Methodological changes in the financial accounts – background, approach and selected results

As a result of the introduction of the European System of Accounts 2010 (ESA 2010) in September 2014, the methodological basis of many macroeconomic statistics in the European Union was updated and harmonised. The Deutsche Bundesbank's financial accounts, which form part of the national accounts, are directly affected by these new provisions. The main consequences of this are an expansion of the reported data and conceptual changes. For example, the data on the claims and liabilities of a given sector have been supplemented by comprehensive information regarding the sectors vis-à-vis which it has claims and liabilities (debtor/creditor or "from-whom-to-whom" relationships). Furthermore, households, which had previously been shown together with non-profit institutions serving households, are recorded separately for the first time. In addition, reporting of the financial sector is now substantially decomposed into nine sub-sectors. At instrument level, the changes are reflected inter alia in the reporting of claims on insurance reserves and pension entitlements as well as in the separate recording of cash holdings.

The expanded reporting of financial flows addresses recent developments in the product and capital markets, which have seen such innovations as the market entry of new players and more complex activities. For instance, the latest results of the financial accounts pursuant to ESA 2010 show that the sectors are interconnected through numerous financial links, with the scale and intensity of the links between the sectors varying significantly in some cases. The methodological changes thus help to create a better understanding of activities in the financial sphere of the economy and provide valuable data, including for monetary policy purposes – with regard to monetary transmission or identifying possible financing bottlenecks, for example – as well as for financial stability analyses.

Introduction

ESA 2010 replaces previous ESA 1995 as methodological basis of many statistics …

As a result of the introduction of the European System of Accounts 2010 (ESA 2010) in September 2014, the methodological basis of many macroeconomic statistics in the European Union (EU) was updated and harmonised further. This framework contains binding provisions and definitions for the statistical recording of the economic process and thus ensures a uniform and comparable documentation of economic developments in all EU member states. The update aims to take account of changes in economic activity that have occurred since the introduction of the previous ESA 1995 so as to continue to have "comparable, up-to-date and reliable information on the structure of the economy and the development of the economic situation of each member state".[1] Among the more extensive of these changes are the increasing globalisation of goods production and a structural change in the financial sector, which has seen its intermediation function and structure become ever more complex as a result of regulatory changes, financial innovations and advances in information and communication technology. Furthermore, the update addresses the new and modified requirements placed on statistics by monetary and economic policy, which have arisen *inter alia* in connection with the financial crisis.

… and now also adopted in financial accounts

The Deutsche Bundesbank's financial accounts, which form part of the national accounts, are directly affected by this update. The financial accounts supplement the aggregated presentation of flows in the real sector by reporting parallel transactions in the financial sphere, and thus show to what extent and in what form (loans, shares, deposits etc) the various sectors of the economy provided or took up funds in the period under review. The financial intermediaries involved are also recorded. Combined with consistent documentation on the corresponding stocks, ie the sectors' financial assets and liabilities, this creates a comprehensive picture of financial activities in the German economy.

Article examines background, approach and selected results

This article describes the key conceptual changes resulting from the adoption of ESA 2010 in the financial accounts. It then presents selected results and gives an outline of how they are used in monetary policy analyses. The challenges and problems faced when implementing specific provisions are also discussed.

Overview of key changes

Main impact of ESA 2010: expanded data publication, …

In contrast to previous amendments to the methodological requirements, the adoption of ESA 2010 in the financial accounts is primarily reflected in an expansion of the existing data set, with only a few changes being made to the definitions of sectors and instruments. Consequently, the previously documented data developments based on ESA 1995 largely still hold true in terms of direction and dynamics.

… eg more detailed reporting on sectors and instruments

A key element of the changes resulting from the introduction of ESA 2010 is the expanded reporting on sectors and instruments,[2] with previously aggregated items now shown separately and additional elements included. For example, the sectors households and non-profit institutions serving households will henceforth be recorded separately. The way in which the financial sector is reported has changed significantly, with it now being broken down into nine sub-sectors. This is due to an expanded definition of the financial sector which includes entities, such as special purpose vehicles, which offer their financial services exclusively to a particular group, rather than solely comprising

1 See section 1 of Regulation (EU) No 549/2013 of 21 May 2013. The update of the ESA was triggered by the revision of the "System of National Accounts 1993" (SNA 1993), the internationally applicable basis for relevant statistics. Like its predecessor, the concept and contents of SNA 2008 are largely identical to ESA 2010, with the latter being tailored to the specific concerns of the EU.
2 The introduction of ESA 2010 has also led to changes in the reporting requirements of national central banks and statistical offices vis-à-vis European institutions. Reporting requirements vis-à-vis the ECB are now governed by Guideline ECB/2013/24 of 25 July 2013. The reporting requirements vis-à-vis the European Commission are laid down in Regulation (EU) No 549/2013 of 21 May 2013. The corresponding changes in the financial accounts are considered below.

Sectors of the financial accounts

European System of Accounts	
1995	2010
Non-financial corporations	Non-financial corporations
Financial corporations Monetary financial institutions (including money market funds)	Financial corporations Monetary financial institutions Central bank and credit institutions Money market funds
Other financial intermediaries (including mutual funds except money market funds)	Other financial intermediaries[1] Investment funds (except money market funds)
Insurance corporations and pension funds	Insurance corporations Pension funds
General government	General government
Households and non-profit institutions serving households	Households
	Non-profit institutions serving households
Rest of the world	Rest of the world

1 Including captive financial institutions and money lenders.
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agents that offer their financial services exclusively to the general public, as had previously been the case. With regard to financial instruments, the changes primarily affect claims on insurance reserves and pension entitlements, with regard both to additional instruments and the classification structure. Furthermore, cash holdings are for the first time recorded separately from deposits. Finally, the designations of some financial instruments have been changed, *inter alia* to take account of the expanded recording of data. The charts on pages 15 and 16 show the new structure of the sectors and instruments. All of the additional reporting generally affects both flows (ie the acquisition of financial assets and external financing) and stocks (ie financial assets and liabilities).

