

## Differences in money and credit growth in the euro area and in individual euro-area countries

*Euro-area monetary developments are currently characterised by moderate money growth paired with contracting volumes of lending to the domestic private sector. However, the aggregate figures conceal widely differing national dynamics. Positive money growth is being driven by portfolio shifts in the core countries of the euro area, notably in Germany, whereas weak lending activity primarily reflects the ongoing decline in loans to the private sector in the euro-area peripheral countries. These heterogeneous developments pose a challenge to euro-area monetary analysis. The assessment of monetary dynamics solely on the basis of the aggregate developments in the euro area is insufficient. Instead, it is important to clarify first the causes of the opposing movements in monetary and credit growth at the national level.*

*For Germany, which currently makes by far the largest positive contribution to money growth in the euro area, these analyses indicate a transitory increase in money demand. This gives rise to the question as to how this increase in money holdings will be reversed. By contrast, analysis of the peripheral countries shows that the decline in lending is attributable to cyclical developments as well as, above all, to the necessary correction of the credit overhangs that have built up in the past. Downside risks might arise in the event of further negative shocks as a result of negative feedback loops between credit supply and real economic developments.*

*The single monetary policy can respond to country-specific risks only if they affect the entire euro area. If that is not the case, steps have to be taken in other policy areas. For example, if signs of asset price inflation appeared in Germany, though without threatening price stability throughout the euro area, it would be necessary to use macroprudential instruments at the national level. For their part, the downside risks that exist in the peripheral countries have their origins primarily in the vulnerability of their banking systems to further negative shocks. Reducing this vulnerability calls for a number of measures such as the disclosure of sustained or expected losses, with corresponding balance-sheet write-downs, a decision with regard to restructuring, resolving or recapitalising the banks affected, and regulation that aims to prevent new vulnerabilities from arising in the future.*

## ■ Current situation

*Moderate euro-area money growth coincides with weak credit growth*

The annual growth rate of euro-area M3 declined sharply when the financial crisis set in, reaching an all-time low of -0.4% in April 2010. It has recovered gradually since then. Whereas the acceleration of monetary growth in the euro area was initially – as is usually the case – driven by the expansion in lending to the domestic private sector, money and credit growth became increasingly decoupled due to the escalation of the sovereign debt crisis from the third quarter of 2011 onwards (see the chart below). The sovereign debt crisis affected the dynamics of both lending and monetary aggregates. For example, the real economic adjustments in the countries especially hard hit by the crisis and the uncertainty engendered by the crisis depressed investment and, consequently, lending to the private sector. At the same time, crisis-induced uncertainty boosted investors' preference for the highly liquid bank deposits included in M3. Moreover, the very long-term refinancing operations in the context of the Eurosystem's unconventional monetary policy supported money growth in the form of an expansion in lending by banks to the government. However, as market participants perceived an easing of the debt crisis in the second half of 2012, euro-area money growth slowed down to just under 3% in May 2013.

Thus, overall money growth remains subdued. Combined with weak lending activity, this does not at present signal inflationary risks for the euro area as a whole. However, closer analysis reveals that the current euro-area aggregates conceal widely diverging national dynamics. A breakdown of the monetary aggregate M3 and its counterparts into the respective member countries' contributions, for example, sheds light on the high degree of heterogeneity. The chart on page 49 shows these "national contributions" to euro-area money growth; the lower part of the chart shows, as an example, the same breakdown for lending to the domestic private sector. For the sake of clarity, the smaller countries are bundled together to form three groups – smaller core countries, smaller peripheral countries and new member countries.

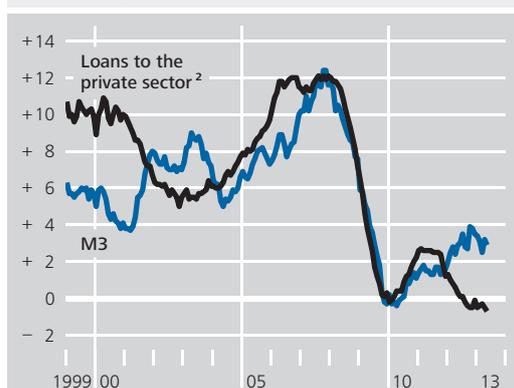
*However, current monetary developments very heterogeneous*

As the chart shows, the individual member states have made widely different contributions to the euro-area aggregates since the sovereign debt crisis began. More recently, by far the largest contribution to M3 growth came from Germany. France and the group of smaller core countries have likewise made significant contributions to growth of euro-area M3. By contrast, monetary developments in the euro-area peripheral countries dampened money growth almost throughout the period under review – with the exception of Italy, whose contributions were increasingly positive from the beginning of 2012 onwards.

