

# What is the role played by the Eurosystem during the financial crisis ?

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## Introduction

For more than five years now, the world has been beset by a financial and economic crisis. In the euro area in particular, tensions have been running high since the sovereign bond markets of a number of countries have come under increasing pressure. As the financial situation of national governments in the euro area is closely linked to that of the resident banking sector, this sovereign debt crisis exacerbated the banks' problems concerning access to finance and the cost of funds in a number of euro area countries.

As a result of the financial crisis, euro area policy-makers therefore have been facing a segmentation of the financial markets along national borders. This meant a clear break in the trend towards increasing financial integration which, following the start of the third stage of EMU, had enabled economic agents to raise funds easily across national borders. This disintegration posed a threat to financial stability and was liable to disrupt the effective transmission of monetary policy in the euro area; it forced the Eurosystem to adopt unprecedented liquidity provision measures. Those measures aimed to limit the adverse financial and macroeconomic implications – particularly the impact on price stability – of malfunctioning financial markets. This caused the Eurosystem to take on a key role as a financial intermediary for the banks and even – in view of this segmentation of the financial markets along national borders – for the national banking sectors.

This article is structured as follows. Section 1 offers a brief overview of the financial and economic crisis afflicting the global economy – and particularly the euro area – since the summer of 2007. It should enable the reader to understand the measures taken by the Eurosystem

since mid-2007 to safeguard financial stability and thus achieve its price stability objective. Section 2 looks at the motives behind these measures, and examines in more detail the risks which this policy implies for the central bank, and the extent to which the Eurosystem's accommodative policy has adverse side effects. As a result of the close connection between the financial soundness of the government and that of the resident banking sector, financial markets have become segmented along national borders, and the Eurosystem is increasingly acting as a financial intermediary for countries, thereby providing a buffer so that they can gradually rectify their external imbalances, as explained in Section 3. The Eurosystem is thus offering the players involved the time to implement the necessary structural adjustments in an orderly way so as to minimise the detrimental macroeconomic repercussions of excessively rapid adjustments. The final section examines those structural adjustments which should enable the Eurosystem to phase out its – currently sizeable – role as an intermediary.

## 1. A financial crisis in three phases

This brief section offers an overview of the financial and economic crisis which has gripped the global economy for more than five years now<sup>(2)</sup>. This summary sheds light on the measures taken by the Eurosystem to help safeguard financial and macroeconomic stability, and more specifically price stability.

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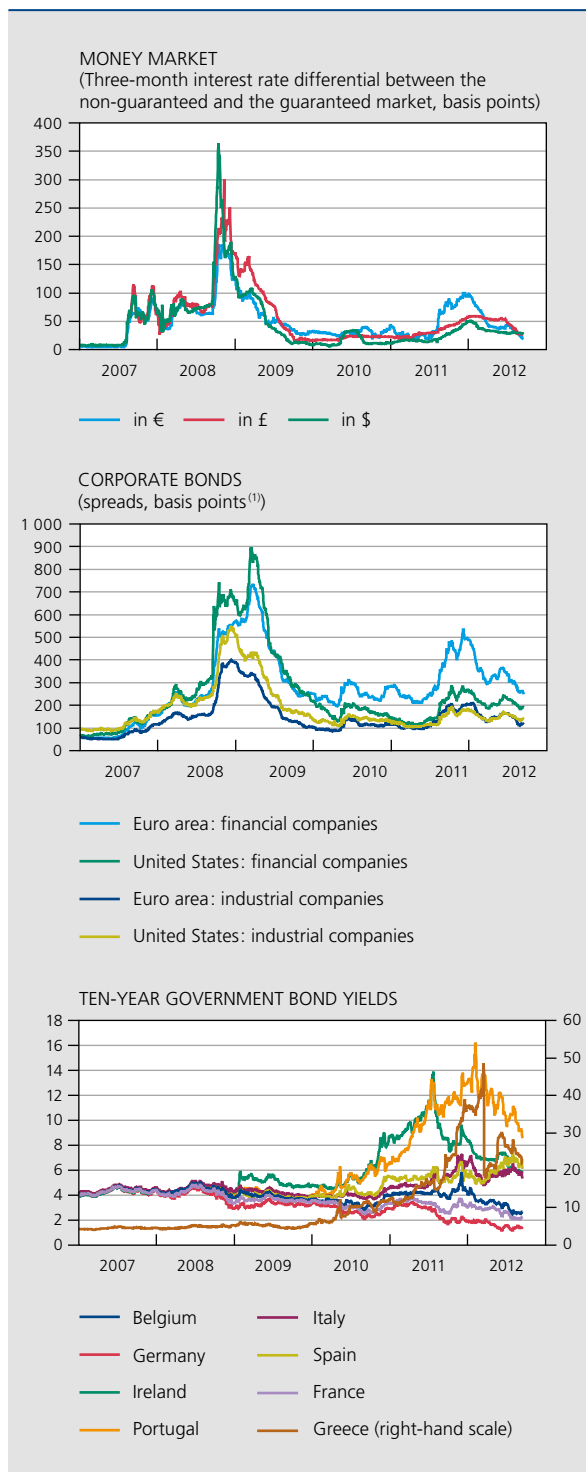
(2) For a more detailed description of developments over the past five years, see in particular the annual reports of the Bank for International Settlements (BIS, 2008, 2009, 2010, 2011, 2012b).

The first signs of the financial and economic crisis currently afflicting the world – and particularly the euro area – emerged in the summer of 2007 on the global money markets, following doubts about the soundness of certain market players, particularly those exposed to the struggling US property market. The uncertainty on the financial markets was reflected mainly in rapidly widening spreads between non-guaranteed and guaranteed interest rates which banks apply to interbank transactions.

The collapse of Lehman Brothers, in September 2008, heralded the second phase of the crisis, bringing an unprecedented increase in spreads on the money markets of the leading financial centres. The premiums that financial institutions had to pay in order to raise funds on the bond markets also continued to rise, a trend which was more pronounced in the United States, as the US was regarded as the epicentre of the financial turmoil. Moreover, the mounting financial tension was evidently also affecting the real economy, in view of the loss of confidence among economic agents worldwide and the slump in world trade. The ensuing severe recession therefore affected the funding costs of non-financial enterprises. During this period of financial panic and recession, radical conventional and unconventional monetary policy measures were adopted worldwide (for an overview, see for example Cordemans and Ide (2012)), while fiscal policy also took a decidedly counter-cyclical stance. Although this further impaired the already vulnerable position of public finances, it is generally acknowledged that the actions of the monetary and fiscal authorities throughout the world warded off a Great Depression and facilitated a relatively rapid global economic recovery (Ide, Boeckx and Cornille, 2009).

In the context of an albeit rather hesitant recovery of global economic activity and less acute financial market turbulence in the autumn of 2009 and during 2010, the euro area encountered new problems in the spring of 2010. The tensions which had emerged at the end of 2009 on the sovereign bond markets of certain euro area countries, especially Greece, became an outright panic in May 2010, ushering in the third phase of the financial and economic crisis, namely the sovereign debt crisis. In this phase, it was not just certain sovereign issuers that faced problems in raising funding at sustainable rates; certain banks were again encountering the same difficulties. Most of those banks were located in countries whose funding costs had come under increasing pressure, owing to the close links between the financial soundness of the government and that of the resident banking sector (see for example Merler and Pisani-Ferry (2012b) and Section 3 of this article).

**CHART 1** A FINANCIAL, ECONOMIC AND SOVEREIGN DEBT CRISIS



Source: Thomson Reuters Datastream.

(1) Spreads relative to German and US government bonds respectively.

## 2. Financial stability: a necessary condition for price stability

### 2.1 Summary of the Eurosystem's measures

In the period between the first signs of the financial crisis in the summer of 2007 and the publication of this article, the Eurosystem deployed a range of measures to achieve its primary objective, namely the safeguarding of price stability in the euro area. A key consideration underlying those decisions was the belief that safeguarding financial stability is vital for guaranteeing price stability (Papademos, 2009). Indeed, a financial crisis also poses a threat to the availability of funding for the non-financial sector, exerting downward pressure on economic activity and therefore on price stability. In the euro area in particular, it was essential to ensure that supply factors did not have too serious an impact on bank lending, in view of the importance of this source of funding for households and non-financial corporations in the euro area (ECB, 2009).

The monetary policy stance was eased considerably as the crisis progressed. While the key interest rate still stood at 4.25 % in August 2008, it was cut in stages to 0.75 % by July 2012. In real terms, too, the monetary policy stance became much more accommodative since inflation expectations – as measured by the results of the ECB survey of professional forecasters, for example – remained very stable, despite the sizeable fluctuations in observed inflation, attributable largely to commodity price movements. The easing of the monetary policy stance helps to safeguard macroeconomic stability, but it also has a beneficial effect on financial stability, because the lower central bank interest rates are also reflected in lower financing costs for non-financial corporations and households (see for example Cordemans and de Sola Perea (2011)). In addition, a more stable macroeconomic environment means that banks are less frequently confronted by defaults, and that supports their profitability and their room for new lending.

The financial turmoil threatened to disrupt the transmission of this much more accommodative monetary policy stance to the real economy, so that the Eurosystem decided to progressively introduce policy measures referred to as “enhanced credit support” (Trichet, 2009). That policy consists of five elements which all help to support lending to the real economy. First, it was decided that in the liquidity-providing refinancing transactions all bids would be fully allotted at a fixed rate, so that the provision of liquidity was entirely demand-driven. A second element of the enhanced credit support policy was the

extension of the list of eligible collateral, which means that solvent banks face no restrictions on their access to the necessary refinancing from the Eurosystem. Third, the maturity of the loans granted by the Eurosystem was lengthened in stages to a maximum of three years for the December 2011 and February 2012 operations. This meant that banks struggling to raise longer-term funding on the market could be sure of alternative longer-term financing. Since it had become excessively difficult if not impossible for some banks to access funding in foreign currencies, euro area banks were also given the opportunity to obtain foreign currencies from the Eurosystem via swap lines which the latter set up with other central banks. A fifth measure was the launch of two programmes for the purchase of covered bonds, which are an important financing instrument for euro area financial institutions. Since the sovereign debt markets play a crucial role in monetary transmission, it was also decided to purchase these securities on the secondary market, more specifically if the normal market functioning appeared to be seriously disrupted. Those purchases took place under the securities markets programme (SMP). For more details on these measures see ECB (2011a).

