households.

Leaving out some detail which matters in practice but obscures the main point, the monetary presentation of the balance of payments relies on two identities.

Identity 1

– **in the monetary statistics**
   the change in the net external assets of MFIs ≡ the change in M3 +/− the change in the other counterparts to broad money

This can be set out as below.

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4 Monetary developments here refers to the behaviour of broad money (M3) and the counterparts of M3, as described in Box 2 in Chapter 1.
5 Bê Duc, L., Mayerlen, F. and Sola, P., "The monetary presentation of the euro area balance of payments", Occasional Paper Series, No 96, ECB, September 2008; and "Manual on MFI balance sheet statistics", ECB, April 2012.

Table 2 A shortened MFI consolidated balance sheet

Liabilities		Assets	
Currency in circulation			
Resident holdings of: - deposits with up to two years' maturity - MMF shares/units - bonds with up to two years' maturity	**M3**	Claims on residents: - loans - securities (all forms)	**euro area credit**
Resident holdings of: - deposits with over two years' maturity - bonds with over two years' maturity	**"other" liabilities**	Non-financial assets (premises, equipment, etc.) Remaining assets	**"other" assets**
Capital and reserves Remaining liabilities			
Non-resident holdings of: - deposits (all) - MMF shares/units - bonds (all forms)	**external liabilities**	Claims on non-residents: - loans - securities (all forms)	**external assets**

Total liabilities ≡ total assets; so changes in….

M3 ≡ domestic credit + (external assets – external liabilities) + ("other" assets – "other" liabilities)
  ≡ domestic credit + net external assets – "other" liabilities (net)

(where "domestic credit" comprises credit to general government and credit to other euro area residents).

These are the counterparts of M3.

Identity 2

– **in the balance of payments**
  the external financial transactions of MFIs (direct, portfolio, "other" investment, and official reserves since the Eurosystem is part of the MFI sector)
  ≡ the balance of payments transactions of other sectors (and the current account transactions of MFIs) with the sign reversed, because the balance of payments must add to zero.

Then

– *the change in net external assets in the monetary statistics ≡ the external financial transactions of MFIs as recorded in the balance of payments*

In practice, this is an approximation – but ignoring this reservation, then

– *the change in net external assets in the monetary statistics ≡ all other transactions recorded in the balance of payments (with the sign reversed).*

Thus:

External transactions of the resident non-MFI sectors:	
	Current account
+	Capital account
+	Balance of financial transactions of the non-MFI sectors
+	Errors and omissions
≡	Balance of payments of the non-MFI sectors
External transactions of the resident MFI sector:	
	Balance of financial transactions of the Eurosystem
+	Balance of financial transactions of other MFIs
≡	Balance of payments of the MFI sector
The overall ***balance of payments identity*** implies that:	
	Balance of payments of the non-MFI sectors
≡	- Balance of payments of the MFI sector
which in turn	
≡	Change in the net external assets of the MFI sector as recorded in the MFI balance sheet (i.e. the external counterpart of M3)

It will be noted that the external transactions of the MFI sector are confined to financial transactions. MFIs' non-financial transactions (e.g. interest payable on claims on and liabilities to non-residents) are included indistinguishably in external transactions of the non-MFI sector. Non-financial transactions are not thought to be large enough to invalidate the approach.

The change in the net external assets of the MFI sector is therefore (broadly speaking) the mirror image of the transactions of non-MFIs with non-residents of the euro area (plus changes in the current and capital account balance of MFIs). Accordingly – and subject to the qualification about the non-financial transactions of MFIs – it is possible to relate a rise in M3 to, for example, a rise in domestic credit and a positive contribution from external transactions (i.e. an increase in MFIs' net external assets) which in turn reflected a balance of payments surplus of non-MFI sectors, of which €X was on the current account, €Y represented a direct/portfolio/other investment inflow, and so on. The September 2008 Occasional Paper mentioned above contains detailed examples illustrating the link between monetary aggregates and the balance of payments.

In practice, neither the change in net external assets in the monetary statistics nor the external financial transactions of MFIs as recorded in the balance of payments is a comprehensive statement of the change in MFIs' external assets and liabilities; and the two do not fully match. Some external assets and liabilities of MFIs are included indistinguishably in other MFI balance sheet categories, and not all balance of payments categories distinguish between transactions of MFIs and of other resident sectors. This is why the heading in the monetary presentation of the balance of payments (Table 7.4 in the euro area statistics section of the ECB's Monthly Bulletin) uses the term "Balance of payments items mirroring net transactions by MFIs" – the table does not claim that either the external counterpart of M3 or external transactions of MFIs as identified in the balance of payments is a complete representation of transactions in the assets and liabilities of MFIs with non-residents, and therefore (with the sign reversed) of the external transactions of non-MFIs in the euro area. The consequence is, however, that the change in net external assets of MFIs in the monetary statistics only approximately corresponds to the balance of payments of other sectors. Some qualifications therefore should be made.

- Foreign holdings of long-term bonds (original maturity over two years) and equity issued by euro area MFIs are not recorded as external liabilities in the MFI balance sheet statistics. This is because the reporting MFI often cannot identify the final holders of securities which it has issued (although such data are adjusted for estimated holdings of short-dated MFI bonds by the ECB because of their status as monetary instruments). Estimates of foreign holdings of long-term bonds and equity issued by euro area MFIs are however available in the balance of payments, based on the information on holdings of securities reported by other resident sectors.

- Another point applies to MFIs' assets and liabilities arising from financial derivatives contracts with non-residents, which are recorded – at present – indistinguishably in remaining assets/liabilities in the MFI balance sheet statistics, and within a single net figure for MFIs and all other resident sectors in the balance of payments.

- MFIs' current (and indeed capital) account transactions cannot be identified because the balance of payments current and capital accounts are not broken down by sector. What this implies may be illustrated by an example. Interest payable to MFIs on their assets abroad will add to their net external assets as derived from the MFI balance sheet. This receipt of interest by MFIs will be implicitly allocated in the balance of payments to non-MFIs. Thus MFIs' net external assets rise and there is an apparent receipt of interest from abroad by non-MFIs. But there is no impact on M3: the counter-entry to the increase in MFI external assets will be in capital and reserves. The consequence is that the link between M3 and recorded non-MFI transactions in the balance

of payments is broken. As noted earlier, however, this shortcoming is not thought to invalidate the link between the balance of payments of non-MFIs and the external counterpart of M3.

- Valuation and other accounting practices give rise to discrepancies between transactions in the external counterpart of M3 and transactions in MFIs' external assets and liabilities as recorded in the euro area balance of payments. While the balance of payments financial account is in most euro area Member States based on direct recording of transactions, for MFI balance sheet purposes recording practices vary. The discrepancy between the external counterpart of M3 and the related entries in the balance of payments arising from these differences may diminish with the growing use of security-by-security reporting supported by a single comprehensive securities database, but it is unlikely ever to be eliminated completely.

13.3 BALANCE OF PAYMENTS AND INTERNATIONAL INVESTMENT POSITION DATA COLLECTION SYSTEMS

BANK PAYMENTS APPROACH

In the 1990s, the task was to collect data on the balance of payments – cross-border payments and receipts – with information to put the flows into various categories. The international investment position, a balance sheet showing external assets and liabilities, received much less attention than it does now.

Apart from merchandise trade, usually recorded using customs documentation, and some other cross-border business on which administrative or other records provided information, most EU countries in the early 1990s compiled balance of payments statistics from data on their residents' cross-border payments and receipts provided by the domestic banks through which the money passed. The systems under which these data were provided were often left over from exchange control. They were convenient, comprehensive (provided residents did not or could not use banks abroad for their business) and – while balance of payments requirements were indeed for payments data – measured what was required. They were not burdensome to the population as a whole (although of course banks had to supply data regularly) and could in principle capture any cross-border payment or receipt, however small or infrequent. Provided that banks were willing to comply, bank payments systems could collect high-frequency (usually monthly) information quickly. The exceptions among the then twelve EU Member States were Ireland and the United Kingdom, which collected quarterly information from surveys completed by the main enterprises with substantial cross-border business, supplemented by questionnaires to capture information on business and leisure travel. Banks in those two countries reported only their own-account external transactions. France had a hybrid system under which banks reported their resident customers' payments and receipts, as elsewhere, and enterprises with active cross-border business provided survey information (*déclarations directes*), with arrangements to avoid double-counting. In the early stage of statistical preparation for monetary

union, there were some difficult discussions about the collection systems because it was not clear whether bank payments systems and surveys could provide consistent information at monthly frequency for a euro area balance of payments. In the end, statisticians concluded that the systems were capable of doing so and switched their attention to the output.

SURVEYS

Over the last ten to twelve years, there has been a move in almost all of the euro area countries towards a reliance on surveys, in some cases supplemented by payments data from banks where the arrangements continue to exist. At the same time there has been a move towards collection of highly detailed ("granular") data, not on the payments, but on the underlying transactions, and not obtained from the banks as paying or receiving agents, but from the transactor or a custodian (which may be a bank).

There are several reasons for these rather fundamental changes to the collection of balance of payments data. Monetary union itself was one. Banknote exchange has ceased to be a guide to travel expenditure within the area. With a single currency, together with a strong wish to reduce the cost of cross-border payments through banks (preferably to no more than the cost of domestic payments), it became harder to justify making banks meet the cost of reporting cross-border payments for statistical purposes. Moreover, while most individuals and small businesses in the euro area probably continue to use domestic banks for cross-border payments, including by using credit or debit cards issued by domestic banks, many large businesses use accounts abroad, making it difficult or impossible for national statisticians to collect data on them. Many large businesses have also adopted the practice of settling transactions with suppliers and customers abroad at intervals on a net basis, making it impossible for the bank to categorise the underlying transactions: some corporations may do this through a subsidiary abroad, often an SPE set up for the purpose (see Box 3).

More fundamentally, the nature of external statistics has changed. Balance of payments is now a misnomer: the European and international standards, including the ECB's requirements set out in its external statistics guidelines, do not require data on payments as such, but on transactions (a transaction being "an economic flow that is an interaction between institutional units by mutual agreement ..." – ESA 95, paragraph 1.33). Transactions should be recorded "on an accrual basis; that is, when economic value is created, transformed or extinguished … not when the corresponding payment is made …" (paragraph 1.57). This is consistent with the economic and financial accounts generally, which are based on transactions in this sense, not on payments, and reflects a view that the external accounts are not to be considered in isolation but as part of a comprehensive conceptual framework. Although transactions and the associated payments will often coincide, often they will not, and many transactions may not be paid for at all. This was always the case for cross-border grants, gifts and other "something for nothing" transactions to be recorded as current and capital transfers. Many cross-border transactions now take place within multinational enterprises, between the parent and its affiliates and between affiliates resident in different countries.

These transactions may not be paid for but should nevertheless be recorded in national balance of payments statistics and in euro area statistics if they involve entities resident outside the area. Bank payments data will not pick them up. Important elements in direct investment (the treatment of retained profits being an example) are based on imputation, not on explicit transactions at all. The information enabling them to be treated correctly must usually come from direct reporting by the enterprise involved.

Another development in recent years is the growing importance of the international investment position, or parts of it. It is probably fair to say that balance sheet outstandings generally have assumed more importance to analysts as likely determinants of economic behaviour. Thus household financial balance sheets, and the wealth effects on them arising from stock market developments, may influence consumer spending and saving; or the impact of interest rate changes on non-financial corporations may be apparent from the composition of the sector's financial assets and liabilities. The international investment position shows the claims and liabilities of all non-residents vis-à-vis the national (or euro area) economy and complements the balance sheets of domestic sectors. The international investment position gained particular importance following the Asian financial crisis in the 1990s, and led the IMF and other international organisations to develop and seek to harmonise external debt statistics as a part of the international investment position. The recent financial crisis has underlined the importance of these external balance sheet statistics (and balance sheets generally). The relevance to collection systems is that bank payments data are not a good source for the international investment position. They do not capture the accrual of interest which should be included in outstanding amounts of external assets and liabilities, nor much of direct investment which includes – as well as retained earnings – intra-company transfers and credits of all kinds, not just cumulative transactions in share capital. Nor can bank payments collection systems capture the effect of price and exchange rate changes on outstanding amounts of external assets and liabilities. For such reasons, the ECB has effectively excluded the possibility of compiling the international investment position by accumulating flows, requiring instead the direct measurement of stocks (after some temporary permissions) (see Chapter 10.6). Since 2005 the international investment position has been a quarterly exercise for euro area countries, and the ECB publishes the euro area results with a reconciliation between changes in outstanding assets and liabilities and transactions in the intervening period.

These considerations have led most euro area countries to switch to surveys of enterprises with cross-border business. An important step mentioned in Chapter 10 was the work carried out by the 2002 ESCB Statistics Committee task force on portfolio investment collection systems. Some countries have chosen to retain bank payments reporting in order to supplement the surveys. First, data from MFIs on small cross-border payments may be a good proxy for (or may even be known to represent) cross-border transactions of households, which are very difficult to capture by survey. Second, where information on the identity of the MFI's customer is known, the payments data help the statistical authorities to keep up to date their register of enterprises surveyed for balance

of payments purposes, in that enterprises which are seen to conduct sizeable or frequent cross-border business through domestic banks may be asked to complete a survey form. Where enterprises have already completed a survey, bank payments information, if it identifies them, can be a check on what has been reported.

However, the gradual removal of settlement-based national reporting obligations on payment service providers for balance of payments statistics, which the ECB itself has supported (also in the context of the Single Euro Payments Area), would make it difficult to use the bank payments source even for these restricted purposes.[6] Meanwhile, a task force of the ESCB's Statistics Committee set up in 2007, and a follow-up group in 2008, considered how bank payments-based reporting could adapt to the changing circumstances.

GROWING USE OF GRANULAR DATA

The 2002 task force on portfolio investment collection systems also recommended the use of security-by-security reporting, as mentioned in Chapter 6. This move from bank payments data to surveys as the main source of balance of payments information has been accompanied by a trend towards collecting highly detailed data of a different kind – data about the instrument transacted in, rather than information on individual payments. The Centralised Securities Database (CSDB) and the move towards security-by-security reporting described in Chapter 6 began as an initiative to improve the quality of data in the financial account of the euro area balance of payments and international investment position, and also of the associated investment income flows. The various requirements of the European and international standards incorporated in ECB guidelines on external statistics are very demanding on reporting agents. Examples are the accrual of interest; valuation of transactions and positions at market prices or a close approximation to them; the need to record the country in which the issuer of a security is resident, not the country to which payment is made or in which the seller of the security resides; and the need for some purposes to identify the sector of the issuer. Particularly difficult are the requirements arising from the roundabout way of estimating transactions flow and the stock of euro area portfolio investment liabilities to non-residents of the euro area. The approach, as noted earlier, involves matching the issue of such securities with domestic and recorded cross-border transactions and outstanding holdings within the euro area. In view of these needs, the simplest – though very data-intensive – approach

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6   Thus, after much discussion in the Statistics Committee and the Payment and Settlement Systems Committee, the ECB stated: "On 15 September 2005 the Governing Council decided to propose that the European Commission raise the threshold for balance of payments reporting to €50,000 as of 2008 and maintain the current threshold of €12,500 in the meantime. This would allow Member States that apply a reporting system mainly based on bank settlements to use the period until 2008 to implement alternative methods of collecting data required for balance of payments statistics" (Governing Council decision, September 2005). In 2012 the Council of the European Union decided that EU Member States must remove any settlement-based national reporting obligations for balance of payments purposes by February 2016. However, Member States may still collect aggregated data or other relevant readily available information, provided that such collection has no impact on straight-through processing of payments and can be fully automated by payment service providers.

is to collect security-by-security information on the relevant transactions and positions and run them against a comprehensive securities database. All that reporting agents need then do is report the security identifier (usually the ISIN code) and a modicum of other information about the transaction or position. All the other information about the instrument, sector and country of residence of the issuer, coupon amounts and dates (so that interest can be accrued), market price (so that it can be correctly valued in the international investment position), etc. is extracted from the database. This is more convenient to reporters than requiring them to do all this and gives more reliable results. Often, however, the holders of securities are individuals, trusts or other entities not covered by surveys of financial or non-financial enterprises. Central banks have tackled this problem through a new form of indirect reporting – this time not by banks as a channel for payments, but by banks as custodians of securities, together with other, non-MFI, custodians. Here an old problem with bank payments-based balance of payments collection systems takes a new form – investors may deposit their securities with a non-resident custodian (who may also not be in the country in which the issuer of the securities is resident). This is a particular difficulty if the custodian is outside the euro area. The use of custodian data is discussed more fully in Chapter 5 in connection with statistics on holdings of securities.

Security-by-security reporting and the securities database were initially intended as an aid to statistical compilation, but – as in many other areas – the financial crisis has given the work a new prominence. It is now very important to trace cross-border exposures and interdependencies. Security-by-security reporting (which, as noted in Chapter 6, is now used in investment fund, financial vehicle corporation (FVC) and partly in MFI reporting, and soon in the new securities holdings statistics), and the monthly national and euro area balance of payments and quarterly international investment position statistics incorporating it, provide timely and detailed data on cross-border linkages at national and euro area level. Indeed this initiative, together with the CSDB, may now be seen as a basis for the global risk map and detailed picture of sectoral and cross-country interlinkages recommended by the Issing Committee and the 2009 IMF-Financial Stability Board report to the G20 on the financial crisis and information gaps (see Chapter 24). The credit register initiative discussed in Chapter 1 is also relevant here.

Surveys of enterprises engaged in cross-border transactions have the advantage that the information can be linked with surveys completed by the same enterprise for other purposes. Indeed information for the balance of payments and international investment position may even be collected on the same form as data for other purposes. This helps to give statisticians a better overall view of the enterprise's business, reduces the reporting burden and probably contributes to data quality. Some euro area (and other) national statistical institutes have set up units to look at all survey data from large enterprises, or enterprise groups, simultaneously. A related development is cross-country collaboration in the area of direct investment statistics. As explained earlier, FDI transactions can be very large and complicated. It is desirable that the countries involved treat them consistently in national data, but there is also a euro area angle, and not only for compiling the FDI account in the euro area balance of payments and international

investment position. It is necessary to ensure that the split between the FDI and portfolio investment categories in national external accounts is correct and consistent across countries, because the residual approach to compiling portfolio investment liabilities for the euro area depends on the correct measurement of portfolio investment within the area. To promote consistent recording, the ECB and Eurostat sponsor the FDI Network, a forum in which national compilers can exchange information about large FDI transactions and positions.

The shift from bank payments reporting to surveys may have another organisational consequence: while in all euro area countries banking data are collected by central banks, surveys of non-financial enterprises are usually conducted by national statistical institutes. There has been a tendency therefore for responsibility for compiling balance of payments and related data to move to these institutes. Nevertheless, central banks usually continue to have a large input because of own-account transactions and positions of MFIs and other financial institutions, as well as relevant securities issues and other financial markets data. Most remain involved in the compilation. This tendency relates to the use of data for compiling statistical aggregates and probably consolidates the position of the balance of payments as an integral part of the national accounts. At the same time, security-by-security and other granular data are not only useful as an aid to compiling aggregated statistics – they are also of great interest to central banks in the context of financial stability, as well as for monetary analysis and some operational purposes.

PART V

EURO AREA ACCOUNTS

INTRODUCTION

Although the ESA 95 requires annual institutional sector accounts, not all euro area countries had them at the start of monetary union and few prepared the quarterly accounts needed for monetary policy purposes. There was no question of attempting to compile accounts for the euro area as a whole, even annually, in 1999. The ECB began by publishing annual tables of saving and investment, progressing in 2003 to quarterly data on financing and financial investment of non-financial sectors in the euro area. Following preparatory work by a joint ECB/Eurostat task force, the first full annual economic and financial accounts by institutional sector were published in 2006. Quarterly data followed in June 2007, supported by EU and ECB legislation. The quarterly series start in the first quarter of 1999. The data are available approximately four months after the end of the reference quarter. The aim is to reduce this to three months, at least for key items, to make them available a month earlier than now for discussion within the cycle of ECB Governing Council meetings. In producing the data the ECB collaborates with NCBs, Eurostat and national statistical institutes.

The introduction of quarterly integrated euro area accounts is perhaps the most important single statistical development in the euro area in the period covered by this book. They provide consistent and comprehensive information on economic and financial developments, both for the economy as a whole and by institutional sector (households, non-financial corporations, financial corporations including monetary financial institutions (MFIs), investment funds, financial vehicle corporations (FVCs) and insurance corporations and pension funds, and government). The accounts are comprehensive in the sense that, at least in principle, they record all economic and financial transactions within the boundaries set by the global System of National Accounts (SNA 93) and the European System of Accounts (ESA 95) and all outstanding financial positions of all entities resident in the euro area. They are integrated in that the bottom line ("balancing item") of one section of the accounts provides the starting point for the next, and all activities are recorded in a single matrix comprising non-financial and financial accounts, balance sheets, and accounts reconciling changes in balance sheets with transactions in the intervening period and valuation and other non-transactional influences on balance sheet levels.

Chapter 14 explains the content and sequence of integrated accounts in the SNA 93 and ESA 95,[1] and the principles and concepts behind them. It lays

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1   As noted elsewhere, the SNA 2008 was published in 2009 and the ESA 2010 adopted in 2013. The new standards, discussed in detail in Chapter 20, will be implemented in the European Union in 2014.

special emphasis on households and non-financial corporations, whose behaviour is particularly important for the conduct of monetary policy and for which comprehensive data were lacking in the euro area until 2007.

The integrated accounts have distinct uses. They enable policy analysts to see economic and financial developments in the round, in aggregate and for each economic sector. Thus they can link households' borrowing and lending transactions to developments in disposable income, consumption and investment in housing. They can see how changes in stock market prices affect households' financial wealth, or how heavy a debt burden is being borne by businesses, and compare enterprises' commitment to service the debt with their gross operating surplus. The work currently underway, described in Chapter 15, to construct full from-whom-to-whom financial accounts and balance sheets will reveal more clearly the extent to which sectors are exposed to each other, and to non-residents of the euro area whose transactions and financial assets and liabilities vis-à-vis the euro area are recorded in the rest of the world column in the accounts. Fuller coverage of non-financial assets in sectoral balance sheets will provide a comprehensive picture of wealth. But the accounts also have a particular value for statisticians in that, in bringing together information from different primary sources, they reveal inconsistencies which must be investigated and resolved in the compilation process. The result is likely to be an improvement in the source data over time. The accounts also oblige statisticians to look beyond their immediate areas of responsibility and expertise and make them aware of the relationships between the various areas of data, encouraging them to view statistical developments in a wide framework. This also benefits the quality of statistical work generally.

Compiling accounts for a single currency area of 17 countries (18, from the entry of Latvia to the euro area in 2014), from a mixture of national economic and financial accounts data and "building blocks" (euro area data prepared initially for other purposes) presents difficult challenges (Chapter 15). In addition to the from-whom-to-whom financial accounts and balance sheets and the inclusion of all non-financial assets in balance sheets, reconciliation of the accounts ("balancing") is not at present complete, in that statistical discrepancies remain in the accounts of households mirrored in the accounts of non-financial corporations. More work is planned to make a clearer distinction between valuation effects on balance sheet outstandings and "other" non-transactional effects. The ECB is also working on seasonal adjustment of the accounts: at present four-quarter moving aggregates are used to minimise the effect of seasonal influences, an approach which sacrifices topicality and may hide turning points in the series.

The quarterly accounts were developed largely with the needs of monetary policy in mind. They are also relevant to financial stability and will become much more so with the incorporation of full from-whom-to-whom data providing information on sectoral financial assets and liabilities and enabling debt servicing burdens to be compared with income. Indeed the 2009 IMF-Financial Stability Board report to the G20 on statistical gaps revealed by the financial crisis (see Chapter 24) has raised the profile of integrated institutional sector accounts worldwide. The more detailed the information on which the sectoral financial

accounts and balance sheets are built, the clearer the connections and risk exposures within[2] and between sectors. In this respect, as mentioned previously, although accounts for the euro area are entirely appropriate to meet the ECB's monetary policy function, the ECB's financial stability function and the remit of the ESRB are EU-wide. Eurostat now compiles annual current and capital (but not financial) accounts for the European Union as a whole, and full quarterly EU accounts for non-financial corporations and households.

A more detailed explanation of the financial accounts and balance sheets and the relationship between them, with information on national practices in a number of especially difficult areas, may be found in the ECB's "Handbook on quarterly financial accounts for the euro area – sources and methods" (August 2012).

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2   This is possible because the accounts are (mainly) unconsolidated, e.g. financial assets recorded as held by the non-financial corporations sector include claims on other resident non-financial corporations.

14 INTEGRATED INSTITUTIONAL SECTOR ACCOUNTS

14.1 THE SYSTEM OF ACCOUNTS IN OUTLINE

The system consists of an integrated set of accounts summarising economic activity, with balance sheets covering financial and non-financial assets and liabilities. In practice the coverage of non-financial assets in published euro area balance sheets is not yet fully developed.

The accounts apply common principles, definitions and valuation practices – for the most part transaction or market values – and are linked sequentially, the "balancing item" (summary statistic or bottom line) of one account providing the starting point for the next. These balancing items may be important statistics in their own right. Thus GDP, disposable income, saving, net lending/net borrowing are all balancing items. The accounts cover all economic and financial activity as defined in the ESA 95,[1] and are complete. They provide comprehensive information not only on the economic activities of the domestic sectors, but also on the interactions between those sectors and the rest of the world (that is, with non-residents of the euro area). The euro area accounts link financial and non-financial statistics, enabling non-financial economic activities (such as gross fixed capital formation) and financial transactions (such as the issuance of debt) to be related. Changes in balance sheets are entirely explained by transactions in assets and liabilities recorded in the financial account, together with the contents of reconciliation accounts recording influences other than transactions on balance sheet levels.

The accounts for the euro area treat the euro area as a single economic territory and are comprehensive in their coverage of activity and institutional sectors. They are compiled from a mixture of national economic and financial accounts data provided by Member States and euro area "building blocks" – see Chapter 15.

14.2 ACCOUNTS IN MORE DETAIL

The *production account* measures the output of goods and services and the value of goods and services used in making them (called intermediate consumption). The value of output minus intermediate consumption is gross value added,[2] which is the balancing item (or summary statistic) coming from the production

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1   The boundary between what activity is and is not recorded in the ESA 95 (and the SNA 93) may sometimes seem arbitrary. Important exclusions are the provision of services within the household (cleaning, cooking, care for dependents) and voluntary work of all kinds. Included in GDP, on the other hand, is the production of housing services by owner-occupied dwellings – see Box 8 for more details.
2   Gross here means with no allowance for capital consumption. Capital consumption is similar to depreciation in business accounting, but recorded depreciation may be determined by tax rules and may also be based on different valuation principles from those used in the international and European statistical standards.

account. Gross value added across the economy plus an adjustment for taxes (minus subsidies) on production is GDP at market prices.

Production generates income. So gross value added also represents the earnings of labour and capital involved in production. The share of the workforce in value added is compensation of employees.[3] The share of capital is gross (or net, after fixed capital consumption) operating surplus and mixed income. (Mixed income corresponds to the operating surplus of unincorporated enterprises, including many small businesses classified in the household sector.[4]) Production also represents income for the government, equivalent to taxes on production less subsidies. The *generation of income account* shows how gross value added is initially shared among the factors of production and government. The *allocation of primary income account* then adjusts for flows of interest, dividends and other property income to give gross (or net) national income, and its distribution among the sectors and for the economy as a whole. Some property income will be earned by residents on assets abroad, and some will be payable to non-resident creditors of the country or area and non-resident direct investors. The rest of the world column reflects this part of property income flows, and the difference between GDP and gross national income is the net flow of property income from or to non-residents. The *secondary distribution of income account* then adjusts gross (or net) national income sector by sector for taxes, social contributions, social benefits and other current transfers including non-life insurance premiums and claims. (Broadly speaking, contributions to and benefits from life insurance schemes and pension funds are treated as acquisitions and disposals of financial assets.) The balancing item or bottom line of the secondary distribution of income account is gross (or net) disposable income, again for the economy as a whole and for each sector. Disposable income must be used for consumption, or saved. Final consumption expenditure in the *use of income account* is split into individual and "collective" components. Only households engage in individual – and only general government in collective – final consumption. The difference between disposable income and final consumption expenditure is saving, which is the bottom line of the *current accounts*.

Saving is the starting point for the *accumulation accounts*. Saving must be used to acquire non-financial or financial assets, or to pay down debt in some form. The *accumulation accounts* record these activities. The first of these, the *capital account*, records gross capital formation, which is confined to the acquisition (or disposal) of produced assets – items which are themselves the outcome of the production process, like equipment and buildings, but not land (although spending to improve land, such as on drainage, is treated statistically

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3   Some residents may be employed abroad, and some non-residents may be employed in the domestic economy. The accounts will then show transactions in the row "compensation of employees" between the rest of the world and the relevant resident sectors. (In fact the statistical treatment of foreign workers and their remuneration is rather complicated; Chapter 20 provides some explanation of the new statistical standards.)
4   Households living in their own property (owner occupiers) are treated statistically as if they pay out rent and promptly receive it back. The imputed rent (strictly, "rental") is treated as household consumption of housing services matched by an equivalent production of the same (and forms part of the "operating surplus" of the household sector). The effect is to contribute to GDP of the household sector. This rather counter-intuitive treatment is explained further in Box 8.

as gross capital formation). Gross capital formation is split into fixed capital formation and changes in inventories – the latter refers to goods in the process of production, or stored in warehouses or on retailers' shelves. The capital account also records transactions in non-produced non-financial assets, like land and mineral reserves, and capital transfers, such as inheritance taxes or investment grants. Saving (together with capital transfers) which is not used up by one or other of these items must be used to acquire financial assets or to pay down liabilities in some form: in national accounts terminology, an excess of saving and capital transfers over investment in non-financial assets means net lending and a shortfall means net borrowing.

Net lending/net borrowing is the balancing item of the capital account and the starting point of the *financial account*. Net lending/net borrowing of the economy as a whole is (in principle) the sum of net lending/net borrowing of all resident sectors,[5] and equals the balance on current and capital accounts in the balance of payments which, in turn, matches net borrowing/net lending of the rest of the world. The financial account shows lending and borrowing transactions instrument by instrument. The lending and borrowing transactions recorded in the financial account should add up to net lending/net borrowing brought forward from the capital account, but in practice they rarely do, and a statistical discrepancy is likely. The financial account rounds off the transactions accounts.

The entries in the generation, allocation, distribution and use of income accounts, and in the accumulation accounts, all record transactions. The ESA 95 defines a transaction as "an economic flow that is an interaction between institutional units by mutual agreement ... " (paragraph 1.33). The ESA 95 defines institutional units as "economic entities that are capable of owning goods and assets, of incurring liabilities and of engaging in economic activities and transactions with other units in their own right" (paragraph 1.28). A transaction here is not spending in the everyday sense of paying out money. For example, the provision of housing services by residential properties to their owner occupiers is a transaction, although no money is involved – see above and Box 8 on households. Another is the treatment of reinvested profits in statistics of foreign direct investment (FDI) and associated income, discussed in Chapter 9. In fact many transactions recorded in the accounts are imputed or, if not imputed, do not coincide with an exchange of money and indeed may never involve a payment.

All transactions in the production, income, capital and financial accounts are in principle recorded at the values at which they are carried out (with, for imputations, the best estimate of what the relevant market price would be). *Balance sheets* record all assets and liabilities at market prices on the balance sheet date. The difference between assets and liabilities is net worth, which may be positive or negative. The change in balance sheets between two dates (and the change in net worth) will therefore reflect not only transactions in non-financial

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5   With a minor qualification concerning settlements under certain financial derivatives contracts, "net borrowing" of general government corresponds to the general government deficit for the purposes of the European Union's excessive deficit procedure and the Stability and Growth Pact.

assets included in balance sheets, and also borrowing, lending and trading in financial instruments in the intervening period, but also (notably) changes in the prices of balance sheet items, and other factors which are not treated as transactions in the ESA 95 but which nevertheless affect balance sheets. Two further accounts record these other changes (that is, changes not arising from transactions) in assets and liabilities. The *revaluation account* covers price changes affecting balance sheet values. The *other changes in the volume of assets account* covers items such as accidental destruction of non-financial assets, reclassifications, and write-offs of debt. (The extended discussion in Chapter 1 on transactions, valuation changes and "other" influences on balance sheet outstandings in the context of MFI balance sheet statistics relates to this issue.) The accumulation accounts (including these two reconciliation accounts) fully explain changes in balance sheets. (It will be recalled however that the coverage of non-financial assets owned by residents of the euro area in published balance sheets and reconciliation accounts is incomplete.)