*Money growth driven by core countries' positive contributions*

### Monetary and credit growth in the euro area

Growth rates,<sup>1</sup> end-of-month levels

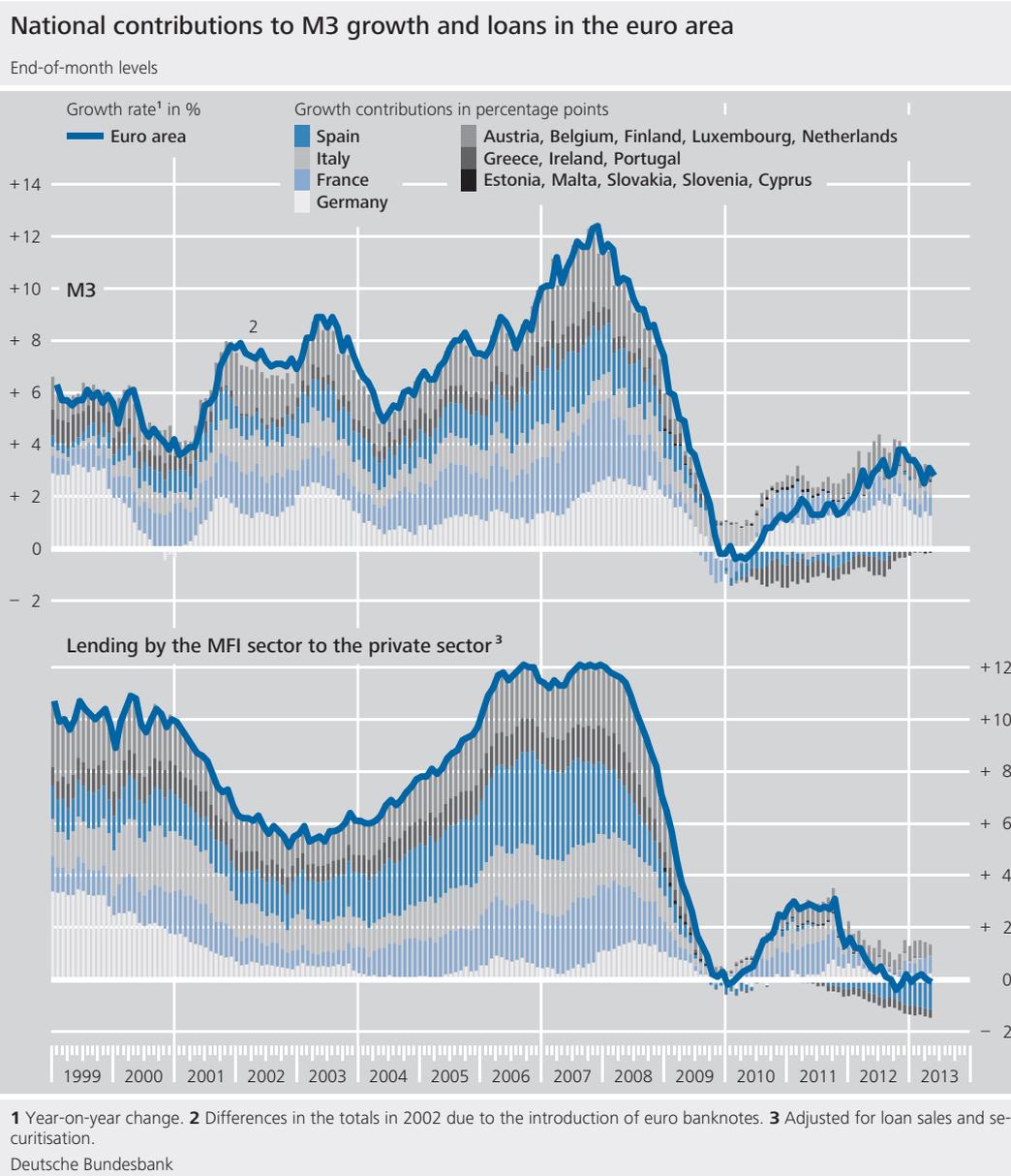


<sup>1</sup> Year-on-year percentage change. <sup>2</sup> Adjusted for loan sales and securitisation.

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The dynamics in loans to the private sector have likewise been shaped by positive contributions from the core countries (notably from France and the group of smaller core countries) and negative contributions from the euro-area peripheral countries (with the exception of Italy). However, in contrast to the developments in monetary aggregates, the overall dynamics were driven by movements in the peripheral countries. In particular, this applies to Spain, where the negative contribution to loan growth rose so sharply in the course of 2012

*Lending to the private sector driven by Spain's negative contribution*



that it became the predominant factor in loan dynamics for the entire euro area.

Since the reasons for the country-specific developments cannot be adequately captured on the basis of the aggregated data, to analyse only the aggregate monetary variables is insufficient in the current situation. For this reason, this article looks at monetary developments in Germany as the largest euro-area core country on the one hand, and in the member states most affected by the debt crisis on the other.

*Analysis of aggregate developments is insufficient*

The differences highlighted in national developments are ultimately due to the fact that monetary financial institutions (MFIs) – which include commercial banks and money market funds as well as the central banks – and non-banks in the individual euro-area countries have been affected very differently by the financial and debt crisis. The present degree of heterogeneity poses particular challenges for the monetary analysis of the Eurosystem, the main task of which is to assess the risks to price stability implied by monetary developments.

## Monetary and credit growth in selected euro-area countries

### Monetary growth in Germany

*Dynamic monetary growth in Germany*

Monetary growth in the euro area has mainly been driven by Germany in the last few years. Up until the fourth quarter of 2012, the annual growth rates of the German contribution to M3 rose to 8.7%, and to as high as 14.7% in the case of M1; by comparison, they remained in the lower single digits for the euro area. The annual growth rate of the German contribution to M3 subsequently contracted again (see the chart on page 51).

*Strong preference for liquidity due to low interest rates and high level of uncertainty*

The steep growth in the German contribution to M3 was fuelled by the rising demand on the part of domestic non-banks for investment forms included in M3. By contrast, deposits placed with German credit institutions by non-banks from other euro-area countries,<sup>1</sup> which are also included in the German contribution, were only minor in volume.<sup>2</sup> The main factors responsible for the high level of money demand from German investors were the historically low interest rate level, the flat yield curve and the heightened political and economic uncertainty against the backdrop of the financial and sovereign debt crisis.<sup>3</sup> These factors caused domestic non-banks to make large-scale shifts in their portfolios in favour of highly liquid investment forms that were considered to be safer (cash, short-term savings deposits and, above all, sight deposits with German banks). Moreover, they received net inflows of funds from transactions with banks and non-residents – for example, in the form of wages and profits –, which they invested primarily in short-term bank deposits.

*Sight deposits accumulated by households and non-financial enterprises in particular*

Given the particularly narrow interest rate spread in Germany – compared with the rest of the euro area – between sight deposits on the one hand and short-term time deposits and savings deposits on the other, it was mainly sight deposits that benefited from investors' in-

creased preference for liquidity. The sharp build-up of sight deposits was fuelled primarily by domestic households and by non-financial enterprises, for which the development in deposits typically shows a high level of persistency. With risk aversion still high and given the ongoing low level of opportunity costs compared with longer-term deposits, these investors have so far continued to hold the increased share of short-term deposits in their portfolios, even though this currently means accepting a negative real return on a substantial part of their net assets.

In contrast to the dynamic monetary growth in Germany, the German contribution to the increase in lending to the private sector (adjusted for loan sales and securitisation) has done no more than move sideways at a low level during the last two years.<sup>4</sup> The modest growth in loans in Germany was mainly attributable to weak lending to non-financial enterprises, the 12-month growth rate of which had recovered in early 2011, having contracted sharply following the Lehman Brothers insolvency. However, the rate remained moderate at just below 1½% on average, and fell again from the end of 2012 to amount to 0.2% at the current end. The low level of lending rates and the extremely favourable financing conditions for enterprises

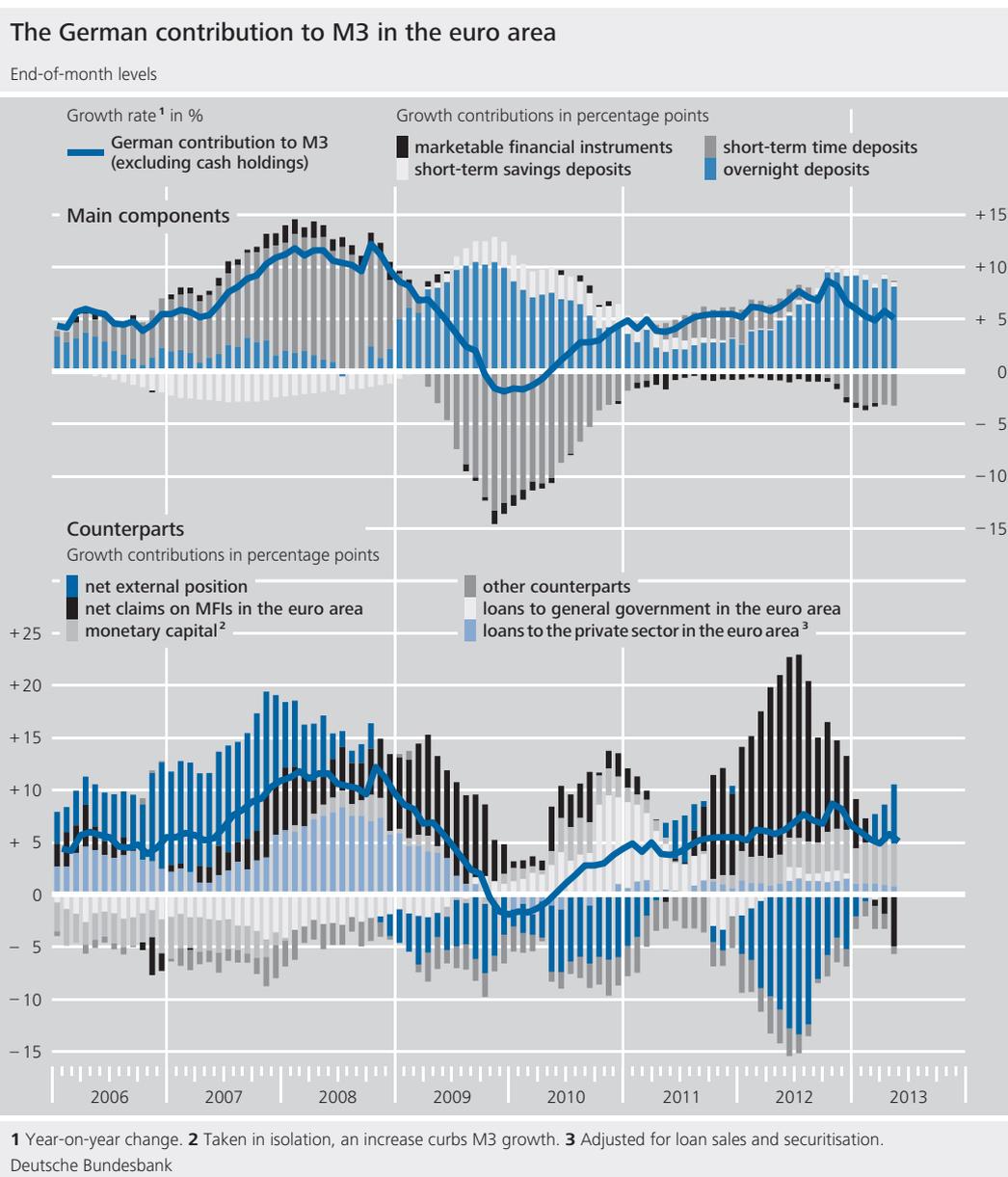
*Growth in loans to the private sector listless to date ...*