Following the meeting of the ECB Governing Council on 6 September 2012, a new programme was announced for the purchase of government paper on the secondary market, namely the Outright Monetary Transactions (OMT). The main differences in relation to the SMP concern the strict conditions which countries must comply with before the Eurosystem proceeds to purchase, the absence of *ex-ante* limits on the size of the transactions, and the clarification that these Eurosystem purchases will be treated in the same way as those of other creditors. Finally, more transparency will be provided on the government paper purchased.

### 2.2 The Eurosystem as an intermediary for the banks

The Eurosystem's measures described above aim to help resolve the problems which banks experience in raising funding from private sources. Owing to the uncertainty dominating the financial markets, market participants became reluctant to deal with one another, in marked contrast to the period preceding the financial crisis when financial institutions readily lent liquidity surpluses to one another via the interbank market. Furthermore, certain financial institutions were also finding it more difficult to raise funds via other private channels, e.g. by issuing debt instruments or attracting retail deposits.

Chart 2 shows a simplified system of financial accounts in the spirit of Bindseil and König (2011), which explains how a situation of heightened uncertainty regarding the soundness of some banks caused the Eurosystem to assume a greater role as an intermediary for the banks: on the one hand, the central bank becomes the lender of last resort for banks which the markets perceive as weaker, and on the other hand it absorbs surplus funds from banks which are considered to be stronger.

The example presents households, non-financial corporations, two commercial banks and the Eurosystem. The households have sold part of their real assets to the non-financial corporations and hold the equivalent of the assets sold in the form of banknotes and deposits with the commercial banks. The non-financial corporations pursue their business by using the real assets bought from the households for productive activities. They finance those asset purchases with loans from the commercial banks. The two banks active in this economy lend the same amount to the non-financial corporations. They both re-finance themselves for the same (small) amount from the

central bank, but bank A has a more substantial deposit base than bank B<sup>(1)</sup>. In the starting point of this example, showing the situation before the financial crisis, it is assumed that the interbank market is functioning smoothly and that bank A lends its surplus liquidity to bank B in the form of an interbank loan.

Since households hold banknotes, the banking sector in this economy faces a liquidity shortage which it can only refinance via the Eurosystem. The Eurosystem therefore refinances the banking sector for an amount that equals the banknotes in circulation, which – in this simple example – corresponds to the consolidated liquidity need of the banking sector. Indeed, this example disregards other factors which affect that consolidated liquidity need, such as the reserve requirements imposed on the commercial banks, or the securities held by the central bank. In the initial situation, the two commercial banks' current account holdings with the central bank are zero.

If bank A is worried about the financial soundness of its counterparty – e.g. owing to the quality of the assets which that counterparty holds on its balance sheet, or its heavy dependence on interbank borrowing – then it may decide to reduce its interbank lending to bank B, in this case by an amount  $z$ . Since the interbank financing suddenly dries up, bank B has to either reduce the asset side of its balance sheet or look for alternative funding.

(1) In the example, both bank A and bank B obtain refinancing from the Eurosystem, although that is not strictly necessary for bank A since it has a sufficiently large deposit base to finance its assets. However, it is possible that bank B – unlike bank A – does not have sufficient suitable collateral to obtain more refinancing from the central bank. In that case, it can obtain funding on the unsecured interbank market from bank A, which can thus engage in a potentially profitable activity by acting as a money centre for bank B (see also Cassola, Holthausen and Lo Duca (2010)).

**CHART 2** THE EUROSISTEM'S INCREASED ROLE AS THE CENTRAL COUNTERPARTY FOR THE BANKS

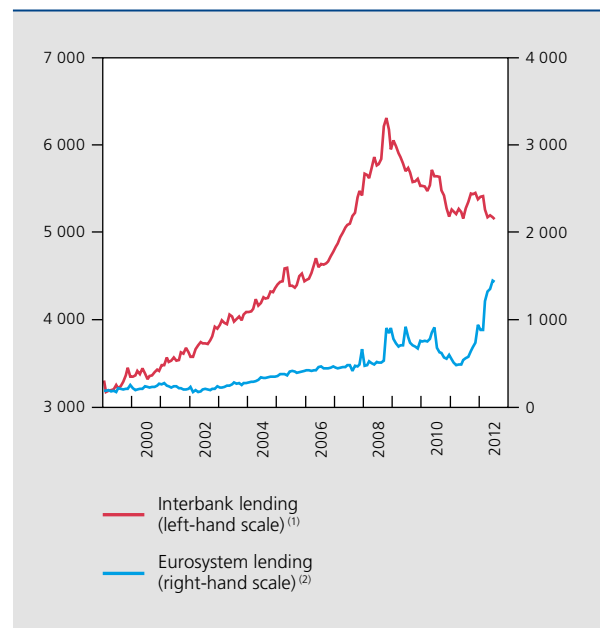
Households			
Real assets	10	Net worth	100
Banknotes	20		
Deposits held with bank A	55		
Deposits held with bank B	15		
Non-financial corporations			
Real assets	90	Credit from bank A	45
		Credit from bank B	45
Commercial bank A			
Credit to non-financial corporations	45	Household deposits	55
Interbank loan to bank B	$20 - z$	Eurosystem credit	$10 - \min(z, 10)$
Holdings with the Eurosystem	$\max(z - 10, 0)$		
Commercial bank B			
Credit to non-financial corporations	45	Household deposits	15
		Eurosystem credit	$10 + z$
		Interbank loan from bank A	$20 - z$
Eurosystem			
Credit to commercial banks	$20 + \max(0, z - 10)$	Banknotes	20
		Holdings of commercial banks	$\max(z - 10, 0)$

The first option may have substantial macroeconomic implications, since in that case the financial institutions are obliged to reduce their lending to the real economy – which is what would happen in the example – or sell securities. Such “fire sales” may generate heavy losses, since riskier securities generally trade at low prices in periods of financial panic. Moreover, this can trigger a vicious spiral in which mark-to-market revaluations of assets which have fallen in price can prompt renewed panic selling causing further price falls (see also Shleifer and Vishny (2011)).

To avoid such unwelcome effects on the macroeconomic environment, the Eurosystem provides bank B with extra credit during a financial crisis: in this case for an amount of  $z$ , the part of the interbank loan that bank A is no longer willing to renew. At the same time, bank A initially has surplus liquidity which allows it to reduce the refinancing which it obtains from the Eurosystem. So long as the reduction in interbank lending by bank A, amounting to  $z$ , is less than its refinancing from the Eurosystem, amounting to  $10$ , the reduction in Eurosystem credit to bank A offsets the increased recourse by bank B to the central bank as a source of funding. In that case, the central bank balance sheet will therefore not be extended. However, if the interbank loan is cut by more than  $10$ , then (even after totally ending its recourse to central bank refinancing) bank A has surplus liquidity which it will place with the central bank. In the example, this is reflected in increased commercial bank holdings with the Eurosystem, taking the form of current account holdings in excess of the required reserves, or recourse to the deposit facility. Up to 11 July 2012, that facility still offered a limited return in contrast to the excess reserves on the current account which are unremunerated (see also Boeckx and Ide (2012)). At the meeting on 5 July 2012, the ECB Governing Council decided to cut the key interest rates by 25 basis points, reducing the rate on the deposit facility to 0%. This meant that there was no difference between the current account and the deposit facility in terms of yield.

This example – which can easily be extended to include other shocks in private financing, such as problems with the issuance of debt securities or an outflow of retail deposits, which have similar repercussions on the central bank’s balance sheet – shows how financial turmoil can lead to the Eurosystem playing a greater role as intermediary for the banks. If the liquidity shocks affecting individual banks are large, this may also result in an enlarged central bank balance sheet, with the Eurosystem providing more liquidity for certain banks and at the same time offering banks with a surplus the opportunity to place that surplus with the central bank.

**CHART 3** INTERBANK LENDING IN THE EURO AREA AND EUROSYSTEM LENDING  
(in € billion, monthly data)



Sources: ECB, Thomson Reuters Datastream and own calculations.

- (1) Interbank lending is calculated as the difference between, on the one hand, deposits held with MFIs (excluding the Eurosystem) by other MFIs (including the Eurosystem) of the euro area and, on the other hand, the sum of the items “Eurosystem lending to euro area credit institutions denominated in euro” and “other claims on euro area credit institutions denominated in euro” in the Eurosystem’s consolidated weekly statement.
- (2) The series indicates the sum of the items “Eurosystem lending to euro area credit institutions denominated in euro” and “other claims on euro area credit institutions denominated in euro” in the Eurosystem’s consolidated weekly statement.

Aggregated balance sheet data for the monetary financial institution (MFI) sector of the euro area (excluding the Eurosystem) do indeed show the turnaround in interbank lending in the autumn of 2008<sup>(1)</sup>. Between the first quarter of 2006 and the third quarter of 2008, lending by MFIs to other MFIs had increased by an average of around 11% per annum, but since then interbank lending has fallen by an average of around 3% per annum despite some – rather brief – periods in which banks became a bit more willing to lend liquidity to one another. The steady decline in interbank lending is therefore due to the persistent lack of confidence among financial institutions.