In the production of quarterly integrated economic and financial accounts by institutional sector for the euro area, Eurostat provides data down to and including the capital account, and the ECB takes care of the financial account, balance sheets and reconciliation accounts. Putting it all together is a joint effort.

14.3 INSTITUTIONAL SECTORS

The accounts are compiled for groups of institutional units considered to display similar economic behaviour, and for the whole economy (coded S.1 in the ESA 95). The groups of resident institutional units are the five main sectors into which the ESA divides participants in the economy, namely (with their ESA 95 codes) non-financial corporations (S.11), financial corporations (S.12), general government (S.13), households (S.14), and non-profit institutions serving households (NPISHs) (S.15). Financial corporations and general government are further sub-divided. These sectors are complete and exclusive; all institutional units belong to a sector; none belongs to more than one. The sectors include only resident institutional units. Non-residents are grouped in a single category (rest of the world) (S.2). Transactions, balance sheet positions and reconciliation items for the rest of the world are however recorded only insofar as they are transactions, positions, etc. with institutional units resident in the economy: they correspond to the balance of payments and international investment position. All other economic activity outside the economy is ignored in the accounts. In the euro area accounts, the rest of the world means all institutional units outside the euro area.[6]

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6 Including – as noted previously – EU institutions and other bodies, which are treated statistically as non-residents of the euro area, regardless of their location. The exceptions are the ECB, which is classified as a financial corporation (S.12), sub-category central bank (S.121) resident in the euro area but not in any individual Member State, and the European Stability Mechanism, which is classified (since 2012) as an "other" (non-monetary) financial institution (S.123). For some market operational purposes, the European Investment Bank is treated as an MFI resident in the euro area, although not, at least at present, in the institutional sector accounts and other statistical series – see Chapter 1.

The production, income and accumulation accounts and balance sheets show these five main sectors and sub-sectors and the rest of the world separately (although certain sectors have nothing to record in some parts of the accounts). Full sets of production, generation, allocation, distribution and use of income, and accumulation accounts, with balance sheets, are sometimes called top-to-bottom institutional sector accounts.

As noted in the introduction, integrated accounts for the non-financial corporations sector and the household sector (including NPISHs) are of particular interest to the ECB. Box 8 explains what (statistically speaking) non-financial corporations and households are. The financial corporations sector comprises all entities engaged in financial intermediation, regardless of who owns them, and financial auxiliaries (which engage in financial business but do not take positions on their own account). In the financial account and financial balance sheet, this sector is further sub-divided into central banks (S.121), other monetary financial institutions (S.122), other (non-monetary) financial intermediaries (S.123), financial auxiliaries (S.124) and insurance corporations and pension funds (S.125). General government takes responsibility for the provision of goods and services to the community as a whole (administration, defence, law enforcement, etc.). General government also provides goods, or more often services, to individual households financed from taxation or other sources (but not by sales revenue covering more than half the costs), redistributes income and wealth by means of transfers, and engages in other non-market production. (The significance of sales revenues covering 50% of costs is that this is the borderline between market and non-market production – see further in Box 8 below.) General government may be divided into central, state and local government, and social security funds (S.1311-14).

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Box 8 **What are non-financial corporations, households and non-profit institutions serving households?**

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Non-financial corporations (S.11)

Corporations are resident institutional units engaged in the market production of goods and services, namely producers who sell their output at economically significant prices such as to cover more than half their production costs. Corporations include government-owned enterprises provided these are market producers. Thus public corporations which are market producers are not part of the general government sector. Corporations also include resident subsidiaries of foreign enterprises provided they are market producers. Producers who give away their output or sell it at well below cost are said to be non-market producers and form part of the general government sector (if controlled and mainly financed by government) or are NPISHs – see below.

As noted previously, the ESA 95 defines institutional units as "economic entities that are capable of owning goods and assets, of incurring liabilities and

of engaging in economic activities and transactions with other units in their own right" (paragraph 1.28). A corporation is a type of institutional unit recognised by law independently of the persons or other entities that own or control it. As mentioned in Chapter 1, despite its name, S.11 is not strictly restricted to enterprises set up in corporate form: the ESA uses the term "quasi-corporation" to cover many unincorporated enterprises such as cooperatives, partnerships, sole-proprietor businesses, and resident branches (as opposed to subsidiaries) of foreign enterprises. These are included in the corporate sector, provided they are market producers and keep a complete set of accounts separate from those of the owner.[1] Quasi-corporations may include government-owned enterprises provided they are market producers. While most corporations and quasi-corporations aim to make profits for their owners, S.11 also includes non-profit institutions, again, as long as they are market producers. Many schools, hospitals, universities, and trade and professional associations which charge fees to cover all or most of their costs fall into this category and form part of the non-financial corporations sector. Their activities may in practice generate an operating surplus, but their constitution will prevent them from distributing it to the entities which manage or control them. S.11 also includes entities like trade associations which do not earn revenue from sales, instead charging membership fees to cover costs, and predominantly serve non-financial corporations.

S.11 therefore includes enterprises with a range of different legal structures and ownership (private, government, foreign – these categories are identified in the ESA 95), most of which aim to make a profit for their owners but some of which are prevented from doing so. The common element is that they are market producers and keep full accounts. They engage in a wide range of activities defined only by what they do not do. They do not provide financial intermediation or financial auxiliary services as their main activity – enterprises engaged in these activities are financial corporations (S.12). Broadly speaking, S.11 may be said to comprise enterprises engaged in industry and commerce (including non-financial services) as their main activity.

Households (S.14) and non-profit institutions serving households (S.15)

A household is defined as a small group of persons who share living accommodation, pool some or all of their income and wealth, and consume goods and services collectively. The definition includes people who are temporarily away. People living for a long or indefinite period in institutions such as retirement homes, hospitals, religious institutions or prisons are said to be in institutional households, also included in S.14. Paid domestic staff are not

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1   The classification of small unincorporated businesses varies in EU countries. In some they are more likely to be classified as non-financial corporations, whereas in others they are commonly included in the household sector (S.14). At present consistency in this respect seems unattainable. As mentioned in Chapter 1, Regulation ECB/2008/32 on MFI balance sheets (like the new Regulation ECB/2013/33) requires MFIs to identify lending to sole proprietors/partnerships as an "of which" item within lending to households.

part of the household which employs them, even if they live under the same roof: instead they are treated statistically as households in their own right and employees of a notional unincorporated enterprise in the household sector.

The notional enterprise employing domestic staff is only one type of enterprise in the household sector and probably the least important. Unincorporated businesses owned by household members which do not have a separate legal identity are part of S.14. In all Member States there are numerous such enterprises in the household sector. Given that the main purpose of economic accounts is to support economic analysis, large partnerships and other unincorporated enterprises which behave like corporations are usually included in S.11, although practice is not uniform across Member States. Household sector enterprises also include notional units considered to own owner-occupied dwellings, themselves wholly owned by the household living in them. In this way houses occupied by their owners contribute to GDP through an imputed "production" of housing services by these notional unincorporated enterprises (the housing services in turn being deemed to be promptly consumed by the owner household), as do the rentals paid on residences and other buildings rented out which represent a payment for housing services. This treatment, at least in principle, means that GDP is not affected by the shares of owner occupation and renting in the economy. Although much less than that generated in non-financial corporations, gross value added generated in enterprises classified in the household sector, including in the form of owner-occupier housing services, is significant.

An important point is that employees are not themselves regarded as production units in the ESA and the SNA. Rather, value added is generated in the corporation, quasi-corporation or governmental unit in which they work; they receive their share in it – usually the largest part – in the form of compensation of employees. Including property income, some 82% of net national income in the euro area accrues to households, most of it in the form of compensation of employees. Household final consumption expenditure is the largest part of total final expenditure in the euro area economy, as it is almost everywhere.

Households, or some of their members, do not need to be physically located in the country (or in the euro area); people working temporarily abroad, and embassy staff and military personnel of the country concerned who are serving abroad, are treated as resident households. People working for extended periods abroad (12 months is usually the threshold), other than embassy staff and military personnel (including staff of international organisations), are considered to be resident in the host country. The household sector may accordingly include many people who are not nationals, but are nevertheless considered to be resident for statistical purposes.

In addition to the some €26 trillion (end-2012 figures) of non-financial assets (mainly residential property, but also non-financial assets in other forms held by

unincorporated businesses in S.14), the household sector in the euro area holds €19 trillion of financial assets. The sector's financial liabilities amount to rather over €6 trillion. Households in the euro area therefore have a huge net wealth (some €39 trillion).

Non-profit institutions are entities created for the purpose of producing goods and services whose status does not permit them to be a source of financial gain for the units that establish, control or finance them. As noted above, non-profit institutions which provide goods and services and cover more than half their costs through sales revenue are classified as market producers in one of the corporate sectors (S.11, or S.12 if they provide financial services). If they are mainly financed and controlled by government, they are classified as part of general government (S.13). Non-profit institutions charging membership fees are also classified in one of the corporate sectors if they serve financial or non-financial corporations.

Non-profit institutions serving households (NPISHs) are entities which provide goods or services to households free or at prices that are not economically significant, and which are not controlled and mainly financed by government. There are two main types. The first consists of associations providing goods or, more often, services primarily for the benefit of their members, including professional societies, political parties, trade unions, consumers' associations, churches, foundations to support (for example) culture or science, and social or sports clubs. The second type of NPISH consists of charities and other agencies created for philanthropic purposes to provide goods or services on a non-market basis to the needy.

14.4 RESOURCES AND USES, AND (CHANGES IN) ASSETS AND LIABILITIES

The production and income accounts in the system are further divided into "resources" and "uses". The resources side of a transaction provides the institutional unit with economic value and adds to its net worth; the uses side subtracts economic value and reduces net worth. For example, payment of dividends by non-financial corporations to households (part of property income in the allocation of primary income account) is entered on the resources side for households and on the uses side for non-financial corporations. For each type of transaction, in principle total resources of all sectors and the rest of the world equal total uses – the accounts are said to be horizontally balanced. The financial account records the corresponding changes in financial assets and liabilities. Transactions involving two institutional units thus give rise to four entries in the accounts. The principle of quadruple entry applies throughout the accounts.

Allocation of primary income account: property income

	Uses		**Resources**	
Households	Non-financial corporations	Households	Non-financial corporations	
	100	100		

Financial account (assets (currency and deposits); increase -, decrease +)

Households	Non-financial corporations			
-100	+100			

(MFIs will record an increase in liabilities to households and a reduction in liabilities to non-financial corporations.)

Because national accounts are compiled from many different sources, and often from partial information, fully consistent recording of transactions is unattainable. This is true not only of the system of economic and financial accounts described here. Errors and omissions are a familiar feature of balance of payments statistics (see Chapter 12). They arise, not for any conceptual reason, but because the statistics, compiled from many sources, are to some extent incomplete (e.g. only one side of a transaction is recorded) and also contain valuation and timing inconsistencies in the recording of transactions. Less familiar are the errors and omissions in banking statistics. Thus when the ECB aggregates the balance sheets of euro area MFIs, what it calls the excess of MFI liabilities (which may be negative) emerges, meaning that what is recorded as MFIs' liabilities to other MFIs in the euro area does not correspond to what is recorded as claims within the sector. Discrepancies may be expressly indicated in the accounts, as is the case in euro area balance of payments and aggregated MFI balance sheet statistics. Alternatively they may be smoothed away, as they partly are in the integrated economic and financial accounts, after assessing the reliability of their various components using a combination of judgment and statistical procedures – see further in Chapter 15 below.

15 FROM NATIONAL TO EURO AREA ACCOUNTS – SOME ISSUES CONCERNING THE COMPILATION OF EURO AREA ACCOUNTS

15.1 INTRODUCTION

The main object of the ESA and the SNA is to provide economic and financial accounts for the national economy. Although the ECB pays close attention to national developments, the focus of its interest is the euro area as a whole, for which the ECB needs frequent and timely data, including quarterly institutional sector accounts. Moreover, many ECB users would welcome consistent data, in which the accounts for each sector balance, the accounts for domestic sectors add across to the account for the rest of the world (the euro area's balance of payments and international investment position), and changes in sector balance sheets can be reconciled with cumulative transactions.

A requirement for balanced accounts is demanding at national level. Compiling accounts for the euro area raises the further question of how far (national) institutional sector accounts can be aggregated across the euro area to give conceptually equivalent results for the area as a whole, where the sum of transactions of resident sectors in the euro area equals the corresponding item in the euro area balance of payments (or, for financial balance sheets, the euro area international investment position). Some key areas of statistics are consolidated, notably in MFI statistics and in part for general government statistics. An important characteristic however of economic and financial accounts for the purposes of euro area aggregates is that resident institutional sector accounts are (usually) not consolidated. Non-consolidation makes it possible to sum sectoral accounts across Member States to arrive at an aggregate which is conceptually equivalent to the national results. The from-whom-to-whom information explained later in Chapter 15 is relevant here. Practical questions such as the coordination of revisions also arise.

15.2 INTEGRATION OF NON-FINANCIAL AND FINANCIAL ACCOUNTS, AND BALANCING OF THE ACCOUNTS

The euro area accounts integrate non-financial and financial accounts, including balance sheets. The non-financial accounts are compiled by Eurostat and the financial accounts (transactions and balance sheets) by the ECB. The accounts are an amalgam of national data and euro area "building blocks" (the individual euro area data series like the monetary aggregates, securities issues statistics and balance of payments, compiled and published separately to a much shorter timetable). The national data are the full sets of accounts providing a comprehensive coverage of all institutional sectors on a national basis provided to Eurostat (non-financial accounts) and the ECB (financial accounts, consisting

of financial transactions and balance sheets).[1] The euro area accounts building blocks provide an important part of the information required for the euro area accounts for specific sub-sectors of the financial corporations sector, as well as the rest of the world sector, but far from all of it. The information about the financial accounts of households and non-financial corporations derived from the building blocks is counterparty information, which is at present obtained mainly from MFIs and investment funds and is limited in scope. Moreover, the building block data were not designed with inclusion in the euro area accounts primarily in mind but were prepared initially for other purposes. The MFI balance sheet data, for example, do not conform in all respects to ESA 95 standards for valuation and treatment of accrued interest, and the MFI balance sheet categories "remaining assets" and "remaining liabilities" do not coincide with the ESA 95 instrument category "other accounts receivable/payable".

Eurostat and the ECB assemble the accounts from the ingredients provided by national data submissions and the euro area building blocks, having regard to consistency with the key euro area aggregates already published and, in making adjustments, the reliability of the items concerned. The accounts are integrated in three dimensions.

- Total uses equal total resources, and total financial assets equal total liabilities, for each (non-financial or financial) transaction category and each financial balance sheet category, when summed over all institutional sectors and the rest of the world (horizontal consistency). Consistency with key monetary statistics is achieved by substituting the latest euro area aggregated MFI deposits and loans data (as published by the ECB) for total MFI deposits and loans submitted by national compilers.[2] An equivalent adjustment is made in deposits and loans of the counterpart sectors, after correction for any inter-MFI discrepancy in the MFI sub-sector balance sheet. The rest of the world accounts submitted by the national compilers are replaced by euro area balance of payments and international investment position data (why this is done is explained in Chapter 15.4 below). In the process, acknowledged discrepancies in cross-border transactions and positions within the euro area lead to adjustments to data for resident sectors in the euro area.

1   Regulation (EC) No 1161/2005 of the European Parliament and of the Council of 6 July 2005 on the compilation of quarterly non-financial accounts by institutional sector requires EU countries to submit to Eurostat non-financial sector accounts; countries with a GDP below 1% of the EU25 total (preceding the accession of Bulgaria, Romania and Croatia) may provide a reduced set of information. All euro area countries submit quarterly financial accounts by institutional sector to the ECB under Guideline ECB/2005/13 of 17 November 2005 amending Guideline ECB/2002/7 on the statistical reporting requirements in the field of quarterly financial accounts. The requirement relates to quarterly stocks (financial balance sheets), transactions in all financial assets and liabilities, and accounts reconciling transactions with the change in balance sheets. (The new Guideline ECB/2013/24 will be implemented in 2014 in the context of the new ESA 2010 – see Chapter 20.)
2   Some adjustments are made to correct for the treatment of accruing interest on deposits and loans in the monetary statistics and also for departures from the valuation of negotiable securities at market prices – see Chapter 1 for more on valuation practices in MFI balance sheet statistics.

- For each sector and the rest of the world, the balance of all current and capital transactions should be equal to the balance of all financial transactions (vertical consistency). The difference between total government (current and capital) expenditure and revenue is equal to the difference between government's net incurrence of liabilities and its net acquisition of financial assets. Comparing the data from the different statistical sources for the non-financial and the financial accounts may not at first yield an identical estimate for these accounts. Any discrepancy (usually small) between general government non-financial and financial accounts is eliminated by using the general government integrated accounts as published for the euro area. Similarly, statistical discrepancies are removed for the financial corporations sector as a whole. Vertical balancing may require significant changes to the rest of the world account, where errors and omissions in the euro area balance of payments, though much reduced in recent years (see Chapter 12), must be resolved. The adjustments needed to obtain vertical balances are performed simultaneously with the adjustments required to obtain horizontal balances in the financial accounts, and are guided by available information on the reliability of the underlying data, as well as the occurrence of large singular transactions. At the end of the reconciliation process vertical imbalances remain for the non-financial corporations and household sectors. Although these are small in relation to euro area GDP, the ECB is seeking to remove them.

- The change in a balance sheet is, for each financial instrument category, equal to the sum of transactions and other changes such as revaluations of assets (stock-flow consistency). For example, the change in the value of quoted shares held by households in successive balance sheets is equal to households' transactions in quoted shares (purchases less sales) in the intervening period plus the effect of changes in share prices on the value of their shareholdings.

As explained previously, data from numerous sources are almost always inconsistent in some respects, and aggregation across 17 countries (or 18 on the entry of Latvia) in the case of the euro area accounts presents challenges of its own. For various reasons, even if all national contributions were balanced, the euro aggregates might not be. Most users would prefer to work with accounts without discrepancies.

15.3 MFI DATA AS AN INGREDIENT IN THE EURO AREA ACCOUNTS

MFIs are the dominant financial intermediaries in all euro area Member States, and the monthly and quarterly balance sheet returns provide sectoral breakdowns of their counterparts for most instrument categories. Indeed, the MFI balance sheet data provide much of the transaction and balance sheet information which national compilers submit to the ECB in the financial accounts context. At the euro area level the MFI building block is directly used in compiling euro area aggregates to ensure as much consistency as possible with indicators such as monetary and credit aggregates. In a similar way the data on investment funds and other (non-monetary) financial intermediaries, notably FVCs, insurance corporations and pension funds, and securities statistics also provide inputs to the financial accounts, in a rather similar process to that described for MFIs.

However, even though the MFI balance sheet data are timely, frequent, of high quality and designed for the production of euro area aggregates, they often cannot be used as they stand for euro area institutional sector accounts. The main reason is that the data depart in limited but important ways from the ESA 95 definitions and accounting principles which underlie the institutional sector accounts.

The most important definitional and conceptual departures from the ESA 95 in the MFI balance sheet statistics are the treatment of interest accruing on deposits and loans and the valuation of securities, and the difficulty in linking some MFI balance sheet instruments with the relevant ESA 95 financial asset categories. Thus, in line with the preferred treatment for monetary analysis, Regulation ECB/2008/32 requires accrued interest to be recorded in "remaining assets" or "remaining liabilities", not in the relevant instrument category as preferred by the ESA 95.[3] Furthermore, in order to enable accounting information to be used for statistical purposes, MFI balance sheet statistics allow discretion in the valuation of securities, whereas the ESA 95 requires market prices for both transactions and positions. The MFI balance sheet items "remaining assets" and "remaining liabilities" do not coincide with the ESA 95 instrument category "other accounts receivable/payable" (apart from accrued interest, they include business in financial derivatives, in some cases current profit and loss, which properly belongs in capital and reserves, and sometimes other items which the ESA 95 would record elsewhere). National recording practice in these residual categories varies somewhat.

Bringing together information from different sources may present national and ECB compilers with the need to make choices. For example, MFI balance sheets may show amounts for deposits from and loans to "other" (non-monetary) financial intermediaries which differ from supposedly mirror data reported by the latter; similarly, the government financial accounts data provided under EU legislation may be inconsistent with the MFI data on business with government entities. National compilers will choose what they consider to be the more reliable source, making compensatory adjustments to the counterpart data as necessary. There may, however, be constraints in doing so, such as a requirement to give priority to the government accounts source.

While much of the financial accounts data prepared by national compilers as described above will be based on MFI balance sheet and other data submitted to the ECB for other statistical purposes, differences may therefore arise for the reasons explained. The ECB must also observe certain constraints in the euro area financial accounts aggregates, i.e. balance vertically the whole non-financial and financial accounts of the financial corporations, general government and rest of the world sectors; and balance horizontally the various instrument categories. These consistency requirements may imply further deviations from the data originally transmitted by NCBs for MFI balance sheet statistics purposes.

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3   A similar point relates to accruing interest on debt securities, where Regulation ECB/2008/32 concerning the balance sheet of the MFI sector gives reporting agents some discretion in following national accounting principles.

A final point in connection with the use of MFI balance sheet data in the financial accounts concerns the balance sheet and transactions approaches to reporting transactions. Chapter 1 explained, with an example to illustrate the point, that the two approaches have different implications for analysis of monetary aggregates and counterparts. They also have different consequences for the financial accounts. In particular, the transactions approach is more appropriate for financial accounts purposes, although not necessarily the most helpful for monetary analysis.

15.4 BALANCE OF PAYMENTS AND INTERNATIONAL INVESTMENT POSITION DATA AS AN INGREDIENT IN THE EURO AREA ACCOUNTS

The rest of the world (S.2) column in the integrated economic and financial accounts records transactions and positions of residents of the euro area with non-residents of the area. At least in principle, these transactions correspond to the balance of payments (on the current, capital and financial accounts) of the euro area, and these positions to the euro area's international investment position. Neither the rest of the world column nor the euro area balance of payments and international investment position record transactions and positions of non-residents of the euro area between themselves – they are confined to transactions and positions between euro area residents and non-residents. It should perhaps be added that, although Guideline ECB/2002/7 on quarterly financial accounts requires NCBs to include a rest of the world account in the national financial accounts and balance sheets submitted to the ECB, the requirement is only for completeness. The ECB does not use the national rest of the world data; the national data provided by NCBs do not distinguish between cross-border transactions and positions within the euro area and outside, and so they cannot be used directly in compiling euro area accounts. The other general introductory point is that, while the euro area external accounts are seen from the perspective of the euro area, the rest of the world column is compiled as if the rest of the world were another sector. The consequence is that (for example) interest payable to holders resident outside the euro area on debt securities issued by a euro area resident is a debit in the investment income account of the euro area balance of payments, but a resource in the rest of the world column in the institutional sector accounts; and what are liabilities in the euro area international investment position are assets in the rest of the world balance sheet.

In terms of the definition of transactions, timing of recording, valuation of transactions and positions, definition of residence and so on, the euro area balance of payments and international investment position follow the BPM5, which in turn is very largely consistent with the ESA 95 to which the economic and financial accounts conform. Indeed the correspondence is closer than between the MFI balance sheet statistics – the other main building block – and the euro area accounts.

There are however two main difficulties in using the euro area balance of payments and international investment position to fill the rest of the world column. The first is that financial transactions and positions in the external

accounts (except in financial derivatives) are grouped into functional categories – direct, portfolio, "other investment" and reserve assets – and not organised by instrument as they must be in the euro area accounts. It is also the case, although the point is not further developed here, that some BPM5 "standard components" in the current account balance of payments do not coincide with the requirements of the sector accounts. The second difficulty is that the external accounts show discrepancies (errors and omissions), whereas the rest of the world column must be balanced (no discrepancies).

The first problem has been tackled in recent external statistics guidelines by requiring information beyond what is strictly needed for a balance of payments and international investment position compliant with the BPM5. The extra information enables the functional categories to be unscrambled and rearranged to provide the instrument detail needed to complete the rest of the world column. Some difficulties remain, for example, in distinguishing at the border between loans and deposits, or loans and securities, and ensuring that the instrument classification in the rest of the world column matches the instrument classifications used in the accounts of the resident sectors to which the rest of the world column should correspond. This is not always possible. Thus the item "other capital" in the functional category of foreign direct investment (FDI) in the balance of payments and international investment position includes indistinguishably deposits, loans and debt securities. FDI is at present compiled on the "directional" principle (see Chapter 9), which means there is no clear distinction between assets and liabilities. Financial derivatives are recorded in the balance of payments on a net basis, whereas in principle the euro area accounts record transactions in them gross (the treatment of financial derivatives in the accounts is however unsatisfactory in some other respects). Finally, cross-border transactions and positions in insurance technical reserves are not recorded in the balance of payments and international investment position, although the omission is probably not significant. Some of these incompatibilities between the euro area external accounts and the rest of the world column in the economic and financial accounts should be removed when the ESA 2010 and the BPM6 are implemented in 2014 (Chapter 20).

As Chapter 12 explained, after much effort errors and omissions in the euro area balance of payments have been substantially reduced from what had become an unacceptable level. It may be useful to explain that there may be errors and omissions in the euro area external accounts even if there are none in the national balance of payments (and indeed in the balanced national economic and financial accounts) of the individual countries in the euro area. This is because of discrepancies, which are known to be large, in the recording of cross-border transactions within the euro area. For example, a French firm reduces its deposit with a German bank's subsidiary or branch in London by 100 but incorrectly records the transaction as a reduction in bank deposits held in Germany. The bank in Germany correctly records no reduction in deposit liabilities to France. Both countries' national balance of payments will be correct, but the euro area balance of payments will miss a reduction of 100 in euro area residents' bank deposits outside the euro area which in turn (other things being equal) will appear as errors and omissions of +100. "Balancing" the euro area rest of the world account

may then disturb other sectors in the accounts to constrain horizontal balance. In reality the discrepancies will arise from countless sources and the balancing exercise may involve adjustments to many cells in the euro area accounts matrix.

15.5 USES OF THE ACCOUNTS

In the ECB, the financial accounts (and the integrated economic and financial accounts as a whole) were developed mainly for monetary policy and related economic analysis. Since monetary policy affects economic conditions and achieves its goal of maintaining price stability principally through the reaction of the household and non-financial corporations sectors to monetary policy initiatives, it is particularly important to monitor developments in these sectors. Thus, following each quarterly publication of the integrated euro area accounts, the ECB's Monthly Bulletin contains an extended box analysing developments in each of the economic sectors with particular emphasis on households and non-financial corporations. The analysis varies with circumstances and the characteristics of each sector but typically discusses income, saving and investment in non-financial assets, leading to net lending or borrowing. Noteworthy financial transactions are analysed by instrument. The analysis usually concludes with a section on balance sheet dynamics. Certain issues of the Monthly Bulletin in 2011 and 2012 contain extended analyses of the behaviour of economic sectors in the euro area over a period of years.[4]

Euro area accounts also contribute to financial stability analysis, since the health of financial institutions is much affected by developments in other resident sectors. The ECB's twice yearly Financial Stability Review relies mainly on aggregated supervisory and macro-prudential information for its analysis of developments in banking and other financial institutions, but euro area accounts are the source of much information on economic and financial developments in the household, non-financial corporations and general government sectors.

The 2009 IMF-Financial Stability Board report to G20 finance ministers and central bank governors entitled "The financial crisis and information gaps" (see further in Chapter 24) has much to say on integrated institutional sector accounts. The report comments: "The importance of sectoral data, including from-whom-to-whom information, has been highlighted by the crisis. Indeed, the ongoing crisis provides the context for new thinking about how to measure vulnerabilities in the non-financial sectors that might feed back on to the financial system, and vice versa. [Questions include] ... how household and non-financial firms' financial positions affect borrower delinquencies and defaults … [Needs for improved data include] disposable income and savings, and indebtedness of the household sector ... The increased availability of sectoral financial accounts and balance sheets would advance the analysis of the systemic risks and vulnerabilities, and the interrelationship between the real sector accounts and the

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4   "The financial crisis in the light of the euro area accounts: a flow-of-funds perspective", *Monthly Bulletin*, ECB, October 2011; and "A sectoral account perspective of imbalances in the euro area", *Monthly Bulletin*, ECB, February 2012.

financial accounts. The Balance Sheet Approach[5]... provides additional focus on vulnerabilities arising from the maturity (liquidity), currency (domestic/foreign), and capital (leverage) structure of key financial sectors. Linking data on financial flows within the economy … with data on expenditures on goods and services and factors of production … is important for studying financial and real sector linkages. Being able to link expenditure and production … with financial flows … would facilitate understanding of whether and how expenditure and production decisions are restrained by disruptions in credit markets."

A consequence of the financial crisis has been the perceived need for early warning of the build-up of imbalances in the national economies of EU Member States. The ECOFIN Council (ministers of economics and finance) agreed in March 2011 on a general approach for a regulation on the prevention and correction of macroeconomic imbalances, with a "scoreboard" showing the relevant indicators. The Council agreed that "The scoreboard shall be made up of a small number of relevant, practical, simple, measurable and available macroeconomic and macro-financial indicators for Member States … [with] indicative thresholds … to serve as alert levels … The scoreboard of indicators, and in particular alert thresholds, shall be differentiated for euro and non-euro area Member States if justified by specific features of the monetary union and relevant economic circumstances". In November 2011 European Parliament and Council regulations were adopted on the prevention and correction of economic imbalances and measures for enforcement, together with other legislation to strengthen budgetary surveillance and procedures and so reinforce the Stability and Growth Pact (see Chapter 24).

The European Commission's scoreboard was introduced in February 2012. Among the indicators included in the scoreboard are the net international investment position as a percentage of GDP, with a threshold of -35% of GDP; private sector debt as a percentage of GDP with a threshold of 160%; private sector credit flow as a percentage of GDP with a threshold of 15%; and general government sector debt as a percentage of GDP with a threshold of 60%. The international investment position data come from the external accounts; for reasons explained previously in this chapter, they may differ from the stock of net claims of the rest of the world as shown in the integrated economic and financial accounts. General government sector debt follows the definition (and the key ratio) used for excessive deficit procedure (EDP) purposes – the EDP definition is somewhat different from that used in the financial accounts. Private sector debt is included because excessively high levels of debt imply significant risks for growth and financial stability. Private indebtedness is measured as the sum of outstanding loans and securities other than shares (debt securities). For this purpose the private sector comprises non-financial corporations, households and non-profit institutions serving households (and therefore includes publicly-owned non-financial corporations classified outside the general government sector). The data come from the institutional sector accounts and, as in these accounts, are non-consolidated. Eurostat and the ECB intend however to investigate how far

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5   This means the analysis of balance sheets. It is not a reference to the balance sheet approach to deriving transactions in the euro area monetary statistics described in Chapter 1.

inter-company loans in the non-financial corporations sector represent intragroup liabilities, since (group) consolidated data may be more appropriate than non-consolidated data for this purpose. It may also be helpful to disentangle price and volume effects on the stock of outstanding private debt.

There is also agreement on the need to capture credit flows to the private sector, since large credit fluctuations may be associated with boom and bust cycles in asset markets (including house price bubbles), potential banking system vulnerabilities, and current account imbalances as imports are sucked in and exports deflected. Annual private sector credit flows use transaction data from the institutional sector accounts.

15.6 PLANNED ENHANCEMENTS TO EURO AREA ACCOUNTS

A Groupe de Réflexion set up by the ESCB's Statistics Committee proposed some enhancements to the euro area accounts in 2007. Some of these have already been carried out while others are in the pipeline. Vertical and horizontal balancing of the accounts was discussed previously in this chapter. This section covers better timeliness (which also concerns data sources) and from-whom-to-whom accounts. Other improvements are being prepared, some of which are linked to implementation of the ESA 2010 in 2014.