<sup>1</sup> The German contribution also includes deposits with the Bundesbank, which have increased appreciably since mid-2012 due to inpayments of ESM and EFSF capital.

<sup>2</sup> The fact that banking statistics provide no indication of cross-border shifts of deposits in the corporate sector may be attributed, inter alia, to the statistical difficulties that arise in connection with the intragroup liquidity management of cross-border groups. Reasons for this are, for example, the inclusion of special financing subsidiaries which are not classified as belonging to the banking sector, and the fact that subsidiaries domiciled in Germany of enterprises from other euro-area countries are, for statistical purposes, classified as part of the domestic corporate sector. Thus, inflows of deposits to their accounts do not lead to an increase in deposits held by foreign enterprises.

<sup>3</sup> For more on the significance of uncertainty for money demand, see, for example, C Greiber and W Lemke, Money demand and macroeconomic uncertainty, Deutsche Bundesbank Discussion Paper Series 1, Economic Studies No 26/2005.

<sup>4</sup> The volume of loans by German credit institutions to private non-banks from other euro-area countries was so low that they are not considered further.



suggest that this decline was mainly the result of demand-side causes.<sup>5</sup>

past, the change in loans to non-financial enterprises has typically lagged behind both gross domestic product and investment by around three quarters.<sup>6</sup> Thus, the downward trend in lending to non-financial enterprises could continue into next year even though the macroeconomic setting is expected to improve.

... owing to macroeconomic factors ...

In particular, weak investment activity by German enterprises has dampened credit demand. The difficult economic situation in parts of the euro area and widespread uncertainty caused enterprises to make substantial cuts to their investment budgets during the course of 2012. Although the German economic outlook has become brighter again in the meantime, the propensity to invest is still depressed by uncertainty regarding economic policy and the gloomier outlook for European sales markets. Furthermore, it should be noted that, in the

<sup>5</sup> This finding is backed by business surveys (ifo Credit Constraint Indicator, DIHK survey, SAFE survey of small and medium-sized enterprises) as well as by the results of the Bank Lending Survey for Germany.

<sup>6</sup> See Deutsche Bundesbank, German banks' lending to the domestic private sector since summer 2009, Monthly Report, September 2011, pp 64 ff.

## Factors determining changes in the volume of housing loans to households in Germany

In recent years, much interest has been focused on lending to non-financial enterprises, in particular on account of the collapse in such lending in 2009 and the resulting discussion about a potential credit crunch<sup>1</sup> – notwithstanding the fact that lending of this kind only accounts for around one-third of all loans by domestic MFIs to the private sector. By contrast, lending to households has received less attention in the past, despite constituting almost twice the share of the total. However, given the historically low interest rates, heightened uncertainty and the large build-up in property prices of recent years, the focus has of late been shifting toward residential real estate loans, which make up the lion's share of lending to households.

The factors determining housing loan trends can be identified using an econometric model. The estimate specification is based on the model drawn up by Fonteny and Greiber (2006), which explains the real demand for loans for house purchase in terms of investment in residential construction (in relation to GDP), a long-term interest rate and the lagged endogenous variable,<sup>2</sup> while the set of explanatory variables is extended to include the three-month interest rate and (real) property prices for which more reliable data are now available. The equation is defined in log differences of real variables (real growth rates) and estimated by ordinary least squares (OLS). To this end, the growth rate in loans for house purchase  $\Delta WBK^3$  is regressed on its own lagged values, the investment ratio  $InvQ$  (ie the ratio of private-sector investment in residential property to GDP), the interest charged on loans for house purchase  $i\_wbk$ , the change in property prices  $\Delta P\_immo$  and the three-month interest rate  $i\_3m$ , as well as a constant  $\alpha$ :

$$\Delta WBK = \alpha + \beta(L)\Delta WBK(-1) + \gamma(L)InvQ + \delta(L)i\_wbk + \rho(L)\Delta P\_immo + \theta(L)i\_3m + \varepsilon$$

The estimation period extends from the second quarter of 1999 to the first quarter of 2013.<sup>4, 5</sup> The contemporaneous values for the investment ratio and for (real) property prices (as proxies for the demand for debt financing) both prove to be important and statistically significant factors. Both variables display the expected plus sign. With an adjusted R<sup>2</sup> of 64%, the explanatory power of the model is satisfactory. Nonetheless,

the estimation results are inherently subject to uncertainty.

The adjacent chart compares the actual real growth rate with its modelled path. Investment in residential property, property prices and interest rates, as used in the model, still seem to provide a good explanation of actual developments. Robustness checks back up this finding.<sup>6</sup> Contrary to the assumption that, in addition to the usual determining factors, greater uncertainty at the current end is fostering investment in residential construction and thus also boosting the demand for housing loans, the model often slightly overstates actual lending in recent years.

There could be several reasons for this. For instance, other creditors, in particular insurers, might have made greater inroads into the market for loans to households for house purchase. Nevertheless, data from flow of funds accounts show that, from a macroeconomic perspective, the role of insurers in real estate financing for households is still of minor importance. These companies' share of the outstanding amount of all housing loans taken out by households has in

<sup>1</sup> See, for example, Deutsche Bundesbank, Monthly Reports, July 2006, September 2009, October 2010 and September 2011.

<sup>2</sup> See: E Fonteny and C Greiber (2006), The determinants of recent developments in bank loans in France and Germany, Occasional Paper no 3, Banque de France.

<sup>3</sup> Nominal loans for house purchase are converted into a real variable using the GDP deflator.

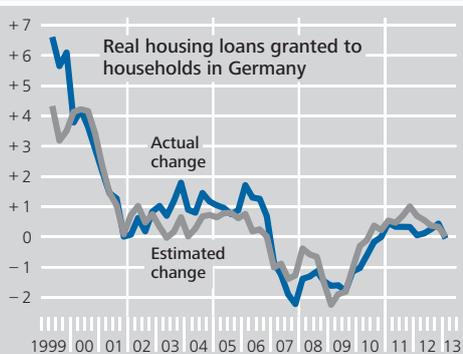
<sup>4</sup> Data are available from the first quarter of 1991 onward. However, owing to various reclassifications and German reunification, these have in some cases been synthetically back-calculated, so the existing estimate is based on the shorter sample. The estimation results do not change substantially if the longer period is used and a dummy variable is included in the estimation equation for the first quarter of 1999.