The corollary to this malfunctioning interbank market – but also to the difficulties experienced by certain banks in raising funding via other private channels – is the increased recourse to Eurosystem refinancing, which surged strongly in the aftermath of the Lehman Brothers bankruptcy. The total of the amounts lent via the main

(1) These aggregated MFI data should be interpreted with caution since these loans between MFIs also include transactions within banking groups, so that major bank restructurings, for example, may influence the statistics (ECB, 2010).

and longer-term refinancing operations, of recourse to the marginal lending facility and of other euro-denominated Eurosystem claims on resident banks (in particular ELA) increased from an average of € 503 billion in the first nine months of 2008 to € 883 billion in the final quarter of that year. Once the first one-year refinancing operation matured in June 2010, recourse to the Eurosystem as a source of funding began to decline. However, the resurgence of the sovereign debt crisis from mid-2011 brought a renewed rise in Eurosystem lending, notably following two longer-term refinancing operations in December 2011 and February 2012 whereby the euro area banks secured funding totalling € 1.1 billion for a three-year period. That effectively enabled the banks to fund their activities for the coming three years on attractive terms. Following the allotment of these two longer-term refinancing operations, the outstanding total of interbank loans declined again, since the banks used those funds partly to reduce their dependence on interbank financing. This made them less dependent on the sometimes volatile interbank market conditions, and bought them the time to make the necessary adjustments to their balance sheets.

### 2.3 What are the risks associated with these central bank measures?

The Eurosystem measures described above entail a number of risks, just as is the case for many other central banks which have undertaken similar actions – albeit geared to the specific needs of their respective economies. On the one hand, the increased provision of liquidity to the financial sector inevitably implies greater financial risks for the central bank, while on the other hand, the greater role which the central bank takes on in order to support macroeconomic and financial stability may generate a number of undesirable side effects with inherent social costs in the longer term.

#### 2.3.1 Financial risks for the central bank

Bindseil (2011) states that a central bank faces a trade-off between the comfort that it offers financial institutions in providing liquidity and the limiting of the financial risks which it takes onto its balance sheet. By acting as the central counterparty between banks in a financial crisis, and thus ensuring that financial institutions have sufficient liquidity, the central bank takes financial risks onto its balance sheet which the private sector is – at least temporarily – unwilling to accept. That point had already been made by 19th century writers such as Bagehot (1873). However, in a financial crisis, a central bank has good reason to offer banks sufficient liquidity support

and thus tolerate more financial risks on its balance sheet (Bindseil, 2011).

Owing to the financial crisis, the private sector is no longer willing to accept certain risks. If, in that situation, the central bank were equally unwilling to take more risks onto its balance sheet in order to limit possible losses, then the economy would most likely tend towards a bad equilibrium, in which the eventual losses would be greater for all parties, including the central bank. Even in the less extreme case, the liquidity problems of financial institutions may have substantial negative externalities – e.g. fire sales or an excessively abrupt reduction in lending to the real economy – making it impossible for the central bank to achieve its target. In the case of the Eurosystem, a widespread financial panic caused by liquidity problems in some part of the banking sector would have a serious adverse impact on economic activity and would therefore be accompanied by downside risks to price stability. In addition, the central bank is the only economic agent which cannot suffer liquidity problems, since it has a monopoly on the issuance of the most liquid payment instrument, namely base money. That is why it makes sense for a central bank to make more liquid resources available temporarily, in exchange for less liquid assets, if the private sector suddenly prefers to reduce its exposure to less liquid assets.

Furthermore, the Eurosystem applies a number of risk control measures. First, all transactions must be covered by appropriate collateral from which haircuts are deducted. For example, a 10% haircut means that banks presenting collateral with a market value of € 100 obtain only € 90 in refinancing. In addition, via the system of margin calls, banks have to make extra collateral available when, during the term of a transaction, there is a decline in the market value of the collateral pledged. Finally, there are also limits on the use of unsecured debt instruments. It should be noted that more stringent financial risk control measures are accompanied, in principle, by less flexible conditions for the provision of liquidity. It is therefore up to the central bank to choose the combination of financial risks and liquidity comfort which it prefers, within the possibility set, according to its preferences and parameters (Bindseil, 2011).

In this connection, it should be noted that the Eurosystem has adjusted its collateral framework in various ways since the start of the financial crisis. In general, it can be said that since the financial crisis intensified in September 2008, the Eurosystem has extended the already long list of eligible collateral, but at the same time it applied substantial haircuts to certain assets regarded as more risky. That should enable the Eurosystem to make subtler

adjustments to its risk exposure and thus achieve the optimum combination of liquidity support and risk exposure.

### 2.3.2 Adverse side effects of a persistently accommodative monetary policy

The increased role which central banks throughout the world have adopted in the form of low interest rates, which have been in place for a long time now, and as prominent financial intermediaries in the economy, may also imply other risks than the purely financial risks mentioned above. A number of authors and policy-makers (see for example Hannoun (2012)) state that the capacity of monetary policy to resolve the current problems is not unlimited, and that radical monetary policy measures may have undesirable side effects. In the longer term, the result could be that not only central banks but other economic agents, too, face new, potentially more serious problems than those confronting them today. In particular, the central banks risk damage to their reputation if economic agents expect too much of central bank action, so that those expectations cannot be fulfilled.

Cordemans and Ide (2012) mention a wide range of potential risks which may accompany a protracted accommodative monetary policy. It is possible to identify a number of risks specific to the banking sector which are more or less directly attributable to the low interest rate policy and expanded central bank balance sheets. First, there is the risk of insufficient consolidation of the balance sheets of financial institutions. Although the Eurosystem's actions are aimed at avoiding excessively abrupt deleveraging of the commercial banks' balance sheets, the necessary adjustments still need to be phased in. In particular, banks must strengthen their own funds so that they become more shock-resistant and less dependent on volatile debt financing. Yet the low interest rates and easy access to central bank credit entail the risk that banks will postpone this increase in capital, especially as bank capital is expensive in a context of low market prices for financial shares.

However, the data up to mid-2012 suggest that this risk has not so far materialised. The leverage ratio of the euro area's banking sector has fallen from around 18.5 in the last quarter of 2008 to around 15 in the first six months of 2012. According to this criterion, the euro area banking sector's dependence on debt financing has never been so low since the start of the third stage of EMU. This decline in the leverage ratio is due to a less marked increase in the aggregated balance sheet total of the banking sector, but primarily to the raising of new capital. That was also stated in the recapitalisation plans which banks submitted to the EBA in January 2012, and the

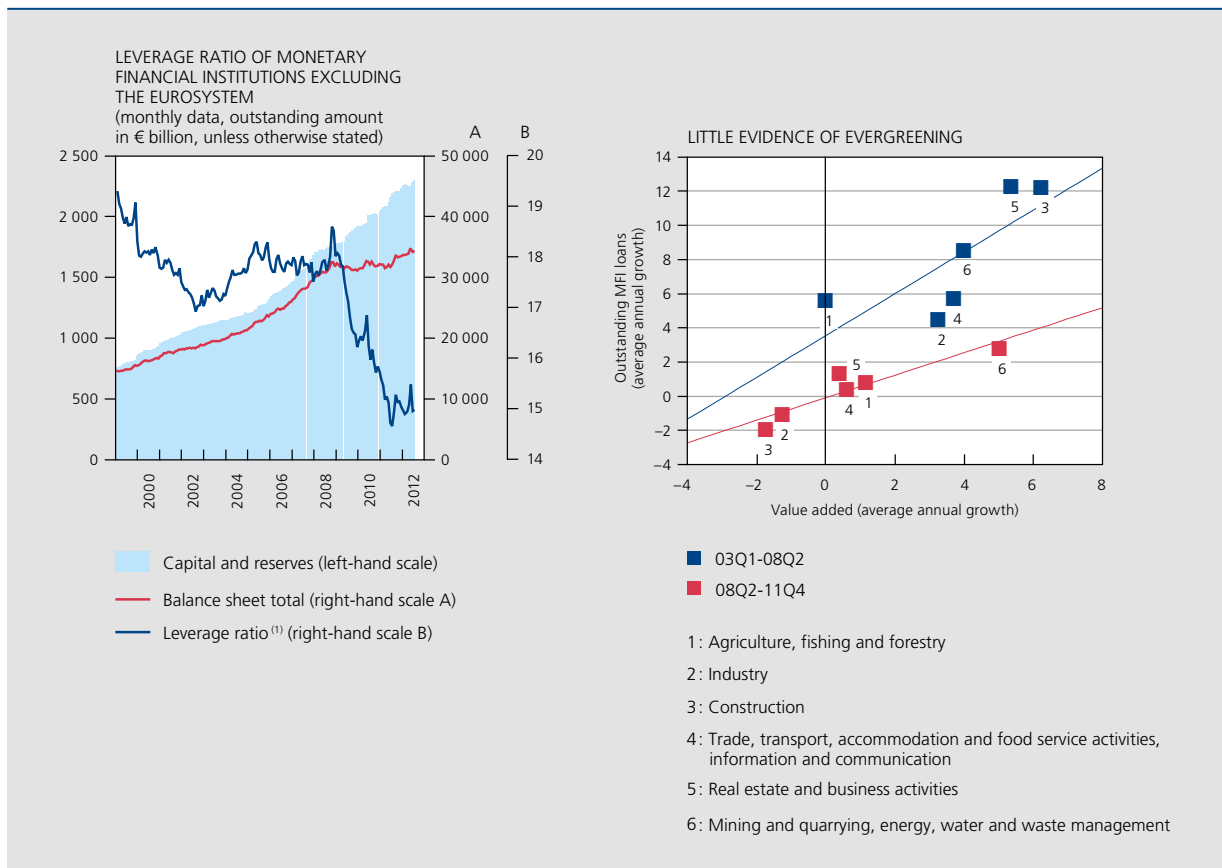
results of the recapitalisation round published in July 2012 therefore show that approximately 76% of the increase in the capital ratio of the large European banks is due to measures to boost their capital, so that measures concerning the banks' assets made a much smaller contribution (EBA, 2012). Moreover, these last measures had only a limited impact on asset prices or lending, since other financial players took over at least some of the banks' financing activities (BIS, 2012a).

