

The euro – a stability anchor in turbulent times¹

Ewald Nowotny²

Clemens Jobst³

When the euro was created a little more than ten years ago, many doubted whether a common currency would be appropriate for the diverse economies of the euro area. The financial crisis has tested the new institutions severely. As this contribution argues, the ECB and the euro have passed the test very well. Having a common currency proved to be a valuable asset, preventing additional strains that would have resulted from pressure on fixed exchange rates, capital flight and exchange rate volatility. The paper portrays the measures taken by the Eurosystem to stabilize financial markets, encourage bank lending, support the real economy and ensure price stability. By delivering a common response to the crisis, monetary policy provided an anchor of stability for the European Union. This positive assessment, however, should not blind to the challenges posed by diverging trends within the euro area, e.g. in terms of competitiveness or imbalances in the current account. Turning the focus on the euro's perspectives in the next ten years, the final section discusses the enlargement process and concludes on the future international role of the euro.

¹ Cut off date for data end of August 2009.

² Governor, Oesterreichische Nationalbank.

³ Economic Analysis Division, Oesterreichische Nationalbank.

1. Proving the sceptics wrong?

When a bit more than ten years ago, on 1 January 1999, eleven EU member states adopted the euro as single currency, they not only undertook a major step in the process of European integration whose importance is difficult to underestimate. They also embarked on a bold experiment in monetary policy that in important aspects was unprecedented in monetary history. Never before had so many countries decided to voluntarily share sovereignty and create a new currency from scratch.

It is therefore not surprising that the birth of the euro was preceded by years of lively debates among academic economists on whether a European monetary union would be desirable or even viable. There were many sceptics: It can't happen, It's a bad idea, and It can't last, as Rudiger Dornbusch has nicely summed up the arguments of the critics (Jonung and Drea 2009). The intellectual tool at the heart of the discussion on monetary union was the theory of optimum currency areas (OCA), which goes back to Mundell (1961). The argument is well known: Countries or regions facing asymmetric shocks need different monetary policies and an adjustment in the exchange rate. As the vocal euro-sceptic Martin Feldstein put it:

“A single monetary policy for a group of heterogeneous countries that experience different shocks cannot be optimal – the problem is that, when it comes to monetary policy, one size cannot fit all.” (Feldstein 2009).

If heterogeneous regions do share a common currency, they need alternative adjustment mechanisms like flexible wages, mobile factors, both labour and capital, and fiscal transfers. The better these alternative adjustment mechanisms work, the lower is the cost to go for a common currency. Introducing a common currency or joining a monetary union then comes down to comparing the costs with the benefits (De Grauwe 2007). In the euro area the bottom line is negative, according to the sceptics. The crucial alternative adjustment mechanisms are too weak, raising the costs of a common currency beyond the expected benefits (Feldstein 1997).

This simplistic OCA approach has been criticized from several angles. In particular the set-up is static, neglecting the dynamics that the introduction of a common currency sets in motion. In fact, monetary unification is an evolutionary process, where the use of a common currency provokes a number of structural changes in the participating economies. A group of regions that could not be considered an OCA *ex ante*, before the introduction of the common currency, might thus evolve to become an OCA *ex post* (Frankel and Rose 1998). In fact, intra-euro area trade has increased since the introduction of the euro, rising from a quarter of GDP ten years ago to one third today. Available estimates attribute half of this increase to the elimination of exchange rate volatility brought by monetary union (EC 2008). Rose (2008) argues that more trade means better synchronized business cycles, thus facilitating a common monetary policy. Structural breaks are not confined to trade in physical goods. As thanks to the common market trade was already high among today's euro area countries even before the inception of the common currency, the integration of financial markets was probably more important in the case of EMU. In fact, there is strong empirical evidence for the boost in financial integration brought by the introduction of the common currency (EC 2008, Lane 2008). Ideally, integrated financial markets encourage the movement of capital towards its best uses, promote diversification, diminish the risk of local credit crunches and

smooth local cycles by financing temporary current account disequilibria between different regions within a monetary union.

Overall, ten years into the life of the euro there are strong arguments to believe that the importance of asymmetric shocks or at least their harmful side-effects have diminished and will diminish further, especially if structural policies foster the convergence in productivity and living standards between EMU member states. Most studies published on the occasion of the tenth anniversary agreed that the euro had performed well in terms of macroeconomic stability, low and stable inflation and employment growth (EC 2008, Pisani and Posen 2008).