<sup>5</sup> Upfront testing has shown that it is sufficient to take into account two lags in order to guarantee the iid property of the residuals. According to F tests, real GDP can be excluded from the set of explanatory variables. Exclusion of further variables is not possible.

<sup>6</sup> As the figures for investment in residential property are only available in combined form for enterprises and households, in an alternative estimate real estate loans made to enterprises were added to such loans to households. Furthermore, estimates were performed using different price indices for the purpose of deflation. In terms of quality, the results remained constant.

**Change in housing loans as explained by the estimation equation and actual change in such loans**

Annual percentage change



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fact fallen over the last ten years and stood at just under 7% at the end of 2012.

Over and above this, it is conceivable that in recent years households have expanded their share of equity financing with respect to real estate purchases. At the aggregate level, it has in-

deed been possible to discern such shifts over the past few years, albeit to a moderate extent. Since 2010, there has been a slow but steady rise in the proportion of net investment by households, around 80% of which is directed to construction investment.<sup>7</sup> This would indicate that households have recently restructured their asset portfolios to favour real estate.<sup>8</sup> Information supplied by the Association of German Pfandbrief Banks (*Verband deutscher Pfandbriefbanken*) also points to a slight increase in the share of own funds in total financing.<sup>9</sup>

<sup>7</sup> It is only possible to differentiate between investments in different capital goods in the case of gross capital formation. Mostly 80%, and in some instances as much as 90%, is accounted for by investment in buildings.

<sup>8</sup> Since net investments recorded in the national accounts – for conceptual reasons – consist exclusively of investments in new fixed assets, and hence transactions involving used fixed assets (and thus also real estate) are excluded, the trend is probably understated; the actual extent of the restructuring is likely to be higher.

<sup>9</sup> See Association of German Pfandbrief Banks (*Verband deutscher Pfandbriefbanken* or vdp), “Structure of home ownership finance”, results of a survey among institutions belonging to the vdp, December 2012.

*... and increasing use of alternative financing instruments*

Besides macroeconomic factors, the increasing significance of internal financing and shifts in the structure of external financing have shaped the financing dynamics of non-financial enterprises in the last two years. Although the total financing volume of non-financial enterprises declined during the course of 2012 compared with 2011, the share accounted for by internal financing rose considerably by more than ten percentage points to 82% in 2012. At the same time, enterprises made increasing use of domestic debt securities, non-bank loans from abroad and trade credit in their external finances.<sup>7</sup> Thus, the trend towards a growing substitution of domestic bank loans by other forms of financing continued in recent quarters.

*Growth in lending to households remains moderate*

Whereas the growth in loans to non-financial enterprises weakened significantly from the fourth quarter of 2012 onwards, the growth rate of lending to households in Germany remained relatively constant at just over 1%.

Household borrowing was focussed mainly on loans for housing. In addition to the favourable financing conditions, demand for housing loans in the current setting is being driven in part by uncertainty-induced portfolio shifts into tangible assets. However, for Germany as a whole growth in housing loans was still moderate in May of this year, at an annual growth rate of 2.2%. The same is true, furthermore, of the annual growth rate for commercial property loans, which stood at 1.5% at the end of the first quarter of 2013. Unlike housing loans, consumer credit, which is less significant in volume, fell considerably over the entire period

<sup>7</sup> Borrowing through non-bank loans from abroad may be accounted for by, inter alia, funds that internationally active German groups borrow on foreign capital markets, some of which are made available via special financing subsidiaries to parent companies domiciled in Germany in the form of (primarily short-term) loans. See Deutsche Bundesbank, Long-term developments in corporate financing in Germany – evidence based on the financial accounts, Monthly Report, January 2012, p 20.

under review. Other lending, too, continued to experience a decline.

Pronounced monetary growth coinciding with a moderate increase in loans to the private sector means that, based on the balance sheet structure underlying the monetary analysis, other counterparts of M3 – such as purchases of securities by the MFI sector, inflows of funds from abroad and a reduction in monetary capital – made a major contribution to the creation of money in Germany (see the box on pages 55 and 56).

*Development of net capital inflows from abroad ...*

As shown in the counterparts chart on page 51, the German contribution to the increase of M3 in the last two years was fuelled by a reduction in monetary capital and, in particular, by a contraction in the net external position of the German MFI sector vis-à-vis the rest of the world as well as a rise in net claims of German MFIs on MFIs in other euro-area countries.<sup>8</sup> The last two items reflect the inflows of funds in the non-bank sector arising from capital transactions with non-residents. When balancing the growth contributions of both items, it is evident that net capital inflows from abroad in 2011 had an increasingly positive effect on M3 growth in Germany. The influence of these inflows then gradually diminished and is currently at a relatively low level, which contributed to the recent slowdown in (still strong) monetary growth in Germany.

*... reflects phases of the sovereign debt crisis*

According to the capital account, a considerable demand from non-residents for German securities was observed until mid-2012 owing to the high level of uncertainty on the international financial markets and Germany being perceived as a safe haven. In contrast, German investors reacted with caution to the intensification of the sovereign debt crisis in 2011; on balance, German investors' demand for foreign securities recorded a strong decline. However, the calming of the markets as a result of a new bond purchase programme (OMT) being announced in addition to the decision to launch a single bank supervisory mechanism and recap-

italise ailing banks led to capital moving back abroad in the second half of 2012: prompted by a declining risk aversion and against the backdrop of considerably reduced yields in Germany, German investors started acquiring foreign paper more frequently again; in addition, the high demand from foreign investors for German securities markedly lost momentum in the course of the year.

The growth of the German contribution to M3 was also supported by the greater reduction in longer-term claims vis-à-vis the banking sector (monetary capital) in favour of assets included in M3; since the end of 2012, the underlying portfolio shifts have made up the largest share of the contribution to German monetary growth. The declining demand of the non-banking sector for the longer-term bank deposits included in monetary capital can be explained by current low interest rates and, in particular, the narrow spread between longer-term bank deposits and sight deposits. Moreover, the reduction in Germany's monetary capital also reflects the continuous sharp decline in long-term bank debt securities held by non-banks in other euro-area countries, but also by German households. The fact that even the German banking sector, which is regarded as relatively stable, sold fewer new bank debt securities shows that investors' prudence was not the only factor that came into play here. The expectation of a continued expansionary monetary policy stance and a permanently high supply of central bank liquidity as well as German banks' ample base of deposits lower the pressure for these banks to offer more attractive conditions on longer-term deposits and bank debt securities.

*Portfolio shifts led to accelerated reduction of monetary capital*

<sup>8</sup> Net claims of German MFIs on MFIs in other euro-area countries were essentially fuelled by the accumulation of claims by the Bundesbank under the TARGET2 payment system from summer 2011 onwards. For more details, see Deutsche Bundesbank, The German balance of payments in 2011, Monthly Report, March 2012, pp 27 ff and Deutsche Bundesbank, The German balance of payments for 2012, Monthly Report, March 2013, pp 21 ff.