The next point is that an accommodative monetary policy – as regards both the monetary policy stance and the conditions governing the provision of liquidity – may encourage commercial banks not to write off non-performing loans but instead to offer borrowers the chance to roll-over their loans at low interest rates (BIS, 2012b). Low rates in fact enable them to refinance their outstanding loans at modest interest charges and with low principal repayments. This enables banks to delay the recognition of losses, boosting their profitability in the short term. There are at least two drawbacks to this practice. First, there is the risk of an inferior credit allocation in the economy, resulting in efficiency losses. Second, if counterparties doubt the quality of the bank's assets if there is little transparency over the extent of such loan renewals for borrowers who are not solvent, banks may be cut off from private funding.

The empirical literature on the scale of this "evergreening" phenomenon in the euro area during the current financial crisis is limited, in contrast to that on the protracted period of low nominal interest rates in Japan. For instance, Caballero, Hoshi and Kashyap (2008) show that insolvent firms have continued to receive credit, depressing the profitability of sounder businesses, and thus also hampering market access, investment and job creation. In regard to the euro area, Albertazzi and Marchetti (2010) state that evergreening of loans by smaller, less strongly capitalised Italian banks may have played a role during the six months following the collapse of Lehman Brothers. The OECD (2012) finds that, for a number of European economies, the share of non-performing loans in the total outstanding loans in 2009 was comparable to that at the start of the 2000s, despite a significantly better economic situation in the latter period. That may be due to better risk management, but could also suggest that banks are reluctant to take losses on bad loans.

Four years after the intensification of the economic crisis, it makes sense to conduct a simple exercise to investigate whether there are any signs that the accommodative monetary policy has led to lending continuing to be channelled into badly performing branches to the detriment of

**CHART 4** STRUCTURAL ADJUSTMENTS FOLLOWING THE ONSET OF THE FINANCIAL CRISIS



Sources: ECB, Eurostat, Thomson Reuters Datastream and own calculations.  
(1) The leverage ratio is calculated as the ratio between the balance sheet total and the capital plus the reserves.

faster growing branches. That exercise involves examining the link between the average annual growth of value added for a sample of six branches of activity and the average annual growth of the loans granted to those branches, both for a period of about five years before the crisis began and for a three-year period following the collapse of Lehman Brothers. That analysis reveals that before the crisis there was a strong, positive link between the economic growth recorded by a branch of activity and the loans granted to that branch. Particularly in the construction industry and in the branch comprising real estate and business activities, both variables increased strongly. However, during the crisis period, the situation in those branches was reversed: the average annual growth of the branch comprising real estate and business activities slowed to around 0.4 %, while the construction sector actually recorded a decline in value added between the second quarter of 2008 and the end of 2011. There is little evidence of evergreening in that period, since the loans granted to these branches also declined, or expanded much less rapidly. It was the faster growing sectors that

were granted more loans. However, the regression coefficient and the constant are smaller than before the crisis period, in line with a supply effect on lending in the euro area.

Third, there is the risk that the greater reliance on the central bank as a source of finance may exacerbate the problem of asset encumbrance (ECB, 2012c). From early on in the financial crisis, there was a shift from unsecured to secured transactions on the interbank market (ECB, 2012b). Although this enabled banks to continue raising funding on the market, there is a danger that this increased recourse to secured funding may make it difficult to return to the unsecured market. Indeed, secured funding leads to a larger proportion of the financial institution's assets being encumbered, which leaves fewer assets to compensate unsecured creditors if the financial institution defaults. The Eurosystem's actions exacerbate this problem, because all refinancing which the banks obtain from the Eurosystem has to be covered by collateral. In addition, the Eurosystem set up



two programmes for the purchase of covered bonds; this stimulated the market in covered debt instruments. The ensuing rise in primary issues of these instruments (ECB, 2012b) in turn also means that more of the banks' assets are blocked as collateral. Indeed, the IMF (2012b) states that the proportion of banks' assets encumbered as collateral increased from around 8% to 10% between 2007 and February 2012 in the euro area, with significantly bigger increases in some countries which were hard hit by the crisis.

Finally, it is evident that some banks have used the liquidity provided by the Eurosystem to finance purchases of government paper, especially debt instruments issued by the domestic government (IMF, 2012a). That was certainly the case following the two three-year operations at the end of 2011 and in early 2012. This could potentially lead to even greater contagion between the government and the resident banking sector.

### 3. The role of the Eurosystem as a buffer in the correction of the external imbalances in the euro area

#### 3.1 A crisis moving from banks to countries

In a number of euro area countries, both the resident banking sector and the government were in a vulnerable financial position when the financial crisis began. There is clearly a connection with the macroeconomic external imbalances which those countries had built up in the first ten years of Monetary Union. In the decade preceding the financial crisis, several euro area countries saw a deterioration in the gross debt position of the government sector, the private sector, or both, depending on the country. That made those countries heavily dependent on foreign financing<sup>(1)</sup>, a process in which the resident banking sector played a major role.

Against the backdrop of worsening competitiveness – reflected, for example, in a faster rise in unit labour costs – and a strong expansion in domestic demand, some euro area countries – such as Portugal and Greece – faced a persistently negative current account balance and a deteriorating net international investment position (De Prest, Geeroms and Langenus, 2012). Other countries – such as Ireland – had smaller current account deficits but also became heavily dependent on external funding. That was due to the sizeable cross-border capital flows reflecting a large financial sector engaging in international activities. In the remainder of this article, all euro area countries which are heavily dependent on international funding

– i.e. including Ireland – will be referred to as deficit countries. Conversely, some other euro area countries saw a marked improvement in their competitiveness, so that – partly thanks to very subdued growth of domestic demand – they were able to record substantial current account surpluses and build up a strong net creditor position.

During the initial years of the third stage of EMU, there was considerable progress in the financial integration of the euro area, and the deficit countries had no difficulty in raising funding via the international financial markets. This was because excess savings in the surplus countries were readily transferred to the deficit countries. The increasing financial integration took various forms (ECB, 2012b). There was growth in the cross-border holding of shares and other securities, while banks also stepped up their lending to the non-financial sector of other euro area countries, although this was a rather limited phenomenon<sup>(2)</sup>. Finally, the banks also increasingly raised funding from counterparties in other euro area countries, e.g. via interbank deposits or by the issuance of bank debt. However, foreign direct investment – generally a stable source of foreign financing – represented only a small proportion of the deficit countries' funding (EC, 2006).

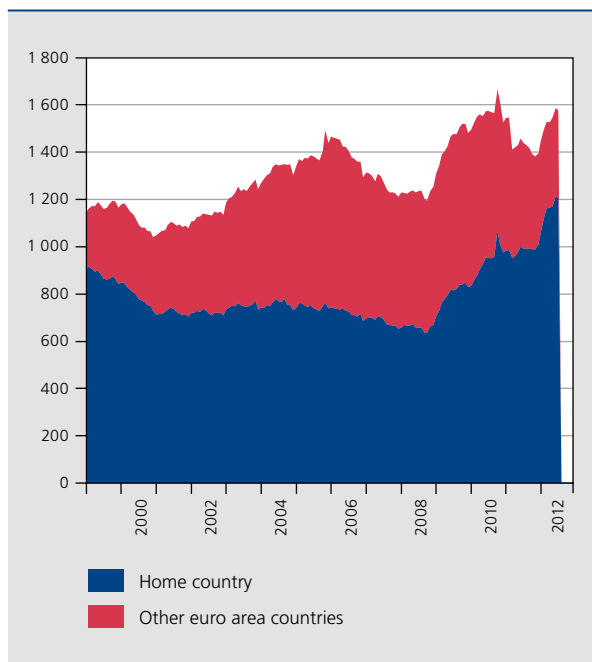
As the financial crisis dragged on, however, the financial integration of the euro area began to crumble. Market participants began to question the sustainability of the debts of some countries, and especially sovereign debt, because the financial crisis had an impact on the public finances of some euro area countries which were already vulnerable before the financial crisis erupted. In response to the severe recession following the collapse of Lehman Brothers, they not only adopted a counter-cyclical fiscal policy, but were also forced to provide financial support for their resident banks. Indeed, in the absence of any European structure for that, the resident banking sector was heavily dependent on the national government for financial support. Consequently, problems in the national banking sector may threaten the financial soundness of its sovereign.

These two sectors also influence one another. Government securities generally make up a large proportion of the assets held by banks, because this asset category was

(1) Of course, in the event of shocks or in a catching-up phase, ready recourse to external funding is welfare-enhancing. The absence of any exchange rate risk, which had a positive impact on financial integration, was therefore an important reason for setting up EMU. More financial integration should in turn offer economic agents the opportunity to diversify the risks in a larger market and optimise the intertemporal allocation of consumption. However, the inflow of capital was evidently not used only to cope with temporary shocks or to effect productive investment, but was also driven by less favourable factors (EC, 2006).

(2) During the first quarter of 2009, the proportion of cross-border loans by MFIs to non-MFIs in the euro area peaked at just 5.4%.

**CHART 5** DEBT INSTRUMENTS ISSUED BY GOVERNMENTS IN THE EURO AREA AND HELD BY MFIS IN THE EURO AREA (EXCLUDING THE EUROSYSTEM)<sup>(1)</sup>  
(monthly data, in € billion)



Source: ECB.