As noted elsewhere, the euro area accounts are at present published about four months after the reference quarter. The aim is to reduce this to three months so that they are available in time for the Governing Council monetary policy discussions at the first meeting of each month. Thus the Governing Council would have (for example) the fourth quarter accounts at the first meeting in April. The accounts could then be viewed alongside other, by then fairly complete, information relating to the fourth quarter. The timing of the ECB's quarterly staff projection exercises is also relevant. Having the accounts ready for inclusion in briefing material for the Governing Council meeting means submitting them to the ECB and Eurostat some days earlier than previously, probably soon after the eightieth day following the reference quarter. However, so early a submission of government financial and non-financial data (under EU legislation) and detailed balance of payments/international investment position data is difficult for some countries, not least because the sensitivity of the former in connection with the EDP and the Stability and Growth Pact makes them reluctant to submit provisional results. The priority is information on households and non-financial corporations, although in the absence of information for all sectors it is not possible to balance the accounts horizontally. Currently, key data, sufficient to meet immediate briefing needs, are available to meet the earlier deadline. The decision is to compile such "supplementary" euro area accounts within 90 days by 2014, with fuller data, including national data, becoming available a few days later. Both timetables will be further reduced in 2017.

These timetable enhancements will be implemented in Guideline ECB/2013/24, adopted by the Governing Council in July 2013. The guideline also extends full counterpart information, to which the Groupe de Réflexion had expressed a strong interest. From-whom-to-whom accounts were mentioned in Chapter 5 on securities

holdings statistics. The need for from-whom-to-whom information and the form it takes may be illustrated with reference to securities statistics. The accounts in their present form show, for each sector, assets acquired and liabilities incurred in each instrument category. Thus households may have acquired 100 of long-term debt securities in the quarter, while non-financial corporations may have acquired 20 and issued 50 of long-term debt securities. This is useful information as far as it goes. But it does not reveal how much of the 100 acquired by households are long-term debt securities issued by non-financial corporations (rather than financial corporations, governments or the rest of the world). Nor do the accounts reveal which other sectors have taken up the long-term debt securities issued by non-financial corporations. This information is essential to any analysis of links between sectors and the pattern of sectoral exposures. Part of the Groupe de Réflexion's recommendation for from-whom-to-whom information has already been met, in the instrument categories deposits and loans (which in the euro area are predominantly claims on and liabilities to MFIs). Extension of from-whom-to-whom coverage to securities will have to await the results of the project to identify holdings of securities described in Chapter 5, reflecting the implementation of Regulation ECB/2012/24 on securities holdings statistics in early 2014.

Further improvements are planned.

• Seasonal adjustment – at present the accounts are presented for each individual quarter, and (for transactions) as four-quarter moving totals. As mentioned in the introduction to Part V, this approach sacrifices topicality and may hide turning points in the series.

• Volume series, at least for the economic accounts – at present the accounts are published entirely in current price terms, although growth rates for most economic series are usually expressed after adjustment for inflation. (This is not a matter of simply deflating the series using, for example, the harmonised index of consumer prices; rather, appropriate deflators must be applied to each series while preserving the accounting identities, in this case the horizontal balancing.)

• A further breakdown of "other" (non-transactional) changes reconciling the change in outstanding assets and liabilities with cumulative transactions in financial instruments. Only transactions and balance sheet outstandings are available at present, with no breakdown of the residual between reclassifications, valuation adjustments, and what the ESA 95 calls "other volume" changes affecting the stock of assets and liabilities. It seems likely that data on reclassifications will become available, leaving valuation changes and any other non-transactional effects on balance sheets as a residual.

• Further efforts to improve the "fit" of some building blocks with the financial accounts, particularly MFI balance sheet data, the new data sources on insurance corporations and pension funds, and the balance of payments and international investment statistics which are the source for the rest of the world column in the accounts.

- More information on non-financial assets for inclusion in balance sheets.

- A common policy on revisions. As already explained, the institutional sector accounts are an amalgam of national data and euro area building blocks, with different approaches to revisions. Some of the data series are sensitive statistics in their own right. The accounts should reflect the latest version of the source data, yet remain consistent and balanced as required.

IMPLICATIONS OF THE NEW VERSION OF THE EUROPEAN SYSTEM OF ACCOUNTS (ESA 2010)

In addition to better timeliness and the fuller counterparty information, "other" (non-transactional) changes reconciling the change in outstanding assets and liabilities with cumulative transactions will be required in new Guideline ECB/2013/24. The guideline will also reflect the instrument and sub-sectoral detail mentioned in earlier chapters, since the integrated institutional sector accounts bring together a wide range of economic and financial statistics, most affected in some way by nearly all the changes in the new statistical standards discussed in Chapter 20. The main challenge for compilers is to ensure that these are introduced consistently across all areas of statistics and by all Member States, at least in the euro area, in order to preserve the coherence of the accounts. This will require close collaboration between sector accounts compilers in the ECB and in Eurostat, involving expert groups in their own institutions and in NCBs and national statistical institutes charged with implementing the new standards in the primary statistics.

ANNEX: GOVERNMENT FINANCE STATISTICS

The general government sector in the ESA 95 is composed of central government, state government (in countries where it exists), local government and social security funds. As noted in Box 8, the general government sector does not include publicly-owned corporations engaged in producing goods and services for the market. These are classified in one or other of the corporate sectors (S.11 or S.12) depending on their main activity.

ECB need for government finance statistics

Statistics relating to the non-financial and financial transactions of government are a primary responsibility of the European Commission (Eurostat). The ECB is interested in government finance statistics for various reasons. It uses them in monetary policy analysis, as in most Member States government activity is large in relation to the size of the domestic economy and affects economic activity and potentially the general price level. The ECB, like the European Commission, must prepare periodic convergence reports assessing the progress made by non-euro area EU Member States to fulfil the convergence criteria for adopting the euro. Annual data on government deficits and outstanding government debt are therefore important sources of information. The ECB also closely follows developments under the European Union's excessive deficit procedure (EDP) and the Stability and Growth Pact, recently reinforced by legislative acts on

macroeconomic imbalances in the euro area adopted in November 2011, and by the intergovernmental Treaty on Stability, Coordination and Governance (signed by 25 of the then 27 Member States in March 2012), which entered into force on 1 January 2013. Two additional EU regulations (the "two-pack"), aimed at strengthening the existing economic governance framework for euro area countries, entered into force in mid-2013.[6]

Full quarterly data on government non-financial and financial transactions did not become available under EU legislation until 2005. These non-financial and financial accounts of the general government sector in euro area countries are used as a building block in compiling the integrated euro area accounts described at length in the main body of this chapter. For some years the ECB relied on NCBs to forward the annual data submitted for EDP and Stability and Growth Pact purposes. Then in 2005 the ECB issued its first guideline to secure the timely six-monthly submission of annual government statistics by the NCBs, which was replaced by a new one in 2009 (ECB/2009/20). Like all ECB legislation, the guideline imposes obligations on the Eurosystem but does not bind central banks of EU Member States outside the euro area. In practice, however, they also report government statistics to the ECB. (A new Guideline ECB/2013/23, not further discussed in this Annex, was adopted by the Governing Council in July 2013, to be implemented in September 2014.)

As well as using these annual data – submitted each April and October – in preparing the Convergence Report and monitoring Member States' performance in terms of the definitions for deficit and debt used in the EDP and Stability and Growth Pact, the ECB also prepares internal documents, such as the annual public finance report and the autumn fiscal policy note, which contain statistics up to the last full year and fiscal forecasts for the current and next two years. Guideline ECB/2009/20 requests data on government revenue and expenditure, government deficit and debt, the relationship between deficit and debt, and transactions between the EU institutions and general government or other resident sectors of the economy. The guideline also lays down when and how these data should be reported to the ECB. It defines the requested data with reference to the ESA 95 and the EDP. The data also reflect decisions taken by Eurostat on the interpretation of the ESA 95 in specific cases involving the general government sector following consultation with national experts and the ECB. These decisions then determine the treatment of similar cases throughout the European Union. (The main methodological decisions are discussed in Eurostat's manual on government deficit and debt.)

Maastricht deficit and debt and ESA 95 concepts

The surplus/deficit of general government (net lending/net borrowing in the ESA 95 terminology) is equal to total revenue minus total expenditure. For EDP purposes, a slightly different definition of deficit ("Maastricht deficit") is used.

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6 Regulation (EU) No 472/2013 of the European Parliament and of the Council of 21 May 2013 on the strengthening of economic and budgetary surveillance of Member States in the euro area experiencing or threatened with serious difficulties with respect to their financial stability; and Regulation (EU) No 473/2013 (same date) on common provisions for monitoring and assessing draft budgetary plans and ensuring the correction of excessive deficit of the Member States in the euro area.

Settlements under interest rate swaps and forward rate agreements are recorded as property income and affect the government's revenue and expenditure, whereas in the ESA 95 they are treated as settlements of creditor/debtor positions to be recorded in the financial account, like other settlements under financial derivatives contracts. So the EDP surplus/deficit, "deficit" for short, is not necessarily the same as general government net lending/net borrowing in the ESA 95, although the difference is usually small.

There are more substantial differences between general government liabilities in the ESA 95 balance sheet and government debt for EDP purposes ("Maastricht debt"). It should also be remembered that debt here is gross debt: the amount of debt takes no account of the acquisition or disposal of financial assets by general government.

• Maastricht debt comprises general government liabilities only in the form of currency (coins), deposits, debt securities and loans. Any general government liabilities in other forms (the likeliest being other accounts payable, such as trade credit taken, and financial derivatives) are not included in Maastricht debt.

• A second difference between Maastricht debt and debt for ESA 95 purposes arises from valuation. In the ESA 95, general government liabilities are valued at market prices. In the EDP, they are entered at nominal value (considered equivalent to face value), which is the amount that the government is committed to repay at maturity. The difference between market and nominal value can be large for low or zero coupon debt, or for long-term coupon securities issued when interest rates were different. Furthermore, the market price will reflect accrued interest on the instrument, whereas Maastricht debt at nominal (or face) value does not include accrued interest (there is an exception for index-linked bonds).

• There is a difference in the way debt denominated in foreign currency is valued. The ESA 95 requires foreign currency debt to be converted into domestic currency at the spot market exchange rate on the balance sheet date. If the foreign currency liability is covered forward, the current market value of the foreign currency derivatives contract is entered in the balance sheet as a separate asset or liability of general government under financial derivatives. The EDP, by contrast, requires a foreign currency liability which is covered forward to be valued at the rate in the forward contract, not at the current spot market rate. A similar valuation procedure applies in the less likely case that debt denominated in domestic currency is turned into foreign currency debt.

• Maastricht debt is consolidated, meaning that general government debt for EDP purposes excludes all holdings of general government debt by entities in the general government sector.

Deficit-debt adjustment

For various reasons, therefore, the reconciliation between the government deficit/surplus and EDP government debt departs considerably from the reconciliation accounts (the other changes in the volume of assets (and liabilities) account and the revaluation account) in the ESA 95, and outstanding government debt does not necessarily increase in line with the deficit. Guideline ECB/2009/20 requires information to enable a reconciliation between the deficit and debt (called the deficit-debt adjustment) to be carried out. The deficit-debt adjustment is seen as an important quality check: can the difference between the deficit and the change in Maastricht debt be plausibly explained in terms of changes in financial assets, the coverage of Maastricht debt, these various valuation features, and perhaps also differences in the time of recording, mainly between government expenditure or revenue (which should be recorded on a transactions basis) and any related cash flow?

EU institutions' transactions with Member States

Both the ESA 95 and the EDP are concerned with national data relating to the general government sector. The ESA 95 treats transactions between the EU institutions and non-governmental institutional units in the Member States, whether direct or through national governments acting as agents, as transactions between resident sectors and the rest of the world. The EDP data, which focus only on national general government accounts, include the transactions of general government with the EU institutions on its own account, but omit all transactions in which general government acts as an agent for the EU institutions (for example, in distributing payments to farmers under the Common Agricultural Policy). Here the guideline follows the ESA 95 methodology and thus departs in this respect from the EDP. In economic terms, EU budget subsidies (such as the farm subsidies described above) are similar in their impact to subsidies paid by (national) general government. Likewise, in the perception of taxpayers, taxes that are resources of the EU budget are similar to those paid to (national) general government. To better understand the extent of both national and EU government activity in a Member State, Guideline ECB/2009/20 requires information on EU budget transactions. The ECB also uses the data provided to compile euro area and EU aggregates, treating transactions between the EU institutions and resident sectors in Member States as if they were the transactions of an extended general government sector. This is a useful complementary measure of governmental transactions in the euro area or the European Union as a whole.

PART VI

OTHER ISSUES RELATING TO EURO AREA STATISTICS

INTRODUCTION

Part VI covers some issues not discussed in previous chapters, namely effective exchange rates (EERs) and harmonised national competitiveness indicators (Chapter 16), new surveys on enterprises and households and work on residential and commercial property prices (Chapter 17). Three cross-cutting issues, euro area enlargement (Chapter 18), registers and identification standards (Chapter 19) and implementation of the revised European and international statistical standards (Chapter 20) are also covered.

Chapter 16 describes the concept of nominal and real EERs and how practice has kept up with changing trade patterns and composition of the euro area. Chapter 16 also describes how the methodology has been applied to the similar concept of national competitiveness indicators, a matter which has gained some prominence recently. Chapter 17 concerns information relating to businesses and households reported in qualitative surveys. The first of these, sponsored jointly by the ECB and the European Commission, is a survey of financing conditions faced by small and medium-sized enterprises (SMEs) in the European Union (a two-yearly exercise) and in the euro area (a smaller survey conducted every six months). The results of the first wave of the second survey, covering household finance and consumption in the euro area, were published in April 2013. These surveys are examples of "distributional" information – data concerning particular groups within an economic sector – recommended by the 2009 IMF-Financial Stability Board report to the G20 (comprising major economies). Chapter 17 in addition reviews progress in measuring residential and commercial property prices in the euro area, also the subject of recommendations in the G20 report and a matter of close interest to the ECB for some years. The chapter also mentions an issue related to business statistics, namely the comprehensive databases of business accounts maintained by some NCBs and national statistical institutes, and at European level in the form of the BACH-ESD database.[1]

The euro area has grown from 11 countries in 1999 to 17 in 2011. Six countries joined in five successive enlargements. (Latvia will adopt the euro in 2014.) Each enlargement increases aggregate balance sheets of reporting institutions in the euro area and also the total balance sheets of households, non-financial corporations and government in the euro area as recorded in the financial accounts. Financial flows are also affected because those arising from transactions of entities resident

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[1] The database on harmonised company accounts and the European sectoral references database have now been merged.

in the new euro area country are included. Positions and transactions of entities in the existing euro area countries with entities in the new country must be reclassified from "rest of the world" to "euro area". Transactions and positions of entities in the existing euro area with entities in the new country cease to be balance of payments and international investment position items for the euro area, while transactions and positions of entities in the new country with entities outside the euro area must now be recorded in the balance of payments and international investment position of the euro area.

This much is clear for data relating to the euro area following enlargement. The key point however, as explained in Chapter 18, is that enlargement itself is treated as a reclassification. So, for example, adding to euro area M3 the monetary liabilities of monetary financial institutions (MFIs) resident in the country entering the euro area, and also any monetary liabilities of MFIs resident in the existing euro area countries to residents of the new member, does not itself affect the growth rate of euro area M3 across the point of enlargement. Chapter 18 explains how in practice the new country is spliced into growth rates and also how enlargement is treated in data relating to earlier dates and periods. The treatment is not the same in all areas of euro area statistics. Chapter 18 also considers statistical aspects of enlargement from the perspective of the country joining the euro area, where the familiar statistical landscape changes in some important respects.

Chapter 19 concerns the difficult practical task of identifying financial institutions (and in particular affiliations between them) and correctly classifying financial instruments, often novel and complex in structure, and their attributes. From the start of monetary union the ECB has maintained lists of reporting institutions (MFIs from the start, investment funds and financial vehicle corporations, FVCs, more recently) and of financial instruments eligible as collateral in the Eurosystem's monetary policy operations. The ECB's Centralised Securities Database (CSDB) (see Chapter 6) contains a vast amount of information on financial instruments but does not so far include financial derivatives. The ECB has also, in its legal instruments and various handbooks and other publications, provided guidance on the residence and sectoral classification of counterparties and the statistical classification of financial instruments. But the lists of institutions do not identify ownership links and affiliations, which may not involve cross-shareholdings. These links are central to some areas of statistics, notably foreign direct investment (FDI) in the financial account of the balance of payments and the international investment position. Work to identify them has been galvanised by the financial crisis and the new emphasis on risk mapping and "interconnectedness" especially among financial institutions. Accordingly the ECB has enhanced its Register of Institutions and Affiliates Database (RIAD), adding information about ownership links and affiliations between financial institutions. (The previous title was the Register of Institutions and Assets Database, the "assets" referring to financial instruments eligible for use in Eurosystem market operations and now transferred to a different database.) This work is complementary to the EuroGroups Register being developed by Eurostat, covering multinational corporations in Europe and connections between them.

A lack of standardised information on financial instruments is apparent, not least to those managing the CSDB. Standardised information is not just a matter of statistical convenience but is also valuable to financial regulators and supervisors and to market participants themselves, and would contribute to the efficient functioning of markets. Chapter 19 describes work progressing at international level to attach unique identifiers to legal entities and financial instruments, so that they can be unambiguously identified.

Broader statistical aspects of globalisation, i.e. the intensified interaction between national economies, often through the activities of multinational enterprises, are the subject of a book entitled "The Impact of Globalization on National Accounts", published in January 2012 by the United Nations Economic Commission for Europe. Box 10 in Chapter 19 describes some relevant statistical consequences of globalisation discussed in that publication. Chapter 20 considers the substantial implications for ECB/ESCB statistics of the revised European and international statistical standards, planned to be implemented in 2014. Part of this work involves developing, along with Eurostat and international organisations, data structure definitions to enable data conforming to the SNA 2008/ESA 2010 and the new related standards to be most conveniently exchanged and accessed using the SDMX-ML format. Early in the period covered by this book the ECB helped to promote the current message format known as SDMX (Statistical Data and Metadata eXchange)-EDI (GESMES/TS) for data exchanges within the ESCB and with Eurostat and international organisations. (GESMES/TS stands for GEneric Statistical MESsage for Time Series.)

16 NOMINAL AND REAL EFFECTIVE EXCHANGE RATES

16.1 EFFECTIVE EXCHANGE RATES OF THE EURO

The nominal EER is a summary measure of the external value of a currency against the currencies of the most important trading partners. The real EER – obtained by deflating the nominal rate with appropriate price or cost indices – is the most commonly used indicator of international price and cost competitiveness.

In 1999 the ECB began to compile two sets of EER indicators for the euro[1] on the basis of a narrow and a broad group of trading partners. The narrow group of 13 countries covered 62% of total euro area manufacturing trade in 1995-97: exchange rate data for them were available daily and a range of timely and reliable price and cost indices were available monthly or quarterly. The extended group of 39 trading partners included in addition the then accession countries (those which subsequently joined in the European Union in 2004 and 2007) and emerging market economies in Asia, Latin America, eastern Europe and elsewhere. The countries in this broad group possessed one or more of three features: a share in total euro area manufacturing trade exceeding 1%, the status of EU accession country, and significant trade links with individual euro area countries, even if their share in overall euro area manufacturing trade was very small. Availability of timely and reliable monthly consumer price data also influenced the choice of which countries to include.

The weights required for setting up the nominal and real EERs of the euro were initially computed on the basis of manufacturing trade flows (a three-year average over the period from 1995 to 1997) as defined in Sections 5 to 8 of the Standard International Trade Classification (SITC 5-8).[2] Manufacturing trade was considered to constitute the most appropriate trade basis for the Eurosystem's set of EERs, given the large share of manufactured goods in total euro area trade and its apparent responsiveness to changes in competitiveness. Although it would, in principle, have been desirable to include trade in services, data on transactions in services and their prices were (and still are) not sufficiently comparable.

The Eurosystem's nominal EERs are constructed by applying overall manufacturing trade weights to the bilateral exchange rates of the euro against the currencies of the trading partners. The overall weights incorporate information on both exports and imports, excluding trade within the euro area. The import

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1 Data were calculated for earlier years for a proxy euro based on the behaviour of the national currency exchange rates and prices/costs of the 11 countries which adopted the euro in 1999.

2 For a more detailed account of the weighting scheme employed, see Buldorini, L., Makrydakis, S. and Thimann, C., "The effective exchange rates of the euro", *Occasional Paper Series*, No 2, ECB, February 2002. A comprehensive update was published in 2012, see Schmitz, M., De Clercq, M., Fidora, M., Lauro, B. and Pinheiro, C., "Revisiting the effective exchange rates of the euro", *Occasional Paper Series*, No 134, ECB, June 2012.

weights are the simple shares of each partner country in total euro area imports from the partner countries. Exports are double weighted. This does not mean that they are given twice the weight they would otherwise have, but rather that they are subject to a second round of weighting to reflect how competitive with the euro area the relevant country is in its home market and in third markets. Thus the weights take account of the competition faced by euro area exporters in foreign markets from both domestic producers and exporters from third countries. The double weighting of exports requires a measure of the domestic supply of manufactured goods in each export market and a geographical breakdown of its imports. The need for such information means that the weights are necessarily somewhat out of date. Trading partners which are important global suppliers of manufactured goods and compete strongly with euro area exporters in third markets consequently tend to have larger overall trade weights than their shares in total euro area manufacturing trade would imply. The effect is to double the share of China in the current weights, and the relative importance of the United States, Japan and some other rapidly industrialising economies is also increased by this adjustment. All indices are computed as a geometric weighted average of the bilateral exchange rates of the euro against the currencies of the trading partners.

The weighting system is fixed in the sense that the same set of weights is applied throughout the period until the next revision. The weights are currently revised about every three years in order to accommodate shifts in international trade flows.

In the case of the narrow group of partner countries, the competitive position of the euro area was initially measured in terms of three price or cost series, namely consumer prices, producer (or wholesale) prices and unit labour costs in manufacturing. The GDP deflator and unit labour costs for the whole economy were added later. For the broad group, only consumer prices continue to be used, owing to a lack of timely and comparable data on other measures of prices and costs. Price developments against the two groups are summarised by applying the overall trade weights to the relevant price indices of the trading partners.

The weights were recalculated in September 2004, based (revised) on trade in 1999-2001. This does not mean that earlier data were recalculated using the new weights; rather the new indicators were linked to the results based on earlier weights. The list of trading partners was extended to the new EU Member States and accession countries not already included (Latvia, Lithuania, Malta and Bulgaria). The broad group then consisted of 42 trading partners. In addition to this and the narrow group of 12 trading partners a new group of trading partners was created to take account of the 2004 enlargement and the increasing involvement of China in world trade, comprising the narrow group, the ten new EU Member States and China, i.e. 23 countries in all. The EER-42 group of partner countries covered around 90% of euro area external trade in manufacturing goods, and the EER-23 and EER-12 groups covered about 75% and 60% respectively. As before, real EER indices were derived by adjusting the nominal indices for relative price and cost developments between the euro area and its trading partners. For the EER-12 and EER-23 groups, real EER

indices used consumer prices, producer or wholesale prices, unit labour costs in manufacturing, GDP deflators and unit labour costs in the total economy. For the euro area and European partner countries, the cost and price measures were (and continue to be) based on harmonised concepts. For the EER-42, the consumer price index (the EU harmonised index of consumer prices when available) remained the only price index, owing to a lack of timely and comparable data on other price and cost measures for some of the countries included in the group. The EER-23 index became the standard reference series in ECB publications.

The composition of the groups of trading partners was modified again when Slovenia adopted the euro in 2007 and Bulgaria and Romania joined the European Union. At the same time the broadest group of trading partners was extended to include three more non-EU countries. Thus Slovenia was no more in the EER-23 group comprising EU Member States outside the euro area and other major trading partners, but Bulgaria and Romania were added. The EER-42 group lost Slovenia but gained Chile, Iceland and Venezuela.

None of these changes had much effect on the weights. The coverage of the (now) EER-24 (compared with that of the former EER-23 group) rose from 75% to 77% of euro area external trade in manufacturing goods. The coverage of the EER-44 increased to 93% as against 90% for the former EER-42. The United States and the United Kingdom continued to rank as the main trading partners of the euro area, followed by Japan and China. For the EER-44, the consumer price index remained the only deflator in the absence of timely and comparable data on other price and cost measures for some countries.

The weights were revised again at the beginning of 2010, this time reflecting trade values (still manufactured goods only) in 2004-06. Cyprus, Malta and Slovakia, having adopted the euro in 2008-09, were no longer in the intermediate and broad groups.

Changes in the composition of euro area trade meant that, compared with the weights used for constructing the index up to 1997, the 2004-06 weights of the United Kingdom and Japan had decreased; the weight of the United States had also decreased, except in the narrowest group of partner countries; and China had emerged as the third largest trading partner of the euro area, after the United States and the United Kingdom. A further revision in early 2012, based on trade flows in 2007-09, broadly confirmed these trends (Estonia joined the euro area in 2011). China now has the largest weight, partly owing to allowance for the third-market effect. Another feature of the latest revision is the continuing growth in the importance of the new EU Member States (2004 and 2007 joiners) that remain outside the euro area. The weights of the United States, the United Kingdom and Japan continue to decline.

The nominal EER indicators are available daily for the EER-12, EER-21 and (from 2013) EER-40,[3] and constitute a summary measure of short-term foreign

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3 With the accession of Croatia in July 2013, an EER-21 is available. A further change will reflect Latvia's adoption of the euro in 2014.

exchange market developments. Other indicators (including the nominal and consumer price-based measures for the current EER-40) are available monthly, except the real EER indices based on the two measures of unit labour costs and on the GDP deflator, which are available only quarterly.

16.2 HARMONISED NATIONAL COMPETITIVENESS INDICATORS

Related to EERs are national competitiveness indicators for individual countries in the euro area, introduced in early 2007. Clearly a country in the euro area does not have its own currency and set of bilateral exchange rates. But euro area countries all have their own patterns of trade, which may cause them to be affected to varying degrees by changes in bilateral exchange rates of the euro. For example, Ireland is more affected by a change in the value of sterling against the euro than Finland. Moreover, although they share the common currency, Portugal is more affected by a rise in costs or prices in Spain, than, for example, Slovenia would be.

The euro area nominal and real EERs discussed above summarise changes in the values of other currencies against the euro, weighted according to the pattern of the external trade of the euro area as a whole. Real EERs also reflect changes in prices and costs in the euro area as a whole in relation to prices and costs in other countries, weighted together in the same way. The national competitiveness indicator for country A in the euro area reflects changes in the value of other currencies against the euro and changes in A's prices or costs against those elsewhere. However the weights reflect the pattern of trade in manufactured goods of country A, including trade with other euro area countries, together with price or cost developments in other euro area partner countries. In other respects the same methodology is used to calculate national competitiveness indicators as for real EERs for the euro area as a whole. Thus the weights are based on bilateral trade (exports and imports) in manufactured goods, i.e. excluding agricultural and energy goods and raw materials. Exports are double weighted to capture the competition faced in foreign markets (including in other euro area countries) from local producers and from exporters from third countries (including exporters in other euro area countries). The group of trading partners for each euro area country comprises the other euro area countries and the same trading partners outside the euro area as in the euro EER. The quarterly harmonised national competitiveness indicators based on GDP deflators and on unit labour costs are compiled vis-à-vis the other 16 euro area countries and 20 other trading partners (the ten EU Member States outside the euro area, and ten other countries) currently forming the intermediate group for nominal and real EERs for the euro. (These groups will be affected by the accession of Croatia to the European Union and to Latvia's adoption of the euro.) As in the case of the broad EER measure, monthly harmonised national competitiveness indicators based on consumer prices reflect price developments in the largest group of trading partners.

17 STATISTICS RELATING TO HOUSEHOLDS AND ENTERPRISES

17.1 ENTERPRISE SURVEYS

Small and medium-sized enterprises (SMEs), defined as enterprises with fewer than 250 employees, are important in the euro area. They account for 99.8% of the number of firms, 60% of turnover and 70% of employment. 92% of firms in the euro area are micro firms (with one to nine employees, but employing 31% of people), 7% are small firms (ten to 49, with a 22% share), 1% are medium-sized firms (50 to 249, with 16%) and 0.2% are large firms with the remaining 30% of employees. SMEs are not just scaled-down versions of large businesses. SMEs are of particular relevance for monetary policy as they are much more dependent on bank finance than large firms.[1]

A joint investigation by the ECB and the European Commission revealed a lack of comparable, timely, and frequent data on these enterprises. They accordingly decided in 2008 to collaborate on a survey on the access to finance of SMEs in the European Union. The conduct of the survey is outsourced to a specialist firm.

The survey covers micro-, small, and medium-sized firms, as well as a selection of large firms for comparison. The inclusion of some large corporations in the sample as a kind of control group enables the financing conditions faced by SMEs to be compared with those faced by large firms during the previous six months. In addition to a breakdown by size of firm, the survey provides information on SMEs across branches of economic activity and across euro area countries, with information on how long firms have been in business, the degree of financial autonomy which they enjoy, and their ownership structure. The first survey was conducted in June and July 2009. Part of the survey is run by the ECB every six months to assess latest developments in the financing conditions of firms in euro area countries. The more comprehensive survey is run every two years in cooperation with the European Commission and covers the whole of the European Union plus a few neighbouring countries.

What follows describes the August-October 2011 comprehensive survey covering SMEs' experience in the preceding six months, i.e. from April to September 2011 (later surveys will have been available). The survey covered a sample of over 8,300 firms in the euro area (13,860 in the European Union), of which 7,690 (12,680) had fewer than 250 employees and so met the definition of SME. The others were large firms sampled for comparison. Besides being representative at euro area level, the sample was representative for the four largest euro area countries, Germany, France, Italy and Spain, in each of which 1,000 firms were interviewed. The sample size in the other countries had been increased in 2010 to yield a representative sample there too. The six smallest countries in the euro

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1   For more information on business registers, see Chapter 19.2, and on credit registers, Chapters 1 and 25.

area (Estonia, Cyprus, Luxembourg, Malta, Slovenia and Slovakia) are included in the comprehensive two-yearly surveys, although they are omitted from the more limited six-monthly surveys given that they represent less than 3% of the total number of employees in the euro area. The sample sizes for each economic activity were selected to ensure sufficient representativeness across the four major activities, namely industry, construction, trade, and services, based on the European NACE standard classification for economic activities. The survey excludes firms engaged in agriculture, hunting and forestry, fishing, financial intermediation, public administration, and household activities.

17.2 CENTRAL BALANCE SHEET OFFICE DATA

Several NCBs in the euro area collect balance sheet and profit and loss information from a large number of resident non-financial corporations. They use the results to monitor business developments, to compile the non-financial corporations column in their national institutional sector accounts, and – in Belgium – for compiling the national accounts. Often the non-financial corporations sector is comprehensively, or at least very widely, covered in the annual data, with a more limited quarterly sample. (Thus the Banco de Portugal receives information on some 1,600 data items from 350,000 companies annually and on 80 items from 4,000 companies quarterly.) The European Committee of Central Balance-Sheet Data Offices (ECCBSO) has developed two databases now merged, containing information on company accounts and other economic indicators. More specifically, the BACH database set up in the 1980s provides data on the annual accounts of non-financial companies in several European countries, broken down by main activity and by size. Though not fully harmonised, partly because of different national accounting practices, BACH provides broadly comparable data. The more recent European Sectoral References Database (ESD) contains financial ratios of non-financial corporations to provide sectoral benchmarks for comparing the performance of European companies. The ECB supports this work and is a member of the ECCBSO.

17.3 HOUSEHOLD SURVEYS

One of the needs expressed in the IMF-Financial Stability Board report to the G20 on statistical gaps revealed by the financial crisis was for "distributional" data, meaning data relating to groups within a broad economic sector or other category. The survey of SMEs discussed above meets such a need. A similar point applies also to households. While much is known about the household sector generally from national accounts and the institutional sector accounts in particular (Chapters 14-15), there may be considerable differences within the sector across age and income groups, and depending on family circumstances. Knowledge of these differences helps policy analysis. It is also clear that the large surplus of financial assets over liabilities in the sector as a whole conceals the existence of many heavily indebted households, whose position may even in some circumstances pose a threat to financial stability. For many households, the bulk of assets consist of residential property, and mortgages constitute their largest liability. Consequently, they can be much affected by fluctuations in

house prices or interest rates. Household-level data are essential for investigating how specific groups in the population react to such shocks.