Comprehensive debtor/creditor relationships recorded for first time …

One of the key ways in which reporting has been extended is by recording debtor/creditor relationships for the first time. The previously reported data on a sector's claims and liabilities are now enhanced by recording the sectors vis-à-vis which it has existing or new claims and liabilities. These intersectoral links are being recorded for all domestic sectors and the following financial instruments: deposits, loans, debt securities, listed shares, and investment fund shares. Domestic sectors' links with the rest of the world are also taken into account, with euro-area debtors likewise being broken down by sector.[3] These data enable conclusions to be drawn regarding, for example, what role domestic banks play in the funding of non-financial corporations, to what extent banks are interconnected with other financial sector players (insurance corporations, other financial intermediaries etc) or the proportion of foreign sovereign bonds in the household portfolio. Reporting debtor/creditor relationships also leads to more accurate calculations of the consolidated data (ie adjusted for intrasectoral relationships).

… and more detailed information on valuation and classification changes

ESA 2010 has also resulted in valuation and other volume and classification changes being collected and recorded separately and in detail for individual instruments and sectors for the first time. This is because changes in the stock of claims and liabilities during a reporting period may stem not only from corresponding flows but also from valuation effects or changes to the statistical classifications of individual financial instruments and sectors. Valuation changes primarily comprise price changes that occur during the reporting period, such as rising share prices. Such changes in value are mainly recorded for instruments for which "genuine" market prices are available (eg

3 However, for claims and liabilities vis-à-vis non-euro-area countries, as previously, only aggregated data are recorded.

Financial instruments in the financial accounts

European System of Accounts	
1995	2010
Monetary gold and special drawing rights	Monetary gold and special drawing rights
	Monetary gold
	SDRs
Currency and deposits	Currency and deposits
Currency and transferable deposits	Currency
	Transferable deposits
Time deposits	Time deposits
Savings deposits	Savings deposits
Savings certificates	Savings certificates
Securities other than shares	Debt securities
Short-term securities	Short-term debt securities
Long-term securities	Long-term debt securities
Financial derivatives	Additionally: Debt securities by issuer
Loans	Loans
Short-term loans	Short-term loans
Long-term loans	Long-term loans
	Additionally: Loans by lender
Shares and other equity	Equity and investment fund shares
Shares	Listed shares (by issuer)
	Unlisted shares
Other equity	Other equity
Mutual funds shares	Investment fund shares
	Money market fund shares
	Non-MMF investment fund shares
Insurance technical reserves	Insurance, pension and standardised guarantee schemes
Short-term claims	Non-life insurance technical reserves and provisions for calls under standardised guarantees
Long-term claims	Life insurance and annuity entitlements
	Pension entitlements[1]
	Financial derivatives and employee stock options
Other accounts receivable/payable	Other accounts receivable/payable
	Trade credits and advances
	Other accounts receivable/payable

1 Pension entitlements, entitlements to non-pension benefits and claims of pension funds on pension managers.
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shares), whereas items recorded at nominal value (eg deposits) are barely affected.[4] The other volume and classification changes comprise changes in the classification of sectors and instruments, and the impact of unforeseeable events on the stock of claims and liabilities. If, for example, a non-financial corporation acquires a full banking licence and is therefore granted authorisation to be active in both deposit and lending business, it will henceforth be recorded in the monetary financial institutions (MFIs) sector. Complete write-offs of bad debts will also be recorded under this category. This constitutes a significant expansion of the data set compared with the previous calculation standard, which merely aggregated valuation and other classification and volume changes for internal purposes.

Conceptual changes mainly concern definition of sectors

Alongside the more comprehensive recording of the results, there are also some conceptual changes in the financial accounts. The most important modification concerns a new differentiation between holding companies and head offices following the broadening of the definition of the financial sector. Both terms are

4 Where the respective primary statistics for particular financial instruments do not contain any information about the current market value, the market values are approximated using suitable estimates.

used to refer to corporate entities which, in one form or another, are responsible for (majority-held) subsidiaries. In the case of holding companies, this responsibility takes the form of controlling their subsidiaries' assets. They have no other ways of exerting influence, such as managerial functions. By contrast, head offices do have managerial functions. Thus, an entity should be classified as a head office whenever it actively exercises managerial control over subsidiaries. Whereas holding companies should always be assigned to the financial sector (more specifically, the new subsector "captive financial institutions and money lenders"), head offices are classified according to the sector to which the majority of the subsidiaries' value added is assignable. Since under the previous ESA 1995 such a distinction between holding companies and head offices was not made and all entities were assigned to non-financial corporations, ESA 2010 results in shifts to the financial sector.[5]

More minor conceptual changes include a stricter definition of entities assigned to the general government sector and a more comprehensive definition of financial derivatives.[6] However, these changes do not have a major impact on the results of the German financial accounts.[7]

New provisions also implemented in the form of retroactive recalculations

As is the case in the national accounts, in principle all methodological changes should be implemented also with retroactive effect. One of the reasons for this is to prevent statistical breaks in the time series impairing the analysis of the results. This applies above all to conceptual changes and the expanded reporting on flows and stocks of already existing sectors and instruments. Therefore, in accordance with the relevant European provisions, by 2017 at the latest all changes concerning quarterly data should be recalculated back to 1999, while annual data should already be recorded from the present day back to 1995. By contrast, back-calculations for data affected by more large-scale changes – such as debtor/creditor relationships or valuation changes – are only required for shorter periods of time.