(1) The chart shows respectively the debt instruments held by a country's banking sector and issued by that country's government, and the debt instruments held by the sector and issued by governments of other euro area countries.

regarded as safe, as indicated by the low risk weighting which regulators and market participants assigned to it. After the financial crisis intensified in the autumn of 2008, the euro area banks increased their exposure to government paper in view of its low-risk profile, in contrast to the trend in previous years. Moreover, in the initial phase of the crisis, they increased the share of their own sovereign in their holdings of securities (ECB, 2012b). As a result, the resident banking sector became directly vulnerable to a deterioration in the government's financial soundness, since the falling prices of government paper caused the banks to incur losses and made it more difficult for them to raise funding on the secured market, where government bonds are in fact an important type of collateral. In addition, there is the possibility of more indirect contagion from the government to the resident banking sector. If investors consider – purely on the basis of the government's precarious fiscal position – that the financial institutions of a particular jurisdiction are less sound, that can trigger a self-sustaining and self-fulfilling process, threatening the access of those institutions to market finance. Merler and Pisani-Ferry (2012b) find, on the basis of CDS contract prices, that the link between the perceived risk of default by banks on the one hand, and governments on the

other, has increased in the euro area since the beginning of 2011, in contrast to the situation in the United States.

The close link between the government and the resident banks implies that it is no longer individual banks that are vulnerable, but national banking sectors. The sovereign debt crisis was therefore accompanied by an intensification of the banking crisis, with foreign lenders increasingly questioning the financial soundness of a number of national banking sectors. Those doubts over bank solvency were further fuelled by the key role which the banks performed in a number of deficit countries in the international financing of the debts accumulated by the private sector. The banking crisis therefore gradually developed into a crisis concerning particular countries, in which the distinction which market participants made between banks regarded as financially sound and those seen as less sound increasingly came to coincide with the national borders.

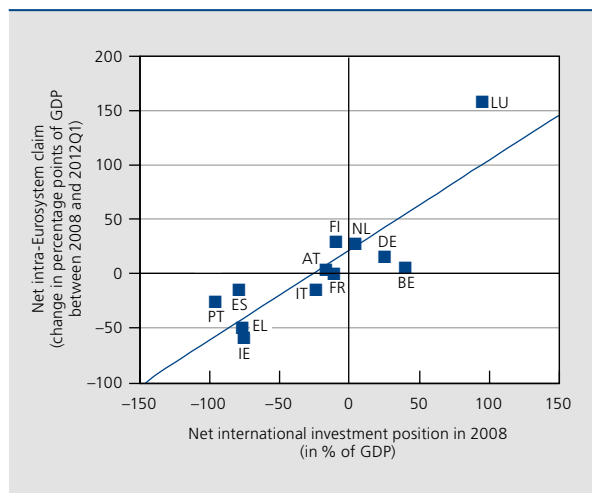
The financial integration therefore went into reverse, and that trend accelerated when the sovereign debt crisis intensified in 2011 (ECB, 2012b). Economic agents wanted to reduce their exposure to the vulnerable countries, and that became apparent relatively quickly since foreign financing had to a large degree taken the form of – often short-term – interbank lending or marketable debt instruments. A number of authors therefore label the sudden and unusually sharp reversal of the capital flows within the euro area as a balance of payments crisis (Ifo, 2012) or sudden stops (Merler and Pisani-Ferry, 2012a).

### 3.2 The Eurosystem as an intermediary for countries

As a result of this segmentation of the financial markets along national borders, the banking sectors of several countries were increasingly forced to resort to Eurosystem financing, to replace the private funding which was drying up. A good many financial institutions in countries with stronger economic fundamentals were no longer willing to renew their loans to vulnerable countries; they preferred to place the repatriated liquidity safely with the central bank and to bear the opportunity cost of doing so<sup>(1)</sup>. As explained in the box, the NCBs thus accumulated sizeable liabilities and claims within the Eurosystem, as a corollary of, on the one hand, the expansion of lending to the resident banking sector to make up for the scarcity of private financing in the deficit countries, and on the other hand, the role of the central bank as a safe counterparty

(1) Commercial banks' current account holdings with the Eurosystem in excess of their required reserves are not remunerated, while the use of the deposit facility also yields only a small rate of return (Boeckx and Ide, 2012). That remuneration was actually cut to zero from the seventh reserve maintenance period of 2012, which began on 11 July.

**CHART 6** NET INTERNATIONAL INVESTMENT POSITIONS AND INTRA-EUROSYSTEM POSITIONS



Sources: Eurostat, Thomson Reuters Datastream and own calculations.

for placing surplus liquidity which the banks accumulated in the surplus countries and which they did not wish to lend to banks in the deficit countries.

In this way, the Eurosystem – in parallel with the greater segmentation of financial markets along national borders – is increasingly positioning itself between the national banking sectors, instead of between individual banks which are scattered at random across the euro area, as was the case during the initial phase of the financial crisis. Just as for individual banks, that intermediation role avoids a situation in which countries experiencing a sudden shortage of private capital flows are obliged to scale down their foreign transactions abruptly, causing – possibly severe – macroeconomic and financial turmoil. In addition, the Eurosystem has thereby supported financial stability in the surplus countries, since they have been able to reduce their exposure to the deficit countries in a comfortable way, namely without encountering repayment problems on the part of financial institutions suffering liquidity shocks.

## Box – Claims and liabilities within the Eurosystem during the financial crisis

During the crisis, the claims and liabilities accumulated by the NCBs vis-à-vis the Eurosystem formed the subject of intense debate (see for example Ifo (2012) or Bindseil and König (2011)). That debate focused mainly on the NCBs' substantial TARGET2 balances. This box explains what TARGET2 is, how individual NCBs accumulated these substantial positions, and how those balances can be interpreted.

TARGET2 is the payments system maintained by the Eurosystem. It enables financial institutions in the euro area to effect cross-border payments in central bank money. Although market players are not obliged to use TARGET2 for all transactions, the system has a very large market share because of its user-friendliness and its advantageous cost structure.

In the euro area, the implementation of monetary policy is decentralised, which means that banks turn to the NCB of the country where they are located – and not the ECB – for refinancing or for placing surplus liquidity. To balance the balance sheets of the individual NCBs in this context, claims and liabilities are created in TARGET2. Although the NCBs' claims and liabilities vis-à-vis the ECB cancel one another out for the euro area as a whole, some NCBs accumulated large net positions during the financial crisis.

The diagram below, based on the example discussed in Section 2 of this article, shows how the drying up of interbank financing leads the NCBs to accumulate TARGET2 claims or liabilities. In the initial situation in this example, owing to the deposits held by residents with the resident banks, the banking sector of country A has surplus liquidity which it lends to banks in country B, which rely less on funding via retail deposits. In the event of doubts over the financial soundness of the banking sector in country B – as in the case of some euro area countries during the sovereign debt crisis – country A's banks no longer renew their interbank loans and country B's banks have to repay the interbank debt. In the example, the interbank loan is reduced by an amount equal to  $z$ . When the interbank debt is repaid, country B's banking sector's holdings with the NCB of country B are reduced by  $z$ , while the banks in country A record an inflow of central bank money, and their holdings with the central bank



TARGET2 BALANCES ON THE BALANCE SHEETS OF THE NCBs IN THE EURO AREA

Country A's banking sector			
Credit to non-financial corporations	45	Household deposits	55
Interbank loan to country B's banking sector	$20 - z$	Credit from country A's NCB	$10 - \min(z, 10)$
Holdings with country A's NCB	$\max(z - 10, 0)$		
Country B's banking sector			
Credit to non-financial corporations	45	Household deposits	15
		Credit from country B's NCB	$10 + z$
		Interbank loan from country A's banking sector	$20 - z$
Country A's NCB			
Credit to country A's banking sector	$10 - \min(z, 10)$	Banknotes	10
TARGET2 claim	$z$	Holdings of country A's banking sector	$\max(z - 10, 0)$
Country B's NCB			
Credit to country B's banking sector	$10 + z$	Banknotes	10
		TARGET2 liability	$z$
Eurosystem (consolidated)			
Credit to commercial banks	$20 + \max(0, z - 10)$	Banknotes	20
		Holdings of banking sector	$\max(z - 10, 0)$

increase by the same amount. However, that is not the end of the transaction, since the balance sheets of the respective NCBs no longer balance.

In order to balance the central bank balance sheets, the Eurosystem provides for offsetting balance sheet items covering the claims or liabilities of the respective NCBs vis-à-vis the ECB: these are the TARGET2 balances. The ECB therefore acts as a central counterparty through which all transactions are channelled. Country A's NCB therefore records a TARGET2 claim on the ECB, offsetting the increase in the resident banking sector's holdings with the NCB. Conversely, country B's NCB enters a TARGET2 liability to offset the decline in its liabilities towards the resident banking sector in the form of holdings on the current account or the deposit facility.

After repayment of the interbank financing which was not rolled over, country B's banking sector will apply to the Eurosystem for refinancing in the sum of  $z^{(1)}$ . Country A's banking sector is able to reduce its recourse to central bank refinancing thanks to the inflow of liquidity. However, that is possible only until the refinancing is reduced to zero; after that there is no more scope for such reshuffling. If  $z$  is greater than 10, the banks of country A will hence see an increase in their holdings with the central bank.

The above example – which can be extended to include retail deposit movements between countries or other shocks in cross-border funding – shows how electronic payments between countries within the Monetary Union give rise to TARGET2 balances for the NCBs. However, it should be noted that these TARGET2 balances take no account of payments effected by means of banknotes, so that a – potentially relevant – channel for cross-border payments is disregarded (Jobst, Handig and Holzfeind, 2012). That is precisely why Boeckx and König (2012) also

(1) An alternative would be for country B's banking sector to reduce its assets in order to generate a new inflow of liquidity. However, that would imply a risk of excessively abrupt sales of securities or a sudden contraction in the supply of credit, which would have adverse macroeconomic consequences. That is why the Eurosystem offered banks the possibility to refinance themselves with the central bank, thus avoiding a disorderly shrinking of their balance sheets (see also Section 2 of this article).



argue that it makes sense for the intra-Eurosystem balances arising from banknote issuance to be included in the analysis of the financing needs of certain banking sectors<sup>(1)</sup>.