Until recently most euro area countries did not conduct household wealth surveys. Even where surveys were carried out, they did not provide all the necessary information on household assets and liabilities and were not harmonised. In any event, given the cross-country diversity within the euro area in, for example, the importance of housing wealth and mortgage debt in household balance sheets, it was difficult to generalise for the area as a whole from the survey results in a few countries. For these reasons the Eurosystem set up a Household Finance and Consumption Network (HFCN) in 2006. The HFCN is a network of survey experts, statisticians and economists at the ECB, NCBs and some national statistical institutes and research institutes. In 2008 the network received a mandate from the ECB's Governing Council to implement a Eurosystem Household Finance and Consumption Survey (HFCS) to provide micro level information on households' financial decisions, their attitudes to risk, and their situation regarding employment, income, pensions or pension prospects and the like. The survey provides detailed and accurate information on household assets and liabilities with a view to revealing more about wealth effects on consumption, and about housing prices and household indebtedness, retirement income, consumption and the impact of pension reforms, access to credit and credit constraints, household portfolio selection and wealth inequality.

The HFCS is conducted at national level every three years (with the exception of the Italian survey, which is conducted every two years). The total euro area sample size comprises around 62,000 households; country sample sizes vary, not necessarily in proportion to the country size. Although countries need not use identical questionnaires, a common template serves as a benchmark and defines the required output which is designed to be fully comparable. The HFCS questionnaire consists of two main parts:

• questions relating to the household as a whole, including questions on real assets and their financing, other liabilities/credit constraints, private businesses run by households, financial assets, intergenerational transfers and gifts, and consumption and saving;

• questions relating to individual household members, covering demographics, employment, future pension entitlements and income.

Data collection started in 2009. The results of the first wave for the euro area were released in April 2013.

17.4 RESIDENTIAL PROPERTY PRICES AND HOUSEHOLD SECTOR WEALTH IN THE FORM OF RESIDENTIAL PROPERTY

Three separate but related questions are considered here:

• the treatment of property prices in the harmonised index of consumer prices;

- residential property prices as a source of information on possible bubbles in asset prices;

- residential property prices as a factor in estimating the value of the stock of houses owned by the household sector, which represents most of the value of households' non-financial assets.

The first is an important matter in which the ECB takes a keen interest in view of its mandate to maintain price stability. However, it falls under Eurostat's responsibility and is not further discussed here.

The ECB, like other international organisations, has been interested in residential property prices for some years.[2] These data are available for most euro area countries. The ECB started collecting existing data in 2000, covering at least ten years of data. The series are quarterly. The data are not fully comparable in various respects and so the index can only provide an approximate indication of house price developments in the euro area. Differences relate to geographical coverage (in some countries data refer only to property transactions in large cities or selected regions); type of property; and type of price observation collected (e.g. transaction prices obtained from land registries/notaries, agreed prices quoted in mortgage loan applications, prices advertised by real estate agents, or values as assessed by professional property valuers). In the absence of information on relevant transaction values, the euro area aggregates are compiled using GDP weights. Other differences relate to the time at which a price observation enters the index; quality adjustment (methods used to adjust for differences in the characteristics of the properties); other relevant data sources; and index construction and weighting. The ECB therefore publishes the data with a cautionary warning that they should be interpreted with care. That said, the data nevertheless provide useful information, in particular in terms of longer-term trends in house price developments.

Several years ago Eurostat and national statistical institutes launched an initiative to develop and compile house price indices. The experimental results were published in 2010 and EU legislation has now been adopted. Given the length of the time series and other considerations, the ECB continues to collect and compile data on residential property prices, but is in the process of converging to the data developed by the European Statistical System (see further on the ESS in Chapter 22).

Households' housing wealth is defined as the value at current market prices of all residential dwellings owned by households, including the value of the land on which the properties are built. ECB estimates of euro area households' housing wealth were first published in late 2006, with data back to 1980. Annual data on households' housing wealth are currently available for around 72% of the euro area in terms of GDP. Data for the missing countries must be estimated. Households' housing wealth is of course part of housing wealth in the whole

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2   For example, the BIS and the IMF organised a joint conference on real estate indicators and financial stability, in which the ECB participated, in autumn 2003.

economy. Missing country data on total economy housing stock are estimated using the perpetual inventory method using retirement and depreciation rates of reporting Member States with similar investment structures, with an estimate for the household sector share.

Since 2010 quarterly estimates of the value of residential property owned by households have been included in the household balance sheet in the institutional sector accounts.

17.5 COMMERCIAL PROPERTY PRICES

Estimates of commercial property prices should also be viewed with caution because there are similar issues relating to the coverage, quality and representativeness of the data. There are also important differences between commercial and residential property price indicators. While estimates of residential property prices are usually based on actual transactions, those for commercial property are often based on valuations which may be subjective and may vary according to the source. These differences may also be due to the greater variety of properties covered in the commercial data sources used by the ECB. Thus the data indicate that swings in commercial property prices are wider than in residential property and that commercial property prices are more cyclical. Like residential property statistics, international organisations have developed a keen interest in data on commercial property, and the G20 report "The Financial Crisis and Information Gaps" discussed elsewhere mentions commercial property prices. Eurostat has begun a process aimed at preparing a handbook for compilers of commercial property price indices. and the ECB is working on a hybrid index of commercial property prices based on valuations and transaction prices.

18 ENLARGEMENTS OF THE EURO AREA

The euro area has undergone five enlargements involving six Member States: Greece in 2001, Slovenia in 2007, Cyprus and Malta in 2008, Slovakia in 2009, and Estonia in 2011. (A further enlargement will occur when Latvia adopts the euro in 2014.) The adoption of the euro by a Member State has an impact on statistics compilation. Thus the aggregated and consolidated balance sheets of MFIs and other financial intermediaries resident in the new euro area Member State are added to the euro area totals, along with its residents' claims on and liabilities to entities outside the euro area and their transactions of all kinds with them. The country's change in status affects the classification of all positions and transactions of other euro area countries with its residents. All entities in the new euro area member join one or other of the economic sectors in the euro area. All positions denominated in the national currency become positions in euro, converted at the agreed conversion rate. In short, each enlargement of the euro area is accompanied by a major statistical overhaul which must be carefully planned and executed.

This chapter looks at euro area enlargements from the perspective of the euro area and also from that of the new member. Accessions to the European Union do not directly affect the compilation of statistics for the euro area and are not discussed further in this chapter. However, the ECB takes a close interest in EU enlargements, most recently, for example, when ten countries joined in 2004 and a further two in 2007, carrying out detailed studies of key areas of statistics in the new Member States (the ECB has been carrying out similar studies with respect to the accession of Croatia in mid-2013). There are various reasons for the ECB's interest in EU enlargements. The euro area's economic and financial links with the new Member State are likely to become closer and, as noted elsewhere, some of the ECB's functions relate to the European Union as a whole, for which purposes comparable statistics will be needed. The new Member State will in time join the euro area once it fulfils the convergence criteria, and it is important that their national statistics are ready for inclusion in euro area aggregates.

18.1 STATISTICAL ASPECTS OF ENLARGEMENT FROM THE PERSPECTIVE OF THE EURO AREA

Provided national statistics were sufficiently harmonised, enlargements would be easy to manage from a statistical perspective if euro area statistics were a simple sum of national data. This is not however the case for monetary statistics and counterparts, and balance of payments and international investment position statistics, and consequently for the financial accounts and balance sheets to which they contribute. On the contrary, euro area monetary aggregates exceed the sum of national monetary aggregates as conventionally defined because they include cross-border holdings of monetary instruments within the euro area. A further complication is that credit institutions resident in the new euro area Member State(s) must place minimum reserves with their NCB under the Eurosystem's minimum reserves arrangement. Furthermore, credit institutions in the existing euro area countries may, on enlargement, deduct qualifying

claims on credit institutions in the new country(ies) from their own obligation to hold minimum reserves. Balance of payments transactions and international investment positions for the euro area, on the other hand, are (much) less than the sum of gross transactions and positions in national data because cross-border transactions and positions within the area are excluded from the euro area aggregates. An enlargement of the euro area therefore requires a reclassification of transactions and positions in both the new euro area Member State and in all existing members of the monetary union. Member States are to a large extent prepared for this because much of the reporting system requires sufficient country breakdowns of transactions and positions to permit a good approximation to full incorporation of the new euro area member. EU Member States outside the euro area, although not bound by ECB legislation, must prepare statistically for entry under Article 4 of the EU framework regulation concerning ECB statistics (Council Regulation (EC) No 2533/98; the point is specifically mentioned, for example, by a recital in Regulation ECB/2008/32 on MFI balance sheet statistics, and similarly elsewhere).

Data on other (non-monetary) financial intermediaries do not present these problems. Their business must be correctly classified between euro area and rest of the world counterparties, which requires reclassifications at the time of enlargement and provision of consistent backdata, but the statistics relating to them are aggregated, not consolidated.

It is necessary to incorporate the new euro area country in euro area data in a coherent way from the date of the enlargement. Questions arise concerning backdata for the euro area in its new composition and how to calculate flows (transactions and growth rates) across the point of enlargement.

The ECB always compiles backdata for the euro area in its new composition for purposes of monetary analysis and forecasting. Econometric models need several years of consistent data. Those compiling and using them understand that the data can only be a proxy for the way the variables would have developed if the euro area had actually been larger at the time to which the data relate. The Member States joining the euro area after 1999 have all been countries with relatively small economies, so there was no need for extensive changes to earlier data following their inclusion. As far as publication of data in the new composition for earlier (i.e. pre-enlargement) dates and periods are concerned, the ECB follows two practices, as explained in the Monthly Bulletin and emphasised when enlargements occur. For most statistical series, the ECB revises earlier data to include the new member, as if it had been in the euro area at the time to which the data relate. Thus (for example) securities issues, redemptions and outstandings (where euro area aggregates are a simple sum of national data), the euro area balance of payments and international investment position, and the euro area integrated economic and financial accounts by institutional sector, all represent the euro area in its present (enlarged) composition. The MFI balance sheet and monetary statistics, on the other hand, and the harmonised consumer price statistics compiled by Eurostat, because of the special policy significance of these series, represent the outcome in the euro area in its composition at the

time to which the data relate. Interest rate statistics are also confined to the euro area in its composition at the time to which the data relate.

In this second case, the question arises as to how to calculate transaction flows and growth rates across the point of enlargement. It may be useful to start by considering how enlargement affects monetary data. Euro area monetary aggregates increase by the amount of:

• holdings of monetary instruments by residents of the new euro area Member State, in the form of claims on domestic MFIs (and in some cases central government agencies and post office giro institutions) and on MFIs resident in other euro area Member States;

• holdings of monetary instruments by residents of other euro area Member States which represent claims on MFIs resident in the new euro area Member State.

The whole of the currency circulation of the new member should be included, even if some of it is held outside the euro area.[1] Among the counterparts of M3 (see Box 2 in Chapter 1), outstanding credit to euro area residents increases in a similar way, and the external counterpart (net external assets) in both the new and existing Member States' data is affected by the change in status of the Member State adopting the euro.

Enlargement is treated statistically as a reclassification. Thus (for example) MFI balance sheets and the monetary aggregates increase following incorporation of the new member's balance sheets and re-evaluation of positions vis-à-vis all entities resident there, but these increases do not represent transactions and are not reflected in growth rates. This is the first, critical, point, as explained further in the box below. The second point concerns the calculation of transaction flows and growth rates. Suppose enlargement occurs on 1 January. All MFI balance sheets and the monetary statistics based on them reflect the previous composition up to 31 December. All flows and growth rates derived from them for periods to 31 December reflect the old composition. All data for January onwards represent the enlarged composition. The one-month growth rate of (for example) M3 in January is the "transactions" increase in euro area M3 in January, including that in the new euro area member, and including also the contribution of MFIs in the "old" euro area through their transactions in January with residents of the new member, divided by the stock figure for end-December adjusted to include the new member in the December base. The 12-month increase in M3 in January is, in effect, the "transactions" increase in euro area M3 in the pre-enlargement euro area in February to December, plus the "transactions" increase in the enlarged euro area in January, divided by the pre-enlargement stock figure for the previous

1   This is because the euro area monetary aggregates include holdings of euro banknotes and coins by non-residents of the euro area. The outstanding currency in circulation of the new member at the time of enlargement will be denominated in the former national (legacy) currency. By convention, remaining amounts of legacy currencies are included in euro area monetary aggregates for 12 months following enlargement.

end-January to which one-twelfth of the stock of M3 in the new member of the euro area has been added. The growth rate in the 12 months to end-February includes two months of growth in the new euro area member, with a further adjustment to the initial stock, and so on. In effect, the growth in M3 contributed by MFIs in the new member, and by MFIs in the existing euro area Member States through their transactions with residents in the new member, is spliced in over the first year of enlargement, with a weight reflecting the number of months since the enlargement. Therefore the euro area growth rates after enlargement display the property that the growth rate in the new member contributes to euro area growth in a gradual way. Put another way, the euro area annual growth rate in the first month after enlargement gives an approximate weight of one-twelfth to the new member's contribution; the same growth rate in the second month post-enlargement results in a weight of two-twelfths, and so on.[2]

Enlargement of the euro area treated as a reclassification adjustment – the case of MFI balance sheet data

Data required from the Member State joining the euro area

As from the reference month in which the enlargement takes place, MFIs in the new euro area Member State are required to report according to the template for euro area Member States under (currently) Regulation ECB/2008/32. The NCB then compiles the national aggregated MFI balance sheet and transmits it to the ECB. In addition, the NCB is required to report to the ECB at least three years' worth of backdata according to the euro area reporting scheme, i.e. monthly and quarterly MFI aggregated balance sheet statistics as if the Member State were already part of the euro area.[1] These historical data, together with data provided by the countries already in the euro area – see below – are collected to provide euro area aggregates reflecting the new composition for some years before the enlargement. They are needed for policy analysis and forecasting, and for use alongside other statistics representing the euro area in its latest composition.

Data required from the Member States already in the euro area

In the month (or quarter) in which the enlargement takes place, MFIs in the existing euro area Member States are required to reclassify positions vis-à-vis

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1   No input is generally required from individual MFIs to perform this exercise, as the underlying raw data will probably already be reported under the template for EU Member States not participating in monetary union in MFI balance sheet Regulation ECB/2008/32 (although regulations and guidelines are not legally binding outside the euro area, as noted earlier). For three to six months before the enlargement, the ECB may, for testing and data validation reasons, require reporting both as a euro area Member State and as an EU Member State outside the euro area.

2   This description is an approximation in that the implicit weights may not be exactly one-twelfth, two-twelfths, and so on because of non-linearities implied by the chain index multiplicative form.

the new member as well as positions denominated in its national currency. Thus:

- all positions vis-à-vis the new euro area Member State are reclassified from "rest of the world" to "other euro area residents";

- all positions denominated in the new member's national currency are reclassified from "all other currencies combined" to "euro".

Each NCB then compiles the national aggregated MFI balance sheet for the enlarged euro area and transmits it to the ECB. NCBs may also be required to report at least three years' worth of backdata showing, for each series, the positions vis-à-vis the new euro area Member State and in its national currency, so that time series can be compiled as if the new member had already been part of the euro area. Whether the ECB requires these positions may depend on their significance for the euro area aggregates.

Essentially similar procedures apply where two (or more) Member States adopt the euro simultaneously.

The ECB's "Manual on MFI balance sheet statistics" (April 2012) contains more details on enlargement.

Other statistical series are not discussed here. It is evident, however, that series in (for example) balance of payments statistics such as direct and portfolio investment may present different challenges at the time of enlargement.

18.2 STATISTICAL ASPECTS OF ENLARGEMENT FROM THE PERSPECTIVE OF THE MEMBER STATE JOINING THE EURO AREA

Adoption of the euro has consequences for the presentation of certain familiar statistics relating to the new member. Most obviously, after a short transition, the national currency ceases to exist (legacy currency), and all monetary amounts are expressed in euro. Once the euro becomes the official currency, and euro banknotes and coins may freely enter and leave the country, the issue of currency by the NCB may no longer bear much relation to currency in the hands of residents. Moreover, as a consequence of the way euro area money stock is defined, it is not possible to calculate how much of euro area M1, M2 and M3 is held by residents of any individual Member State. At the time of enlargement, NCB holdings of official reserves in the form of claims in euro, or of claims on entities in the euro area in any currency, cease to be reserve assets. These points are elaborated below.

ASSETS AND LIABILITIES OF THE NATIONAL CENTRAL BANK

The main changes here concern currency issued and external reserves.

Before joining the euro area, the amount of currency issued by the NCB, minus amounts held by resident MFIs, will have been a good measure of currency circulating in the country. In the euro area, however, the share of each central bank in the Eurosystem in the total issue of banknotes in the area is deemed to be that central bank's share in the capital of the ECB, adjusted for a notional 8% of the total issue which is attributed to the ECB itself. This is called the banknote allocation key. In the euro area, an NCB may issue more than this, or less, in response to demand; the excess or shortfall will appear elsewhere in the central bank balance sheet as an intra-Eurosystem liability or asset. The main point is that the entry in the cell "currency issued" is a notional amount conforming to the banknote allocation key. The amount of euro currency in the hands of residents of the new euro area Member State may be different again, since large amounts may be brought in and taken out by tourists and other visitors as "hand carry", and there is no way of measuring it except, possibly, by use of sampling. As will be further explained below, this is one reason why it is impossible to measure residents' holdings of money after their Member State joins the euro area.

Prior to enlargement, the IMF's definition of reserve assets (in terms of liquidity, ready availability for use, and credit standing of the debtor) will have constituted the external reserves of the country joining the euro area. These external claims will probably have included many assets denominated in euro, and some assets denominated in other currencies which are claims on entities (usually banks or governments) in the euro area. For the euro area, however, cross-border claims within the area irrespective of the currency in which they are denominated, and claims denominated in euro, are not reserve assets; and individual Member States count as reserve assets only those assets of their central bank which contribute to Eurosystem reserves. Moreover, the new member will, as other euro area Member States have done, transfer a fraction of its external reserves to the ECB in exchange for a claim on the ECB, which is an intra-Eurosystem asset, not part of external reserves. The outcome overall is likely to be a substantial reduction in the new member's external reserves. This is a reclassification of certain external assets which in the new circumstances of monetary union no longer meet the definition of reserve assets. In the NCB's balance sheet, these reclassified assets will appear as "external assets/other external claims on other euro area residents" or, for euro-denominated claims outside the euro area, "on non-residents of the euro area". In the national balance of payments and international investment position statistics, they will be recorded depending on the nature of the instrument as portfolio investment or "other investment" rather than as reserve assets (see further below).[3] Any external assets held by central government form part of "other investment". They are not part of external reserves as one of the basic tasks of the ESCB – in practice, the Eurosystem – is to hold and manage the

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3   Thus, for example, any holdings of euro-denominated paper issued by the governments of countries outside the euro area, and dollar-denominated deposits placed with MFIs resident in the euro area, cease to be reserve assets. The first are reclassified in the country's international investment position as portfolio investment assets and the second as "other investment" assets.

official foreign reserves of the Member States (or rather, those in the euro area) (Article 127 of the Treaty).

MONETARY AGGREGATES AND COUNTERPARTS TO BROAD MONEY

Prior to adopting the euro, the money stock in the country joining the euro area will probably have comprised national currency in circulation (excluding holdings by resident MFIs), holdings by residents of certain types of deposit with resident MFIs and perhaps of certain liquid marketable claims on resident MFIs. Counterparts to broad money (M3) are, in effect, other items in MFI balance sheets rearranged such as to "explain" (in the statistical sense) changes in broad money in an analytically useful way (see Box 2 in Chapter 1). It will have been possible to measure national money holdings and counterparts quite accurately from balance sheet data supplied by the NCB and other resident MFIs.

For the euro area as a whole, monetary aggregates and counterparts are conceptually the same. Money consists of euro banknotes and coins in circulation outside the MFI sector,[4] deposits held by euro area residents with MFIs anywhere in the euro area, and holdings by euro area residents of certain liquid marketable securities issued by MFIs anywhere in the euro area, notably shares/units issued by money market funds (MMFs) and certificates of deposit and short-dated bonds issued by other MFIs.[5] Monetary aggregates and counterparts for the euro area as a whole are compiled by the ECB mainly from MFI balance sheet data contributed by NCBs, but – because of the inclusion of cross-border business and the absence of firm information on holdings of banknotes and coins and on certain marketable instruments where the issuer cannot identify the holder – it is not possible for an NCB (or indeed for the ECB) to calculate how much of the various measures of money is held by residents of an individual Member State.

Instead of showing (for example) M3 in the hands of residents, therefore, the NCB will show the contribution of resident MFIs (including the NCB itself) to the euro area aggregates. This comprises:

- the notional issue of euro currency by the NCB according to the banknote allocation key (see above) and the issue of coins, less euro banknotes and coins wherever issued held by resident MFIs;

- deposits held by domestic residents and by residents of other euro area countries with MFIs in the country, excluding any holdings of MFIs and central governments (since central government holdings of deposits are excluded from the ECB's monetary aggregates);

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4   Plus, as noted previously, amounts of former national (legacy) currency in circulation for the first year after enlargement. Such remaining amounts are then dropped from the euro area monetary aggregates with a reclassification adjustment to avoid an effect on growth rates.
5   Euro area aggregates (except for the banknotes and coins component) include monetary instruments denominated in foreign currency – in this context, meaning in currencies other than the euro. National monetary aggregates in the new member may or may not have done so.

- any marketable monetary instruments issued by resident MFIs (broadly, certificates of deposit, other debt securities with an initial maturity of up to two years, and MMF shares/units), less holdings by resident MFIs of such instruments issued by MFIs resident anywhere in the euro area. Since resident MFIs may hold more of these instruments than they issue, this "contribution" may be negative.

Similarly, the "domestic credit" counterpart of euro area M3 contributed by resident MFIs will comprise their lending (including through the acquisition of securities in any form) to domestic residents and to all other euro area residents except MFIs. Their contribution to the external counterpart of M3 will be limited to their net claims on non-residents of the euro area.[6] "Other" counterparts comprise other items in the balance sheets of resident MFIs (including the NCB). These national contributions to the euro area monetary aggregates and counterparts are thus quite different from the previous national monetary aggregates and counterparts.

BALANCE OF PAYMENTS, INTERNATIONAL INVESTMENT POSITION AND RELATED STATISTICS

The balance of payments and international investment position of the euro area comprise transactions and asset and liability positions of residents of the euro area with non-residents of the euro area. Cross-border transactions and positions within the euro area are not balance of payments and international investment position items for the euro area as a whole. The ECB therefore compiles the euro area balance of payments and international investment position mainly from data on extra-euro area transactions and positions contributed by the Member States.[7] These extra-euro area data may look different from the familiar national balance of payments and international investment position statistics, and may be very difficult to interpret.

The new member, like other euro area Member States, will continue to produce a national balance of payments and international investment position, not least because the ESA 95 and membership of the IMF require it. The financial crisis has further revived interest in national balance of payments and international investment position data in the context of monitoring imbalances within the euro area and the European Union. Joining the euro area may make it more difficult for the new member to measure some cross-border transactions and positions than previously – transactions settled in euro banknotes are an obvious example, but there are others. Approximations will be necessary.

6 This is resident MFIs' claims on non-residents of the euro area, minus their liabilities outside the euro area, in all forms and in foreign currency as well as in euro. Since the NCB is an MFI, the country's contribution to the external counterpart of euro area M3 includes the country's external reserves as newly defined following adoption of the euro, as well as claims of the NCB outside the euro area denominated in euro, and any external claims in other forms which do not count in reserve assets.
7 This is not completely true: because the holders of marketable securities often cannot be identified, for practical reasons the ECB adopts a different approach for transactions and positions in portfolio investment (liabilities) and related income, as explained in Chapter 10. The national contributions in this area are even harder to interpret than elsewhere in the external accounts.

19 REGISTERS AND IDENTIFICATION STANDARDS

19.1 LISTS OF REPORTING INSTITUTIONS AND THE REGISTER OF INSTITUTIONS AND AFFILIATES DATABASE

One of the first tasks in preparing statistically for monetary union was to define the institutions whose liabilities would contribute to monetary aggregates and then to compile a register of entities meeting that definition in the European Union. As explained in Chapter 1, such institutions are called MFIs. They comprise central banks, all credit institutions according to EU legislation, and other institutions meeting the MFI definition, mainly collective investment institutions whose shares/units are deemed to be close substitutes for deposits (money market funds, MMFs). The first list of MFIs was published in April 1998.

The first purpose of the list is to provide a register of the MFI reporting population. Strictly speaking, the obligation to report comes from meeting the MFI definition, not from inclusion in the list, but in practice the list fulfils this function. Within the MFI population, all credit institutions must hold remunerated minimum reserves with the Eurosystem; the MFI list therefore also identifies all the institutions covered by the minimum reserve system. Credit institutions themselves need this information, because they may deduct liabilities to other credit institutions covered by the minimum reserve scheme from their own reserve base. All MFIs need to be able to recognise other MFIs with which they have positions, because these positions must be identified in the reporting so that the aggregated MFI balance sheet can be consolidated (inter-MFI positions cancelled out) in compiling monetary aggregates and counterparts. The MFI list is therefore both a population register and a reference source for MFIs themselves. It is a list of institutional units in the sense used in the international statistical standards – entities with freedom to make decisions in respect of their principal function and which keep a complete set of accounts. Banking branches are not institutional units unless the parent is resident in another country. Consequently the MFI list also contains branches of non-resident banks (or MFIs if the headquarters are elsewhere in the European Union), with an indication of their status, but it does not list branches whose head office is in the same country. Currently it does not contain information on balance sheet size or on the nature of their business except insofar as central banks, credit institutions, MMFs, and the few other institutions classified as MFIs are listed separately. For much the same reasons (although minimum reserves are not relevant in these other cases) the ECB now maintains similar lists of investment funds other than MMFs (required to report under Regulation ECB/2007/8) and financial vehicle corporations (FVCs) engaged in securitisation operations (addressed by Regulation ECB/2008/30). At end-2012 there were some 7,060 MFIs (a reducing number), 49,540 investment funds other than MMFs, and 2,970 FVCs on the relevant lists of institutions resident in the euro area. In all EU Member States, the numbers at end-2012 total about 63,000,[1] with in addition about 5,000 insurance corporations.

1 Excluding investment funds and FVCs resident in the United Kingdom.

These lists have been (and remain) part of a facility at the ECB called the Register of Institutions and Affiliates Database (RIAD). Set up in 1999,[2] RIAD comprises five datasets supporting the statistical functions of the Eurosystem (see below). While RIAD has included a large set of financial institutions resident in the euro area and the wider European Union, it has not yet been incomplete because, although the most important types of financial corporation were covered, many institutions were not (notably insurance corporations and pension funds – see Chapter 2). Furthermore the register so far has not yet recorded affiliations.

As a consequence, the ECB, in close cooperation with the Banca d'Italia and with the involvement of other NCBs, started a project to enhance RIAD with the intention to increase the range of financial institutions covered by the register and provide more statistical information about them, notably on ownership links and affiliations. The first priority was to add insurance corporations, while limiting full quality control procedures to financial institutions covered by the ECB's statistical legislation and to large banking and insurance groups (see Chapter 3). The enhanced RIAD, which went live in spring 2013, is able to hold more information on financial institutions' legal status and on enterprise groups, including on the ownership structure of all institutions whose data are listed in RIAD. This in turn makes RIAD more useful to the ESRB and the new European Supervisory Authorities as well as extend its statistical and market operational applications. Other improvements continue, as described below.

The enhanced database covers:

- additional attributes concerning MFIs, investment funds and FVCs;

- information on insurance companies and, later, pension funds (and other financial corporations not classified in the categories mentioned so far);

- information on groups (conglomerates of related entities) and relationships between entities registered in the system;

- information needed for market operations purposes to identify within the group structures of credit institutions "close links" between counterparties eligible to participate in the Eurosystem's monetary policy operations and issuers or guarantors of instruments qualifying as eligible assets.

This information is either legally required or meets needs expressed by users in the ECB and member central banks as well as in the European Commission, the ESRB and the three new European Supervisory Authorities. The enhanced RIAD is the authoritative ESCB-wide register of financial corporations. Micro-databases such as the CSDB and the future securities holdings database under

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2   Originally RIAD also included the list of assets eligible for use in the Eurosystem's monetary policy operations as well as the list of counterparties eligible to participate in the Eurosystem's monetary policy operations (a sub-group of the MFI population). Since 2012 this information has been transferred to a separate system, hence the change of name and the current content of the database.

Regulation ECB/2012/24, and the various credit registers and databases of business enterprises maintained by many NCBs in Europe, need to be supported by a business register that enables statisticians to classify institutional units, to inform reporting agents accordingly by issuing lists of these units, and to combine datasets quickly to meet urgent policy needs. The business register can then be used with these other databases to assess exposures of groups on the investment/assets as well as on the funding/liabilities sides.

NCBs continue to provide the information on the individual entities listed in the register, and on affiliations. Responsibility for operating the database is shared between the ECB and the Banca d'Italia.

The Banca d'Italia now operates the transactional part of the new system. This involves:

• exchanging data with NCBs and other providers, including providers outside the ESCB (e.g. Eurostat and national statistical institutes);

• validating, cleaning and mapping the data into a register and identifying group relationships;

• providing interfaces (search, inquiry and update) to data quality managers to enable them to check and correct the data, taking charge of data quality management generally;

• handling data concerning non-compliance (i.e. of reporting agents with their legal reporting obligations);

• putting the register information into a form in which it can be made available to users.

Provision and management of the data warehouse is the ECB's responsibility. This involves:

• making all facilities available to users of RIAD data, whether or not they are in the ESCB. The system may share a technical platform with the warehouse part of the CSDB and the future securities holdings database (see Chapter 5);

• loading and maintaining all register information for their use;

• providing the data to other ECB and ESCB systems currently requiring register data and putting the public part of the register on the ECB's website.

In time RIAD will be linked to other registers maintained by central banks, the European Supervisory Authorities, Eurostat and national statistical institutes. Particularly important will be an interface with the EuroGroups Register (EGR), a database of multinational enterprises operating in the European Union currently being developed and run by Eurostat (see the next section). RIAD may

also support the ECB's banking supervision function in due course, as scheduled to become operational in 2014.

19.2 THE EUROGROUPS REGISTER

In most countries national statistical institutes rather than central banks collect information on non-financial corporations and keep registers of them. Cross-border affiliations have become increasingly important in recent years, and a substantial part of cross-border transactions is probably now accounted for by intra-group business. Apart from the special case of direct investment (FDI) flows and stocks discussed below, intra-group transactions, which are often recorded at artificial prices or not recorded at all, cause statistical difficulties. Several European countries have set up "large enterprise" units to try to ensure that the transactions and positions of such enterprises are recorded consistently and, as far as possible, correctly in national statistics. For similar reasons, and to achieve correct recording at European level, in 2008 Eurostat launched the EuroGroups Register project – a network of registers of enterprise groups, not just institutional units, in Europe.[3] The EGR includes units resident in the European Union with headquarters abroad. The register covers mainly non-financial enterprises, focusing on multinational enterprise groups (groups including at least two constituent units located in different countries). It records "control relationships" (more than 50% ownership) and minority ownerships, with a 10% threshold to correspond with the FDI definition. It is not merely a sum of national registers compiled mainly for national statistical purposes, although it draws on them as well as on commercial sources. Its usefulness goes beyond statistical purposes, since it can potentially be applied in areas like structure of business and competition policy. The EGR, which has been available since 2011, at present contains more than 10,000 multinational enterprise groups, less than 20% of them controlled outside Europe, with about 570,000 separate legal units.