However, unexpected to most, the tenth anniversary of the euro fell in the middle of a severe financial market crisis that ushered in the worst recession the world has faced since the 1930s. For the euro, the crisis represented a test that neither its advocates nor its detractors would have imagined a couple of years ago. This paper will argue that the euro and the European institutions have weathered the challenge relatively well. In fact, the financial turmoil highlighted a number of advantages of a single currency that the OCA framework had tended to disregard. In the OCA argument the implicit alternative to monetary union is national autonomy in determining the monetary policy stance, in particular autonomous setting of interest and exchange rates. In reality, however, as has been underlined by the financial dimension of the current crisis, floating exchange rates can hardly be considered a viable alternative for many countries of the European Union. In addition, while the supra-national structure of the European Central Bank has been often portrayed as a source of conflict and paralysis, the existence of a well-established, credible institution on the European level has allowed a fast and coordinated policy response. In both dimensions, the speedy coordination on a coherent policy response and the stability provided by a large monetary area, the euro has proved to be an anchor of stability in critical times.

The paper is structured as follows. Section 2 portrays the measures taken by the European System of Central Banks. As will be seen, the Eurosystem has reacted swiftly, timely and in a manner well adapted to the specific needs of the euro area economy. Various financial market indicators show that ECB policy effectively eased the strains in money and capital markets and contributed to restoring the proper functioning of the financial system. While the policy of the Eurosystem can thus already be considered a success, the true value of having a single central bank and a common currency really becomes apparent when the counterfactual scenario of a European Union without common currency is considered. Section 3 gives some hints on the amount of pressure EU member currencies would have felt in an ERM-style regime and the costs in terms of higher interest rates and/or distortion brought by competitive devaluations. Still, there is little room for complacency. The most important challenge for monetary union is the risk of diverging developments between euro area countries, which are discussed briefly in Section 4. Section 5 attempts a look into the future of the project euro. The euro area is set to take in additional members. While a long-term benefit both to the existing union and the new members, care has to be taken that the new members do not build up harmful financial imbalances. The paper concludes with an outlook on the international role of the euro.

2. Speedy, adapted, determined – ECB policy during the crisis

The chronology of the financial turmoil that started in August 2007 is well known (BIS 2008, 2009). Unexpected losses in US subprime securities, a small segment of the international financial markets, rapidly spread to the entire financial system, as risk was repriced for all but the safest asset classes. In the process significant uncertainty arose about the size and location of losses. The lack of information and doubts about the liquidity and solvency of counterparties acted to amplify the effects of the initial losses. August 2007 saw a new type of bank run, not by depositors (who are protected by deposit insurance schemes) but the wholesale market. The premium on liquidity in the interbank markets shot up. The impossibility to roll over short term financing forced banks and special purpose vehicles to dispose off assets. In order to regain public confidence and create buffers against further unexpected losses, the financial sector strove to maintain or even raise capital ratios. Reasonable from an individual point of view, the collective effort to reduce leverage pushed asset prices further down, provoking additional rounds of write-downs. In the first phase of the crisis turmoil was relatively contained in the financial sector and real growth held up reasonably well, especially in the emerging economies. In the wake of the collapse of Lehman in September 2008, however, worries about a severe financial crisis led to dramatic falls in the stock markets and a collapse in consumer and firm confidence. GDP growth fell sharply worldwide and turned strongly negative in the major western economies.

2.1. Reacting to the crisis – a classification of central bank measures

Economic policy reacted by trying to short-circuit the mechanisms that had amplified the initial losses and propagated their impact through the entire economy (Blanchard 2009). The threat of insolvency was countered by private and public capital injections for systemically important financial institutions. Additional liquidity was provided to accommodate higher liquidity demand. When the crisis spilled over from the financial sector into the real economy, a package of measures was taken to support demand and revert the broad shrinking of GDP.