At the same time, they draw attention to various other reasons why the intra-Eurosystem balances which the NCBs accumulated vis-à-vis the ECB are not a perfect indicator of the financing needs of the national banking sectors. There is a significant distorting factor in the form of large international banking groups which generally centralise their cash management in a single jurisdiction, with potentially considerable implications for the pattern of intra-Eurosystem claims and liabilities of individual NCBs. That applies, for example, to Belgium. Moreover, the NCBs' balances may also be influenced by payment flows in non-central bank money or by foreign exchange transactions by residents. Nonetheless, there is an – albeit imperfect – connection between the more difficult access to market financing, increased recourse to the Eurosystem as an alternative source of funding, and the increased intra-Eurosystem liabilities in countries suffering financial turbulence.

(1) See Krsnakova and Oberleithner (2012) for more details on the method of recording banknote issuance by the NCBs of the euro area.

This is also reflected in the balance of payments recording transactions between a country's residents and non-residents. If a country faces outflows of private external financing – e.g. a cross-border interbank loan which is repaid on the due date via an electronic transfer, as explained in the box – that reduction in the private sector's net external liability to the rest of the world is offset by an increase in the TARGET2 liability of the resident NCB vis-à-vis the ECB. Since the ECB is regarded as a non-resident, these changes in the NCB's positions vis-à-vis the ECB are also recorded in the balance of payments<sup>(1)</sup>. Conversely, a repatriation of the interbank loan to the country of the lender is recorded there as a reduction in the private sector's net claim on the rest of the world, with the corollary of an increase in the foreign net claim for the central bank in the form of a TARGET2 claim. The financing programmes set up by the EU and the IMF are likewise recorded in the balance of payments, since they are a source of capital inflows for the countries receiving finance via these programmes and they imply an increase in net liabilities towards the rest of the world. If these official capital flows are considered in conjunction with the private net capital flows – calculated as a residual category – it is therefore possible to examine the extent to which the official sector in the euro area has taken over financial intermediation between the euro area countries<sup>(2)</sup>.

Before the first signs of the financial crisis emerged, Greece and Portugal had no difficulty in attracting sufficient inflows of private capital to finance their growing current account deficits. In contrast, Ireland – with a smaller current account deficit – had more limited net recourse to foreign financing. However, that conceals substantial gross capital flows which also made its banking sector vulnerable to a sudden drying-up of funding. At

the first signs of the financial crisis, these three countries had problems in raising funding on the market; during the period between the collapse of Lehman Brothers and the end of 2011, that was reflected mainly in a contraction of the inflows of private capital, essentially portfolio investments by foreigners and, to a lesser extent, cross-border bank loans and deposits (EC, 2012). That forced the banks in those countries to make greater use of refinancing via the Eurosystem, which was facilitated by the measures mentioned above in the context of enhanced credit support. The Eurosystem thus made a substantial contribution towards financial and macroeconomic stability.

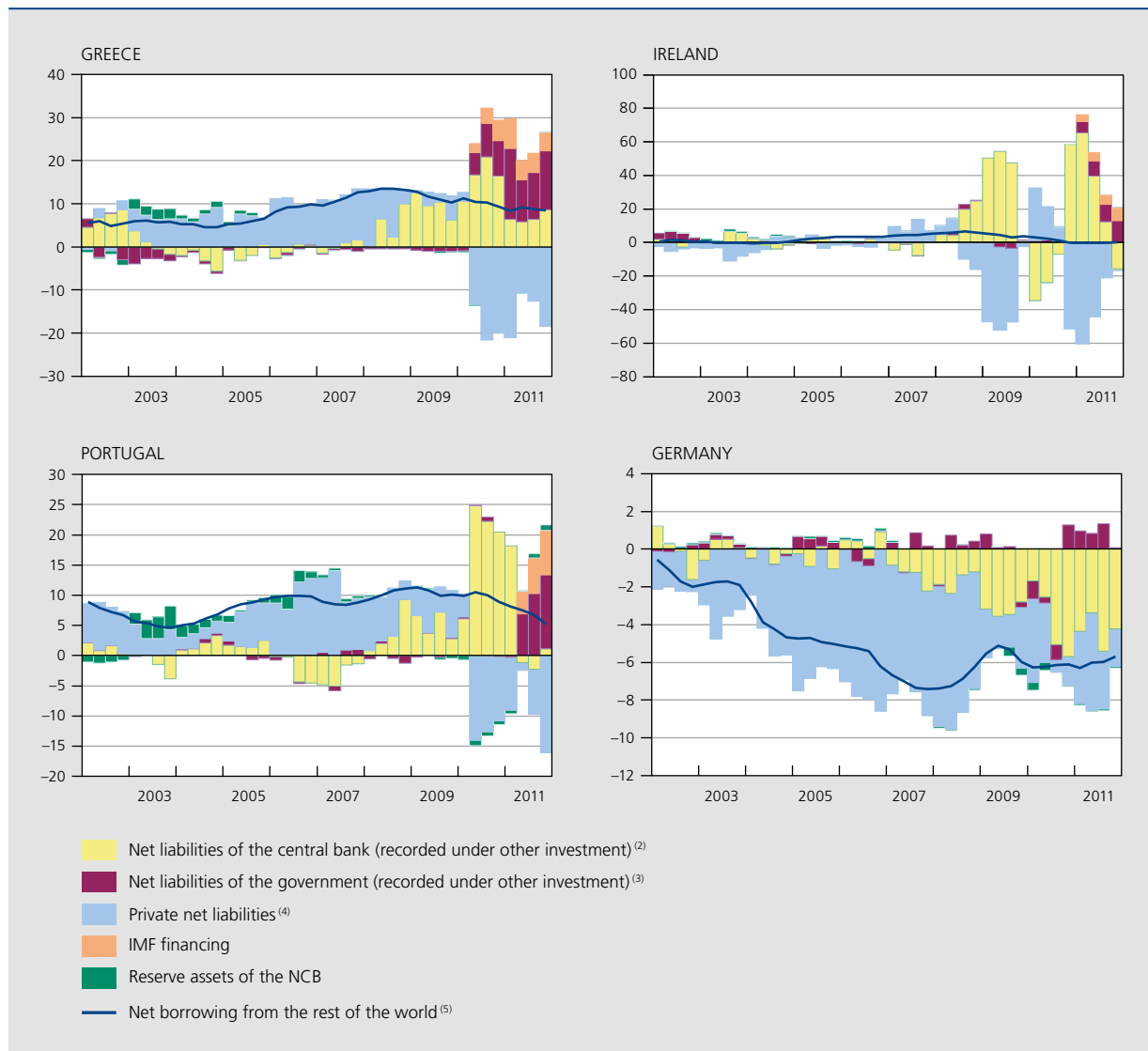
As a result, Greece and Portugal, for example, were not obliged to make sudden reductions in their current account deficit in response to the sudden disappearance of private external funding. That was in stark contrast to the situation in Bulgaria, Latvia and Lithuania, for instance, which still had a current account deficit of over 15% of GDP in 2007, that was converted to a balanced position in the space of three or four years despite a stable bilateral exchange rate against the euro (Merler and Pisani-Ferry, 2012a). However, this speedy recovery of the external balance came at a high price in terms of unemployment and private consumption<sup>(3)</sup>. It can therefore be assumed that such an abrupt adjustment in the programme countries

(1) Changes in the net positions held by NCBs vis-à-vis the ECB are recorded in the balance of payments as "other investment by the monetary authorities".

(2) This approach takes no account of purchases of government paper or covered bonds effected by the Eurosystem for monetary policy purposes. For example, if a resident sells a debt instrument issued by a resident to a non-resident NCB or to the ECB, that implies a TARGET2 claim for the NCB of the seller, but at the same time an increased liability vis-à-vis the non-resident NCB or the ECB. In the approach used here, only the TARGET2 claim is explicitly identified. Consequently, the private capital flows calculated here somewhat overestimate the actual private capital flows (see also Merler and Pisani-Ferry (2012a)).

(3) Unemployment in Bulgaria, Latvia and Lithuania increased from 6.9, 6.4 and 4.3 % respectively in 2007 to 10.2, 18.7 and 17.8 % respectively in 2010. Private consumption in those countries declined by 7.6, 22.6 and 17.5 % respectively in 2009.

**CHART 7** NET BORROWING FROM THE REST OF THE WORLD<sup>(1)</sup>  
(in % of GDP, average of the last four quarters)



Sources: Thomson Reuters Datastream and own calculations.

- (1) Since the "errors and omissions" item is not shown, the sum of the financing flows is not equal to net borrowing from the rest of the world.
- (2) Although this item covers more than just the positions in relation to TARGET2, the transactions under this item largely correspond to the change in the TARGET2 positions. The only exception to that seems to be Ireland: in that case it is therefore the TARGET2 positions that are used, and the data in this chart do not all come from the balance of payments.
- (3) This item records the loans which countries conclude with the EFSF and the EFSM, plus the bilateral loans to Greece. In addition, this item also covers the deposits which the government holds in other countries.
- (4) Private net liabilities are defined as the difference between the balance on the financial account and the net liabilities of both the central bank and the government, as recorded under the other investment on the financial account.
- (5) Net borrowing from the rest of the world is defined as the sum of the current account balance and the capital account balance, with the opposite sign.

would only have put even more stress on the macro-economic situation than is the case today. In regard to Ireland, the loss of external financing was very evident, and at an earlier stage in the crisis. Without alternative financing via the Eurosystem, the Irish banking sector would have had to reduce its foreign claims at very short notice, implying a significant risk of a fire sales scenario, with an impact on financial stability as well as macro-economic stability. During 2010, Ireland was able to

attract new private foreign finance, in net terms, but when the sovereign debt crisis erupted these funding flows reversed again.