Selected results

ESA 2010 implemented in financial accounts as of 2014 Q2 calculations

The ESA 2010 rules were applied to the financial accounts for the first time when calculating the data for the second quarter of 2014, which were published in mid-October.[8] Data collected pursuant to ESA 1995 up until the first quarter of 2014 will continue to be made available until further notice with their updated figures. From now on, however, any changes – such as those resulting from retroactive revisions of primary sources – will only be included in the calculations pursuant to ESA 2010.

Selected results of the analysis of the expanded data are discussed below.

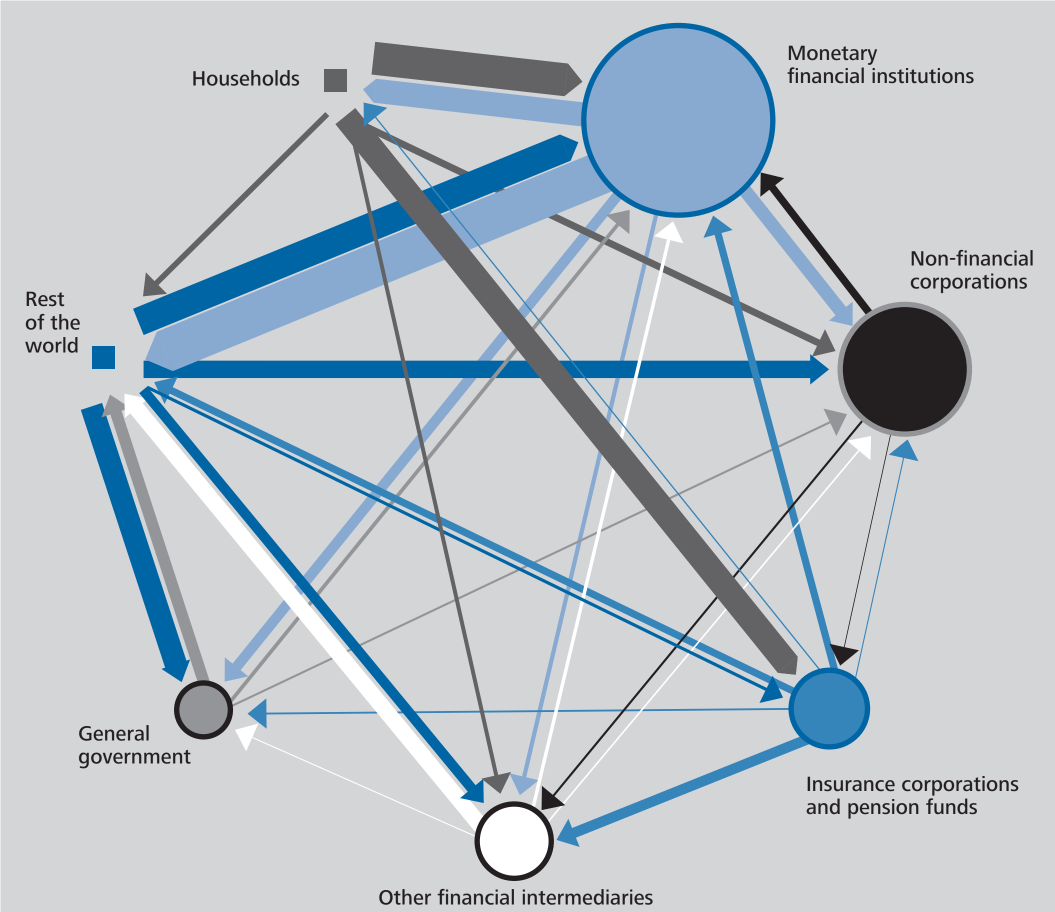
Selected results: sectors interconnected via numerous financial links

The chart on page 18 illustrates the financial links between the sectors for all available financial instruments in Germany at the end of 2013.[9] The chart demonstrates graphically that

5 For example, pursuant to ESA 1995, a corporate entity that controls several subsidiaries (primarily) active in the non-financial area should itself likewise be assigned to the non-financial sector. This is the case irrespective of whether this entity is involved in the management of the subsidiaries or merely holds their assets. Under ESA 2010, this entity should only remain in the non-financial sector if it has an active management role. If it simply holds the assets, it should definitely be reassigned to the financial sector as a "captive money lender".
6 In the context of the introduction of ESA 2010, the calculation of financial derivatives has been revised. Primary sources not previously available in this form were also included in the calculation. For most sectors, this has resulted in a – in some cases considerable – extension of the balance sheet. However, the changes which are directly attributable to the adoption of ESA 2010 are relatively small.
7 For a comprehensive overview of the methodological changes between ESA 2010 and ESA 1995, see Eurostat (2014), Manual on the changes between ESA 1995 and ESA 2010.
8 See Deutsche Bundesbank, press release, Acquisition of financial assets and external financing in Germany in the second quarter of 2014 in line with the latest revision of the financial accounts, 17 October 2014 and http://www.bundesbank.de/Navigation/EN/Statistics/Macroeconomic_accounting_systems/Financial_accounts/financial_accounts.html.
9 As no data on debtor/creditor relationships are available for some financial instruments – such as unlisted shares and other equity – the actual financial interconnections are likely to be even greater than as shown in the chart. This applies above all to non-financial corporations.