Although not directly related to the EGR, cooperative effort on FDI statistics might be mentioned here. FDI is a complicated area of statistics (see Chapter 9) and it is the most affected by cross-border affiliations. The FDI Network sponsored by the ECB and Eurostat (which share responsibility for FDI statistics in Europe) is a forum in which statisticians can exchange information on large FDI transactions with the aim of achieving consistent and, if possible, correct recording in each country involved. Use of the network continues to develop and it has been extended to exchanging data on direct investment positions and not only on transactions. (As described in Chapter 22, recent changes to EU statistical framework legislation make it easier for national authorities, Eurostat and the ECB to exchange information in

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3   Regulation (EC) No 177/2008 of the European Parliament and of the Council of 20 February 2008 establishing a common framework for business registers for statistical purposes and repealing Council Regulation (EEC) No 2186/93.

the interests of European statistics.)[4] This is important and not only for the quality of national data. Because the portfolio investment account in the euro area balance of payments and international investment position is compiled by residual, discrepancies among euro area countries in the national FDI account may have a knock-on effect on the euro area external accounts. Indeed, the exercise to reduce errors and omissions in the euro area balance of payments discussed in Chapter 12 was the initial inspiration for the FDI Network in 2008. It might be added that there are also wider attempts to improve FDI data, notably the IMF's Coordinated Direct Investment Survey and initiatives by the OECD, including a forum for statisticians expert in FDI work.

19.3 LINKING THE REGISTERS

The systematic recording of affiliations between enterprises has received an impetus from the financial crisis. In the interests of financial stability analysis and the assessment of collateral, it has become important to know who is affiliated to whom. Thus the 2009 Issing Committee report ("New Financial Order; Recommendations by the Issing Committee – Preparing G-20, London, April 2, 2009" – see Chapter 24) recommended constructing a global risk map, which would depend heavily on information about ownership links and other affiliations. The IMF-Financial Stability Board report endorsed by G20 finance ministers and central bank governors in November 2009 (also discussed in Chapter 24) laid great emphasis on identifying "interconnectedness", mainly for financial corporations but also for non-financial corporations through offshore subsidiaries.

The enhanced RIAD and the EGR can contribute to this need in a complementary way, as the registers of (respectively) financial and non-financial corporations in the European Union, each containing (or proposing to add) information about ownership links and affiliations. Since however Eurostat and national statistical institutes do not allow the use of the EGR for non-statistical purposes, RIAD and the EGR are being developed with different focuses but with interoperability (see Decision ECB/2010/33 on confidentiality issues relating to business registers). The removal of remaining restrictions on exchanges of and access to relevant data is necessary if full use is to be made of these facilities by statisticians across all EU Member States, in central banks and national statistical institutes. One option may be that the ESCB contributes information about individual financial institutions and financial groups to the EGR, in turn receiving access to it. Further interaction between the two databases is planned, possibly even in the long run leading to their merger. Their different purposes, however, and the present restriction on non-statistical use of the EGR, may be obstacles to a single business register covering all enterprises in the European Union. At least it would be necessary to split the datasets into those to be used exclusively for statistical

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4   See, inter alia, Regulation (EC) No 223/2009 of the European Parliament and of the Council of 11 March 2009 on European statistics and Council Regulation (EC) No 951/2009 of 9 October 2009 amending Regulation (EC) No 2533/98 concerning the collection of statistical information by the European Central Bank.

purposes (with statistical confidentiality constraints) and those that may be used for non-statistical purposes or published.

19.4 A GLOBAL REFERENCE DATA UTILITY

While RIAD and the EGR are European (and specifically EU) initiatives, a somewhat different but related project is the work to develop an international reference data utility, which has strong proponents in the United States as well as in Europe.

Many national, regional or sectoral business registers and other reference sources exist. Often they are incomplete, inconsistent or not readily useable where cross-border affiliations are as prevalent as they are now. The European Commission some years ago launched initiatives to improve Europe-wide data on entities in business registers (see the discussion above on the EGR). The ISIN code (International Securities Identification Number) is a good example of successful standardisation but it nevertheless remains limited by instrument coverage and the co-existence of other identifiers used on securities exchanges, even standard basic attributes such as the name of the issuer. Accordingly, in early 2009, the President of the ECB proposed the creation of a standard of reference for securities and issuers. Debate in the United States surrounding the Dodd-Frank Act on financial regulation also underlined the need for internationally standardised reference data. The impetus there may have been the great difficulty in handling the consequences of the Lehman Brothers failure in September 2008 and establishing who owed what to whom and in what form. The ECB saw the need for a reference data utility in the light of its experience with the CSDB (see Chapter 6) where it became clear that, despite the efforts of the data industry, the duplicated, uncoordinated production of data on individual securities from the same prospectuses was generating different data on the same instrument. Not only are data produced several times, but data users must cleanse their data of inconsistencies, a further costly process with uncertain results, and more secondary sources add to the problem. (By contrast, in retailing and manufacturing the success of standards like the bar code has promoted business efficiency.)

The idea is to apply a standard labelling of attributes of business entities and financial instruments for worldwide use, so that entities and the financial instruments issued or held by them can be quickly and unambiguously identified. Such a system would focus on the most basic reference data on legal entities and financial instruments needed by virtually all data users: identification, basic description, interrelations and classifications and, for legal entities, an electronic contact address, the information being provided by a single authoritative source. A single global standard would be much more efficient than a number of regional initiatives with limited interoperability. Designing a new standard is preferable to building on an existing one, however tempting, as this might create conflicts of interest and burden the new solution with the legacy of its predecessor. The reference data utility initiative is welcomed in the financial industry as a potential reliable source of reference data, offering lower costs and better risk management.

The US Office of Financial Research and the EU institutions (including the ECB) have developed a global legal entity identifier (LEI) as a fundamental component of a reference data utility. In parallel, the International Organization for Standardization has issued a new identification standard for legal entities (ISO 17442). Meanwhile, a worldwide expert group under the aegis of the Financial Stability Board has advised on several key points. The global LEI system would cover all legal entities (not individuals), both financial and non-financial, and the data model should be simple, but permit expansion. The global system would hold two levels of data for each entity, the first reflecting the entity's essential registration details as described by the ISO standard, and the second containing relationship data. Relationship data will at first be restricted to accounting relationships (immediate and ultimate parent); the inclusion of other relationship data is under development. The entity itself would be under a legal obligation to enter data. The requirement to register should also cover special purpose entities (SPEs), and this may resolve the difficult problem of how to collect data from them (see Box 3 in Chapter 2). According to the business model, the data will be free of charge to all users and financed through registration and maintenance fees. There are direct benefits for the ECB in that a unique LEI attached to all relevant legal entities would allow RIAD, the CSDB, the future securities holdings database, credit registers and other business registers to be connected with accurate reference data for many ECB functions, not least the prospective banking union.

G20 finance ministers and central bank governors expressed support for the creation of a global LEI in November 2011 and a year later endorsed the governance structure for the LEI to be launched in 2013.

Box 10 Some broader remarks on statistical aspects of globalisation

Much of the earlier sections of this chapter, and indeed many of the developments discussed elsewhere in this book, are manifestations of or a response to the globalisation of economic and financial activities. Globalisation, or interaction between national economies, is often associated with the activities of multinational enterprises (MNEs). The main purpose of the EGR and to a considerable extent RIAD and the global reference data utility is to map relationships between affiliated enterprises. The Issing Committee and G20 reports discussed in Chapter 24 are very much focused on interconnected exposures. It may be worth here quoting from a recent United Nations Economic Commission for Europe (UNECE) publication entitled "The Impact of Globalization on National Accounts" (published in January 2012).

A particular aspect of globalisation which adds to the difficulties for those compiling national economic statistics is "the growing importance of MNEs and cross-border transactions within the enterprise … MNEs feature large in the difficulties of measuring the following types of transaction or activity:

a. Foreign direct investment (FDI), in particular the treatment of retained earnings.

b. Transactions between affiliates which do not have ownership links with each other.

c. International transactions in intellectual property products (IPPs) between affiliates.

d. Transactions of special purpose entities (SPEs).

e. Global manufacturing.

An MNE will seek to organize its business in the most efficient way (having regard to production and transport costs), which may mean shipping goods back and forth between specialized processing units. It may not be clear which entity in the MNE at any particular stage in the process owns the raw materials, semi-processed goods, components and in due course the finished product. The goods may not be valued at market prices at the points at which national statisticians need to record them. This may be because the resident unit does not know the market price, or because the goods move around within the MNE at transfer prices which, within legal limits, minimize its tax burden. IPPs can be developed in one country and then made available for use throughout the enterprise, free of charge or at transfer prices which do not represent arm's-length prices. Staff may be switched from one entity to another in a different country, while being employed and paid by an entity in a third country which deploys specialist staff on behalf of the MNE as a whole. The growing concentration of business in MNEs complicates the measurement and allocation of value added and the recording of economic activity generally in the national economy.

What can statisticians do about the challenges described in the previous paragraphs? At present they collect data from, or in respect of, resident institutional units and assemble national accounts and other economic data from these sources. This approach… depends on the ability of the resident institutional unit to provide the relevant information for the measurement and classification of its national economic activities. This condition may not be met when the unit is part of an MNE which conducts much of its business across national frontiers.

[...] The financial crisis has given an impetus to viewing the transactions and positions of global enterprises as a whole. The research agenda set out in Annex 4 of the 2008 SNA suggests something similar... [Current] needs are probably best served by direct surveys of MNEs, rather than surveys of those parts of them that happen to be locally resident...".

There are similarities with the financial stability approach to consolidated group reporting described elsewhere in this book, especially in Chapter 3.

The UNECE publication makes numerous proposals for further work with a focus on improvements to national accounts. The highest priority areas are considered to be global manufacturing, including both conceptual and practical measurement issues; recording international transactions in intellectual property products; measurement and data issues related to implementing the new standards on goods for processing and merchanting (in the SNA 2008, BPM6 and ESA 2010); and a conceptual framework for dealing with SPEs, including a harmonised definition. The new international and European statistical standards are the subject of Chapter 20.

20   NEW EUROPEAN AND INTERNATIONAL STATISTICAL STANDARDS

This book has mentioned several times the forthcoming implementation of the new international and European statistical standards. The key references are the revised version of the world System of National Accounts (the SNA 2008, published in 2009); its European counterpart, the revised European System of Accounts (the ESA 2010); and the sixth edition of the IMF's Balance of Payments and International Investment Position Manual, the BPM6. The three publications became fully consistent with the adoption of the ESA 2010 in mid-2013.[1] Although they do not specify, for example, the content of monetary aggregates, the SNA 2008 and the ESA 2010 cover all economic and financial accounts. The BPM6 is concerned only with statistics of cross-border transactions and positions, which it covers in far more detail than the other manuals. While the SNA and BPM essentially recommend best practice, the ESA 2010, like the current ESA 95, is legally enforceable in the European Union as a European Parliament and Council regulation. Data will be needed on the new basis covering earlier periods.

The ESA 2010 and the BPM6 will be implemented in the European Union from 2014. Preparations for implementing the new standards in the euro area were furthest advanced in the area of balance of payments and international investment position statistics, in the sense that an ECB guideline incorporating them was already adopted even in 2011 (Guideline ECB/2011/23 on external statistics). Further ECB statistical legislation or amendments to existing legal acts have now been adopted. Implementing the new standards in other areas of statistics will then be required. The implications for the various areas of statistics are discussed below following the order of the relevant chapters of this book.

This chapter is concerned with the statistical content of the changes. Information systems are also discussed because implementation of the new standards will provide an opportunity to upgrade facilities for data exchange, as briefly explained in Box 13 in Chapter 23.

The many changes affecting the production, income, use of income and capital accounts (see Chapter 14 for a brief description of these) are not described here, unless they fall within the ECB's responsibility at European level and/or are reflected in the financial account and balance sheet. An exception is made for some items affecting principally the current account of the balance of payments.

20.1   MORE DETAILED SECTOR AND INSTRUMENT BREAKDOWNS

The changes affecting a range of ECB/ESCB statistics concern more detailed breakdowns of institutional sectors (numbered "S" in the ESA) and financial

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1   Regulation (EU) No 549/2013 of the European Parliament and of the Council of 21 May 2013 on the European system of national and regional accounts in the European Union (the ESA 2010).

instruments (coded "AF"). The extra sectoral detail is confined to sub-sectors of the financial corporations sector (S.12). These more detailed breakdowns are listed below alongside the present ESA 95 breakdowns.

Financial corporations (S.12)	
ESA 2010	**ESA 95**
Central bank (S.121)	[*S.121 in ESA 95 also*]
Deposit-taking corporations, except the central bank (S.122)	[*S.122 in ESA 95*]
Money market funds (MMFs) (S.123)	
Non-MMF investment funds (S.124)	[*part of S.123 in ESA 95*]
Other financial intermediaries, except insurance corporations and pension funds (S.125)	[*part of S.123 in ESA 95*]
Financial auxiliaries (S.126)	[*S.124 in ESA 95*]
Captive financial institutions and money lenders (S.127)	[*part of S.123 in ESA 95*]
Insurance corporations (S.128)	[*S.125 in ESA 95*]
Pension funds (S.129)	

Captive financial institutions consist of institutional units providing financial services, most of whose assets or liabilities are not transacted on open financial markets. The category includes entities transacting only with entities in the same enterprise group, or entities that make loans from their own resources provided by a single sponsor (money lenders, but also entities engaged in lending funds received from a government department or a non-profit organisation). Trusts or estates may also be classed as captive financial institutions, together with holding companies (see below).

Most of the changes to sectors in the new standards provide further detail. But in one or two respects the sectoral classification of particular entities changes. Thus under the present standards holding companies are classified as financial or non-financial corporations according to the main activity of the enterprise(s) in which they hold shares. The ESA 95 does not distinguish between an entity which holds shares in another or others but does not manage them and an entity which exercises management or controlling functions – both are "holding companies" and are classified accordingly. Under the new standards, entities which hold the shares of group companies but do not have management functions will be classified as financial corporations, and specifically as captive financial institutions in S.127. Head offices, which do have management functions, are classified in the new standards as financial or non-financial corporations according to the main activity of the enterprise(s) which they head. If classified as financial corporations, they will be allocated to the sub-sector financial auxiliaries (S.126).

It might be noted that there is no single sub-category for the special purpose entities (SPEs) discussed in the Box 3 in Chapter 2. The current international and European statistical standards do not mention SPEs. Their criteria for residence focus on the physical location of the entity and its engagement in productive activity in the territory. The treatment of entities without a physical presence is not clear in the current standards. As noted in Box 3, the new statistical manuals clarify that, in the absence of a physical presence in the territory, incorporation or registration determines the residence of an institutional unit. Once an entity is deemed to be resident, its sector classification depends on the activity in which it is engaged. Some SPEs (for example, entities set up to hold intellectual property assets or to engage in operational leasing) are non-financial corporations. Many SPEs are financial corporations, but they may fall into one of several sub-categories of the financial corporations sector S.12.

The financial instruments specified in the ESA 2010, with the ESA 95 list for comparison, are as follows.

Financial instruments	
ESA 2010	**ESA 95**
Monetary gold and SDRs (AF.1) Monetary gold (AF.11) Special Drawing Rights (SDRs) (AF.12)	*[AF.1, 11 and 12 in ESA 95 also]*

Currency and deposits (AF.2)
Currency (AF.21)
Transferable deposits (AF.22)
  Interbank positions (AF.221)
  Other transferable deposits (AF.229)
Other deposits (AF.29)
	[AF.2, 21, 22, 29 in ESA 95; AF.221, 229 represent a new breakdown of AF.22]

Debt securities (AF.3) Short term (AF.31) Long term (AF.32)	*[in ESA 95 part of "securities other than shares", AF.3, which also includes financial derivatives (a separate main category, AF.7, in the ESA 2010)]*
Loans (AF.4) Short term (AF.41) Long term (AF.42)	*[AF.4, 41, 42 in ESA 95 also]*

Equity and investment fund shares/units (AF.5)
Equity (AF.51)
  Listed shares (AF.511)
  Unlisted shares (AF.512)
  Other equity (AF.519)
Investment fund shares/units (AF.52)
  MMF shares/units (AF.521)
  Non-MMF investment fund shares/units (AF.522)
	["Shares and other equity" (AF.5) in ESA 95; AF.51, 511, 512, 519 correspond broadly to AF.51, 511, 512, 513 in ESA 95; AF.52 corresponds to present AF.52 , with new name; breakdown into AF.521, 522 is new]

ESA 2010	ESA 95
Insurance, pension and standardised guarantee schemes (AF.6) Non-life insurance technical reserves (AF.61) Life insurance and annuity entitlements (AF.62) Pension entitlements (AF.63) Claims of pension funds on pension managers (AF.64)[1] Entitlements to non-pension benefits (AF.65) Provisions for calls under standardised guarantees (AF.66)	[*AF.6 in ESA 95 also, but AF.66 is new (not previously a financial instrument) and breakdown AF.61-65 is different from ESA 95 sub-categories*]
Financial derivatives and employee stock options (AF.7) Financial derivatives (AF.71) Options (AF.711) Forwards (AF.712) Employee stock options (AF.72)	[*Financial derivatives (AF.34) in ESA 95; employee stock options possibly included indistinguishably; AF.711, 712 new breakdown*]
Other accounts receivable/payable (AF.8) Trade credits and advances (AF.81) Other accounts receivable/payable, excluding trade credits and advances (AF.89)	[*Corresponds to AF.7, 71, 79 in ESA 95*]
1) Such claims arise where, for example, an enterprise (the pension manager) is responsible for meeting any shortfall in the fund set up to provide pensions to its employees.	

As in the case of sectorisation, most of these changes provide more detail without requiring reclassification of particular instruments, but there are limited exceptions. Thus the definition of monetary gold changes slightly (affecting also the category "deposits"), and SDRs (AF.12) become a liability of the IMF member country to which they were issued. Standardised guarantee schemes are recognised as a financial instrument under the ESA 2010. The status of employee stock options is resolved (it is not clear under the ESA 95 whether they are captured within financial derivatives, or are off the balance sheet). There are also changes, although more of emphasis than substance, in valuation of negotiable securities and the treatment of accrued interest.

As a new separate category of financial instrument, financial derivatives gain the higher profile merited by their increased importance in financial markets. The box at the end of this chapter explains their statistical treatment in simple terms.

20.2 IMPLICATIONS FOR MFI STATISTICS

The counterpart information provided by MFIs will be affected by other new breakdowns of the non-MFI financial corporations sector, in particular the separating out of the non-MMF investment fund sub-sector (S.124) and the split between insurance corporations (S.128) and pension funds (S.129) (MMFs of course remain MFIs, in S.123 in the new ESA 2010). An important change in the MFI balance sheet will be the new composition of the "other" financial intermediary sub-sectors, which will combine financial auxiliaries, captive financial institutions and money lenders in a broad group (S.125-127), with separate information on central counterparties and FVCs. Sub-sector S.127 (captive financial institutions, etc.) will, unlike the current practice, include not only holding companies covering predominantly financial groups, but also holding companies of non-financial corporate groups. (In the ESA 95, holding companies with the shares of predominantly non-financial corporations will have been classified hitherto as non-financial corporations.)

Identifying interbank positions within liabilities in the category "transferable deposits" should not present a problem for MFI balance sheet statistics, since deposit liabilities to other MFIs are already reported separately. The MFI balance sheet will further distinguish positions with central banks (S.121 in the ESA classification) and also, within the MFI sub-sector, identify intra-group positions. The MFI balance sheet will identify (quarterly) positions in financial derivatives (now in the new instrument category AF.7), which are important in the business for many MFIs. These are at present reported indistinguishably in the MFI balance sheet as remaining assets/remaining liabilities depending on whether the position has positive or negative market value (see further in Box 11).

At present, MFIs record accrued interest for deposits and loans in remaining assets/remaining liabilities. Accrued interest will remain as before, but separately identified within remaining assets/remaining liabilities. The extension of security-by-security reporting is likely to resolve the issue of market valuation of securities and the accrual of interest on securities issued and held by MFIs. It might be added that the new standards do not require accruing interest on deposits to be included in the monetary aggregates, or on loans in the MFI credit counterpart to the growth of M3 (see Chapter 1).

A new version (Regulation ECB/2013/33) was adopted in September 2013 reflecting the new ESA 2010, and some other provisions to meet the needs of monetary policy analysis and financial stability in a regular five-yearly review. (A further Regulation ECB/2013/34 concerning MFI interest rates – see especially Chapter 7.1 – has little relevance to the ESA 2010.)

The regulation on post office giro institutions (which, as may be recalled in Chapter 1, are not financial corporations in the ESA classification, but nevertheless contribute to monetary aggregates) will be replaced when ECB/2006/8 is repealed in the new Regulation ECB/2013/39, reflecting the sub-sectoral breakdowns in the new MFI balance sheet Regulation ECB/2013/33 as mentioned earlier.

20.3 IMPLICATIONS FOR STATISTICS ON INVESTMENT FUNDS AND FINANCIAL VEHICLE CORPORATIONS

As explained in Chapter 2, the two other groups of financial intermediary at present subject to ECB regulations on statistical reporting are investment funds (other than MMFs), and financial vehicle corporations (FVCs) engaged in securitisation operations. Both these reporting schemes, like that for MFIs, require information on counterpart sectors and on financial instruments issued and held, and so are affected by the extra sub-sector and instrument detail in the new standards. Security-by-security reporting, already well established in these areas, may avoid the need to request more detailed information from reporting institutions, at least where the instruments concerned have ISIN codes or other unique identifiers (although the ECB's Centralised Securities Database (CSDB) does not yet cover some important instruments, such as financial derivatives). Regulations on investment funds and financial vehicle corporations (ECB/2013/38 and ECB/2013/40 respectively) will reflect the counterparty sub-sector breakdowns in the ESA 2010, and the status of financial derivatives as a separate instrument category. Investment funds (other than MMFs) will of course themselves become a separate sub-sector (S.124). FVCs will themselves as counterparties be classified under "other financial intermediaries, except insurance corporations and pension funds" in the new sub-sector S.125 and will be included in the broad counterpart category (S.125-127) elsewhere in the ECB reporting, but will identify them separately as required.

The "other" non-monetary financial institutions which are not at present the subject of an ECB regulation (leasing companies, consumer credit grantors, securities and derivatives dealers, etc. discussed in Chapter 2 above) will also be part of the new S.125, unless they are "captive" and so classified in S.127.

20.4 IMPLICATIONS FOR STATISTICS ON SECURITIES

Where the instruments concerned are included in the CSDB, it is clear that the more detailed sectorisation and instrument categories will have to be incorporated in the database. It is not clear, however, whether the sectorisation of issuers in the ECB's securities issues statistics described in Chapter 4 will need to change. The securities issues statistics identify issues by MFIs, by financial corporations other than MFIs (with no further breakdown), by non-financial corporations and by government (distinguishing between central and other government entities). In the ECB's securities issues statistics, equities (issues, redemptions and outstanding amounts) are valued at market prices, and debt securities at nominal prices – which, although not compliant with the new, or indeed the current, statistical standards, is the convention used for debt securities. The BIS-ECB-IMF "Handbook on Securities Statistics" (Part 1 – Debt Securities Issues) recommends that transactions in debt securities (i.e. new issues, redemptions and net issues) be valued at market prices and outstandings at both nominal and market prices. Consideration may be given to moving the ECB's securities issues statistics to this broader basis.

20.5 IMPLICATIONS FOR INTEGRATED ECONOMIC AND FINANCIAL ACCOUNTS BY INSTITUTIONAL SECTOR

At present the breakdown by sector and instrument in the quarterly economic and financial accounts compiled by Eurostat and the ECB is less detailed than in the ESA 95. Thus the financial corporations sub-sectors are limited to MFIs, other financial intermediaries, and insurance corporations and pension funds. Among the instruments, gold and SDRs, and currency and deposits, are each a single category. There is a maturity split of debt securities and loans, and a three-way split of shares and other equity, but insurance technical reserves are a single item and financial derivatives are combined with other accounts receivable/payable. In terms of valuation practice and the treatment of accrued interest, the quarterly euro area accounts are as far as possible consistent with the ESA 95.

Another new legal instrument reflecting the new ESA 2010 and other important changes (see also in Chapter 15) has been adopted as Guideline ECB/2013/24. The treatment of the three categories of MFI (S.121-123) and of investment funds other than MMFs (S.124) is straightforward in the financial accounts, since reporting under ECB legislation will provide the necessary information. The split between insurance corporations (S.128, which will, as planned, report under a new ECB regulation) and pension funds (S.129) will be required. The new sub-sectoral information will also be reflected in the categories of financial corporation which are not required to report by the ECB. The three new sub-sectors S.125-127 will be combined. Households (S.14) and non-profit institutions serving households (S.15 – see Chapter 14 for an explanation of what these are) will be distinguished separately.

More instrument detail in the new statistical standards will be reflected in the quarterly accounts. Notably, financial derivatives and employee stock options will be recorded as a new category, though not with further breakdowns in the euro area accounts. Instruments relating to insurance corporations and pension funds (as separate sub-sectors) will be bracketed for the relevant instruments (including standardised guarantees).

20.6 IMPLICATIONS FOR THE EXTERNAL ACCOUNTS OF THE EURO AREA

As noted previously, the successive editions of the IMF's Balance of Payments Manual have set international standards for balance of payments and related statistics. The new edition (BPM6 – the "Balance of Payments and International Investment Position Manual") is fully consistent with the SNA 2008 and the ESA 2010. Previous editions did not contain a reference to the international investment position in the title: this change reflects the new emphasis on balance sheets. There is no European manual concerned with the detail of external statistics.

Appendix 8 of the BPM6 contains a list of changes with respect to the current manual (BPM5). Much of these changes are relevant to the ECB's external statistics. Those directly affecting ECB statistics will be introduced when the first transmission of data under Guideline ECB/2011/23 (external statistics) takes

place in June 2014. Most of the changes discussed below will affect the financial account and international investment position and/or investment income. Others with a noticeable impact on the euro area external accounts are mentioned here even if they fall outside the usual scope of ECB/ESCB statistics. This is because the balance of payments and international investment position are not standalone statistics but relate to the integrated economic and financial accounts by institutional sector in which, with some adjustments, they provide the rest of the world column (Chapters 14-15), and to monetary statistics through the monetary presentation of the balance of payments (Chapter 13).

Consequences of the clarification of residence to include entities registered or authorised in a country but with no (or little) physical presence there have already been described in Box 3 in Chapter 2 on SPEs. It has been explained that SPEs, once recognised as resident, must be allocated to economic sectors according to their main activity. Indeed the current guideline on external statistics (Guideline ECB/2004/15, which will be repealed in mid-2014 replacing Regulation ECB/2011/23) already requires them to be classified as resident in the country in which they are registered or incorporated. The effect of fully incorporating SPEs in euro area statistics will be to increase gross flows in the euro area balance of payments in both the current and financial accounts, although the balances on the current and financial accounts are unlikely to be much affected. Their full inclusion will also add to both assets and liabilities in the international investment position, with considerable effects in some countries. The activities of some SPEs may also affect GDP (for example, entities holding intellectual property deemed to be providing services, see Box 3 for more details), although this is not for further consideration here.

Other changes may have a noticeable impact on the balance of payments of some Member States, although probably not on the euro area as a whole. The BPM6 applies strictly the principle that transactions in goods are recorded when, and only when, a change of ownership occurs. This is not always the case in the present manual and in current treatment of euro area statistics. Two present departures from the principle concern cross-border trade in goods for processing, and merchanting. In processing, a producer sends semi-finished goods abroad to be worked on. He remains the owner of the goods throughout. An export of goods is recorded when he sends them abroad, and an import, reflecting the increased value of the goods arising from the processing, when they return. Under the BPM6, nothing will be recorded in trade in goods because ownership has not changed; rather, the owner will be deemed to have imported processing services equivalent to the processing fee. Overall, gross flows of goods will be reduced and trade in services increased. In merchanting, the change is in the opposite direction. A merchant buys goods in one country abroad and sells them in another. Although he owns the goods for the duration of the activity, at present no import and subsequent export of goods is recorded, at least where the transactions fall within the same recording period.[2] Instead an export of merchanting services

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2   Where the transactions fall in two recording periods, an import is followed by an export with – if the transactions straddle an end-quarter – an increase and then a reduction in inventories as recorded in the national accounts. (Whether this treatment is followed in practice is another matter.)

equivalent to the difference between the purchase and selling price (less shipping and insurance costs) is recorded. Because the merchant has become the owner of the goods and then sells them, the BPM6 will record the transaction in trade in goods but as a negative export (not an import) followed by an export. The merchant's margin will thus effectively be captured in trade in goods, not in services.

As noted in the section above on MFI balance sheet statistics, financial intermediation services indirectly measured (FISIM) concerns the treatment of charges for financial intermediation (in practice, mostly banking services) which are not expressly issued but are implicit in interest rates paid and charged. Leaving such implicit charges in the investment income account will overstate investment income flows and understate trade in services.[3] The FISIM adjustment attempts to extract the element in interest paid and charged which represents an implicit charge for banking services and to record it statistically as such, at the same time reducing recorded payments and receipts of interest. A FISIM adjustment will be applied in euro area external statistics from 2014 when Guideline ECB/2011/23 is implemented. The effect will be to increase recorded trade in services and reduce investment income flows.

The new standards treat the products of research and development (patents, copyright and similar assets) as produced assets, and cross-border trade in them is recorded as trade in services. They are currently recorded (under the BPM5) as trade in non-produced assets in the capital account.

A presentational change in the BPM6 relates to remittances and personal transfers, which are substantial in absolute terms in some euro area countries' balance of payments, if not very significant in the accounts of the euro area as a whole. Personal transfers are amounts sent by residents of a country to non-residents. An important element in personal transfers is money sent by foreign workers in a host country to their families back home, which is very difficult to quantify accurately. The statistical treatment of such payments (in money or in kind) depends on the residence and employment status of the foreign worker and indeed on whether earned employment income is the immediate source of the payment to the household abroad. The question of personal transfers to households abroad is a matter which has received much international attention. Accordingly, and without disturbing the statistical treatment in the main accounts, the BPM6 introduces a satellite table showing the various elements in cross-border payments to households to give a full picture of the amounts involved.

The changes relating to foreign direct investment (FDI) are partly presentational. Currently, as noted in Chapter 9, reverse FDI (where the direct investment enterprise, for example, extends trade credit to the direct investor) is recorded following the "directional" principle as a disinvestment by the direct investor in the direct investment enterprise. The BPM6 records separately investment by a

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3   Interest, like other forms of property income, is recorded in the allocation of primary income account in the national accounts and is not part of GDP. Fees and commissions, by contrast, are treated as production and sale of services and contribute directly to GDP.

direct investment enterprise in its direct investor (reverse investment) and also investment between fellow enterprises. The main presentation in the BPM6 uses the terms "direct investment assets" and "direct investment liabilities" (so that the netting of reverse investment is not built in). Data on a directional basis and the details needed to compile them continue to be shown, but as supplementary items. A change of substance concerns the FDI relationship between financial corporations. At present transactions and positions between them in equity and permanent debt count as FDI. Under the BPM6 the FDI treatment will be confined to equity; permanent debt will be treated like other forms of debt. The exclusion from FDI of debt positions between affiliated financial corporations is helpfully specified in the BPM6 as affecting deposit-taking corporations (or MFIs), investment funds, and other financial intermediaries except insurance corporations and pension funds. Both entities in the direct investment relationship must fall into one or other of these categories for the special treatment of financial corporations to apply. On investment income arising from FDI, the BPM6 clarifies that where a chain of direct investment relationships exists, reinvested earnings should be treated as FDI (i.e. should be deemed to be distributed and promptly reinvested) between the direct investor and directly-owned direct investment enterprises only. Income arising from reverse investment is to be recorded on a gross, rather than net, basis.

One FDI-related recommendation in the BPM6 which is not likely to be implemented in euro area statistics concerns investment funds. The BPM6 recommends that a holder of 10% or more of the shares/units in an investment fund should be treated statistically as a direct investor in the fund. The ECB does not consider it feasible to implement this proposal. However, one of the other BPM6 recommendations concerning investment funds has already been implemented in euro area balance of payments statistics, in that all the income of investment funds is deemed to be distributed to the holders of the shares/units. In effect, the statistical compiler looks through the fund – this is not so difficult with resident funds, but it presents a challenge where residents hold shares/units in non-resident funds.