In the surplus countries, too, the Monetary Union – primarily an efficient payments system and the absence of any exchange rate risk – supported financial stability in times of financial turmoil. In Germany, for example, there was a marked decline in net outflows of private

capital, reducing the German private sector's exposure to the other euro area countries. Those repatriated funds returned to the Bundesbank which, as already mentioned, in turn records a TARGET2 claim on the ECB, so that the balance of payments is restored to equilibrium. Thus, market participants in those countries were able to reduce, quickly and easily, the funding granted to deficit countries in the years preceding the crisis. That is in stark contrast to a context of fixed – but adjustable – exchange rates in which creditors face a greater risk of exchange rate losses or defaults on their foreign claims in the event of sudden stops, as explained in Section 3.3.

The Eurosystem has thus positioned itself between the countries: on the one hand, banks in vulnerable countries increase their recourse to Eurosystem refinancing, while on the other hand, banks which have reduced their exposure to counterparties in those countries place the resulting liquidity with the national central bank in their home country. However, the Eurosystem is not the only official body which can take over the role of private markets in times of financial turbulence. In fact, Greece, Ireland and Portugal can all three fall back on a financing programme<sup>(1)</sup> set up by the EU and the IMF once they could no longer access market finance on sustainable terms. For those countries, these programmes are a source of capital inflows which make up for the shortage of private funding. Balance of payments data indicate that this official financing enables the Eurosystem to gradually reduce its role as a financial intermediary, despite a continuous outflow of capital from the countries in question. From the point of view of the balance of payments and cross-border capital movements, the intermediation function of the Eurosystem and that of the European stability mechanisms, such as the EFSF, are comparable. By issuing debt securities, this stability mechanism raises funds which it in turn lends on certain conditions to the programme countries. That situation is comparable to the position of the Eurosystem, which on the one hand receives liquidity placed with it by a number of counterparties and, on the other hand, grants loans to another group of counterparties. That therefore confirms the statement that a greater role for official financial support should allow a reduction in the major role which the Eurosystem currently performs in the intermediation of financial flows between countries. More important still, that official financial support is granted only on condition that measures are taken to restore sustainable access to market finance. That is a lever which is not available to the Eurosystem. On the contrary, there is the risk that greater intermediation by the central bank will give the countries

in question insufficient incentives to make the necessary adjustments. That is why the ECB Governing Council continues to urge vulnerable countries to take the necessary measures to restore their economy's competitiveness and reduce their debts.

### 3.3 Monetary union: more than an irrevocably fixed exchange rate

The implications of the sudden, drastic reduction in capital flows between countries in a monetary union are very different, in various ways, from the effects of sudden stops in a system of fixed but adjustable exchange rates. On the one hand, as already stated, a monetary union benefits financial and macroeconomic stability in the event of such sudden stops. On the other hand, in a monetary union, there are fewer incentives to make adjustments aimed at achieving a more sustainable external debt position. Finally, the available adjustment mechanisms are not the same in these two institutional environments.

If a central bank operates in a system of fixed but adjustable exchange rates, there is always the danger that its scope for providing liquidity will be constrained purely because its foreign reserves are finite (Bindseil and Winkler, 2012). Indeed, a fixed exchange rate can only be maintained so long as the central bank is not confronted by a sudden capital flight causing its external reserves to dry up. If that happens, it is forced to abandon the fixed exchange rate in order to attract a new inflow of private capital. In principle, that threat of a forced devaluation due to a lack of foreign reserves has the effect of imposing discipline and may encourage a macroeconomic policy aimed at external equilibrium. However, it is equally true that this inherent restriction on the provision of liquidity may prompt speculative attacks (Obstfeld, 1996), even if the macroeconomic fundamentals do not justify a balance of payments crisis. In these models, even the mere expectation that market participants will sell the currency – and that the central bank will therefore be forced to abandon its parity – is sufficient to prompt others to do the same, causing a genuine crisis.

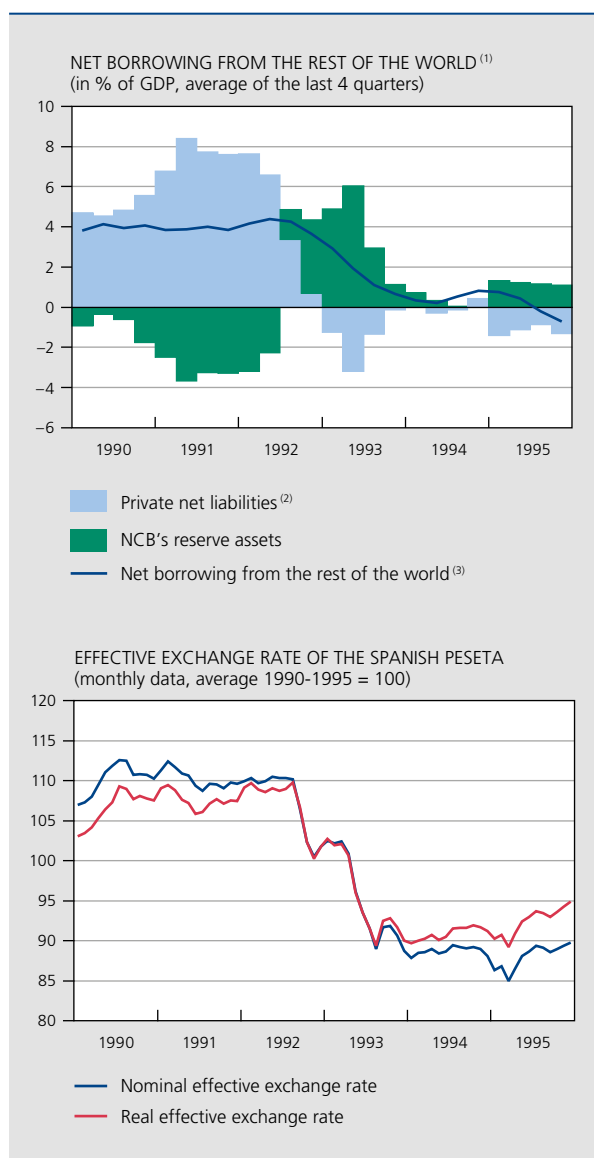
Such speculative attacks on an exchange rate parity are a source of financial turmoil, not only in the country afflicted by a balance of payments crisis – where, for example, there has to be a substantial short-term interest rate hike – but also for the countries which have claims on that country. They may incur considerable exchange rate losses on those claims if the claims are denominated in the currency under pressure, or potential defaults on those claims if they are denominated in the appreciated currency and therefore imply a greater repayment burden for the debtor.

(1) On 25 June 2012, Cyprus applied for a financial aid programme, the details of which were still being worked out when this article went to press. On that same date, Spain also requested the Eurogroup's support for its banking sector. Although the support was promised, Spain had not yet officially requested a loan when this article went to press.

The EMS crisis in 1992-1993 illustrates the dynamics of a balance of payments crisis in a system of fixed but adjustable exchange rates. For example, Spain had joined the EMS in June 1989 and had no problems in financing its substantial current account deficit via the market, as is evident from the private net capital inflows which far exceeded the country's external financing need, so that the Banco de España was able to build up reserve assets<sup>(1)</sup>.

That situation came to an abrupt end in the summer of 1992, when tensions surrounding the EMS and the accompanying speculative attacks on numerous currencies, including the peseta, triggered a sudden, massive capital flight from Spain. That capital flight exerted downward pressure on the peseta, obliging the central bank to intervene on a massive scale by selling its foreign reserves, while capital controls were also introduced<sup>(2)</sup>. That strategy proved untenable, and during 1992 and 1993 the Spanish central bank was therefore forced to devalue the peseta on several occasions. Between September 1992 and September 1993, both the nominal and the real effective exchange rate of the peseta thus depreciated by around 18%. It was only after that depreciation that the private capital flight diminished, while the current account deficit – and hence also the external financing need – also declined.

**CHART 8** SPAIN DURING THE EMS CRISIS



Sources: Thomson Reuters Datastream and own calculations.

- (1) Since the "errors and omissions", "net liabilities of the central bank", "net liabilities of the government" and "IMF financing" items are not shown, the sum of the financing flows is not equal to net borrowing from the rest of the world. However, those items are negligible for the period in question.
- (2) Private net liabilities are defined as the difference between the balance on the financial account and the net liabilities of both the central bank and the government, as recorded in the other investment on the financial account.
- (3) Net borrowing from the rest of the world is defined as the sum of the current account balance and the capital account balance with the opposite sign.

As stated by Obstfeld and Rogoff (1995), such a scenario can be avoided if all the central banks concerned are prepared to provide full support for the fixed exchange rate. Technically, that is perfectly possible if a system of bilateral loans is set up between the central banks, or if the central bank whose currency is under upward pressure also intervenes vigorously. From the economic point of view, it is therefore possible to draw a parallel here with the decentralised implementation of monetary policy in the euro area. The reduction of the external reserves of the central bank during a balance of payments crisis in a system of fixed but adjustable exchange rates implies a reduction in the claims of that central bank on the rest of the world, and can thus be compared to the increased TARGET2 liabilities that the NCBs of vulnerable countries accumulate vis-à-vis a non-resident, the ECB. However, there is an essential difference between the two systems: while external reserves may be exhausted, the TARGET2 balances are, in principle, unlimited – that applies to both claims and liabilities – so that the counterparties of banks need have no fear that a cross-border transfer of liquidity might be hampered by an NCB's balance sheet constraints. Partly on account of the absence of such potential restrictions on cross-border financial flows, a monetary union is therefore more conducive to financial stability than a system of fixed but adjustable exchange rates. In a system of fixed but adjustable exchange rates, if a country is struggling to attract external finance, it has a rapid adjustment mechanism: nominal devaluation. That enables it to restore its external competitiveness in the short term. Since it also reduces the current account deficit, there is less need for foreign financing, and the latter may also prove to be

- (1) An increase in the central bank's reserve assets corresponds to a capital outflow, since claims are formed on the rest of the world.
- (2) For more details on the subject, see Gros and Thygesen (1998).



more readily available in view of the improved outlook for the solvency of the country in question. For a number of countries in the current crisis, too, a substantial real depreciation is a crucial element in a strategy for regaining access to market finance. However, in the monetary union there is no rapid adjustment mechanism in the form of a nominal devaluation. The countries therefore have to resort to other measures to tackle their external imbalances. The options available to the countries for that purpose will be discussed in the next and final section of this article.