Financial links between sectors in Germany

As a percentage of GDP, as at end-2013



Each arrow points to the respective sector on which a given sector has a claim. All financial instruments for which comprehensive debtor/creditor relationships exist are taken into account (deposits, debt securities, loans, listed shares, investment fund shares and claims on insurance corporations and pension funds). The thickness of the arrow symbolises the total volume of a sector's claims on another sector. The size of the circle represents the financial links within a sector (in the financial accounts, these intra-sectoral links are not recorded for the rest of the world and the household sector). For the sake of clarity, only links with a volume of more than 1% of GDP are shown. Moreover, sectors have been aggregated. For example, investment funds are subsumed under other financial intermediaries, insurance corporations are shown together with pension funds, and households include non-profit institutions serving households.

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the sectors are closely linked to one another via numerous financial relationships, both inside and outside of Germany. However, the intensity of these relationships varies greatly.

Extent and intensity of links vary greatly between sectors

For example, households are very closely linked to banks and insurance corporations as a large part of their financial assets comprise bank deposits and claims on insurance reserves. Non-financial corporations are also linked to banks and insurance corporations via their liabilities, although they additionally have financial relationships with all other sectors. These include investment funds, which provide them with resources through the purchase of debt securities and shares; captive financial institutions, which manage the intra-group allocation of resources; or the rest of the world, which holds a large part of the shares issued by firms and thus acts as an important equity capital provider. The rest of the world also plays an important role in general government financing, with around three-quarters of German public-sector debt securities being held in foreign safe custody accounts.[10] The majority of sovereign bonds that remain within Germany are held by MFIs, with all other sectors having only minor claims on general government. Instead, insurance corporations and pension funds mainly hold domestic investment fund shares, while other financial intermediaries invest their funds in foreign debt securities, in particular.

Debtor/creditor relationships as a valuable basis for monetary policy analysis

Detailed debtor/creditor relationships of this kind permit for the first time in-depth analyses of the interaction between individual sectors in the event of a sudden change in the operational environment (so-called exogenous shocks).[11] Network models can be used to examine, *inter alia,* how sudden asset losses in one sector are transmitted to other sectors, and the associated impact on the demand for goods, for instance.[12] For example, asset losses that are transmitted via the financial links between sectors and end up on banks' balance sheets can affect banks' credit supply and thus have an impact on general economic growth. If such a tightening in banks' credit supply results in other sectors (eg other financial intermediaries) providing an increased level of funding, the corresponding changes in the relationships between the sectors can likewise be tracked using debtor/creditor relationships. Furthermore, it is possible to examine how shocks affecting all sectors – such as interest rate changes – impact on the interaction between the sectors and the respective financial positions. Moreover, the data permit a more detailed description of the interlinkages within the financial system, particularly between the shadow banking system and banks, as well as its ties with the non-financial private sector.[13] Therefore, analyses based on debtor/creditor relationships help to provide a better assessment of monetary policy transmission and financial stability.

The table on page 20 shows the year-end financial assets of households in Germany in 2012 and 2013 as well as the changes during the course of 2013 after applying the new calculation method. The financial assets of non-profit institutions serving households (churches, trade unions, political parties etc) are shown separately. According to the recorded figures, German households had financial assets worth just under €5 trillion at the end of 2013, while non-profit institutions serving households held financial assets of around €156 billion. The respective structure of the portfolios is clearly different. Households' assets largely comprised deposits and claims on insurance reserves, which made up 39% and 38% respectively of this portfolio. The bulk of their holdings of securities and equity took the form of investment fund shares, which constituted just under 8% of their financial assets, whereas directly held shares and debt securities fell well short of this level. While non-profit institutions serving households likewise had around 37% of their financial assets invested in deposits, at the end of 2013 the remaining 63% was entirely invested in securities and equities, one-third of which were directly held debt securities. By recording these two sectors separately and not together as in the past, the proportion of securities and equities held by households is shown to be smaller than was suggested by the previous aggregated figures.

Separate recording of households and non-profit institutions serving households reveals differences in portfolio structure, …

Despite the limited weight of securities in the household portfolio, they played a key role in the rise in this sector's financial assets during

10 Foreign inflows into German sovereign bonds notably increased substantially during the financial and economic crisis. This was attributable, in particular, to their safe haven status. See Deutsche Bundesbank, Yields on Bunds under safe haven effects, Monthly Report, October 2010, pp 30-31. During the course of 2013, the significance of this motive for capital inflows into Germany decreased again somewhat. See Deutsche Bundesbank, German balance of payments in 2013, Monthly Report, March 2014, pp 35-50.
11 In the academic literature, financial networks have long been mapped as part of macrofinancial analysis. Owing to a lack of data, the underlying debtor/creditor relationships are mostly estimated. Consequently, this type of analysis is fraught with major uncertainty in terms of the actual financial interlinkages. See O Castren and I Kavonius (2009), Balance sheet interlinkages and macro-financial risk analysis in the euro area, ECB Working Paper, No 1124.
12 See D Gray and S Malone (2008), Macrofinancial risk analysis, Wiley Finance.
13 For a detailed discussion of the definition, activity and monetary policy implications of the shadow banking system, see Deutsche Bundesbank, The shadow banking system in the euro area: overview and monetary policy implications, Monthly Report, March 2014, pp 15-34.