## The consolidated balance sheet of the MFI sector and its significance for monetary analysis

Under the Eurosystem's monetary policy strategy, medium to long-term risks to price stability are assessed on the basis of monetary indicators, notably the broad monetary aggregate M3 which has historically produced sound forecasting information on price developments at longer forecast horizons.<sup>1</sup> However, the information that changes in M3 provide on long-term price developments can potentially be impaired by temporary factors. That is why monetary analysis does not confine itself to merely analysing this monetary aggregate but interprets monetary developments in the context of the euro-area consolidated MFI balance sheet.<sup>2</sup>

The consolidated balance sheet for the MFI sector is a direct extension of the definition of the monetary aggregate M3. This definition implies that M3 consists exclusively of those MFI liabilities to the money-holding sector that can be characterised as money. These include currency in circulation, overnight deposits, other short-term deposits (deposits with an agreed maturity of up to two years or deposits redeemable at notice of up to three months), plus money market fund shares and units, repurchase agreements as well as bank debt securities issued with a maturity of up to two years. For the purpose of this definition, the money-holding sector comprises households, financial and non-financial corporations and general government (with the exception of central government) which are resident in the euro area. Since liabilities within the MFI sector do not, by definition, form part of the monetary aggregate, the balance sheets of the individual institutions within the MFI sector can be consolidated in order to produce a presentation of the money supply by means of a balance sheet. This consolidated balance sheet of the MFI sector contains only assets and liabilities repre-

senting MFIs' claims and liabilities vis-à-vis the domestic non-bank sector or foreign banks or non-banks (see table on the following page).<sup>3</sup>

The most important item on the liabilities side of the consolidated balance sheet is the monetary aggregate M3 with its components. Other liabilities of the MFI sector not included in M3 make up the other items shown on the liabilities side of the consolidated balance sheet. Specifically, these comprise deposits of central government and MFIs' longer-term financial liabilities, which are known as "monetary capital" (deposits with an agreed maturity of over two years, deposits redeemable at notice of more than three months, bank debt securities with an original maturity of more than two years and the capital and reserves of the MFI sector).

From a quantitative perspective, the most important assets reported in the consolidated balance sheet are credit to private non-banks (households, financial and non-financial corporations) and credit to general government in the euro area, in the form of

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<sup>1</sup> See, for instance, G Carboni, B Hofmann and F Zampolli (2010), The role of money in the economy and in central bank policies, in L D Papademos and J Stark (eds), *Enhancing monetary analysis*, European Central Bank, pp 17-71. For a definition of M3 and the considerations it is based on, see European Central Bank, *The Monetary Policy of the ECB*, 3rd ed, 2011, p 51ff.

<sup>2</sup> The MFI sector chiefly comprises central banks, credit institutions and money market funds (MMFs) resident in the euro area. A detailed presentation of the consolidated balance sheet and the individual balance sheet items can be found in European Central Bank, *Manual on MFI Balance Sheet Statistics*, April 2012.

<sup>3</sup> Components of monetary aggregates and counterparts reported in the consolidated balance sheet for the euro area can be broken down into the individual member states' national contributions, as used in the main body of the text. These consist of the claims and liabilities of the respective national MFI sector (including the national central bank) vis-à-vis the money-holding sector throughout the euro area.

### Consolidated balance sheet of the MFI sector in the euro area\*

Changes in € billion, seasonally adjusted

Assets	2013 Q1	2012 Q4	Liabilities	2013 Q1	2012 Q4
Credit to private non-MFIs in the euro area			Deposits of central government	- 6.5	- 0.4
Loans <sup>1</sup>	0.7	- 8.7	Monetary aggregate M3	50.5	86.1
Securities	17.2	37.6	of which: Components		
Credit to general government in the euro area			Currency in circulation and overnight deposits (M1)	94.8	84.4
Loans	- 20.0	- 11.4	Other short-term deposits (M2-M1)	0.1	36.4
Securities	45.8	11.0	Marketable instruments (M3-M2)	- 44.4	- 34.6
Net external assets	57.8	108.9	Monetary capital	0.9	- 13.2
Other counterparts of M3	- 56.6	- 64.7	of which		
			Capital and reserves	54.7	39.2
			Other longer-term financial liabilities	- 53.8	- 52.4

\* Changes for statistical reasons eliminated. <sup>1</sup> Adjusted for loan sales and securitisation.

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loans or securities. While loans recorded here are typically loans granted by commercial banks to governments and private non-banks, securities comprise securities originated by private and sovereign issuers that were purchased either by commercial banks or by central banks (under the Covered Bond Purchase Programmes (CBPP or CBPP2) or the Securities Markets Programme (SMP), for instance).<sup>4</sup> Another item shown on the assets side of the balance sheet is net external assets, ie the difference between assets and liabilities of euro-area MFIs vis-à-vis non-resident banks and non-banks. This item reflects non-banks' capital inflows from external transactions.<sup>5</sup> The item "Other counterparts of M3" contains *inter alia* MFIs' non-financial assets as well as financial derivative positions.<sup>6</sup>

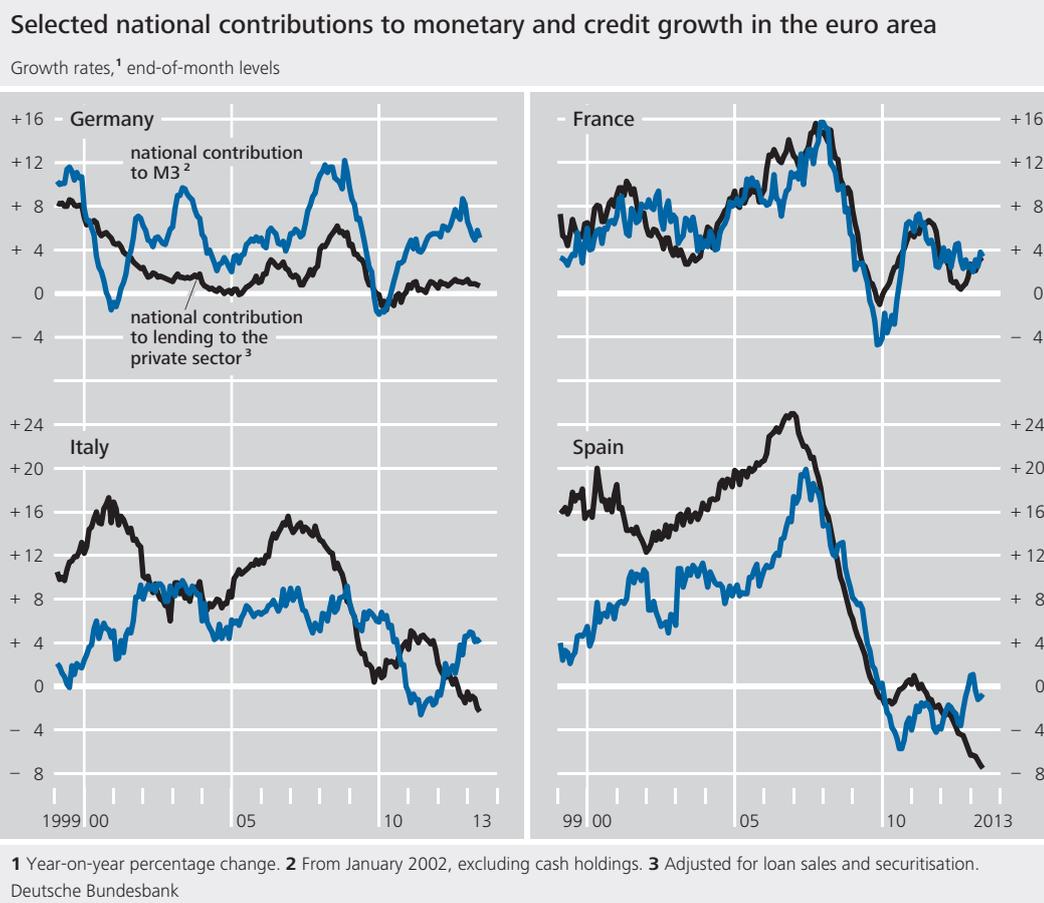
For monetary analysis, presenting the money supply in the form of a balance sheet offers two perspectives of monetary dynamics. The first takes a component-based view of the money supply to examine which factors are driving monetary developments and how the observed changes in components can be explained economically. The second is based on the notion that the monetary aggregate can also be calculated indirectly using the balance sheet

identity, that is, as the sum of all asset-side items less central government deposits and monetary capital. Analysing monetary dynamics on the basis of these "counterparts" reveals which transactions between the MFI sector and the money-holding sector were behind movements in the money supply. For instance, an expansion in the monetary aggregate might be driven by factors such as a rise in lending to the private sector, securities purchases by MFIs (increase in credit in the form of securities) or portfolio shifts out of longer-term bank liabilities into M3 (decline in monetary capital). These insights can then be harnessed to derive an assessment, based on economic and statistical analyses, of whether current monetary dynamics entail risks for long-term price developments.