#### 4. The Eurosystem “buys time” for structural adjustments

By acting as intermediary between banks and between countries, the Eurosystem took the place of a malfunctioning private market and ensured that banks and countries were not suddenly cut off from liquidity. That would have obliged them to make adjustments in a disorderly manner – e.g. in the case of the banks, by drastically limiting their lending to the non-financial sector or by fire sales, and for countries by significantly reducing domestic demand in the very short term – which would have had adverse financial and macroeconomic implications. Nevertheless, despite being able to make the necessary adjustments in relative comfort, the economic agents concerned must still actually implement those measures. Such structural adjustments – which will take time to produce their effects – are the only long-term solution to the current financial and economic crisis. Those adjustments must be implemented both by the financial sector and in regard to the macroeconomic imbalances.

The business model adopted by the financial sector in the period preceding the financial crisis turned out not to be sustainable. The banks’ capital base must be strengthened, e.g. by retaining profits and attracting new capital, possibly with the support of the official sector. That stronger capital base should also restore their access to stable sources of market finance. During the period preceding the financial crisis, there was excessive recourse to financing via the interbank market, often with short maturities, a combination which made financial institutions very vulnerable to sudden stops.

However, the macroeconomic imbalances also need to be addressed. That should in turn also enable countries to again raise funding on sustainable conditions on the capital markets. It is particularly the countries currently facing financing problems that need to make structural reforms to their economies in order to improve their competitiveness and reduce their excessive debt positions.

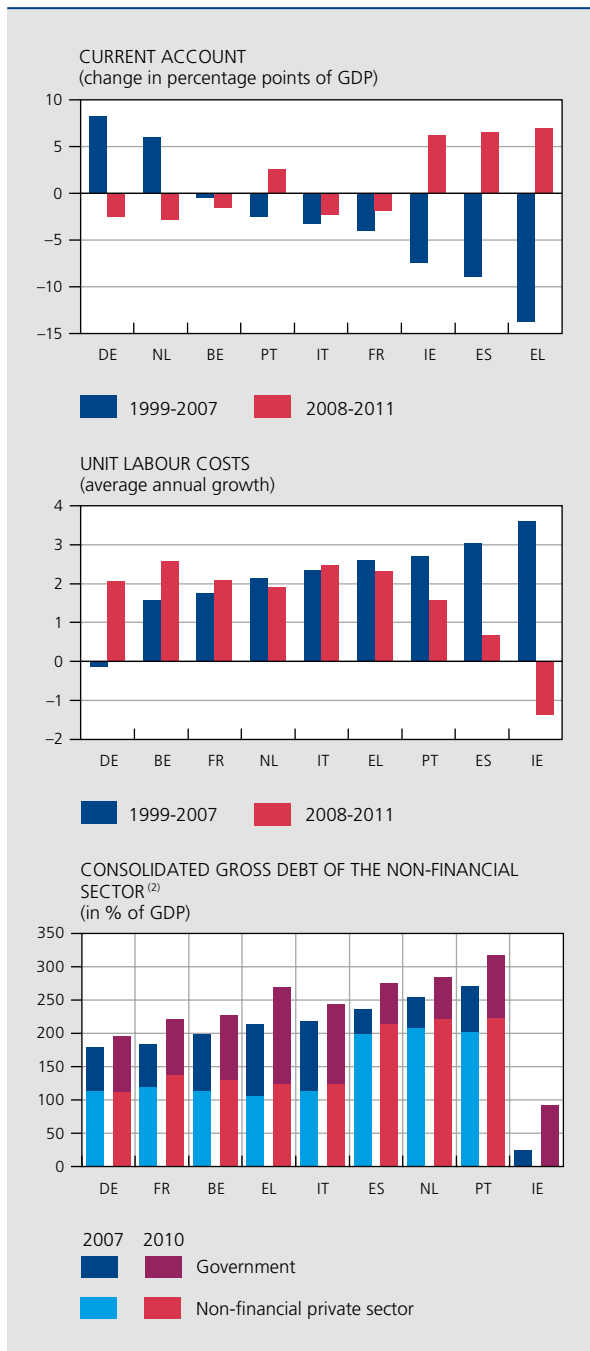
Competitiveness cannot be durably restored without the moderation of domestic costs, which had risen significantly faster than productivity in a number of euro area countries in the years preceding the financial crisis. That moderation would significantly contribute to the necessary depreciation of the real exchange rate of a number of countries. Measures such as labour market reforms and improvements to the export product mix will also help to enhance the competitiveness of the vulnerable countries.

These actions should help the deficit countries to continue reducing their still sizeable current account deficits and bring their substantial net foreign debt positions down to a level which is more sustainable, and which therefore can be financed again. For most countries, further consolidation of public finances is likely to be very important, while in a number of euro area countries the private sector also needs to make an effort to reduce its debt burden to an acceptable level. These painful but necessary adjustments in the deficit countries will proceed more smoothly if the surplus countries were to encourage more dynamic domestic demand, e.g. by spreading the consolidation of public finances over a longer period or by gearing wage developments less strictly to cost moderation.

It must be said that part of the long road towards rebalancing has already been covered. In a number of euro area countries, the current account balances have improved compared to the 2008 levels. That is due not only to a rebalancing of domestic demand in the various euro area countries, but also to a more moderate trend in unit labour costs, which had exhibited widely divergent patterns in the pre-crisis years. Despite these encouraging developments, however, a number of countries had a higher debt ratio at the end of 2010 than at the start of the crisis, and that threatens to weigh on future economic growth. In many countries, that higher debt ratio is the outcome of both the expansion of non-financial private sector debts and a larger public debt.

Concerning the institutional framework, substantial progress has already been made in providing lasting support for financial stability. The current powers and resources of the EFSF, the EFSM and the permanent ESM form a strong safety net for the efficient support of financial stability in the event of Member States facing financial turbulence. Emergency funding on such a scale is possible only because the euro area as a whole has a strong fiscal position compared to the other advanced economies. Considerable progress has also been achieved in regard to the economic governance (including the fiscal rules) of the European Union, which should help prevent the recurrence of crises of the kind we are currently experiencing (De Prest, Geeroms and Langenus, 2012).

**CHART 9** CORRECTION OF THE IMBALANCES IN THE EURO AREA<sup>(1)</sup>



Sources: EC and own calculations.

(1) The chart shows only the six countries with the largest GDP and the three countries which received financial assistance from the EU and the IMF in 2011. The countries are ranked according to the data for 1999-2007 (in regard to the current account and unit labour costs) or the 2007 data (for the gross debt).

(2) For Ireland, no figures are available for the consolidated gross debt of the non-financial private sector.

Nevertheless, the Economic and Monetary Union remains vulnerable to serious financial disruption if it is not underpinned by financial and fiscal union. In a context of increasing financial integration, the creation of EMU led

to strong expansion of cross-border financial transactions in the pre-crisis years. However, that development was not reflected in a more cross-border approach to financial sector regulation, supervision and crisis management, as those policies were largely left to the individual countries, with the known consequences. Progress is therefore needed in this area, too. Unified, strengthened supervision of the banking sector should repair the damage to financial integration and safeguard confidence in the sector. A deposit guarantee system organised at European level together with a mechanism for the restructuring and – if necessary – resolution of insolvent banks should help to end the detrimental interaction between government solvency and that of the resident banking sector. Finally, it seems advisable for both systems to be funded with contributions from the financial sector so that the taxpayer should not have to bear the cost of rescuing financial institutions again.

All these measures should put an end to the damaging contagion between governments and banks, ensure that depositors no longer judge the security of bank deposits by the bank's nationality, and enable financial institutions and governments throughout the euro area to regain access to financing via the market. It is not until confidence has been restored that the Eurosystem will be able to phase out its role as a market maker of last resort, and the market will be able to resume its proper role.

## Conclusion

Since the first signs of the financial crisis in 2007, the Eurosystem has faced unprecedented challenges. That applies, in particular, to the ever-widening cracks in financial integration within the euro area, which threatened to disrupt financial stability and the efficient transmission of monetary policy in a number of euro area countries. Since financial stability is a necessary condition for the maintenance of price stability, the Eurosystem therefore took a range of measures under the heading of "enhanced credit support", aimed at providing continuing support for the smooth financing of the euro area's economy.

In parallel with those measures, the Eurosystem acted as a financial intermediary, not only for banks but also for countries, since the mutual contagion between governments and resident banking sectors led to very severe constraints on access to market finance on sustainable conditions for some national banking sectors. In the vulnerable countries, recourse to the Eurosystem as an alternative source of funding therefore expanded considerably, while banks in countries with sound fundamentals increasingly placed their surplus liquidity with

the central bank, rather than lending it to banks with liquidity shortages. As a result, the Eurosystem's balance sheet expanded and the NCBs' TARGET2 positions grew to a record level.

The Eurosystem's non-standard measures are – by definition – temporary. The financial assistance which countries receive from the EU and the IMF also consists of temporary bridging loans, which give governments the time to take the structural measures necessary to regain access to market financing on sustainable terms. Not until those

structural adjustments have been made by all the players involved – financial institutions, governments and, in a number of countries, the non-financial private sector – and the confidence of the financial market participants has been restored, will the official sector – and particularly the Eurosystem – be able to scale down its role as a financial intermediary. To that end, EMU needs to be strengthened too, e.g. by the development of strong financial safety nets, strict compliance with the rules on economic governance, and the construction of a fully-fledged financial and fiscal union.

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