Selected results of the financial accounts according to the old and new methodologies

€ million

Item	Households (ESA 2010) Financial assets end-2012	Acquisition of financial assets 2013	Valuations 2013	Other changes in assets 2013	Financial assets end-2013	Non-profit institutions serving households (ESA 2010); financial assets end-2013	Households and non-profit institutions serving households (ESA 1995); financial assets end-2013
Currency	104,603	10,805	.	1	115,409	–	
Deposits, total	1,743,212	55,789	.	– 218	1,798,783	57,534	1 2,082,164
Transferable deposits		89,414	.	21	907,781	26,234	1 1,159,862
Time deposits	255,904	– 9,779	.	– 240	245,885	17,684	263,569
Savings deposits including savings certificates	668,962	– 23,846	.	1	645,117	13,616	658,733
Debt securities, total	200,100	– 17,806	– 2,944	– 365	178,985	36,978	215,964
Domestic issuers	134,016	– 14,861	– 1,829	– 383	116,943	20,702	.
Foreign issuers	66,084	– 2,944	– 1,116	18	62,042	16,276	.
Equity/investment fund shares	820,162	9,630	55,846	231	885,867	61,417	947,283
Listed shares	191,076	– 2,648	34,489	230	223,147	10,180	233,327
Domestic issuers	145,050	– 5,632	27,938	– 3	167,353	7,192	.
Foreign issuers	46,026	2,987	6,547	234	55,794	2,988	.
Other equity 2	255,686	2,236	6,509	.	264,431	–	264,431
Investment fund shares	373,400	10,040	14,848	1	398,289	51,237	449,525
Claims on insurance corporations 3	1,767,774	81,515	96	.	1,849,193	–	1,870,897
Other claims	37,050	7,083	.	– 7,608	36,525	–	36,525
Total	4,672,901	147,020	52,806	– 7,959	4,864,762	155,929	5,152,833

1 Including currency. **2** Unlisted shares and other equity. **3** Including pension funds.
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… underlines the significance of valuation effects for the development of financial assets …

the course of 2013. However, this was solely due to valuation gains on instruments already held – in particular shares, which picked up considerably amid the positive stock market climate on balance in 2013. All in all, around one-third of the increase in financial assets seen in 2013 was attributable to valuation gains. Irrespective of this, households sold shares and debt securities in net terms, only making net purchases of investment fund shares.

… and enables a better assessment of the respective investment behaviour

The separate recording of the financial assets of households and of non-profit institutions serving households as well as the differentiated presentation of valuation changes and other classification changes allow a better assessment of investment behaviour and of the factors influencing this behaviour (risk appetite, liquidity preference etc). Thus the fact that German households offloaded a sizeable net volume of shares in spite of substantial stock price increases points to a certain risk aversion on their part. Moreover, using the data that are now available in similar form for other euro-area countries, it is easier to discern how monetary policy signals impact on the demand for goods – and ultimately on price developments – and to see the differences that exist in this regard across euro-area countries. In addition, recording these two sectors separately enhances comparability with data derived from sources with a microeconomic perspective, eg the Eurosystem "Panel on household finances".[14]

As already indicated, the broader definition of the financial sector, in particular the disaggregated reporting of head offices and holding companies, concurrently entails a shift of financial assets and liabilities from non-financial to

14 For an overview of key methodological differences between the "Panel on household finances" and the financial accounts pursuant to ESA 1995, see Deutsche Bundesbank, Coverage of the total assets in the sector, Monthly Report, June 2013, pp 26-27.

Broader definition of financial sector affects data on financial assets and liabilities of non-financial corporations …

financial corporations. These changes in ESA 2010 have *per se* reduced non-financial corporations' liabilities by just over 2% compared with the previous level as at the end of 2013, while their financial assets simultaneously shrank by around 4%; other financial intermediaries saw the value of their assets and liabilities expand accordingly. The volume of shifts was similar in previous years, with the result that in overall terms the methodological changes have induced an upward or downward shift in the respective level. By contrast, the fundamental dynamics have barely changed.

… and intersectoral financial links, …

However, the shift also has certain effects on the relationships between the sectors. Enterprises now exhibit reduced direct liabilities to MFIs and other businesses but are conversely shown as being much more closely interconnected with other financial intermediaries, especially in the form of credit obligations. The latter sector now encompasses business units like holding companies and other special purpose vehicles which act as captive money lenders and financial institutions but which were previously recorded in the enterprise sector itself. This is also reflected in the breakdown of the reassigned financial assets, around 70% of which are equities in line with the holding companies' salient feature as owners of a group of subsidiaries.

… with implications for monetary policy analysis

Hence, looking at the financing pattern of non-financial corporations – which is of special interest from a monetary policy perspective – the new results display no substantial changes to Germany's existing dynamics. They do, however, offer a better picture of the creditor structure, making it clear that enterprises also turn to other financial intermediaries besides banks. Such agents have already occasionally supplanted banks in the past[15] and it cannot be ruled out that enterprises will make increasing use of these funding channels in the future, be it for tax reasons or because of changes to the regulatory framework pertaining to the financial system. This is especially true of certain euro-area countries in which such financial flows have already had a strong impact in the past few years.[16] Such data differentiation is a key prerequisite for being able to better analyse and understand the implications for monetary policy transmission associated with such reclassifications in the structure of financial intermediation. This applies all the more given that the implemented reclassifications probably still understate the actual importance of captive financial institutions and money lenders in Germany on account of insufficient information from primary sources (see below).

Challenges and problems regarding implementation

Implementation of ESA 2010 entails challenges and problems

Incorporating such extensive methodological changes into existing statistics is typically a major challenge. The financial accounts are secondary statistics that are calculated not on the basis of direct surveys but from numerous primary statistics which are mainly deployed for other purposes. With respect to the financial accounts, therefore, implementing ESA 2010 has made it necessary to re-evaluate existing primary statistics and to make additional use of new data sources. The nature and form of the necessary adjustments depend both on general aspects, in other words factors which apply in equal measure to all EU member states, and on country-specific particularities of data calculation. Moreover, adjusting an established set of statistics to new methodological requirements also presents an opportunity to review and, where applicable, revise existing approaches

15 See Deutsche Bundesbank, Long-term developments in corporate financing in Germany – evidence based on the financial accounts, Monthly Report, January 2012, pp 13-27.