<sup>4</sup> For further information, the reader is also referred to Deutsche Bundesbank, Substantial government bond purchases by Eurosystem and commercial banks, Monthly Report, May 2012, p 32.

<sup>5</sup> A detailed presentation of this relationship can be found in L B Duc, F Mayerlen, and P Sola (2008), The monetary presentation of the euro area balance of payments, European Central Bank, Occasional Paper Series No 96.

<sup>6</sup> Further details can be found in European Central Bank, Manual on MFI Balance Sheet Statistics, April 2012, p 112.



*Lending by German MFIs to government of minor importance to monetary developments*

Unlike in the other large countries of the euro area (France, Italy and Spain), no significant impetus to M3 growth was generated from lending to government in Germany. Besides the effects of the orderly resolution of Hypo Real Estate reflected in the annual growth rates until mid-2012, this was mainly due to the fact that the German credit institutions – compared with banks in other euro-area countries – made no large-scale purchases of government bonds on balance.

## Developments in euro-area peripheral countries

*Outflows from M3 as a result of growing doubts about the solvency of banks*

In contrast to the core countries, where monetary growth recovered in the course of 2010, euro-area peripheral countries' national contributions to the growth of M3 turned increasingly negative from autumn 2009 (see chart above). The decline in money demand was caused, among other things, by intensifying

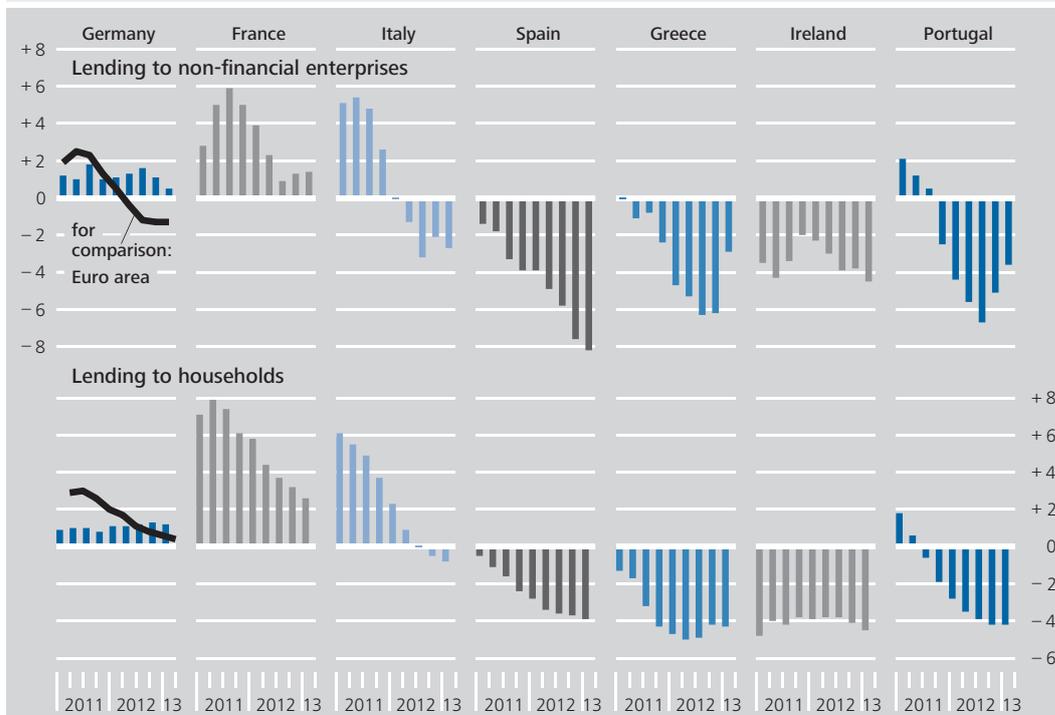
doubts regarding the solvency of credit institutions, the balance sheets of which were encumbered with losses linked to the financial crisis and in some cases to close interconnections with government sectors affected by the debt crisis. Whereas outflows in Italy, Spain, Portugal and Greece were concentrated on sight deposits and short-term time deposits, the 2010 slump in monetary growth in Ireland was driven mainly by a drastic reduction in the demand for short-term bank debt securities included in M3. Non-banks in Portugal, Spain and Italy, too, markedly reduced their exposure in this segment.

It was only in the wake of the additional provision of funds from the two three-year tenders that short-term bank debt securities became more attractive at the beginning of 2012. In particular Spain, but also Italy, recorded high growth in this context. With the debt crisis easing in mid-2012, the demand for short-term bank deposits recovered, too. In Italy, the re-

*Return to stronger demand for short-term bank debt securities from the beginning of 2012*

### Selected national contributions to lending to the non-financial private sector in the euro area\*

Year-on-year percentage change



\* Lending by the MFI sector, adjusted for loan sales and securitisation.  
 Deutsche Bundesbank

covery of monetary growth began as early as autumn 2011 as a result of substantial inflows to short-term time deposits and was therefore ahead of the other peripheral countries, which is likely to be attributable to banks in Italy offering relatively attractive interest rates in this market segment in contrast to those in other countries.

*Continued reduction in loans to the private sector*

Since the outbreak of the financial crisis, the trend in monetary developments in all peripheral countries has been characterised, above all, by the continued reduction in loans to the private sector. The national contributions to the annual growth rate of loans to the private sector (adjusted for loan sales and securitisation) have been negative in Ireland and Spain since summer 2009 (except for a brief interruption), since the beginning of 2011 in Greece and since summer 2011 in Portugal. The Italian contribution has been close to zero since the end of 2011. From a sectoral perspective, the decline is mainly attributable to net redemptions

in lending to non-financial enterprises, although lending to households, too, was reduced. The chart above shows that the annual lending rates to non-financial enterprises – particularly in Spain – are deep in negative territory.<sup>9</sup> While the downward trend in growth rates continued until recently in Spain, but also in Italy and Ireland, it showed some signs of stabilisation in Portugal at the current end. With regard to lending to households, the 12-month rates in all these countries remained negative, to which a key contributing factor has been housing loans.

The downward trend in these countries' credit growth is due to a variety of factors. For example, the demand for credit is subdued as a

<sup>9</sup> As a result of the orderly restructuring of the Spanish banking sector, the Spanish figures on loans to non-financial enterprises for December 2012 and February 2013 show a discernibly negative influence despite statistical adjustment. For more detailed information, see the ECB's press release on monetary growth in the euro area in February 2013, published 28 March 2013.

*Demand for loans dampened by weak demand for goods ...*

result of weak economic activity in the peripheral countries. This is confirmed by surveys such as the Survey on the Access to Finance of Small and Medium-sized Enterprises (SAFE), in which enterprises state the lack of sales opportunities as the main reason for weak credit growth.<sup>10</sup> Against this backdrop, it is not surprising that the banks questioned in the Bank Lending Survey gave a reduction in enterprises' investment spending as by far the most important reason for the decline in the demand for loans since mid-2011.