A further difficult point, not specifically related to FDI or investment funds, on which the ECB is likely to depart from the BPM6, concerns transactions between residents in securities representing claims on non-residents. In the euro area sector accounts, one resident sector may thereby acquire a claim on the rest of the world, while another sector reduces its holdings. The point also affects the monetary presentation of the balance of payments if one of the residents involved is an MFI. The BPM6 recommends that transfers of ownership of external assets between two resident institutional units (and similar exchanges of liabilities of residents between two non-residents) should not be recorded in the balance of payments as transactions, but as a reclassification adjustment. The ECB proposes not to follow the BPM6 recommendation on this point.

The BPM6 does not change the statistical treatment of transactions and positions in financial derivatives, but it contains far more guidance on them than its predecessor, incorporating the content of a 2002 supplement to the BPM5. The BPM6 defines a financial derivative as "a financial instrument that is linked to

another specific financial instrument or indicator or commodity and through which specific financial risks (such as interest rate risk, foreign exchange risk, equity and commodity price risks, credit risk, and so on) can be traded in their own right in financial markets". Paragraph 5.80 adds that transactions and positions in financial derivatives are treated separately from the values of any underlying items to which they are linked; and paragraph 6.59 notes that no primary income accrues on financial derivatives. The statistical treatment of transactions and positions in financial derivatives is further explained in Box 11 immediately below.

The functional category of reserve assets raises two issues. Monetary gold – gold owned by a monetary authority – and SDRs issued by the IMF are currently the only financial assets without a corresponding liability. The BPM6 introduces changes to both. Monetary gold will continue to include allocated gold accounts (which are in effect a custody record of title) provided they are held by monetary authorities. Unallocated gold accounts held by monetary authorities will be treated not as monetary gold, but as a type of deposit denominated in gold, and consequently as a liability of the entity with which the account is held. Under the BPM6, SDRs will be treated as liabilities of the countries to which they are allocated (and not liabilities of the IMF).

Box 11 Statistical treatment of positions and transactions in financial derivatives

The current and new European and international statistical standards and the ECB's reporting instructions require parties to financial derivatives contracts to record positions and transactions in them at current market prices.

The BPM6 notes that there are two broad types of financial derivatives: forward-type contracts and options. These are considered in turn.

An interest rate swap is a forward-type contract. Take, for example, the case where a government issues €500 million worth of bonds paying 5% for three years and wishes to replace the obligation to pay a fixed rate with an obligation to pay a variable rate based on the three-month EURIBOR (a benchmark interbank instrument). The government enters into an interest rate swap contract with a bank under which the government agrees to pay the bank a variable rate of interest (precisely how this is determined will be defined in the contract) on a notional €500 million for three years, and the bank in turn agrees to pay the government a fixed 5% on the same amount. The government has achieved its aim because the receipt of fixed interest under the interest rate swap contract will match the interest it must pay to its bondholders, leaving it paying variable rate interest. The expected present values of the two streams, of fixed and variable-rate interest, will be the same at the start of the contract – although the notional amount of the contract is €500 million, its market value is zero because the expected present values of the two interest streams cancel out. It is

the market value of the contract, not the notional value on which it is based, that is recorded for statistical purposes. Note that the government's obligation to pay interest to its bondholders is in no way affected, and also that no money passes between the government and the bank at the start of the contract.

If market interest rates then fall, the present value of the stream of fixed interest over the life of the contract will tend to exceed that of the stream of variable interest. The contract then assumes a positive value for the government and a negative value for the bank. It becomes an asset for the government, which now in effect has a net claim on the bank; conversely the bank has a liability. The market value of these matching positions will be determined by the expected path of variable interest rates over the remaining life of the contract, and the notional amount of the contract (€500 million). If, on the other hand, market interest rates subsequently rise, the expected present value of the stream of variable interest over the remaining life of the contract will tend to exceed that of the stream of fixed interest, and the contract will then become a liability for the government – it would have to pay to terminate the contract – and an asset for the bank. Thus the market value of the contract may vary over its life, and the asset/liability position may "flip" between the parties to it.

It is these positive and negative market values which are recorded in the balance sheets of the government and the bank over the life of the contract. So long as no money changes hands, changes in market value and flips between the assets and the liabilities sides (which must be symmetrical in the two balance sheets) should be recorded statistically as valuation changes, not as transactions. However, when one party pays money to the other to reduce or liquidate the position, whether during the life of the contract or when it matures, the transaction is treated as repayment of a liability/redemption of an asset, and recorded as a transaction in the financial account. It is not treated as a payment/ receipt of interest.

It is always the market value of the contract that is recorded in the accounts, whether as a position in the balance sheet or as a transaction in the financial account. The notional value of the contract affects the size of the asset/liability positions (ten times larger if the notional amount is €500 million than if it is €50 million) and the transactions needed to settle them, but it is not what is recorded. The market value is usually only a small fraction of the notional amount and may – as noted earlier – be zero.

Forward-type contracts are essentially like this. Options, however, are asymmetrical contracts. Suppose a householder buys an option from a securities dealer to purchase 1,000 shares in a company for €20,000 at an agreed date. The householder cannot lose from the contract. If the market price turns out to be less than €20 (called the "strike price") on the agreed date, he is not obliged to buy them for €20. If the market price is higher than the agreed price, the householder will gain. Thus, if the price is less than €20 on the agreed date, the dealer cannot force the householder to buy at €20. But nor can he back away from his obligation if the householder exercises the option when the

market price exceeds €20. So the householder must pay the dealer at inception a sum (the premium) to compensate the dealer for the risk that the option will be exercised. This premium is treated statistically as the acquisition of a financial claim by the householder on the dealer, and a corresponding liability of the dealer, and not as a commission or service charge. If the price of the shares subsequently rises above €20, the option is said to be "in the money"; the householder's claim on the dealer increases, reflected in their respective balance sheets as a valuation change (not a transaction). If the market price of the shares underlying the option contract remains above €20, the householder will exercise the option when the contract matures. The purchase of the shares will be recorded as a transaction between them at the market price of the shares (say €25,000); however, since only €20,000 will actually have been paid, another transaction will be recorded in the financial account representing the settlement of the householder's claim on the securities dealer. If, on the other hand, the market price of the shares falls below €20 (and is expected to be below when the contract matures), the option will not be worth exercising; the client loses the premium, but not more.

Employee stock options (AF.72 in the ESA 2010) are rights given to employees as part of their remuneration to buy the company's shares at a stated price at some future date. When "in the money" they are a financial asset for the employee and an equivalent liability for the company.

PART VII

ORGANISATIONAL ISSUES

INTRODUCTION

Part VII considers three organisational issues. Chapter 21 describes the organisation of statistical work in the Eurosystem. Chapter 22 is about the relationship between the ECB/Eurosystem/ESCB and Eurostat (the statistical department of the European Commission) and the national statistical institutes, which together constitute the European Statistical System. Chapter 23 outlines the various public commitments given by the ECB (on behalf of the ESCB) in recent years with respect to statistics, and in particular the undertaking on data quality.

At the start of monetary union, the NCBs of the eleven participating Member States had statistics departments varying greatly in size. They were experienced in collecting and compiling the national statistics for which their institution was responsible and for contributing to the development of statistics at national, European and international levels – although the extent to which they could do this varied with the resources available to them. In particular, all (together with the then four EU Member States outside the euro area) had contributed to the initial development of statistics for monetary union. Ten countries joined the European Union in 2004; a further two acceded in 2007, and Croatia did so in mid-2013. Greece, in 2001, and five of the 2004 intake, subsequently adopted the euro, and Latvia will do so in 2014. The NCBs of all these Member States have rather small statistics departments.

Article 5 of the Statute of the ESCB provides that the ECB will be "assisted" in its statistical work by the NCBs and further that they will do the work "to the extent possible". A decentralised system is envisaged, with a major role for the NCBs. Broadly speaking, the working arrangement is that the central banks collect data from reporting agents in their country, query and validate the reported data, and compile national contributions, which they send to the ECB for incorporation in euro area aggregates. All communication with the national reporting agents and other national sources of data is in the hands of the NCBs. Conceptual and development work is carried out jointly by the ECB and the NCBs, mainly through the ESCB's committee structure. The whole effort is coordinated by the ECB. Because national data mostly continue to be used for monitoring national developments, and may in any case be required under the ESA 95 and by the IMF and other organisations and institutions for their surveillance and monitoring purposes, most data, even where collected by sampling, are designed to give meaningful results at national as well as at area level.

It will be clear from earlier chapters that a large amount of statistical development work has been undertaken by the Eurosystem and the ESCB in recent years. This

work, on top of the obligation to provide the ECB (under tight deadlines) with national contributions for use in the compilation of euro area aggregates, has put some strain on the statistics departments of, in particular, the small central banks in the euro area. While it was evident that obligations to provide national contributions to the ECB and to satisfy legitimate needs for national data had to continue to be met, a better organisation of statistical work could reduce the pressure on the Eurosystem. Moreover, centralising some procurement procedures, exchanging software and making expertise gained in one NCB available to others could bring savings and further ease the burden especially on small central banks. A number of projects have used expertise, in particular of central banks, to the benefit of the Eurosystem and the ESCB as a whole. Chapter 21 considers these matters and more recent developments, including the efforts to bridge statistical and supervisory requirements discussed in Chapter 3 in Part I.

There are two statistical systems in the European Union – the ECB and the NCBs, and Eurostat and the national statistical institutes (i.e. the government statistical offices), working in close collaboration in all matters of common interest. Chapter 22 describes the changes since 2003 in the relationship between the ECB and Eurostat, the EU body with which the ECB has by far the closest relationship in statistical matters. In carrying out its statistical functions, Article 5 of the Statute of the ESCB requires the ECB to cooperate with other EU institutions, and mentions its "fields of competence" without however specifying these. The fields of competence were agreed with Eurostat in 1995. The 2003 memorandum of understanding concerning respective responsibilities has been between the ECB and Eurostat; a new memorandum of understanding dated April 2013 is between the ESCB and the European Statistical System, together with a new forum to support close cooperation. The purpose remains to avoid duplicated effort, unnecessary burdens on reporting institutions and competing statistical series, and to ensure cooperation wherever necessary. Article 5 also requires framework legislation concerning the ECB's statistical activities to be adopted by the Council of the European Union. This framework was adopted in Council Regulation (EC) No 2533/98 and some important amendments were introduced by Council Regulation (EC) No 951/2009, as described in Chapter 22. Of particular importance here is the EU Council's discretion in identifying the type of entities falling within the ECB's reference reporting population, meaning those entities to which the ECB can address regulations requiring mandatory provision of statistical information. The EU Council also has the legal power to define the "confidentiality regime", meaning the extent to which information concerning individual reporting institutions and other entities named or otherwise identifiable can be exchanged. Some enhancements to the regime were introduced in 2009, allowing an exchange of such data within the central bank community if deemed necessary to support the ESCB's tasks, as well as with Eurostat and the national statistical institutes, but in this case only for statistical purposes. (Thus, as discussed previously, Eurostat and the national statistical institutes do not allow the use of the EuroGroups Register described in Chapter 19 for non-statistical purposes.) Related framework legislation supporting the work of Eurostat and the national statistical institutes was adopted in Council Regulation

(EC) No 322/97, recently replaced by Council Regulation (EC) No 223/2009 on European statistics (see Chapter 22).

The ECB has in recent years made public commitments on behalf of the ESCB concerning the principles on which its statistical work is based and the quality – in its various dimensions – which the ECB aims to maintain in its published statistics for the euro area (Chapter 23). The principles, set out in the amendment to Council Regulation (EC) No 2533/98 referred to in Chapter 22, are essentially the same as those adopted by Eurostat and national statistical institutes. The ECB disseminates statistics through many channels. In September 2006 it opened a Statistical Data Warehouse containing euro area aggregates as well as some country breakdowns. The ECB always seeks ways to improve accessibility to its data and communication on statistical matters to the interested public. A task force of the ESCB's Statistics Committee is currently looking into these matters, as mentioned in Chapter 23. Some of the statistical guidelines require the ECB to assess the quality of the relevant data, and the ECB publishes its findings in the two areas for which it is responsible at euro area level for primary statistics, namely monetary and financial statistics and external statistics. One particular case for concern – the increase, and apparent bias, in errors and omissions in the euro area balance of payments – is discussed at length in Chapter 12. But in many other instances the obligation to investigate problematic data has encouraged action to improve the results and contributed to maintaining the quality of euro area statistics as a whole. The role of the euro area accounts in requiring compilers of many different datasets to fit them into a single matrix (as described in Chapter 15) is also relevant to quality, since problems which are not apparent in individual series may be revealed by attempts to put them together.

21 ORGANISATION OF STATISTICAL WORK IN THE EUROSYSTEM

The statistics produced by the Eurosystem increased considerably in the early years of monetary union. Many of the initiatives described in this book will have further increased the volume of statistics. It is true that data transfer has become increasingly automated, but the Eurosystem staff available to carry out the development and compilation work to the extent that human intervention is needed (as it often is) has not increased. Moreover, while some NCBs have large statistics departments, others, mainly in the small Member States, employ few people in statistics. Although the ECB's own statistics department has expanded since the start of monetary union, it accounts for only a small fraction of the staff employed in statistical work in the Eurosystem; the scope for helping small central banks by centralising more of the work is therefore limited. Finally, the ECB has a statutory obligation to meet its statistical needs at the least cost to reporting institutions. The reporting burden was a concern even before it was compounded by the financial crisis, as described elsewhere.

In earlier times, statistical work in some central banks was carried out in different departments – thus balance of payments data, which originally often used exchange control information, might be collected and processed in a different department from bank balance sheets and monetary statistics. Central banks then began to exploit economies of scale by concentrating statistical activities in one business area and by integrating (parts of) statistical production processes, e.g. those related to monetary and balance of payments statistics. Yet it was still common for data from banks and other financial institutions required for supervisory and financial stability purposes to be collected and processed separately from the data used to compile monetary statistics and to be incorporated in the financial accounts. The financial accounts themselves might be compiled in a different area from the source data. The substantial amount of resources devoted to statistical development and infrastructure suggested that the potential for efficiency gains should also be explored in this area. In addition, savings were to be made through the coordinated procurement of software tools and purchase of data from commercial data suppliers, and the ECB created a joint procurement office at the end of 2007. Most NCBs now concentrate work in a single statistics department, or at least ensure close cooperation between staff working on statistics.

Most of this book discusses the development of statistics in the period 2003-12. Chapter 21 meanwhile considers some organisational issues concerning the ECB and the (currently 17) NCBs in the euro area.

21.1 MAINTAINING POLICY RELEVANCE OF STATISTICS

Eurosystem financial statistics are challenged by financial innovation introducing a whole range of new financial instruments; the rapidly growing integration of (cross-border) financial (and non-financial) institutions; and the increasing

importance of non-bank financial corporations (notably investment funds, financial vehicle corporations (FVCs) and insurance corporations and pension funds). These developments might need to be incorporated quickly in economic and monetary analysis, which would require faster ways of adapting statistics and developing new ones. (Events have shown that some innovation has a negative side, while underlining the need to keep track of it through the timely enhancement of statistics.) Numerous examples of such work are described in this book.

Globalisation increases the relevance of external statistics but complicates their compilation and interpretation. In particular, the correct recording of cross-border transactions within a multinational corporation poses problems that significantly affect external statistics and the analyses based on them, possibly requiring a more integrated data collection from these enterprises. As noted in Chapters 9 and 19, much effort has gone into improving direct investment statistics and promoting collaboration among statisticians working in the area. Globalisation also has repercussions on the production, relevance and interpretation of euro area and national statistics of many kinds.[1]

Central banks must respond to financial innovation and in a timely way. While a full response to legal requirements on statistics usually takes much time, new developments are typically first captured by a short-term approach, relying on data that are already available in at least some NCBs. Moving to a "steady-state" approach supported by legislation and following a merits and costs procedure is a long process. Including the grace period needed by respondents to adapt their own systems, three years may elapse between the expression of a need and the arrival of new data to meet that need, as described in Box 12. Wider use of granular data enables the statistical system to respond more quickly to financial developments, but there may be room for a limited voluntary data collection by one or two NCBs from selected key market participants, so that the relevance of a particular financial innovation at euro area level can be assessed at an early stage. Something of this kind happened in the development of securities holdings statistics described in Chapter 5.

21.2 COMMON FACILITIES AND ARRANGEMENTS

Article 5 of the Statute of the ESCB envisages a decentralised statistical system, requiring that the NCBs, in "assisting" the ECB, should carry out the statistical tasks "to the extent possible". But this does not mean that the NCBs try to do everything. There are economies of scale within the Eurosystem, notably ECB facilities like the Centralised Securities Database (CSDB) and the Statistical Data Warehouse, or facilities managed elsewhere for general use in the Eurosystem. Both micro-data and the euro area and national aggregates may be stored and processed in a limited number of system-wide databases operated by specific central banks, while contacts with the national reporting agents and users remain national. Such facilities may be used at first with new statistics.

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1 "The Impact of Globalization on National Accounts", published by the United Nations Economic Commission for Europe in 2012, has much to say on all statistical aspects of globalisation.

Sharing statistical tasks with other organisations and institutions nationally could further the joint development and maintenance of a single business register. The statistical department of the NCB would be responsible for financial corporations and the national statistical institute for non-financial corporations, households and other entities. The registers could then (within constraints) be linked into a single European business register. This is indeed happening with the parallel development of the EuroGroups Register (mainly non-financial corporations) by Eurostat and the Register of Institutions and Affiliates (RIAD) (containing information on financial corporations) by the ECB and the Banca d'Italia – see Chapter 19). The ECB and NCBs are also looking at better ways to take advantage of data in central credit registers (Chapter 1). Another example of joint project development, this time between the ECB and the Deutsche Bundesbank, is the creation of a database of securities holdings under Regulation ECB/2012/24 on securities holdings statistics, as described in Chapter 5. Furthermore, given the importance of cross-border mergers and acquisitions and the need for exchanges of micro-data to achieve consistent treatment of transactions, the ECB and Eurostat sponsor the FDI Network, a forum in which national compilers can exchange information about large foreign direct investment transactions and positions.

There are other arrangements in common. Data are collected in such a way as to give representative national (as well as euro area) results. Samples based on euro area criteria could yield substantial savings for respondents at the cost of less reliable national results (although NCBs would be free to collect additional information for representative national results if desired, perhaps to a slower timetable). It is recognised, however, that it is not possible to use statistical techniques that reduce the reporting population when the data collection also serves supervisory or administrative purposes requiring a full census (e.g. for administering Eurosystem minimum reserves), although there might be scope for samples to obtain detailed breakdowns not required for administrative purposes. It should also be added that the importance of national data has grown considerably as a consequence of the financial crisis (see Chapter 24). Common Eurosystem statistical techniques in, for instance, quality control, extrapolation, estimating backdata, and seasonal and working-day adjustment might also offer possibilities for cost savings and better results.

Another efficiency issue for the Eurosystem concerns the handling of data requests from (other) international and supranational organisations. The ECB has for some years acted as a gateway for the regular submission of national data to the IMF, while recognising that the responsibility for the national data remains with the NCB or other national provider.

Substantial savings have been made from the common procurement of, e.g. software tools and market data through the Eurosystem Procurement Coordination Office set up by the ECB at the end of 2007 and hosted by the Banque centrale du Luxembourg. Again there are limitations: thus licensing complications have so far prevented some of the information supplied by commercial providers to the ECB's Market Data Provision system from being shared with NCBs (see Chapter 7). Many central banks are however open to sharing software which they have developed, and the ECB makes its facilities available to all in the Eurosystem and more widely in the ESCB.

21.3 MINIMISING REDUNDANCY

Experience in some central banks has shown that the use of granular data for statistical purposes can lead to a lower response burden and higher data quality. The re-use of data is most efficient if information is shared at micro-data level.

Overlapping parts of statistical production, for example monetary and external statistics, or investment fund and external statistics, should avoid double reporting and enhance data consistency. The ideal would be a fully integrated data collection by central banks. An intermediate solution would be to share aggregate data ("building blocks") between different statistical areas, aided by common taxonomies. Experience has also shown that an efficient integration of all statistics, or at least those serving Eurosystem tasks, is much easier if their production is centralised in one business area at the central bank. Such concentration at national level would also help cooperation within the Eurosystem. Most NCBs now concentrate work in a single statistics department, or at least ensure close cooperation between staff working on statistics.

The alignment of the concepts and collection of supervisory and statistical data has led to the formation of the Joint Expert Group on Reconciliation of credit institutions' statistical and supervisory reporting requirements (JEGR), whose work is described in Chapter 3. The JEGR considers common reporting formats and taxonomies as well as the statistical content of the data. Similar thinking lies behind the close cooperation with the European Supervisory Authorities in preparing statistics for the ESRB's use, and in particular with the authority responsible for insurance business in developing a steady-state reporting system for insurance corporations (Chapter 2).

Technological progress should permit better data collection and compilation, the linkage of different data sources, and the re-use of already available data. It may become easier to upload data (almost) directly from the business systems of the respondents (security-by-security reporting is an application now widely used). Coherent data taxonomies and a further alignment between the definitions relating to statistical and accounting data will certainly increase efficiency in this respect. Bigger storage capacity and faster processing make it feasible to collect more granular data for aggregation and dissemination by the Eurosystem to meet various central bank policy purposes (for example, data on securities holdings and no doubt in due course information via data sources such as credit registers). Another substantial improvement concerns data exchange, where the ECB is one of the sponsors of the SDMX, a worldwide standard (see Box 13 in Chapter 23 below).

21.4 OTHER MANAGEMENT ISSUES

Outsourcing some central bank statistical functions is a possibility. In several euro area countries, the national statistical institute, not the NCB, is responsible for balance of payments and related statistics and financial accounts. In these areas the ECB shares responsibility at European level with Eurostat, and the ECB receives data under a guideline (or, in the case of external statistics, a "recommendation", that is, a non-binding adaptation of a guideline addressed to

certain national statistical institutes). Nevertheless, NCBs retain responsibility for the data sent to the ECB and should remain expert in the relevant area of statistics, not least in order to participate in discussions in ESCB committees alongside the national statistical institute. The NCB has to ensure that the relevant confidentiality regime applies fully.

Most of Chapter 21 concerns aspects of collection, compilation and generally organising statistics. There are however other issues surrounding the use of statistics. Thus the Eurosystem's policy communication may be helped if the underlying statistics are easily accessible and understood by analysts, the media and the general public. Transparency on monetary policy decisions and the reasons for them contribute to their effective transmission, and statistics have a role here. National data and national contributions to the European aggregates may become even more important.

It is important for the Eurosystem's and the ECB's credibility that its existing statistics (including sources and methods) are communicated to the public in an accessible way. The enduring gap between the public's perception of inflation and the official figures compiled by Eurostat has suggested that this could be improved. Concern about effective communication led to the establishment of a task force on the accessibility of statistics (mentioned, along with other communication issues and the ECB's "inflation dashboard", in Chapter 23). In addition to providing the public at large with easily accessible statistics, the Eurosystem could also help to feed back data to target groups including reporting agents, thus reducing the reporting burden. Another approach is to share data, including as far as possible anonymised micro-data, with the research community (the results of the survey on household finance and consumption described in Chapter 17 were made available in this way). A related area is training in statistical matters for Eurosystem staff and for interested participants from elsewhere, which could be improved by more collaboration within the Eurosystem.

Box 12 Merits and costs procedure

The ECB's statutory obligation, under the framework regulation on ECB statistics, to meet its requirements at the lowest cost to reporting agents has already been mentioned. The ECB also seeks to keep down its own costs and those of the NCBs in processing and compiling statistics. Yet there are always unmet statistical needs and pressure from internal and other users to satisfy them. The statistical reporting burden (together with other requirements covering, e.g. the International Financial Reporting Standards and Basel II and III, see Chapter 3) is a contentious issue for many financial institutions and their representative bodies.

The statistics developed during the 1990s for the start of monetary union in 1999 were considered to be the minimum for the purpose. Once enhancements came to be considered, however, the question arose of which of them to pursue. In 2000 the ECB and the NCBs agreed on a formal merits and costs procedure to

establish priorities and minimise the reporting burden. Since then new statistical requirements and any significant changes to reporting have been subject to this procedure, which has however been modified over time.

Users must face various compromises. Thus timeliness, frequency, level of detail, coverage and accuracy must usually be subject to some trade-off. While some approaches can benefit both users and reporting institutions, even security-by-security reporting, perhaps the best current example, adds to compilation costs and requires a reference database which is expensive to develop and maintain. Euro area sampling would reduce costs all round, but may have the consequence that some national results, especially in smaller countries, become unreliable or even unavailable, as noted earlier. The ECB uses existing data and estimates as far as possible; it accepts where it can data produced to accounting standards which may differ from statistical standards, and seeks common ground between statistical and supervisory reporting requirements (for example, through the work of the JEGR). The consequence, however, is that some users do not get exactly what they want. It should be added that the ECB tries to avoid major changes to requirements more frequently than every five years, and any piecemeal changes.

The ESCB's Statistics Committee reviewed the merits and costs procedure in 2003 in response to concerns from several central banks that statistical reporting was becoming too burdensome. Changes were made to increase the involvement of respondents, to assess merits in a more measurable and simpler manner, and to make the process lighter, less bureaucratic and potentially quicker. It was also agreed to review periodically the usefulness of existing statistics. Thus proposals for major changes to statistics are explained and justified, scrutinised, costed as far as possible, and, if necessary, modified or rejected.

The merits and costs assessment has several steps. Users are involved throughout.

- Step 1: a statement of users' needs; an overall statistical assessment of them; a provisional agreement on how to proceed.

- Step 2: a detailed statistical assessment of how to meet the requirement; consideration of what legal instrument might be necessary.

- Step 3: a thorough examination of existing sources to check that the requirement or part of it cannot be met from them; identification of genuinely new needs.

- Step 4: careful definition of the output requirement; a fact-finding exercise with the NCBs.

- Step 5: an exercise to estimate costs (both setting up and regular production, and in both the Eurosystem/ESCB and for reporting agents), conducted with the help of NCBs and selected reporting agents; summary of the results; selection of final reporting options.

- Step 6: a last consultation of users, who may be asked to choose among alternatives; a final assessment by the ESCB's Statistics Committee to strike a balance between the merits and related costs; submission of an agreed package to the Governing Council in the form of a draft regulation or guideline for adoption.

The merits are not valued in money terms, but are scored for policy relevance and operational usefulness; the source of the expressed need; the contribution to harmonisation and international comparability of statistics; and to enhance the quality of data.

22 AMENDMENTS TO THE EU FRAMEWORK LEGISLATION ON ECB STATISTICS

22.1 BACKGROUND

Article 5.4 of the Statute of the ESCB provides that "The [EU] Council … shall define the natural and legal persons subject to [the ECB's] reporting requirements, the confidentiality regime and the appropriate provisions for enforcement". This is done in Council Regulation (EC) No 2533/98, which, with the Treaty and in particular the Statute of the ESCB, provides the framework for the ECB's statistical work. The framework regulation does not in itself impose statistical reporting obligations, but instead:

• defines the potential reporting population (called the reference reporting population) to which the ECB can address mandatory reporting requirements;

• limits the scope of the information that the ECB can collect by means of these reporting requirements;

• defines the confidentiality regime, i.e. arrangements for safeguarding data relating to identified or identifiable entities and the scope for exchanging such information;

• outlines the broad governance for the development, production and dissemination of European statistics by the ESCB.

Enhancements to this legislation were put forward in 2008, resulting in Council Regulation (EC) No 951/2009. The main reason was a need for clarification concerning the confidentiality regime and the scope of the statistics which the ECB is entitled to collect in order to carry out its functions. It was also necessary to recognise a continuing requirement for certain data on cross-border positions and transactions within the euro area, and to widen the reference reporting population (entities which might be required to report data under ECB legislation). Finally, there were some governance issues to be addressed. These points are further explained below.

The enhancements coincided with a review of the legal framework for European statistics (Council Regulation (EC) No 322/97). The new Council Regulation (EC) No 223/2009 introduced the concept of the European Statistical System (ESS), comprising Eurostat and national statistical institutes. The ESS was not intended to include NCBs in view of the ESCB's separate institutional arrangements and statutory independence. It was necessary however to acknowledge in Council Regulation (EC) 2533/98 the relationship with the ESS in the ECB's statistical framework, and to introduce a similar definition of "European statistics" but relating to the agreed statistical functions of the ECB/ESCB at European level, along with a similar statement of principles underlying the statistical work.

It should be added that Council Regulation (EC) No 2533/98 requires the ECB to cooperate with other EU institutions and bodies on statistical matters. Cooperation between the ECB and Eurostat, and the ESCB and the ESS, has always been close. The current structure includes working-level committees, a Committee on Monetary, Financial and Balance of Payments statistics (the CMFB, set up in 1991) and the recent European Statistical Forum mentioned in the introduction to Part VII to promote cooperation on strategic and operational matters between the ESCB and the ESS.

22.2 CLARIFICATION CONCERNING THE CONFIDENTIALITY REGIME

The need was to clarify in particular the exchange of confidential information within the ESCB and the relationship with the ESS in this connection. Confidential information here means information which could enable the business of an individual reporting agent or other entity to be identified, directly or indirectly. Concerning the exchange of information within the ESCB, Council Regulation (EC) No 2533/98 expressly mentioned only the transmission of confidential information by NCBs to the ECB. There was therefore a need to allow a more extended transmission of confidential information among all members of the ESCB. The need had already arisen in the context of the ECB's Centralised Securities Database (CSDB) project. The legal advice obtained was that, although such an exchange of data within the ESCB was probably already implicit in Article 8 of Regulation No 2533/98, it should nevertheless be amended in the interests of clarity when the opportunity arose. Meanwhile, the ECB's Governing Council approved the necessity to exchange such confidential data within the ESCB. The Governing Council also stated that an updated regulation should confirm that any confidential information received by the ESCB from national statistical institutes or Eurostat would be used for statistical purposes only (where the identity of individual data sources or other entities would not be revealed). (Under certain circumstances, Regulation (EC) No 2533/98 has always allowed the use of information collected by the ESCB for other purposes – for example, for the minimum reserves system or analytical purposes – but the ESS legislation – Council Regulation (EC) No 223/2009 – allows only statistical use.) The need for such data exchanges has become more evident as a consequence of the financial crisis and, in some countries, from changes in the area of responsibility of their NCBs and national statistical institutes. The amended Council Regulation (EC) No 2533/98 also expressly allows confidential data to be sent by a member of the ESCB to an authority in the ESS if the transmission is needed for the purposes of European statistics.

There is a related issue concerning statistical confidentiality within the ESCB. The only survivor from a group of statistical legal instruments adopted by the ECB in late 1998 is a guideline concerning the protection of confidential information.[1] Like other ECB guidelines, it is binding only on central banks in the euro

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[1] Guideline concerning the common rules and minimum standards to protect the confidentiality of the individual statistical information collected by the European Central Bank assisted by the national central banks (ECB/1998/NP28). The guideline, initially not published, was later released along with a number of other previously unpublished instruments.

area. However, Regulation (EC) No 2533/98, as amended, requires (all) ESCB members to take the necessary measures to protect confidential information. The need to exchange confidential information among central banks in the ESCB as a whole thus raises the question of reassuring reporting agents and others that information supplied by or relating to them will be protected as well elsewhere in the ESCB as it is in the Eurosystem. This aim cannot be achieved by amending or replacing the 1998 guideline, since the instrument is not binding outside the Eurosystem. Instead it is likely that there will be in due course a formal agreement committing central banks of EU Member States outside the euro area to apply at least the degree of protection given to confidential information by Guideline ECB/1998/NP28. The public commitment on behalf of the ESCB described earlier in any case protects statistical information.

22.3 A NEED TO CONTINUE REPORTING CERTAIN INTRA-EURO AREA TRANSACTIONS AND POSITIONS

Chapter 10 explained that portfolio investment liabilities in the euro area balance of payments and international investment position (that is, portfolio investment claims of the rest of the world on entities in the euro area) are estimated by residual. The approach requires information on residents' cross-border portfolio investment claims within the euro area. The expectation in 1998 that this need would be temporary proved to be wrong. Thus the statement in a recital to Council Regulation (EC) No 2533/98 limiting the reporting of such transactions and positions to " ... the early years of the single currency area ..." needed to be removed.