16 See Eurosystem Working Group (2013), Corporate Finance and Economic Activity in the Euro Area, ECB Occasional Paper, No 151. The links between non-financial corporations and other financial intermediaries are particularly relevant in the Netherlands, for example, which has recently given rise to debate inter alia in connection with regulating the shadow banking system. See M Broos, K Carlier, J Kakes and E Klaaijsen (2012), Shadow Banking: An Exploratory Study for the Netherlands, Occasional Study published by De Nederlandsche Bank, Volume 10, No 5.

Methodological changes affecting Germany's international investment position

An economy's international investment position (IIP) shows its residents' financial assets and liabilities vis-à-vis non-residents valued at market prices at the end of each quarter.[1] At the end of September 2014, the Bundesbank realigned its IIP concept with the updated Balance of Payments and International Investment Position Manual (BPM6) of the International Monetary Fund (IMF).[2] This brought the IIP's methodological basis into line with that used in the balance of payments, which changed over to the new standard with the publication of the data for May 2014.[3]

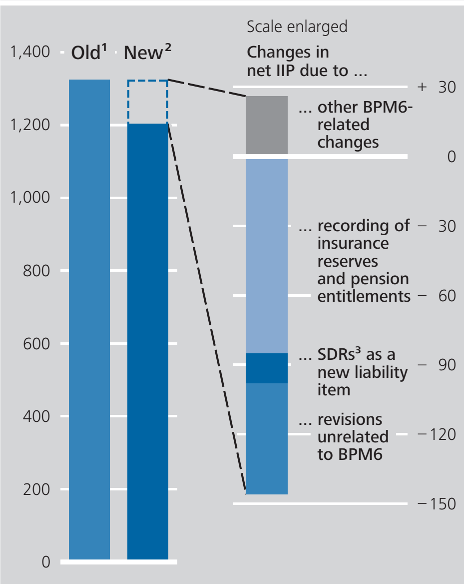
Quantitative impact

As a result, Germany's net investment position at the end of 2013 now amounts to €1,204 billion (43% of gross domestic product), which is €121 billion lower than previously reported. The introduction of BPM6 accounts for €73 billion of this decline; the remaining €48 billion is attributable to revisions unrelated to BPM6 that were made at the same time. The largest quantitative impact arising from the methodological recalculation relates to the first-time recording of insurance reserves and pension entitlements.[4] As this has a greater impact on the liability side (€119 billion) than on the asset side (€34 billion), it reduces the net IIP by €85 billion. This is partly due to recognising the insurance claims of foreign workers who return to their home country. The pension entitlements of retirees who have taken up permanent residence outside of Germany are also recorded under this item.

Germany's net IIP falls by a further €13 billion as a result of the modified recording of special drawing rights (SDRs) created and allocated by the IMF. Although these were already recorded hitherto on the asset side (under "reserve assets"), a corresponding counter-entry is now also included on the liability side (under "other investment"). The logic behind this is that the BPM6 concurrently defines SDRs as a liability since they may have to be repaid under certain circumstances. Under the new accounting practice, the allocation of SDRs increases reserve assets but has no impact on the net

Net international investment position at end-2013 according to the old and new concept

€ billion



1 According to IMF, Balance of Payments and International Investment Position Manual, Fifth Edition (BPM5). **2** According to BPM6. **3** IMF special drawing rights.

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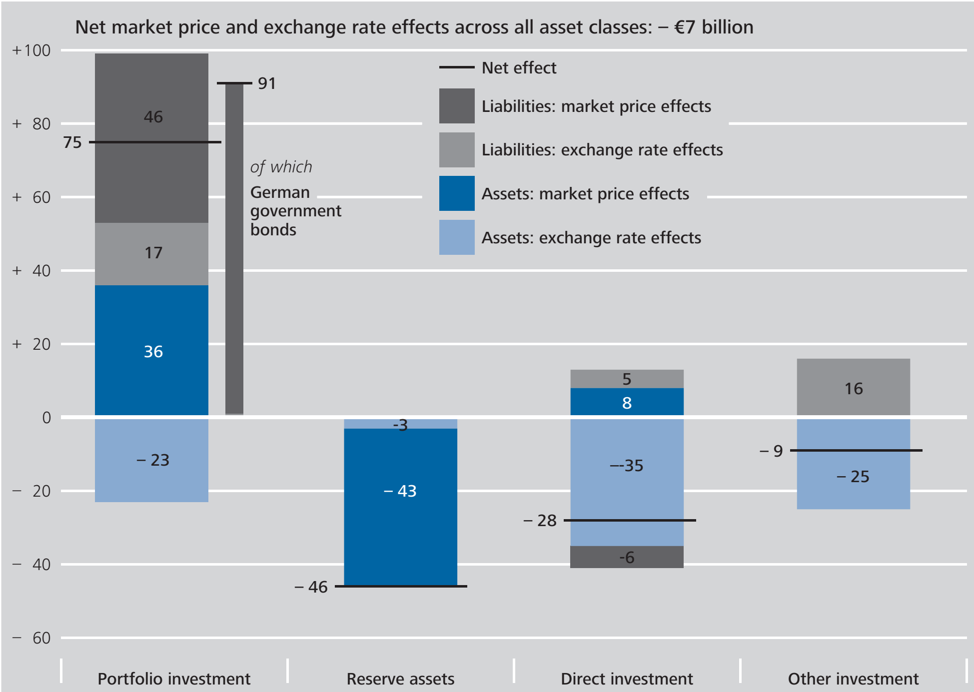
1 For further information on the IIP, see Deutsche Bundesbank, Balance of payments statistics, Statistical Supplement 3 to the Monthly Report, p 38, as well as http://www.bundesbank.de/Navigation/EN/Statistics/External_sector/International_investment_position/international_investment_position.html.
2 IMF (2009), Balance of Payments and International Investment Position Manual, Sixth Edition (BPM6).
3 For information on the principal methodological changes, see Deutsche Bundesbank, Changes in the methodology and classifications of the balance of payments and the international investment position, Monthly Report, June 2014, pp 57-68.
4 This change ensures a greater level of consistency with the financial accounts, which already factor in such entitlements.