*... and the need for deleveraging*

Moreover, the demand for loans in those countries where households and enterprises are already heavily indebted is also being dampened in particular by the need for deleveraging so as to reduce these debt levels. The development of the national contributions to the growth in loans to the private sector (see chart on page 57) shows that credit growth is currently particularly weak in countries in which lending grew especially sharply in the years before the onset of the crisis. The sustained credit boom caused the ratio of outstanding loans of the private sector to GDP in these countries to rise sharply in some cases (see box on pages 60 and 61).<sup>11</sup> The chart on page 61 shows that this held particularly true for Ireland, Spain and Portugal. Starting from the record highs in loan volumes, considerable deleveraging has already taken place in these countries. However, by comparison with the other euro-area member states, there are still significant credit overhangs, the reduction of which could go on for many years in some cases if the current pace is maintained.

*Growing importance of other financing sources*

Besides the aforementioned factors, the demand for bank loans in some of the countries under review here also decreased as a result of enterprises increasingly making use of other sources of financing. For instance, alternative creditors were important, such as other financial institutions and affiliated enterprises, for which the share in external financing of enterprises had already increased markedly since the bankruptcy of Lehman Brothers in autumn

2008.<sup>12</sup> Market-based (debt) financing, too, went up. Whereas non-financial enterprises in Italy have recently increasingly obtained funds by issuing bonds, it has been equity issuance and the injection of other funds into equity that have made a positive contribution to external financing in Spain and Portugal.

Supply-side constraints – above all as a result of banks' weak balance sheets, regulatory changes and higher lending risks – cannot be ruled out. Indicative of this is the Bank Lending Survey, according to which purely bank-related factors, such as the access to market financing, available liquidity and cost of equity throughout the crisis period, were of key relevance for the tightening of credit standards – particularly in the second half of 2011. Since then, however, standards have been driven primarily by changes in the assessment of economic and firm-specific risks.

In addition to weak lending, cross-border payment flows have at times also had a dampening effect on monetary growth in the euro-area periphery. For instance, during phases in which the sovereign debt crisis had intensified, there were major outflows of funds from the countries particularly affected. Since the perceived easing of the debt crisis in mid-2012, however, capital has flowed back to the peripheral countries, contributing to something of a recovery of monetary growth in these countries.

In contrast, monetary growth in the peripheral countries of the euro area – as in Germany –

*BLS also provides indicators for supply-side constraints*

*At times, high outflows of funds abroad*

<sup>10</sup> The SAFE is carried out by the ECB. In this survey, around 7,500 enterprises are asked about their financing conditions on a biannual basis. The focus lies on small and medium-sized enterprises (SMEs), which are especially dependent on bank loans. The latest survey results cover the period from October 2012 to March 2013, and the survey round was conducted from 18 February to 21 March 2013.

<sup>11</sup> The advantage of this measure compared with more comprehensive concepts of leverage, as offered by flow-of-funds accounts, lies in the availability of long series for both components.

<sup>12</sup> For a more in-depth discussion, see: Deutsche Bundesbank, Developments in external financing for euro-area non-financial corporations during the global financial and economic crisis, Monthly Report, January 2012, p 22.

## Change in outstanding loans relative to gross domestic product in selected euro-area countries

The current weakness in lending to the private sector was preceded by very pronounced credit growth in some euro-area member states in the years prior to the crisis. From a monetary policy perspective, this raises the question of the extent to which current negative credit growth in these countries reflects the need to reduce existing credit overhangs and is thus the consequence of a process of balance sheet adjustment on both borrower and creditor sides.

In order to gauge whether a credit overhang exists and how great any need for adjustment might be, a calculation is often made in terms of the change in loans to the private sector relative to a country's gross domestic product (GDP) (see chart on page 61).<sup>1</sup> A common approach is to measure the extent of the adjustment required by the deviation of (relative) outstanding loans from their long-term trend, extracting the latter using statistical filter techniques.<sup>2</sup> However, the statistical filter techniques usually deployed have various weak spots in their design which severely limit the robustness of the estimated trend levels, particularly at the current end. In addition, filter techniques attribute credit overhangs which have been building up over relatively long periods at least partly to the trend component, which means that credit overhangs tend to be underestimated in the periods when they are developing. This problem applies especially to those euro-area countries which have registered a steady rise in their credit/GDP ratios since the beginning of monetary union.

An alternative to using filter methods is to compare credit developments relative to GDP across structurally similar economies. For the euro area, the median of credit/GDP ratios across the individual member states may be used as a reference value.<sup>3</sup> From a benchmark analysis of this kind, conclusions may be drawn about the indebtedness of the private sector in a given country relative to other countries. However, this analysis does not enable the absolute adjustment need to be gauged – in particular, because the change in the median for the euro area may be distorted

upwards when excessive lending has been taking place in several countries at once.

As the chart on page 61 shows, the median for all euro-area countries climbed from around 90% at the beginning of 1999 to 116% at the end of 2010, and was 111% in March 2013. In this period, loan book totals (relative to GDP) in Ireland, Spain and Portugal were well in excess of the median. In Ireland and Spain in particular, the build-up of debt between 2004 and 2009 proceeded at a significantly faster pace than in the euro area as a whole. The growing indebtedness of the private sector in Ireland, Portugal and Spain encompassed an increase in lending both to households and to non-financial enterprises. By contrast, loans to financial enterprises played no more than a minor role in the rise in the credit/GDP ratio in Portugal and Spain, whilst such loans were only of passing significance in Ireland.

The credit/GDP ratio for Germany has remained more or less constant since 1999. As a consequence, the level of indebtedness in the private sector in Germany, which was initially above the euro-area median, dropped below it as time went by. Italy, which experienced a significant rise in its credit/GDP ratio between 1999 and 2013 – here, too, driven by increasing lending to non-financial enterprises and households – represented the euro-area median in the first quarter of 2013.

There has already been a considerable drop in credit volumes (relative to GDP) from their previous highs in Portugal and Spain, and

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<sup>1</sup> The advantage of this measure compared with more comprehensive concepts of leverage, as offered by flow-of-funds accounts, lies in the availability of long series for both components.

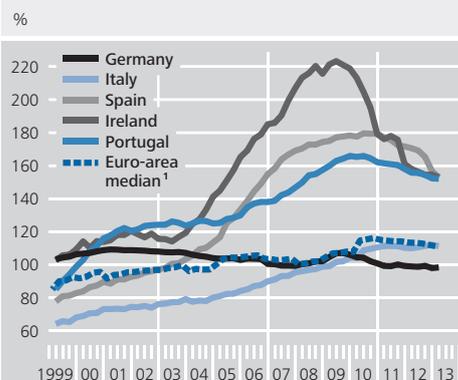
<sup>2</sup> For example, see C Borio and M Drehmann, *Assessing the risk of banking crises – revisited*, BIS Quarterly Review, March 2009, Bank for International Settlements.

<sup>3</sup> To calculate the credit/GDP ratio, loan book totals are used which reflect both transaction-related changes and value adjustments.

even more so in Ireland.<sup>4</sup> It also needs to be borne in mind that credit/GDP ratios at the current end probably overstate the actual degree of indebtedness in these countries, because GDP (the denominator in the ratio) is likely to have fallen below its long-term equilibrium value, ie below the potential output level, owing to the weakness of the economy. If we correct for this effect, the credit/GDP ratio drops from 153% to 146% in Spain and from 152% to 145% in Portugal.<sup>5</sup> As one can assume that the median will tend to overestimate equilibrium credit volumes (relative to GDP) because of the sharp rise in indebtedness across a host of countries, the result of this is relatively conservative estimates of the actual overhangs.