22.4 SCOPE OF STATISTICS COVERED BY THE FRAMEWORK LEGISLATION

Council Regulation (EC) No 2533/98 included in the reference reporting population for ECB statistics "other [i.e. non-monetary] financial intermediaries, except insurance corporations and pension funds ...". These comprise S.123 in the ESA 95 (insurance corporations and pension funds form S.125). Insurance corporations and pension funds were originally omitted because their business was not thought likely to be closely relevant to monetary policy. In fact, the size of these institutions (second only to MFIs in the euro area), their increasing activity in financial markets, and the likelihood that ageing of the population will add to their significance made it apparent that the ECB did need good and harmonised statistics on insurance corporations and pension funds, and no other EU body planned to provide them in the foreseeable future. The financial crisis further underlined their importance for financial stability. The extension of the reference reporting population to include them was seen as a precautionary measure in case the need arose to meet statistical requirements through an ECB regulation. Meanwhile, as explained in Chapter 2, better data on these institutions were introduced in 2011, following the work of a task force of the ESCB's Statistics Committee, although no specific legal act was adopted. The present intention is to adopt an ECB regulation on insurance corporations statistics (though not pension funds) and data may also be obtained through the harmonised reporting templates to be introduced by the European Insurance and

Occupational Pensions Authority, one of the European Supervisory Authorities set up in 2011, in accordance with the Solvency II Directive.

Although Council Regulation (EC) No 2533/98 referred to statistics necessary for the tasks of the ESCB to be performed, it mentioned specifically only the conduct of monetary policy. It made no express mention of harmonised statistics on financial corporations to enable the ESCB to " ... contribute to the smooth conduct of policies pursued by the competent authorities relating to the prudential supervision of credit institutions and the stability of the financial system", in accordance with Article 127(5) of the Treaty. Nor did Regulation No 2533/98 refer to the collection of statistics relating to the payments system function also mentioned in Article 127, or to statistics on banknotes. As Chapter 3 explained, the conceptual basis of data for financial stability purposes, particularly concerning consolidation, differs from that of data for monetary policy purposes. In practice data used for macro-prudential analysis in the ECB, to a large extent received on the basis of informal agreements, were considered to lack comparability. More recent developments have underlined the importance of data improvements in this area. The work may be relevant where supervisory and statistical reporting may reduce the response burden on credit institutions (see the account in Chapter 3 of the work of the JEGR, and the reference in Chapter 21). Other functions that are now more widely covered by the amended Regulation No 951/2009 concern Chapter 8 on payments and securities trading, clearing and settlement, which have also been much enhanced in recent years, and Chapter 11 concerning banknotes outside the euro area.

22.5 GENERAL GOVERNANCE ISSUES

As mentioned above, the framework regulation – Council Regulation (EC) No 2533/98 on ECB statistics – was amended to include a statement of statistical principles (in line with Article 338 of the Treaty, as renumbered) and a reference in the recitals to the ESCB, together with the ESS, as a provider of European statistics.

The statement of statistical principles is taken from the ECB's public commitment on behalf of the ESCB with respect to its statistical function. The principles are listed in Chapter 23. The statement indicates that the European statistical community, although organised in two systems, follows common principles. With respect to the commitment to cost-effectiveness and avoidance of excessive burdens on reporting agents, the amending framework Regulation No 951/2009 requires an assessment of the merits and costs of new or substantially enhanced statistical information before the ECB adopts regulations on new statistics – a practice already followed by the ECB since 2000. Much like the amended regulation on the ESS, the amending Regulation No 951/2009 defines European statistics to mean statistics that are necessary to undertake the ESCB's tasks set out in the Treaty, determined in the ESCB's statistical work programme, and developed, produced and disseminated in conformity with the statistical principles.

23 PUBLIC COMMITMENTS, THE GOVERNANCE STRUCTURE, MAINTAINING QUALITY, AND DISSEMINATION AND COMMUNICATION ISSUES

23.1 PUBLIC COMMITMENTS

A public commitment on statistics dates from 2007 and was most recently amended in 2012 to align it with the European Statistics Code of Practice. It was made on behalf of the ESCB, not the ECB alone. The commitment is to comply where appropriate with European and international statistical definitions and concepts. The commitment comprises 15 principles grouped in three categories.

- *Institutional environment*, comprising the principles of professional independence; a mandate for data collection; adequacy of resources; a commitment to quality; statistical confidentiality; and impartiality and objectivity.

- *Processes*, covering sound methodology; appropriate statistical procedures; minimisation of the reporting burden; and cost effectiveness.

- *High output quality*, comprising relevance; accuracy and reliability (including stability); timeliness (including punctuality); consistency and comparability; and accessibility and clarity.

These principles are similar to those in the ESS's Code of Practice and are aligned with the Fundamental Principles of Official Statistics adopted by the United Nations.

23.2 GOVERNANCE STRUCTURE

The governance structure underlying ECB/ESCB statistics has not changed in recent years, other than the 2009 amendment to Council Regulation (EC) No 2533/98 on ECB statistics discussed in Chapter 22. Nevertheless it may be worth recalling the main features. Article 5 of the Statute of the ESCB provides that the ECB must "collect" the statistics needed for the ECB to perform its tasks; that the ECB will be assisted in this by the NCBs, which indeed must carry out the work to the extent possible; and the ECB must cooperate in its statistical function with EU institutions, relevant national authorities and international organisations.

In doing this, the ECB must work within a framework set by Council Regulation (EC) No 2533/98, which establishes the reference reporting population for ECB statistics (the entities to which the ECB may address regulations), the confidentiality regime, and provisions for enforcement, meaning sanctions

which may be imposed on reporting agents in breach of the ECB's statistical requirements. If necessary the ECB and the NCBs can verify the accuracy and quality of the information reported under ECB regulations, or carry out a compulsory collection of information.

None of this specifies what statistical information must be reported and by whom. Article 34 of the Statute of the ESCB empowers the ECB to adopt regulations and certain other legal acts. In the area of statistics the ECB has issued regulations requiring the entities in the euro area to which they are addressed to report specified information at a required frequency following stated definitions, etc.[1] The ECB has also issued legally binding guidelines to members of the Eurosystem requiring NCBs, and the ECB itself, to provide statistical information. This may be data relating to their own activities (the Eurosystem NCBs and the ECB are themselves monetary financial institutions (MFIs) and must provide, where relevant to their business, the information required of other MFIs). Guidelines also inform NCBs what data sent to them must be transmitted to the ECB, by when and in what form. Finally, guidelines tell Eurosystem NCBs what data the ECB needs in areas not covered by an ECB legal act, either because the source of the information cannot be addressed by an ECB regulation (government finance statistics); or because the data collection is still at the short-term stage rather than in "steady state" (data relating to the remaining types of financial institution not addressed by a regulation); or because a regulation is inappropriate (financial accounts, which are derived statistics, not directly reported); or otherwise considered impractical (balance of payments and international investment position statistics). Where the data are the responsibility at national level of an entity other than the central bank, like the balance of payments in some euro area countries, the ECB may address a recommendation – in substance the same as a guideline but not binding – to the institution responsible for the work. Although ECB legal acts are binding only on entities in the euro area, other EU countries usually choose to follow them, at least in substance. The ECB also issues statistical notices (the purpose of which is to inform) and guidance notes, compilation guides, manuals and handbooks on various areas of statistics which have no legal status but are intended to explain concepts and practices. The March 2003 memorandum of understanding on statistical matters was agreed with Eurostat. The memorandum (together with a later Service Level Agreement) replaced an earlier version adopted in 1995: it set out areas of responsibility in statistical matters at EU level and arrangements for cooperation. As mentioned earlier, a new memorandum of understanding, now between the ESCB and the ESS, was adopted in April 2013.

The high degree of effective collaboration needed to make a decentralised system work is to a large extent achieved through the ESCB's committee structure.

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1   Post office giro institutions, the subject of Regulation ECB/2006/8, are not financial corporations, but they are mentioned separately as part of the reference reporting population in Council Regulation (EC) No 2533/98. On residence, the ECB has no power to compel entities resident outside the euro area to report, except that it may request consolidated data for financial stability purposes, which may include the business of branches and subsidiaries of the reporting institution resident outside the euro area. (This latter point was introduced by Council Regulation (EC) No 951/2009 amending Regulation No 2533/98.)

A senior committee, the Statistics Committee, includes heads of statistics in the central banks and, by invitation, representatives of Eurostat, the BIS, the IMF and the CMFB (many of whose members are also in the Statistics Committee – see Chapter 22), and others as necessary. It reports to the ECB's Governing Council and General Council through the Executive Board. Specialist working groups reporting to the Statistics Committee cover individual areas of statistics. Temporary task forces or advisory groups are set up on an ad hoc basis to investigate and report on particular matters. In this way, and through bilateral contact at working level, the ECB, the NCBs and other statistical agencies can work together effectively. The ECB and staff of NCBs also participate in relevant committees and working groups of Eurostat and international institutions.

The merits and costs procedure described in the box in Chapter 21 helps the ECB to minimise the burden on reporting agents (subject to meeting its statistical requirements), as it is obliged to do under Council Regulation (EC) No 2533/98.

23.3 QUALITY FRAMEWORK AND MONITORING

The principles listed and described above are enshrined in the ECB's statistical quality framework (see the publication entitled "Quality assurance procedures within the ECB statistical function", first published in April 2008). The quality framework is in line with the ESCB's public commitment with respect to its statistical function but is more specific. It is a statement of intent: while most aspects are already reflected in current practices, some data which are nevertheless made available to external users do not fully meet them and are labelled experimental data. The ECB's framework builds on existing quality frameworks. The principles underlying it reflect the Fundamental Principles of Official Statistics of the United Nations Statistical Commission, which are used as a reference framework for existing statistical quality frameworks, and the related Principles Governing International Statistical Activities. The framework shares many features with the ESS Code of Practice and the IMF's Data Quality Assessment Framework.

The International Organization for Standardization (ISO) defines quality as the totality of features and characteristics of a product or service that bears on its ability to satisfy stated or implied needs. The question then is whether statistics fully meet their intended purpose. Quality encompasses all aspects of how well statistical processes and output fulfil the expectations of those with a close interest in them. Consequently high quality statistics should meet users' needs regarding the availability and information content of disseminated data; respect the rights of reporting agents regarding the strict confidentiality of the individual information provided, unless it is already in the public arena or reporting agents have agreed to its disclosure; and address the concerns of reporting agents and compilers regarding the reporting burden. There must be provisions to promote the skills and sustain the ethical standards of statisticians.

The ECB, with the help of the NCBs, reviews the quality of various statistical outputs each year. Indeed, as mentioned in Chapter 20, some of the statistical legislation requires the ECB to assess the quality of the relevant data, and the

ECB publishes its findings in the two areas for which it is responsible at euro area level for primary statistics. The first quality reports were published for 2004 (balance of payments and international investment position statistics) and for 2008 (monetary and financial statistics).

The quality reports group the principles in three categories (as reflected in the public commitment mentioned in Chapter 23.1 above).

- Institutional environment: comprising the principles of independence and accountability; a mandate for data collection; impartiality and objectivity; statistical confidentiality; coordination and cooperation among the members of the ESCB and with European and international organisations; and resources and efficiency.

- Processes: covering sound methodology and appropriate statistical procedures; and cost effectiveness and a non-excessive burden on reporting agents.

- Output: comprising relevance; accuracy and reliability (stability); consistency and comparability; timeliness and punctuality; and accessibility and clarity.

The reports then look at the relevant areas of statistics in the latest period under these headings. The purpose in this book is not to analyse the reports but rather to mention the sort of issues covered by them. Most of the focus is on the second and third group of principles, since the institutional environment can largely be taken for granted, at least so far as ECB/ESCB statistics are concerned. So, for example, the 2010 quality report on monetary and financial statistics published in March 2011 noted that the checks and time-series analyses performed in each production round on both the national and the euro area data showed that "regular" revisions (those made in the following monthly data submission) generally had an impact of less than +/-0.1 percentage point on the annual growth rate of M3. Subsequent revisions to M3 for the euro area were also very small: indeed most of the revisions were not visible in the monthly growth rates published to the first decimal place. Some components, however, may experience larger revisions. Thus growth rates of money market fund (MMF) shares/units and of short-term debt securities issued by MFIs and held by euro area residents were sometimes revised substantially. In the area of securities issues, the March 2011 report noted improvements in the coverage of debt securities issued by residents in Ireland and Luxembourg, and that the coverage of quoted shares had expanded to include international listings by Irish residents. Continued progress with the Centralised Securities Database (CSDB, see Chapter 6) was considered to offer opportunities to review and analyse the aggregated securities issues data. The report noted progress with the new investment funds data reported under Regulation ECB/2007/8 (see Chapter 2), while observing that there were a number of reported items whose quality and/or coverage was not yet sufficient for publication, including the sectoral breakdown of holders of investment fund shares/units issued, financial derivatives currently included in remaining assets/ liabilities, and monthly transaction data except in investment fund shares/units issued (the largest liability category). The report preceded the first publication

of new insurance corporation and pension fund data and merely noted that these would soon be available.

Revisions are commonly larger in balance of payments and international investment position statistics, and internal and external consistency checks are more relevant. The March 2011 quality report (also not the latest report) on these areas of statistics noted enhancements introduced by various Member States in 2010, including sounder methodologies, better coverage and more consistency, which themselves triggered revisions to the euro area statistics. There was some difficulty however in complying with the residency definition of SPEs (entities incorporated in a country but with little or no physical presence there or other connection with the economy – see Box 3 in Chapter 2). The report also noted that the quality of the balance of payments and international investment position statistics might be affected by globalisation, which makes it harder to identify and quantify cross-border transactions, especially within multinational groups (Chapter 19). The requirement to contain the reporting burden on respondents could also prejudice statistical quality.

The report noted that the 12-month cumulated net errors and omissions in the euro area balance of payments had remained stable at a much reduced level since the actions taken in 2009 and no longer displayed the bias which had emerged in 2004 (see Chapter 12). A test of consistency in this area is the link between flows recorded in the financial account of the balance of payments and the change in outstanding assets and liabilities recorded in the international investment position. The ECB checks that the difference between them can plausibly be explained by market valuation and exchange rate effects and publishes an annual reconciliation. The report stated that consistency between balance of payments and monetary statistics had improved further. In general, the methodological differences between balance of payments data and transactions derived from the external components of the MFI balance sheet are few (examples include accrued interest on external assets and liabilities, and the different treatment of the borderline between loans, securities and derivatives). Although the euro area balance of payments and international investment position statistics are the major source for the rest of the world account in the euro area integrated sector accounts (as described in Chapter 15.4), the report noted some methodological differences which mean that the data shown in the rest of the world account do not correspond to the balance of payments and international investment position statistics data. (It will also be recalled in Chapter 15 that the rest of the world account is vertically balanced, meaning that errors and omissions are eliminated.)

Finally, the ECB regularly compares the euro area data with supposedly corresponding data released by its main counterparts, namely in the United Kingdom, the United States and Japan. The report revealed that, whereas the asymmetries between the euro area balance of payments and those of the latter two countries seem to be limited, asymmetries with the United Kingdom have increased, in particular with respect to euro area exports of services to the United Kingdom and, more recently, income debits. Indeed, the flows recorded in the euro area balance of payments substantially exceeded the mirror flows recorded by the United Kingdom for all current account items.

23.4 DISSEMINATION

Since the start of monetary union, the ECB has disseminated its regular statistics in the form of press releases, followed by detailed analysis and explanation in the Monthly Bulletin. The Monthly Bulletin has an extensive statistical section with tables of data, mostly presenting recent euro area aggregates, accompanied by explanatory notes. It frequently contains articles or boxes to explore and explain the data in greater detail – many of these are listed in the bibliography at the end of this book. In August 2003 the ECB began to publish a monthly Statistics Pocket Book, which contains less detailed tables but longer back series and more data on individual Member States in the euro area. All these data and a good deal more, again with explanatory notes, are available in the ECB's Statistical Data Warehouse (SDW), which the ECB opened to outside users in September 2006 following preparatory work of a task force on the dissemination of (ESCB) statistics set up in 2004. The SDW is intended for a wide range of users of euro area and EU statistics, allowing them easily to find, display, chart and download data, including in many cases national breakdowns or national contributions to the euro area aggregates which are consistent with the latest area aggregates. Users can perform simple transformations on the data, and those with particular needs can create their own data groups for easy reference. They can download data into common software packages and in SDMX (Statistical Data and Metadata eXchange) and text formats. Users can update tables in the ECB's statistical publications (the euro area statistics section of the Monthly Bulletin and the Statistics Pocket Book) with the latest data. The data and accompanying descriptions are presented in a harmonised and integrated way. The ECB also put a euro area "inflation dashboard" on its website in 2008, recognising the gap between public perceptions of inflation and the numbers produced each month by Eurostat.

23.5 COMMUNICATION

Communication of statistics means more than releasing data. It requires the ECB to understand the needs and capacities of different audiences and to present and explain the data accordingly, using appropriate channels. The result may be better understanding and acceptance of policy decisions, which in turn may make them more effective. Communication is not all one way: the ECB needs reactions and suggestions from users.

How to foster this two-way communication merits careful thought. The ESCB's Statistics Committee accordingly established a task force in December 2010 with a mandate to prepare recommendations for enhancing communication, accessibility and usability of ESCB statistics. The task force issued 62 recommendations (later than the period covered by this book) in which it suggested many practical solutions, and in the course of its work has developed a range of approaches to exploit the latest technology. Particular constituencies of the professional users of central banking statistics are the media, financial analysts, university researchers (including the use of anonymised data for research, subject to confidentiality constraints), and the reporting population itself. Indeed the reporting population may need non-confidential information for its own business purposes – several

NCBs provide such data, with positive results. As a related point, however, it might be remarked that statisticians (including in this book) employ standard terminology used for the European and international standards which may not be accessible to a wider public outside expert groups. This no doubt is one of the concerns of the task force in communicating to a wider non-professional public.

Statistical data exchange

SDMX-EDI (also called GESMES/TS) is the message used to exchange statistical data and metadata (information about the statistics) within the ESCB and with Eurostat and international organisations. GESMES/TS stands for GEneric Statistical MESsage for Time Series. Developing the message was an important task in the statistical preparations for monetary union. SDMX-ML is the syntax used by the ESCB in the web dissemination of statistics (as, notably, in the ECB's SDW). Both SDMX-EDI and SDMX-ML are part of the SDMX standards maintained by a group of seven international and European organisations and institutions, including the ECB and Eurostat. The ISO published SDMX as International Standard (IS) 17369 in January 2013. The ISO publication essentially covers the SDMX framework (Part 1 of the standard) with additional explanatory material and references to the seven parts of the standard.

Part of the work of implementing in 2014 the new international and European statistical standards will involve developing, with Eurostat and international organisations, data structure definitions to enable data conforming to the SNA 2008/ESA 2010 and the revised related standards to be most conveniently exchanged and accessed using the SDMX-ML format. The new data structure definitions are included in the ECB legal acts implementing the new statistical standards. The outcome should be a single format used worldwide for exchange of and access to statistical data, including metadata information. The external statistics Guideline ECB/2011/23 provided the first data and accompanying metadata on banknote shipments (Chapter 11) to be exchanged in March 2013 in GESMES/TS via EXDI.

All this fits well with the need (long apparent, but given an impetus by the financial crisis – see further in Chapter 24) for prompt availability of comparable data relating to individual countries.

More information is available at: http://www.sdmx.org

Public access to statistics in the Statistical Data Warehouse

Work began in 2006 to prepare an internet version of the ECB's statistical database. The SDW, the ECB's online data delivery service for statistics, became publicly available in September 2006.

As mentioned in Chapter 23.4 above, the SDW is intended for a wide range of users of euro area and EU statistics, the general public as well as market participants, journalists, analysts and researchers. The database contains metadata as well as the data series themselves. Users can "navigate" the database by reference series, economic concept, data provider and reports (where for example the Monthly Bulletin and the Statistics Pocketbook are "reports", the SDW provides the latest data in tables as they appear in the publication). Users can display, chart and download euro area data and often national breakdowns or contributions to the euro area aggregates. Moreover, they can arrange to be informed as soon as new or revised data are available (the data are updated simultaneously in the SDW and on NCB websites). Data can be downloaded into common software packages and in XML and text formats.

PART VIII

LOOKING AHEAD

INTRODUCTION

Many of the initiatives described in earlier chapters had been concluded, or were already in hand, before the financial crisis broke out in summer 2007 and intensified in 2008. Some (notably the monetary financial institution (MFI) interest rate statistics and the integrated institutional sector economic and financial accounts for the euro area) were even envisaged when the first statement of statistical needs for monetary union was released in July 1996.

Yet it is undeniable that the financial crisis has given a big spur to statistical work. Two of the new directions taken by ECB/ESCB statistics – at technical level, the increased use of detailed, item-by-item granular data, and the much higher profile of the ECB's financial stability function and of the statistics that go with it – owe much although not everything to the financial crisis. The renewed interest in national data, as opposed to the euro area aggregates on which the ECB predominantly relies in conducting monetary policy, and the determination to monitor national imbalances, are partly a consequence of the vulnerability of some Member States which the financial crisis exposed.

Chapter 24 reviews the statistical consequences of the financial crisis, with particular reference to two influential reports published in 2009. The Issing Committee report stressed the importance of identifying risk and locating where it lies. The group was also concerned about bubbles in asset prices. The references to "interconnectedness" and to data on residential and commercial property prices in the IMF-Financial Stability Board report to G20 finance ministers and central bank governors follow similar lines. The G20 report also contains recommendations on (among other things) sectoral and other economic and financial datasets, including suggestions for enhancing the BIS international banking statistics and the IMF's Coordinated Portfolio Investment Survey; giving more prominence to the international investment position (and to balance sheet data generally); and improving the quality and comparability of government finance statistics (to which a great deal of effort had already been devoted in Europe in past years). Initiatives have followed at both international and European level to select and monitor key indicators of national economic performance, especially those which point to emerging imbalances which may cause trouble later. At international level, the work is led by the Inter-Agency Group on Economic and Financial Statistics, set up in late 2008 and chaired by the IMF. The group comprises representatives of the main international organisations and institutions, including the ECB and Eurostat (as part of the European Commission). Chapter 24 also describes the "scoreboard" of indicators relating to imbalances in national economies (not at euro area or EU level) set up by the European Commission in collaboration with the ECB in February 2012.

(There is a similar arrangement at G20 level, called the Mutual Assessment Process.)

The ECB has participated in most of the statistical initiatives generated by the crisis. It is also involved in preparing for implementation of many of the changes arising from the new international and European statistical standards described in Chapter 20, the development of which was already well advanced when the crisis began. The ECB, in collaboration with the NCBs – and Eurostat where appropriate – must also seek to meet user needs for data related to the ECB's policy functions. The new structure in Europe to oversee financial supervision and ensure the stability of the financial system also directly affects the ECB's statistical work, including the ECB's commitment to provide statistical support to the ESRB, which has an EU remit and is not confined to the euro area. In doing so the ECB must cooperate with the other components of the new framework, the three European Supervisory Authorities. Chapter 25 summarises the ECB's planned statistical work from 2012 and beyond.

24 STATISTICAL CONSEQUENCES OF THE FINANCIAL CRISIS

24.1 MAIN GAPS IN STATISTICS AND MEASUREMENT ISSUES REVEALED BY THE FINANCIAL CRISIS – THE ISSING COMMITTEE AND G20 REPORTS

The recent financial crisis has strongly influenced the direction of statistical work in the ECB and elsewhere. The establishment of the ESRB, whose statistical needs must be met by the ECB and, more generally, the enhanced importance of the ESCB's financial stability role have led ECB statistics in new directions. Many of these have been explored in earlier chapters. The prospect of a banking supervision responsibility for the ECB will no doubt further affect the ECB's statistical work.

Two influential reports generated by the crisis are the Issing Committee report of February 2009, "New Financial Order; Recommendations by the Issing Committee – Preparing G-20, London, April 2, 2009" and the IMF-Financial Stability Board report to G20 finance ministers and central bank governors, "The Financial Crisis and Information Gaps", adopted in November 2009. Aspects of the reports which are relevant to ECB statistics are summarised below.

ISSING COMMITTEE REPORT
The Issing Committee report concerning statistical gaps recommended the construction of a risk map "comprising off-balance sheet entities as well as risk transfer instruments like CDOs [collateralised debt obligations] and CDS [credit default swaps]." The report continued: "In fact, available data bases are not prepared to capture these financial instruments, nor the international interconnectedness among large and complex financial institutions (LCFI). Therefore, as a prerequisite for strengthening counter-cyclical policy measures (e.g. capital adequacy, and liquidity reserves), a coordinated effort to set up a suitable data base of the global financial interconnectedness (the exposure net) and its major risk factors (the risk drivers), is needed." By counter-cyclical measures here the report means an approach which tightens capital requirements and otherwise discourages strong growth in lending when markets are buoyant, and works in the reverse direction when conditions are weak, thereby possibly avoiding asset price bubble effects on the value of collateral and second-round effects on lending. The effect on lending via (apparent) over-sufficiency of bank capital when markets are strong may also be important.

The Issing Committee report also saw deficiencies in data on individual securities and loans, proposing supranational databases on both. In this context, the report proposed a standardised credit register to monitor domestic and cross-border exposures simultaneously. The report proposed that a global securities register, itself closely related to the risk map project, should be developed in parallel.

The Issing Committee report also advised central banks to take account of asset price bubbles in conducting monetary policy. This is a matter which monetary economists and policy-makers have often debated but the crisis gave the discussion a new topicality. The relevance here is that trying to prevent bubbles (or bursting them if they emerge) would inevitably give further significance to data on, in particular, residential and commercial property prices and probably also to the inclusion of at least some non-financial assets in sectoral balance sheets. As earlier chapters have noted, estimated holdings of residential property and some other non-financial assets are now included in the balance sheets of resident sectors in the euro area accounts, although work remains to be done in this area.

G20 REPORT

The IMF-Financial Stability Board G20 report stated that, while the financial crisis was not the result of inadequate economic and financial statistics, it exposed a significant lack of information as well as data gaps on key financial sector vulnerabilities relevant for financial stability analysis. Key recommendations refer to data improvements related to risks, international network connections, sectoral and other financial and economic datasets, and to the communication of official statistics.

The report saw a need to address information gaps in three interrelated areas. The first is monitoring risk in the financial sector. Much of this concerns the type of supervisory data briefly described above. The second area identified by the G20 report is international network connections, or cross-border financial linkages, such as those recorded in the IMF's long-established portfolio investment (CPIS) and more recent direct investment (CDIS) surveys, which are much used by statisticians in balance of payments and international investment position work. The third area identified in the G20 report is sectoral and other financial and economic datasets, mainly concerned (as the report explained) with sectoral transaction accounts and balance sheets, and information on residential and commercial real estate prices and developments in the property market more generally. The report also sought data on groups of entities within an institutional sector or sub-sector ("distributional information"). These datasets may indicate the vulnerability of economies to shocks. A fourth area concerns improving communication of official statistics, specifically the Principal Global Indicators website (a joint undertaking of the previously mentioned Inter-Agency Group on Economic and Financial Statistics). In a similar vein, the European Commission, with the involvement of the ECB, has developed a "scoreboard" showing information for individual EU Member States designed to reveal the emergence of potentially damaging imbalances in their national economies.

Other points raised in the G20 report concern government finance data, where (in the view of the report) the crisis has further highlighted data gaps and problems in comparability, with wide differences in coverage and definitions in national fiscal data, particularly for balance sheet items. This is not so much an issue in Europe, where the requirements of the excessive deficit procedure and Stability and Growth Pact have already led to harmonisation. The report, with its insistence on better data on government debt, notably its maturity profile and

classification by currency and holder, has raised the profile of outstanding debt in relation to the current fiscal position.

The G20 report also expressed concern about the lack of data on cross-border exposures of non-financial corporations. Onshore corporations, both financial and non-financial, use offshore entities (special purpose entities, SPEs, in the terminology of the new statistical standards) to raise finance and provide implicit guarantees (and to engage in other business); the activities of these entities are often not recorded in the statistics. The residence status of such offshore entities, registered in some other country but often with no or little physical presence there, is not sufficiently clear in the current statistical standards. As explained in Box 3 in Chapter 2, the new standards make it clear that registration or authorisation is sufficient to establish residence, even in the absence of a physical presence in the territory. ECB legislation adopted this definition of residence some time ago, but in practice the task of capturing transactions and positions of SPEs is not over.

The G20 report made twenty recommendations. Among other things, they cover the further development of the BIS data collection on securities, the BIS-ECB-IMF "Handbook on Securities Statistics" and a communications strategy for these data (Recommendation 7); a template for systemically important global financial institutions (Recommendation 9); information on cross-border exposures of financial and non-financial corporations (Recommendation 13); a template for exposures of large non-bank financial institutions (Recommendation 14); a strategy to promote the compilation and dissemination of balance sheets, the flow of funds, and sectoral data (Recommendation 15); and statistical work to compile and disseminate distributional information on developments within broad economic sectors (Recommendation 16).

24.2 THE FOLLOW-UP

Work started immediately to address these recommendations. In some cases, closing the gaps raised significant challenges. In others, the identified gaps related to existing initiatives where the conceptual framework for capturing data was already well developed. The June 2011 implementation report noted considerable progress with regard to many recommendations. A further progress report followed in September 2012, and action plans continue well into 2014. It saw the main priorities as strengthening data on the financial sector, including shadow banking, financial "interconnectedness" and sectoral balance sheets, followed by further improvements in data on real estate prices and in government finance statistics. Prioritisation, coordination, and cooperation among international agencies and G20 economies remain essential to a successful implementation of the work programme. As will be clear from earlier chapters, the ECB is closely involved in these developments and has already carried some of them forward at the EU level.

The work of implementing the recommendations and arranging the provision of data is led and coordinated by the Inter-Agency Group on Economic and Financial Statistics set up in 2008. The ECB and Eurostat are members. The ECB has been particularly involved in work concerning parts of Recommendations 13 and 14

Overview of the 20 recommendations (Table 2 in the G20 report)		
	Conceptual/statistical framework needs development **Recommendation**	**Conceptual/statistical frameworks exist and ongoing collection needs enhancement** **Recommendation**
Build-up of risk in the financial sector	# 3 (Tail risk in the financial system and variations in distributions of, and concentrations in, activity)	# 2 (Financial Soundness Indicators (FSIs))
	# 4 (Aggregate leverage and maturity mismatches)	# 5 (Credit default swaps)
	# 6 (Structured products)	# 7 (Securities data)
Cross-border financial linkages	# 8 and # 9 (Global network connections and systemically important global financial institutions)	# 10 and # 11 (International Banking Statistics (IBS) and the Coordinated Portfolio Investment Survey (CPIS))
	# 13 and # 14 (Financial and non-financial corporations' cross-border exposures)	# 12 (International investment position)
Vulnerability of domestic economies to shocks	# 16 (Distributional information)	# 15 (Sectoral accounts)
		# 17 (Government finance statistics)
		# 18 (Public sector debt)
		# 19 (Real estate prices)
Improving communication of official statistics		# 20 (Principal Global Indicators)
Note: Recommendation 1 concerned the June 2010 progress report and is omitted here.		

(notably cross-border exposures of banking and other financial corporations); Recommendation 15 (sector accounts, where the reporting will draw on the example of the European integrated sector accounts); and Recommendation 16 (distributional information – provided by surveys of household income, consumption and wealth, and enterprise surveys – see Chapter 17 for more detail on such surveys in the euro area and the European Union). The ECB has been closely involved in work instigated by the Committee on the Global Financial System on statistics of credit risk transfers, and the BIS-ECB-IMF "Handbook on Securities Statistics" has now been completed (Recommendation 7, which relates also to Recommendations 12 and 17, on quarterly international investment position data and government finance statistics). Financial soundness indicators (Recommendation 2 – see also Chapter 3) and credit default swaps (Recommendation 5) are also of interest to the ECB. Recommendation 18 concerning public sector debt statistics is being carried forward by the Inter-Agency Task Force on Finance Statistics, including the ECB and Eurostat. On real estate prices (Recommendation 19), Eurostat has prepared a "Handbook on Residential Property Price Indices"; as explained in Chapter 17, the ECB began

work some years ago on residential property prices in the euro area and now also compiles experimental data on commercial property prices.