International investment position – valuation effects in 2013

€ billion, + indicates increase, – indicates decrease in the net IIP[1]



1 Differences in the totals may be due to rounding.
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IIP. By contrast, various other BPM6-related changes raise the net IIP by approximately €25 billion.

Integrated external statement and reconciliation account

The integrated statement of external statistics reconciles the IIP with the balance of payments by allocating changes in IIP stock data to financial account transactions, valuation effects resulting from exchange rate and market price movements as well as other adjustments[5]. Although transactions usually have the largest impact on changes in the net IIP in the longer term, valuation effects are also significant. In the 2013 reporting year, valuation effects totalled -€7 billion on balance. Market price gains of €40 billion were offset by exchange rate losses amounting to €47 billion. With growing gross stock figures and a rising net IIP, these effects – depending on the portfolio structure – are playing a greater role in explaining IIP dynamics.[6]

The importance of the detailed information from the reconciliation account for a robust analysis can be illustrated for 2013 by the example of German government bonds. Focusing solely on the decline of €62 billion in liabilities stocks might give the impression that foreign investors shunned German government bonds. However, non-residents actually purchased €29 billion worth of

5 They include write-downs on uncollectible credit claims, changes in sectoral classifications, changes to the functional category of a financing instrument, and statistical discrepancies between the IIP and the balance of payments due to differing data sources. At present, changes in financial derivative stock data unrelated to transactions are also fully recorded under this item.
6 See, inter alia, IMF (2014), World Economic Outlook, October 2014, Chapter 4; P R Lane and G-M Milesi-Ferretti (2014), Global Imbalances and External Adjustment after the Crisis in IMF Working Paper 14/151; P-O Gourchinas and H Rey (2013), External Adjustment, Global Imbalances, Valuation Effects, forthcoming in Handbook of International Economics, Vol IV.

German government bonds on balance last year. The recorded decline is solely attributable to valuation effects of almost -€91 billion due to a fall in the prices of German long-dated bonds.

Market price and exchange rate movements also had a significant impact on the Bundesbank's reserve assets in 2013. In particular, the 28% drop in the gold price caused a valuation loss of €46 billion. German direct investors sustained exchange rate losses of €35 billion. Given their exposure to BRIC countries (Brazil, Russia, India and China), they were noticeably affected by the depreciation of the BRIC currencies that started in spring 2013. Other investment likewise felt the effects of the euro's appreciation. As more assets than liabilities are denominated in foreign currencies, this resulted in net book losses of €9 billion.

Expanded publication programme

The quarterly IIP data are published in Statistical Supplement 3 to the Monthly Report, in the balance of payments statistics and on the Bundesbank's website.[7] Each year at the end of September, the IIP of the previous year is presented and explained in a press release.[8] Data compiled according to BPM6 are available as of the 2013 reporting year. Quarterly data have been recalculated back to 2008 based on BPM5 time series. The reconciliation account is published for data as of the first quarter of 2013.

7 Deutsche Bundesbank, Balance of payment statistics, Statistical Supplement 3 to the Monthly Report, table II 9a General survey and as of October 2014, table II 9b Reconciliation account, as well as on the Bundesbank's website at http://www.bundesbank.de/Navigation/EN/Statistics/External_sector/International_investment_position/Tables/tabellen.html.
8 http://www.bundesbank.de/Redaktion/EN/Pressemitteilungen/BBK/2014/2014_09_30_internationa_investment_position_2013.html.

and calculations with a view to further improving the quality of the output.

Conditions for implementing methodological revisions generally better than in the past

Compared with past implementations of such methodological revisions, the current revision was generally simplified by the fact that many of the available primary statistics are now themselves aligned with the ESA approach. Sectors and instruments are often uniformly defined and recorded, and the need for laborious adjustments to the financial accounts can be reduced or dispensed with altogether. Much the same applies to periodicity. Most primary data are now made available on a quarterly basis and in some instances even monthly; sources with an annual frequency are hardly used. In most cases, timely availability also no longer presents a problem as the relevant deadlines have been further shortened in recent years. Overall, the conditions for fully incorporating the new provisions into the financial accounts are thus better than for past revisions, meaning that consistent, robust and high-quality results will continue to be delivered following completion of the changeover.

Key challenges exist in processing some primary sources lacking the (sufficiently detailed) structure of ESA 2010, …

One of the key remaining challenges is processing those primary sources that are still based on the classification structure of ESA 1995 or that fall short of the requirements for the financial accounts in terms of their implementation of ESA 2010. For instance, the monthly balance sheet statistics of banks (MFIs) will not apply the new provisions on a Europe-wide basis until the reporting month December 2014.[17] The insurance statistics are not likely to switch over to the new system until Solvency II has been introduced and the associated revisions to the data pool have been made. As regards the balance of payments statistics, the new methodology was already used for the reporting month of May 2014, and for the inter-

17 Regulation (EU) No 1071/2013 of the European Central Bank stipulates the reporting month December 2014 as the deadline for implementation in all euro-area countries.

national investment position the adjustments for the second quarter of 2014 were carried out in September 2014. However, in some EU member states (including Germany), neither of these external sector statistics are as finely broken down by sector and instrument as in the financial accounts.[18] Some data sources – such as BaFin's information on insurance corporations – do not currently follow the ESA 2010 model and will not do so in the foreseeable future either, yet they are currently indispensable for the purposes of the financial accounts. Hence the data gaps have to be plugged by using complementary data sources and, where appropriate, estimations. In doing so, any deviations from these primary statistics should be minimised so as to preserve consistency among the various sets of statistics.