On the whole, the cross-sectional comparison suggests that some euro-area member states still have pronounced credit overhangs even if we correct for cyclical effects. It is to be expected that the reduction of these overhangs will have a dampening effect on lending in these countries and thus across the euro area as a whole for some time to come.

Ratio of loans to GDP\*



\* National contributions of loans from domestic MFIs to the private sector in the euro area relative to the country's nominal GDP, cumulated over four quarters; not seasonally adjusted.  
<sup>1</sup> Varying composition.  
 Deutsche Bundesbank

**4** In Ireland, in contrast to the other countries, value adjustments have played a significant role in the reduction of loan book totals.

**5** The EU Commission's estimates for the output gaps in the relevant countries were used to make this correction. In the case of Ireland, the correction leaves the credit/GDP coefficients practically unchanged, since the Commission does not anticipate any significant output gap.

*Monetary growth supported by securitised lending to government*

was supported by a reduction in longer-term claims vis-à-vis the banking sector (monetary capital), which was fuelled, in particular, by extensive net redemptions in longer-term bank debt securities. Moreover, the expansion of bank lending to government had a positive effect on monetary growth. Large-volume purchases of domestic government bonds were made by Spanish and Italian credit institutions around the same time as the three-year tenders in December 2011 and March 2012.<sup>13</sup> In addition, banks in Spain significantly stepped up their loans to domestic government in the second quarter of 2012. In Italy, the expansion of total lending to government was a key factor for the rise in the Italian contribution to monetary growth in the euro area, which began in mid-2011 and stands at 0.6 percentage point at the current end.

## Challenges for the single monetary policy

Medium to long-term inflation risks can – from a monetary analysis perspective – be the result of strong and persistent monetary growth and the associated build-up of a monetary overhang. However, in the euro area as a whole, money growth is currently comparatively slow. Furthermore, weak loan growth is having a sustained dampening effect on the trend growth rate of money, which means that monetary developments for the euro area as a whole are signalling no upside risks to price stability.

However, given the pronounced heterogeneity of monetary developments in the euro area, the risks to price stability are not distributed

*Subdued underlying monetary growth in the euro area as a whole*

<sup>13</sup> See Deutsche Bundesbank, Substantial government bond purchases by Eurosystem and commercial banks, Monthly Report, May 2012, p 32.

*Potential downside risks to price stability in some peripheral countries*

evenly across all member states. Some crisis countries, for instance, are recording clearly negative money and credit growth rates, which – besides the state of the business cycle – reflect to a large extent the necessary correction of credit and monetary overhangs accumulated in the past. The persistently high vulnerability of the banking sectors in these countries means that the necessary adjustment process nonetheless entails risks. For instance, further negative shocks – such as an unexpectedly high share of non-performing loans – could cause economies to further weaken if banks were to restrict their credit supply excessively. The associated feedback effects on the stability of the banking sector and on credit supply could intensify the ongoing deleveraging process and entail a further contraction in the volume of money and credit with downside risks to price stability.

*Large money holdings in Germany*

By contrast, in Germany monetary growth has evolved at a considerably higher level compared with the euro-area peripheral countries. The reasons for the increase in the German contribution to M3 (decline in monetary capital, increase in the net external position of the MFI sector) point to a temporary rise in the money growth rate.<sup>14</sup> Money holdings, especially holdings of overnight deposits, are nonetheless large in Germany.<sup>15</sup>

*Risks to price stability lower for shifts to monetary capital*

So long as the additional money stock has no impact on aggregate demand, it does not exert any influence on inflation. The large money holdings, in particular in the form of overnight deposits, are currently favoured by low opportunity costs compared with longer-term deposits and the high level of uncertainty. However, this is countered by the negative expected real return on highly liquid deposits as a result of the low interest rate environment. The question of how these money holdings, having accumulated as a result of these special factors, will unwind in the future is crucial to the assessment of potential risks to price stability. To the extent to which the previous portfolio shifts were merely reversed, the reduction of a mon-

etary overhang would not pose risks of inflation. This would be the case, for instance, if shifts of deposits included in M3 into longer-term liabilities of the German banking sector (monetary capital), which are not included in M3, were to occur. However, as described above, the incentives for portfolio shifts towards long-term liabilities of the domestic banking sector are relatively small in an environment in which low interest rates are expected to persist, especially in view of the fact that domestic banks, with their ample deposit base, have little incentive to offer attractive conditions on long-term deposits. Alternatively, a monetary “rebalancing” within the monetary union in the form of portfolio shifts of German investors to more attractively remunerated deposits or longer-term bank liabilities in the euro-area peripheral countries is also conceivable. It is, however, questionable whether these assets will represent a viable alternative for German non-banks in the foreseeable future, given that their high level of risk aversion can be expected to continue.

The developments prior to the financial crisis showed that the risks stemming from monetary developments do not necessarily lead to sharply increasing prices on product markets. The dynamic monetary and credit developments in the years before the onset of the financial crisis, for example, caused a sharp increase in property prices in some countries. Such price cycles on asset markets engender risks to financial stability, which may also have repercussions for the economy as a whole and must therefore be kept in mind when conducting monetary analysis. With regard to possible scenarios for Germany, investors could try to shift their portfolios in favour of more lucrative forms of investment by purchasing non-monetary assets

*Risks higher for shifts to other non-monetary assets*

<sup>14</sup> Although the continued current account surpluses do contribute to persistent money growth, this effect, taken in isolation, is not sufficiently important in quantitative terms to cause risks to price stability.

<sup>15</sup> As described above, deposits of non-resident non-banks are not important in quantitative terms for the change in the German contribution to M3, which is why they are disregarded in the following discussion.

such as shares, other securities or property, which in turn could give rise to an increase in asset prices. It is likely that German investors would initially focus primarily on domestic assets. The already relatively high valuation of comparatively low-risk non-monetary assets (ie government bonds, which are perceived as relatively safe, corporate bonds and, in some regions, property) could, however, cause investors to increasingly turn to riskier investments.

*Risk of strong credit expansion currently relatively low*

Portfolio adjustments of this kind would, however, merely tend to produce a shift in the level of asset prices and not lead to a persistently higher growth rate. By contrast, asset price inflation – ie a longer-term acceleration of asset price growth – is typically associated with strong credit expansion. Currently subdued credit growth provides no indication of such a debt-financed increase in asset prices in Germany.

*Macroprudential instruments may have to be deployed at the national level ...*

However, should asset price inflation, as a result of accelerated credit growth, become evident in Germany in the future without implying direct risks for the euro area as a whole, the Eurosystem's single monetary policy would not be able to react. Instead, macroprudential instruments would have to be deployed at the national level.

By contrast, the downside risks in the peripheral countries are mainly due to the fact that their banking systems are vulnerable to further negative shocks. To reduce this vulnerability will require, among other things, the disclosure of sustained or expected losses – including corresponding write-downs on balance sheets –, decisions on the resolution, restructuring or recapitalisation of troubled banks so as to create new loss-absorbing capacities, and regulation designed to prevent new vulnerabilities from arising in the future – including capital requirements for government bonds held by banks.

*... along with national fiscal and structural policies*

However, these issues cannot be resolved by means of (non-standard) monetary policy measures; instead, they fall under the remit of other areas of policy, in particular banking supervision and fiscal policy. Monetary policy can, at best, prolong the necessary adjustment processes over time, but invariably runs the risk of unduly lowering the adjustment pressure needed on the other parties involved. If, however, the measures required to enhance the resilience of the banking systems in the euro-area peripheral countries are foregone, there remains the danger that the interdependencies described above between the financial system and the real economy could intensify in a negative way, thereby obstructing a recovery of the real economy.