MUTUAL ASSESSMENT PROCESS

The ECB is also involved in defining indicators to be used in the Mutual Assessment Process initiated by the G20 to improve policy collaboration and reduce global imbalances. The indicative guidelines set out below were attached to the communiqué following the G20's meeting on 14-15 April 2011.

"G-20 indicative guidelines for assessing persistently large imbalances

1. Our aim is to promote external sustainability and ensure that G-20 members pursue the full range of policies required to reduce excessive imbalances and maintain current account imbalances at sustainable levels.

2. In February [2011] we agreed on a set of indicators that will allow us to focus through an integrated 2-step process on those persistently large imbalances that require policy action. These indicators are (i) public debt and fiscal deficits; and private savings rate and private debt (ii) and the external imbalance composed of the trade balance and net investment income flows and transfers, whilst taking due consideration of exchange rate, fiscal, monetary and other policies

3. To complete the first step, we have agreed today on indicative guidelines against which each of these indicators will be assessed. While not policy targets, these guidelines establish reference values for each available indicator allowing for identification of countries for the second step in-depth assessment. Four approaches will be used:

   – A structural approach, which is based on economic models and grounded in economic theory, which benchmarks G-20 members against each indicator in a way that takes into account specific circumstances including large commodity producers (e.g. its demographic profile, oil balance or trend growth).

   – A statistical approach which benchmarks G-20 countries on the basis of their national historical trends.

   – A statistical approach which benchmarks G-20 [a] country's historical indicators against groups of countries at similar stages in their development.

   – A statistical approach which draws on data, benchmarking [a] G-20 country's indicators against the full G-20.

4. Statistical approaches are based on the 1990 to 2004 period, as this is the period that preceded the large build up in external imbalances. Reference values drawn from 1990-2010 were also provided as a complement. In all four approaches, forecast figures over the 2013-15 period are compared to the values suggested by the guidelines to determine whether or not an in-depth assessment should be undertaken. Those countries identified by

at least two of the four approaches as having persistently large imbalances will be assessed in-depth to determine in a second step the nature and root causes of their imbalances and to identify impediments to adjustment. In carrying out this assessment, we will take due account of the exchange rate and monetary policy frameworks of members. For members of the euro area with its governance framework, this assessment will involve the appropriate authorities. National circumstances will also be taken into account. In the second step assessment, the independent IMF analysis will rely on IMF forecast data, while countries' own assessments can use national data.

5. For the identification of countries that will move into the second stage, the selection rules for G-20 countries accounting for more than 5% of G-20 GDP (on market exchange rates or PPP [purchasing power parity] exchange rates) will reflect the greater potential for spillover effects from larger economies."

EUROPEAN COMMISSION'S "SCOREBOARD"

The European Commission's scoreboard on national imbalances, mentioned in connection with institutional sector accounts in Chapter 15 and covering all EU countries, is a similar initiative. The ECOFIN Council (economic and finance ministers) agreed in March 2011 on a general approach for a regulation on the prevention and correction of macroeconomic imbalances, with a scoreboard showing the relevant indicators (see also the discussion in Chapter 15.5). In November 2011 it invited the European Statistical System and the ESCB to work together on improving the underlying statistics and their comparability. Shortly afterwards European Parliament and Council regulations were adopted on the prevention and correction of economic imbalances and measures for enforcement (see below), together with other legislation to strengthen budgetary surveillance and procedures and so reinforce the Stability and Growth Pact. The scoreboard was introduced in February 2012.

The scoreboard is designed to signal potentially harmful macroeconomic imbalances in Member States. In Regulation (EU) No 1176/2011 on the prevention and correction of macroeconomic imbalances, data shown on the scoreboard indicators are commented on by the European Commission in an Alert Mechanism Report which is not however confined to the readings on the scoreboard. The Commission issued the first such report in February 2012. These reports identify the Member States which the Commission considers may be affected by imbalances. Recommendations may then be addressed to countries under the preventive or corrective arm of Regulation No 1176/2011, with provision for an excessive imbalance procedure to be initiated requiring the Member State concerned to submit a plan for corrective action. The complementary Regulation No 1174/2011 on enforcement measures to correct excessive imbalances in the euro area provides for sanctions in the form of an obligation to hold a deposit or, ultimately, face a fine of up to 0.1% of annual GDP (EU Member States outside the euro area are not subject to sanctions but the rest of the excessive imbalance procedure applies to them).

The scoreboard indicators are chosen to focus on the most relevant dimensions of macroeconomic imbalances and competitiveness losses. They cover external

balances, competitiveness positions and internal imbalances. They are intended to provide early warning, with a combination of stock and flow indicators to capture both rapid deteriorations and more gradual accumulations of imbalances. The aim in setting the indicative thresholds, which reflect the distribution of the indicator values across Member States (in most cases they are fixed at the upper or lower quartile), is to avoid false alarms while identifying problems before they become entrenched. To help communication, the scoreboard contains a limited number of indicators supplied by Eurostat or the ECB, which in turn are relatively simple and straightforward. They should also be timely, reliable and comparable across countries. The emphasis, to repeat, is on national results.

The scoreboard indicators with accompanying definitions are published on the European Commission's website. They consist of:

- a three-year backward moving average of the *current account balance of payments* as a percentage of GDP, with thresholds of +6% of GDP and -4% of GDP;

- the *net international investment position* as a percentage of GDP, with a threshold of -35% of GDP;

- a five-year percentage change in *export market share* (goods and services, by value rather than volume because volume data for services are not available) with a threshold of -6%;

- a three-year percentage change in *nominal unit labour costs*, with thresholds of +9% for euro area countries and +12% for non-euro area countries;

- a three-year percentage change in the *real effective exchange rates* based on (harmonised) consumer price indices, relative to 35 other industrial countries, with thresholds of -/+5% for euro area countries and -/+11% for non-euro area countries;

- *private sector debt* as a percentage of GDP with a threshold of 160%;

- *private sector credit flow* as a percentage of GDP with a threshold of 15%;

- year-on-year *changes in house prices* relative to a Eurostat consumption deflator, with a threshold of 6%;

- *general government sector debt* as a percentage of GDP with a threshold of 60%;

- a three-year backward moving average of the *unemployment rate*, with a threshold of 10%;

- year-on-year *changes in total financial sector liabilities*, with a threshold of 16.5%.

Perhaps all that is necessary to add here is that the government debt indicator is the Maastricht debt criterion (Chapter 15, and the annex), and that "private sector" debt and credit flow mean debt of and credit to households, non-profit institutions serving households and non-financial corporations in the form of loans and securities other than shares (the sub-category "other accounts receivable/payable" is not included). Not on the scoreboard, but to be taken into account in the assessment, are net external debt and the share of direct investment, net lending/net borrowing of the national economy (equal to the balance on the current and capital accounts in the balance of payments), and alternative indicators of private sector debt based on consolidated data where available (the scoreboard data are unconsolidated). Also seen as relevant are alternative indicators relating to potential imbalances accumulating in housing or financial markets. The last indicator, on the growth rate of financial sector liabilities, was added to the scoreboard later.

25 PLANNED WORK

It may be useful to summarise planned statistical work. What follows draws on the published 2012 ESCB work programme for European statistics. Further brief remarks, although outside the scope of the book, are made with regard to the report for 2013.

Much of the work arises from the need to implement the new statistical standards discussed in Chapter 20 and mentioned elsewhere in this book, especially the ESA 2010 and the IMF's BPM6, both of which will need to be incorporated in new or revised ECB regulations and guidelines.[1] Other work, also relating to new statistical legislation, will speed up provision of data for the quarterly economic and financial sector accounts to within 90 days, so that they are available in time for the Governing Council's monetary policy deliberations, and complete the accounts with from-whom-to-whom information for more financial instruments, especially for debt securities and equity. There is also a need to complete the balancing of the accounts of the households and non-financial corporations sectors, and the integration of stocks, transactions, revaluations and other changes in the quarterly euro area accounts, distinguishing between valuation and other changes. A regulation addressed to insurance corporations will need to be developed in collaboration with the European Supervisory Authority responsible for them, and perhaps, in due course, one for pension funds. More work remains to be done on residential and commercial property prices (where Eurostat has an important role); on better and fuller estimates of non-financial assets held in the balance sheets of the euro area accounts; and on statistics relating to financial markets and payment and securities clearing and settlement systems, with an impending regulation on payment systems.

These are major projects but they continue the line of work of earlier years. Meanwhile the financial crisis has brought to the fore new needs and emphases. As noted earlier, ECB statistics were largely developed with the ECB's monetary policy function in mind. For this purpose national data are mostly viewed as contributions to the euro area aggregates, not for their own sake, and data relating to countries outside the euro area, while relevant to the analysis of developments, are not used in aggregations. The familiar statistical concepts of residence and sector, viewed from the euro area perspective, must be preserved. Although the ECB has always had a financial stability function, and began in 2004 to publish regular reports on financial stability, it relied on data designed for monetary policy, which although harmonised and aggregable were not ideal for financial stability purposes. The ECB also relied on supervisory data from

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1   A new guideline on external statistics was adopted in December 2011 (Guideline ECB/2011/23). Many of the changes concern the BPM6, but there are other new features like the required reporting of banknote shipments from and back to the euro area as described in Chapter 11. New or amending regulations addressed to MFIs and other financial intermediaries were adopted in September and October 2013 to reflect, e.g. the more detailed information required on sectors and instruments (including financial derivatives as a separate category). Guidelines on quarterly financial accounts and government finance statistics were adopted in July 2013. (See mainly Chapter 20.)

national supervisory authorities, which were not intended for aggregation and were not always very comparable. As explained in several parts of the book, more work will now be done to meet the needs of the financial stability function and of the ESRB, including the further development of consolidated banking data and especially data on large banking and insurance groups and for other macro-prudential needs.

Recently the importance of national data, and of data relating to the European Union as a whole and not just to the euro area, has much increased. Data relating to individual countries are now of far greater interest because of the severe difficulties in some Member States as a result of the financial and sovereign debt crises. As described in the previous chapter, the European Commission has accordingly developed the scoreboard showing potential imbalances in individual Member States, some of the data items on which come from the ECB (Chapter 24). Data relating to the whole European Union and to Member States outside the euro area have become more sought after because the new supervisory structure (the ESRB and three European Supervisory Authorities) has an EU-wide responsibility, and the ECB must provide the ESRB with, among other things, statistical and analytical support. Economic and financial accounts for the European Union as a whole are a particular challenge here. Data which cross the statistical boundaries of residence and sector are needed because of the financial stability and macro-prudential emphasis on consolidated data on large financial groups. Meanwhile, a new ECB responsibility for banking supervision, no doubt with statistical needs, is expected to begin in 2014 when the Single Supervisory Mechanism becomes operational.

Another consequence of the financial crisis is much greater interest in "distributional" information on developments within broad economic sectors, and detailed information on links between affiliated entities and exposures of all kinds. These are increasingly recorded in granular form in databases like the ECB's Centralised Securities Database (CSDB). The ECB and the Deutsche Bundesbank are developing a database of securities holdings ready for the first data collection in 2014. This will much increase the information on exposures and permit the extension of from-whom-to-whom information in the financial accounts, the purpose for which it was first conceived. As part of the same process, security-by-security reporting, already used in investment fund, financial vehicle corporation (FVC) and balance of payments and international investment position statistical reporting, seems set to become established in other areas, notably in monetary financial institution (MFI) balance sheet reporting. Use of the enhanced CSDB (the quality management of which is now supported by ECB legislation) will be extended to securities issues statistics. The value of the database will be further increased when it can accept revisions to earlier observations and provide time series in convenient form (at present it provides a snapshot). Detailed databases potentially have the information to meet any request, standard or ad hoc; they help to make statistics more accurate and reliable, especially where statistical needs (e.g. for accrued interest, or residence and sectoral breakdowns) may not be so easy for the reporting entity to meet. They also reduce the burden on reporters, enabling them to download data straight from internal databases without troubling to classify, group or aggregate them,

and enable many developing data needs to be accommodated flexibly without having to change the reporting requirements. A further example relates to credit and credit risk datasets. Workshops in 2009 and 2010 considered the potential use of credit register data for other (analytical and statistical) purposes. A joint task force of statisticians and financial stability experts on credit registers has been working since 2011 on cross-country harmonisation, the country coverage and data content, and the organisational, legal and confidentiality issues.

A related initiative, this time at global level but where the ECB is actively involved, is the development of a global standard for identifying entities and financial instruments and their characteristics. Such a reference data utility is needed for handling large-scale micro-data. As explained in Chapter 19, the first outcome is a legal entity identifier for each corporate entity which uniquely identifies parties to financial transactions (a matter which caused much difficulty following the failure of Lehman Brothers in autumn 2008 and other financial enterprises). There are many potential benefits for businesses themselves and for prudential supervisors in the ability to identify groups of companies and cross-border connections.[2] In this regard, the ECB and Eurostat are further developing arrangements (the FDI Network mentioned in Chapters 9 and 19) for collaboration in the area of foreign direct investment statistics, and addressing again the valuation of holdings in unlisted companies.

The ECB's statistical work programme therefore includes the need to enhance and support various functions, with in particular:

- coverage of all financial sectors (at present the coverage is incomplete) and, separately, of large financial groups, including information on their exposures;

- focus, as necessary, on the entire European Union, and also on individual Member States;

- alignment where possible of supervisory and statistical concepts in data reporting for credit institutions, which form by far the largest part of the MFI population (the purpose here being to meet statistical and evolving supervisory needs at least cost to reporters);

- development and implementation of securities holdings statistics, with residency and sub-sector classification of holders;

- further extension of from-whom-to-whom statistics in the euro area accounts, which partly depends on securities holdings statistics, and more timely euro area accounts;

- statistics on markets and instruments supported by detailed databases;

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2   Recording properly the activities of, in particular, multinational enterprises causes great difficulties in various areas of statistics – see the publication entitled "The Impact of Globalization on National Accounts", United Nations Economic Commission for Europe, 2012. Identifying affiliated companies is a positive step in this connection.

- more detailed lending statistics using granular information, in particular data reported in credit registers.

Some of the above would have been done regardless of the financial crisis, but the work now has greater impetus. In addition, better statistical quality and safer management of operational risk will always be relevant. Further, or further enhanced, projects include:

- implementation of remaining requirements of earlier MFI balance sheet and interest data, and Guideline ECB/2011/23 on external statistics (Chapters 1, 7, 11 and 20);

- data on a wider group of financial intermediaries (other than MFIs and other institutions covered by ECB regulations, and insurance corporations and pension funds) (Chapter 2);

- further work to develop the CSDB and its expanding scope, and the increasing use of security-by-security data (Chapter 6);

- the survey (jointly with the European Commission) of the financing conditions faced by small and medium-sized enterprises, which provides qualitative distributional information on non-financial corporations (Chapter 17);

- the survey of household finance and consumption providing qualitative distributional information on the household sector, with full results published in 2013 (also Chapter 17);

- a detailed database of institutions and instruments, developed from the databases of reporting financial institutions and a database used in the ECB for market operations purposes, showing affiliations between the institutions (the enhanced Register of Institutions and Affiliates Database (RIAD) went live in 2013, see Chapter 19), with interoperability with Eurostat's EuroGroups Register of (mainly) non-financial enterprises in Europe. The work on unique identifiers for legal entities and instruments described in Chapter 19 is also relevant here.

These lists include many items relating directly to the needs of the ESRB. Some recent initiatives which have now come to fruition – among them the integrated approach to MFI securitisation data and statistics on FVCs, better information on investment funds and insurance corporations and pension funds, the enhanced MFI interest rate statistics and the new dataset on credit lines mentioned in Chapter 1 – are further examples. The timelier and now semi-annual delivery of consolidated banking data, the comparability and usefulness of which will increase when common prudential reporting standards are implemented, is another. The ESRB in September 2012 published for the first time its risk dashboard, a set of quantitative and qualitative indicators to identify and measure systemic risk in the EU financial system. The current and future work largely relies on close cooperation with other groups, notably the European Supervisory Authorities (in meeting the statistical needs of the ESRB), the IMF,

the BIS, the Financial Stability Board, other international agencies, and the European Commission, especially Eurostat. Much of the work stems from the recommendations contained in the G20 report, including identifying systemically important financial institutions and developing reporting templates for them. Some of this work will involve more exchanges of data, including with NCBs and other entities outside the euro area, for which the information technology and legal basis may need to be strengthened. At the same time the ECB is keen to improve the dissemination and accessibility of ESCB statistics, particularly to outside users.

GLOSSARY

Balance of payments: a statistical statement summarising, for a specified period, the economic transactions of an economy with the rest of the world involving, e.g. goods, services, income, and financial instruments.

Balancing: the process of reconciling sectoral (vertical), or economic activities or financial instruments (horizontal), in the *integrated economic and financial accounts*.

Building blocks: euro area statistical series which (in part) stand alone, e.g. monetary aggregates, securities issues statistics and balance of payments data, compiled and published separately according to a required timetable.

Capital account: alongside the current and financial accounts in the *balance of payments*, the capital account covers all transactions involving capital transfers and the acquisition or disposal of non-produced, non-financial assets between residents and non-residents. (Transactions in financial assets and liabilities are recorded elsewhere, in the financial account.)

Central counterparty: an entity interposed between the *counterparties* to financial contracts. Central counterparties are classified as *other* (non-monetary) *financial intermediaries* (S.123 in the *ESA 95* classification).

Central government: the sub-sector S.1311 in the *ESA 95* (see also *general government*).

(Central) securities depository: an entity that, among other things, enables securities transactions to be processed and settled by book entry and provides custodial services.

Consolidated banking data: data containing information on the profitability, balance sheets and solvency of EU banks, and referring to all EU Member States. The banks are divided into three size groups: small, medium-sized and large. The data include information on foreign-controlled institutions active in EU countries. The statistics provide annual and semi-annual data. The consolidated banking data are based on the pooling of relevant aggregated information provided by institutions comprising the membership of the ESCB's Financial Stability Committee (FSC). See also *consolidation* and *group reporting*.

Consolidation: the elimination of reciprocal financial assets and liabilities of entities grouped for the purpose. (Netting, in financial statistics, arises where purchases and sales in the same instrument category cancel out in the same period.)

Convergence report: a report, produced by both the *European Commission* and the *European Central Bank* separately and submitted to the European Council

in parallel, concerning the progress made by non-euro area EU Member States to fulfil the convergence criteria for adoption of the euro.

Counterparts: from the consolidated balance sheet of the *monetary financial institutions* sector, an analytically useful approach to relate broad money (M3) to the other elements in the balance sheet. See also *monetary aggregates*.

Counterparty: the opposite party in a *transaction*.

Credit institution: an undertaking whose business is to receive deposits or other repayable funds from the public and to grant credit for its own account. All credit institutions in the European Union are classified as *monetary financial institutions*.

Debt security: a promise on the part of the issuer (the borrower) to make one or more payment(s) to the holder (the lender) on a specified future date or dates. Debt securities are marketable.

ECOFIN Council: the Council of the European Union meeting in the composition of the ministers of economics and finance.

Economic and Monetary Union: the outcome of the process that led to the introduction of the euro in January 1999.

Effective exchange rate (of the euro)**:** a weighted average of the bilateral euro exchange rates against the currencies of the euro area's main trading partners based on the share of each partner country in euro area trade. Real euro EERs are nominal euro EERs deflated by a weighted average of foreign, relative to euro area, prices or costs. See also *harmonised national competitiveness indicators*.

EONIA (euro overnight index average)**:** a measure of the interbank interest rate on unsecured overnight loans denominated in euro, as reported by a panel of banks.

Equities: securities representing ownership of a stake in a corporation, whether traded on stock exchanges or unquoted.

EURIBOR (euro interbank offered rate)**:** interbank interest rate for funds with different maturities up to 12 months, as reported by a panel of banks.

Euro area: the area comprising the EU Member States whose currency is the euro and in which a single monetary policy is conducted under the responsibility of the ECB's *Governing Council*. The euro area currently comprises 17 EU Member States.

European Banking Authority: established in January 2011, the EBA took over the tasks of the Committee of European Banking Supervisors. It is one of the *European Supervisory Authorities*.

European Central Bank: the central bank for the *euro area*. The ECB and the national central banks of the euro area Member States together form the *Eurosystem*. The ECB and the national central banks of all the EU Member States, whether or not they have adopted the euro, together form the *European System of Central Banks.*

European Commission: the executive body of the European Union. The European Commission prepares new EU legislation and implements the provisions of the *Treaty* on the Functioning of the European Union (see also *Eurostat*).

European Monetary Institute: the temporary institution set up in January 1994 to prepare for the *Economic and Monetary Union*. The EMI was replaced by the *European Central Bank* in June 1998.

European Supervisory Authority: one of the three authorities established in January 2011 concerned with banking, securities and markets, and insurance and occupational pensions respectively. They are part of the *European System of Financial Supervision*.

European Systemic Risk Board: an independent EU body responsible for the macro-prudential oversight of the financial system in the European Union. The *European Central Bank* provides the ESRB with analytical, statistical, logistical and administrative support. The ESRB was established in January 2011.

European System of Accounts 1995 (ESA 95): a comprehensive and integrated system of economic and financial accounts based on statistical concepts, definitions, classifications and accounting rules aimed at achieving a harmonised quantitative description of the economies of the EU Member States. The ESA 95 is the European Union's version of the global *System of National Accounts* (the SNA 93). The regulation on the ESA 2010 aligning the EU system with the SNA 2008 was adopted in May 2013; the ESA 2010 will be implemented in the European Union in 2014.

European System of Central Banks: comprising the *European Central Bank* and the national central banks of all 28 EU Member States (following the accession of Croatia in mid-2013). The *General Council* is the ESCB's decision-making body.

European System of Financial Supervision: the group of institutions in charge of ensuring the oversight of the financial system in the European Union. The ESFS, established in January 2011, comprises the *European Systemic Risk Board*, the three *European Supervisory Authorities*, the Joint Committee of the European Supervisory Authorities, and the national supervisory authorities of the EU Member States.

Eurostat: the statistical office of the European Union, located in Luxembourg. Eurostat is part of the *European Commission*.

Eurosystem: the central banking system of the euro area, comprising the *European Central Bank* and the euro area national central banks. The *Governing Council* of the ECB is the main decision-making body.

Excessive deficit procedure: the provision set out in Article 126 of the *Treaty* on the Functioning of the European Union and specified in a related protocol inter alia requiring EU Member States to maintain budgetary discipline. See also the *Stability and Growth Pact*.

Executive Board: one of the decision-making bodies of the *European Central Bank*, comprising the President and the Vice-President of the ECB and four other members.

Financial derivatives: financial instruments linked to a specific financial instrument, indicator or commodity, through which specific financial risks can be traded in financial markets in their own right. Financial derivatives are recorded statistically at market value, not at the nominal amount. They form one of the functional categories in *balance of payments* and *international investment position* statistics – see also *foreign direct investment, portfolio investment, "other investment"*, and *reserve assets*.

Financial soundness indicators: developed by the International Monetary Fund, FSIs support macro-prudential analysis and assess the strengths and vulnerabilities of financial systems.

Financial vehicle corporation: an undertaking constituted under national or Community law and whose principal activity is to carry out securitisation transactions. FVCs are other (non-monetary) financial intermediaries in the *ESA 95* sub-sector S.123.

Foreign direct investment: cross-border investment for the purpose of obtaining a lasting interest in an enterprise resident in another economy (defined as 10% or more of the shares, as in the BPM5, or voting power). Equity capital, reinvested earnings and financing of most kinds associated with inter-company operations are classified as FDI in one of the *functional categories* in *balance of payments* and *international investment position* statistics. See also *portfolio investment, "other investment", reserve assets* and *financial derivatives*.

Functional categories: headings in the financial account of the *balance of payments* and *international investment position*, such as *foreign direct investment* and *portfolio investment.*

General Council: a decision-making body of the *European Central Bank* comprising the President and Vice-President of the ECB and the governors of the national central banks of the *European System of Central Banks*.

General government: the sector S.13 in the *ESA 95* (see also *central government*). Government-owned entities conducting commercial operations ("market producers"), such as public enterprises, are classified statistically as

non-financial (S.11) or financial (S.12) corporations, and not in the general government sector.

Governing Council: the main decision-making body of the *European Central Bank* comprising the members of the *Executive Board* and the governors of the euro area central banks (*Eurosystem*).

Granular information: detailed, item-by-item collection of information, as in security-by-security reporting used in conjunction with the *European Central Bank*'s Centralised Securities Database or in credit registers.

Gross domestic product: in the *ESA 95*, the main measure of economic activity, namely the value of an economy's output of goods and services. GDP also measures income and expenditure in the economy.

Group reporting: consolidating assets and liabilities within the group, including positions across economic sectors and countries. See also *consolidated banking data.*

Harmonised index of consumer prices: a measure of the development of consumer prices in the European Union, compiled and published by *Eurostat*.

Harmonised national competitiveness indicators: similar to real *effective exchange rates*, HNCIs reflect the costs and prices of individual euro area Member States against those of their trading partners (including others in the euro area).

Institutional sectors: entities (called institutional units in the terminology of the *ESA 95*) classified in groups (sectors or sub-sectors) with a similar type of economic behaviour. An entity may not be classified in more than one sector (or sub-sector).

Insurance corporation: a financial intermediary principally engaged in the pooling of risks, classified (with pension funds) in sub-sector S.125 in the *ESA 95*.

Integrated economic and financial accounts (or **integrated institutional sector accounts**)**:** sometimes called "top-to-bottom" accounts, a matrix showing *institutional sectors* in the columns and economic and financial activities (or *transactions*) in the rows. Resident entities are classified in the appropriate sectors; non-resident transactions with residents constitute a *"rest of the world"* column (the *balance of payments* with appropriate sign). The accounts also represent sector balance sheets and *reconciliation accounts*.

International banking statistics: detailed locational banking statistics and consolidated banking statistics compiled by the BIS.

International Financial Reporting Standards: a set of global accounting standards (previously called International Accounting Standards).

International investment position: a statistical statement summarising the outstanding financial assets and liabilities of an economy with the rest of the world at a specified date.

Investment fund: a collective investment undertaking issuing (as liabilities) shares or units to the public and holding financial and non-financial assets. Investment funds (excluding *money market funds* in the *monetary financial institution* sub-sector S.122) are classified in the sub-sector S.123 in the *ESA 95*.

ISIN code: the unique International Securities Identification Number assigned to a security, with 12 alphanumeric characters.

Key ECB interest rates: those set for the euro area by the *Governing Council*, namely the rates on the main refinancing operations, the marginal lending facility and the deposit facility.

Large [and complex] banking [and insurance] group: a banking (or insurance) group whose size and nature may be seen to carry risks for the financial system.

MFI [bank] interest rate statistics: statistics on interest rates applied by *credit institutions* and a few other institutions on euro-denominated deposits and loans to households and non-financial corporations resident in the euro area.

Minimum reserve requirement: an obligation on *credit institutions* in the *euro area* to maintain a fraction of certain liabilities with a *Eurosystem* national central bank.

Monetary aggregates: money stock in the euro area defined by the *European Central Bank*. M1 comprises currency in circulation plus overnight deposits; M2 comprises M1 plus deposits with an agreed maturity of up to two years, and deposits redeemable at notice of up to three months; and M3 comprises M2 plus certain marketable instruments, namely *repurchase agreements*, *money market fund* shares/units and *debt securities* with a maturity of up to two years. Money is largely confined to liabilities of *monetary financial institutions*, including the *Eurosystem* itself; in addition, *central government* agencies and post office giros in some countries may take deposits, and electronic money issuers may also contribute to the money stock.

Monetary financial institutions: financial institutions which together form the money-issuing sector of the euro area (with limited exceptions including some *central government* agencies and post office giros). MFIs comprise the *Eurosystem*, resident *credit institutions* as defined in EU law and all other resident financial institutions whose business is to receive deposits and/or close substitutes for deposits from entities other than MFIs and, for their own account, to grant credit and/or invest in securities, including electronic money institutions and *money market funds*.

Money market funds: certain *investment funds* holding short-term assets (generally with an original maturity of up to one year); their shares/units, similar to deposits, are included in M3 (the *European Central Bank*'s broad *monetary aggregate*). MMFs are part of the sub-sector comprising other *monetary financial institutions* (S.122) in the *ESA 95*.

Other financial intermediaries: financial corporations engaged in intermediation which are not however *monetary financial institutions*, *insurance corporations* or *pension funds*. Examples are *investment funds* (other than *money market funds*, which are MFIs), corporations engaged in long-term financing (such as financial leasing), *financial vehicle corporations* involved in *securitisations*, financial holding companies, and securities and derivatives dealers.

"Other investment": a *functional category* in the financial account of the *balance of payments* and the *international investment position.* Broadly, "other investment" comprises deposits, loans and trade credit where there is no *foreign direct investment* relationship. See also, apart from FDI, *portfolio investment*, *reserve assets* and *financial derivatives.*

Pension fund: a financial intermediary engaged in the provision of retirement pensions, classified (with *insurance corporations*) in the sub-sector S.125 in the *ESA 95*.

Portfolio investment: a *functional category* in the financial account of the *balance of payments* and the *international investment position*. Broadly, portfolio investment comprises equity and debt securities (bonds and notes, and money market instruments) when there is no *foreign direct investment* relationship. See also, apart from FDI, *"other investment"*, *reserve assets* and *financial derivatives.*

Real-time gross settlement (RTGS) system: a settlement system in which processing and settlement take place on a transaction-by-transaction basis in real time (see also *TARGET*).

Reconciliation accounts: accounts recording valuation effects on assets and liabilities (e.g. price and exchange rate changes), reclassifications, and certain other adjustments affecting balance sheets.

Reinvested earnings: in the context of *foreign direct investment*, the statistical treatment of profits retained in the enterprise. Reinvested earnings are recorded (shown in the income account of the current account) as payable in full to the direct investor, who in turn is deemed to reinvest in the enterprise in the FDI account in the financial account.

Repurchase agreement: the process of borrowing money by combining the sale of an asset (usually a fixed income security) with the subsequent repurchase of the asset for a slightly higher price (which reflects the borrowing rate). There is an obligation to return the securities and not merely an option to do so. Such operations are treated statistically as lending and borrowing with collateral, not

as transactions in the underlying asset which remains on the balance sheet of the original holder. The short expression is "repo".

Reserve assets: liquid claims of the *Eurosystem* on non-residents of the euro area denominated in currencies other than the euro. Reserve assets are one of the *functional categories* in *balance of payments* and *international investment position* statistics.

Residence: the location within the economic territory of a country in which an entity has its centre of economic interest. Entities not located in the territory but nevertheless registered or incorporated there are treated as resident. See also *"rest of the world"*, and *special purpose entity.*

"Rest of the world": entities outside the economic territory. The territory may relate to a single country or to the *euro area* as a whole. See also *residence*.

"Scoreboard": a small group of key economic and financial indicators presented by the *European Commission* since 2012. The scoreboard is designed to highlight imbalances in national economies.

Securities settlement system: a system which allows the transfer of securities.

Securitisation: an arrangement to enable the original lender to pool financial assets, such as residential mortgage loans, and subsequently transfer them to a *counterparty*, often a *financial vehicle corporation.* "Synthetic" securitisations involve the credit risk only.

Special purpose entity: an institution registered, incorporated or authorised in a country (and so deemed to be resident), but with little or no physical presence there (staff or premises) and conducting little or no business with residents of that country.

Stability and Growth Pact: intended to safeguard sound government finances in the EU Member States, specifying medium-term budgetary objectives. The Pact consists of a European Council resolution (June 1997) and two EU Council regulations. The Pact has subsequently been strengthened.

System of National Accounts: the SNA is the international standard for economic and financial statistics; the 2008 version, published in 2009, updates the SNA 93. See also the *European System of Accounts 1995 (ESA 95)*, which is essentially consistent with the SNA 93 but is tailored for the needs of the European Union.

TARGET (Trans-European Automated Real-time Gross settlement Express Transfer system): the Eurosystem's real-time gross settlement system for the euro. TARGET was replaced by TARGET2 in May 2008. TARGET2-Securities (T2S) will provide a single platform for settling securities in central bank money.

Transaction: an economic flow that reflects the exchange of value and involves changes in ownership of goods, services and financial instruments by mutual agreement.

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