… the retroactive implementation of the new provisions …

In many EU countries, a further challenge is posed by the retroactive implementation of the new provisions. This is especially the case if data from earlier periods in the existing primary statistics are either not revised at all or are not revised in a timely manner to the extent required by the European reporting requirements for the financial accounts. For example, securities issues statistics pursuant to ESA 2010 are available only as from the reporting month of January 2012, while no retroactive revision whatsoever is currently envisaged for the monthly balance sheet statistics of banks. Extending the application of the new standards to include recalculations for earlier periods additionally limits the range of new primary sources that can be used to calculate sectors and instruments listed for the first time. Ideally, there should be a single source spanning a correspondingly long time period, or alternatively there should be several comparable sources which, when combined, cover the entire period on a consistent basis. In cases where the available sources do not deliver data for earlier periods in line with the new provisions, the figures have to be approximated using model-based estimates.

… and the full-scale adoption of the broader definition of the financial sector

The principal challenge specific to Germany is implementing the new distinction between holding companies and head offices. Differentiating these two business entities, which hitherto were invariably combined and aggregated, in line with ESA 2010 requires specific information on each of them.[19] First and foremost, this includes data on the entity's employment and earnings situation, which, in the case of most German enterprises, are typically contained in the national business register. In Germany, this register is maintained by the Federal Statistical Office and the statistical offices of the federal states. Owing to existing legal constraints relating chiefly to the publication of information contained in the register, in Germany – unlike in most other EU countries – use of this information by the Bundesbank for statistical purposes has hitherto been prohibited. Hence, these data may not be used for the financial accounts either. For this reason, the task of differentiating between holding companies and head offices is currently being undertaken, in agreement with the Federal Statistical Office, using alternative sources, including the Bundesbank's corporate financial statement statistics. Rendering the business register usable for the aforementioned purposes in the medium term requires modifying the legal situation so as to allow the Federal Statistical Office to provide the Bundesbank with an appropriate volume of data from the register. One way of achieving this would be through forthcoming amend-

18 See Deutsche Bundesbank, Changes in the methodology and classifications of the balance of payments and the international investment position, Monthly Report, June 2014, pp 57-68.
19 Since the criteria specified in ESA 2010 for distinguishing between holding companies and head offices are solely qualitative in nature, a joint working group set up by the ECB, Eurostat and the OECD drew up a set of recommendations with a view to quantifying the criteria as uniformly as possible across national borders. Here, the primary focus was on the employment and earnings situation of the respective business entities, whereby a very low figure in these two categories is indicative of a holding company. Each member state nonetheless retains the right to make a precise quantification so as to take account of features specific to that country. The working group recommends that this information should continue to be sourced from national business registers.

ments to German statutory regulations applying to statistics.

Minor difficulties in distinguishing between selected financial instruments

Additional difficulties are posed *inter alia* by the task of ensuring a differentiated presentation of claims on insurance reserves, pension entitlements and standardised guarantee schemes (which are for this reason partially presented in aggregated form only) and when recording unlisted shares, in particular for the newly introduced sub-sectors. In this case, too, it is sometimes necessary to make use of estimates. Moreover, it is currently only possible to collect sound, consistent and comprehensive data on debtor/creditor relationships back to the beginning of 2013. Overall, the problems outlined above lead to occasional deficits in the quality of specific data, not least in the case of periods further back in time. However, this does not compromise the generally high quality and robustness of the results, nor does it affect their possible use for analytical purposes.

Summary and outlook

ESA 2010 fosters a better understanding of financial developments

With the adoption of ESA 2010, the presentation of the activities in the financial sphere of the German economy via the financial accounts has become more complex. This complexity is a reflection of recent developments in the product and capital markets, which have seen *inter alia* the entry of new players and multifaceted financial activities. Documenting these activities in a consistent and internationally comparable fashion helps to foster a better understanding of current trends in the financial sphere of the economy. These data are particularly useful in connection with monetary policy, for example when analysing monetary transmission or identifying potential financing bottlenecks, but they are also valuable when analysing financial stability.

New provisions implemented retroactively back to 1999

To provide the best possible basis for such analyses, in Germany the new methodological requirements were applied retroactively to 1999 simultaneously with the changeover, and hence more promptly and extensively than required by the provisions. In the medium term it is envisaged to recalculate the data back to 1991. This approach ensures consistency with the data on the real sector contained in the national accounts, which have already incorporated the ESA 2010 requirements back to 1991. It has also helped to reduce the number of structural breaks in the time series, thus further enhancing their utility for the purpose of economic analysis.

Timelier availability of results in future

Besides entailing changes to the methodology used for compiling the financial accounts, implementation of ESA 2010 will also facilitate timelier availability of the results in future. Thus data will be made available just over three months after the end of the reporting quarter, which is roughly three weeks earlier than before. This improves the chance of also being able to use the data for current monetary policy analysis. Over and above this, a number of technical innovations were made during the changeover, mainly to simplify data exchange between national and international institutions.[20] Over the medium term, the financial accounts will also be required to comply with a fixed revision policy specifying a uniform calendar for all euro-area countries to carry out revisions for earlier periods. The details of this project are currently being discussed within the Eurosytem.

20 Comparable changes are also being made with regard to other kinds of statistics, notably in the form of introducing statistical data and metadata exchange (SDMX) standards. See Deutsche Bundesbank, Changes in the methodology and classifications of the balance of payments and the international investment position, op cit.