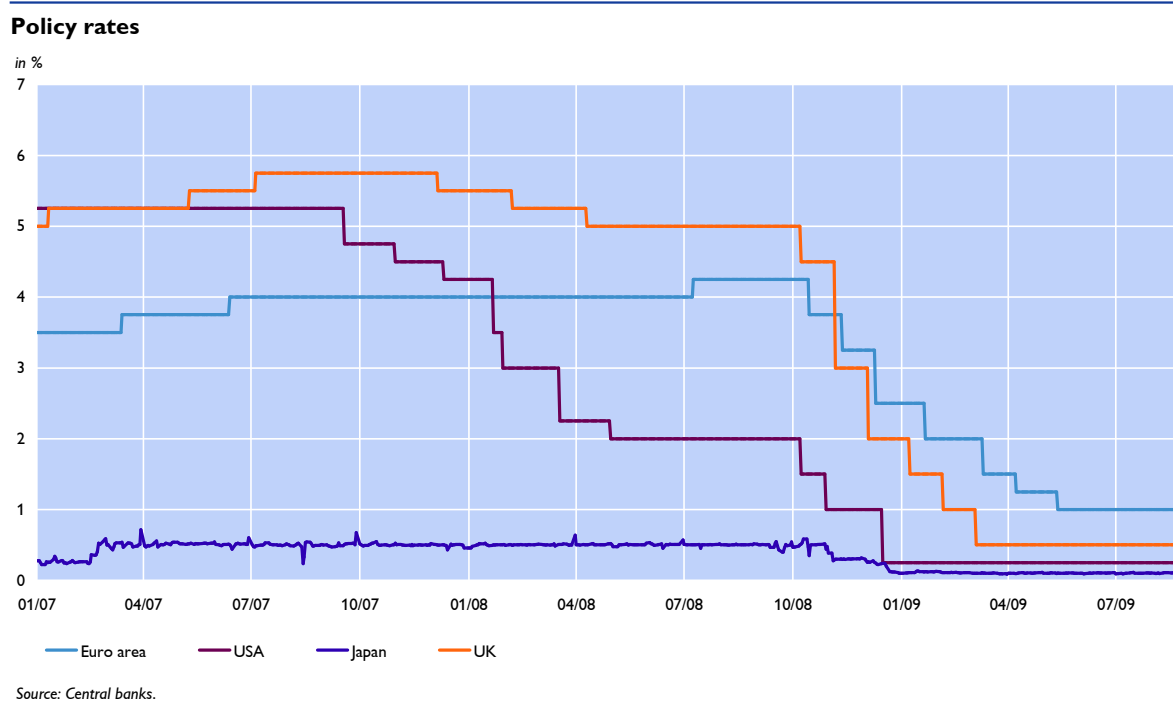
Within this policy mix central banks entered on several fronts. The measures taken by central banks can be broadly classified in two categories:

- (1) The lowering of policy rates. The setting of the policy rate is the standard tool of monetary policy. Central banks around the world slashed interest rates, in particular after output started to contract in late 2008 and inflationary pressures receded in parallel. Currently, key policy rates are historically low in all major western economies – currently the ECB refinancing rate is lower than ever before in the ten year history of the institution, the same applies to the Bank of England, which is more than three hundred years old (figure 1).⁴
- (2) In parallel as well as independently of lowering interest rates, central banks took additional steps, which have been lumped together under the heading “unconventional measures”. These measures can be considered unconventional in the sense that they altered dimensions of monetary policy which are normally not subject to change. Unconventional measures concerned changes in the way liquidity was provided as well as the direct targeting of

⁴ Whereby the absolute interest rate level cannot be used to rank monetary areas according to monetary stance. The way the policy rate is transmitted to the economy differs between monetary areas. See below.

variables outside the traditional focus of monetary policy implementation like the quantity of money or credit as well as various interest rates like mortgage rates or yields on corporate bonds. Unconventional measures had two main purposes. First, to support the functioning of financial markets and institutions so that lower policy rates were effectively passed on to the economy. Second, in case that the official interest rate had reached a lower bound, to provide additional stimulus to the economy. These remarkable measures will be the focus of the remainder of section 2.

Figure 1



2.2. Eurosystem frontrunner in liquidity provision

Generally speaking, all major central banks implement monetary policy by setting a very short-term interest rate (Borio 1997).⁵ While such a very short-term rate does not play a direct role in spending and investment decisions, the short-term interest rate and expectations about its future course determine the level of longer term rates, thereby influencing consumption and investment and ultimately the central banks' strategic targets like inflation (ECB 2004). The transmission of monetary policy impulses on the economy thus relies very much on well functioning money and capital markets.

The first element in the transmission mechanism, the money market, came under significant stress in August 2007. Concerns about sudden liquidity needs and caused banks' demand for funds to rise sharply, while doubts about counterparties' solvency led supply to drop. As a result the premium on unsecured and on longer-term loans rose sharply, the volume of funds traded declined, and there

⁵ In most cases, this is the overnight rate – the interest rate at which banks lend immediately available funds, namely their deposits or balances with the central bank, to other banks.

were signs of rationing. With the collapse of Lehman in September 2008 developments in the money market took a further turn for the worse. The central banks reacted by making it easier for banks to access central bank liquidity along several dimensions in order to support their capacity to lend to the private sector. The Eurosystem was the first on August 9, 2007, to provide banks with additional liquidity. Other central banks soon followed while the Eurosystem extended its liquidity measures step by step in the two following years. The measures of the Eurosystem can be grouped under four headings:

2.2.1. Fixed rate tenders with full allotment

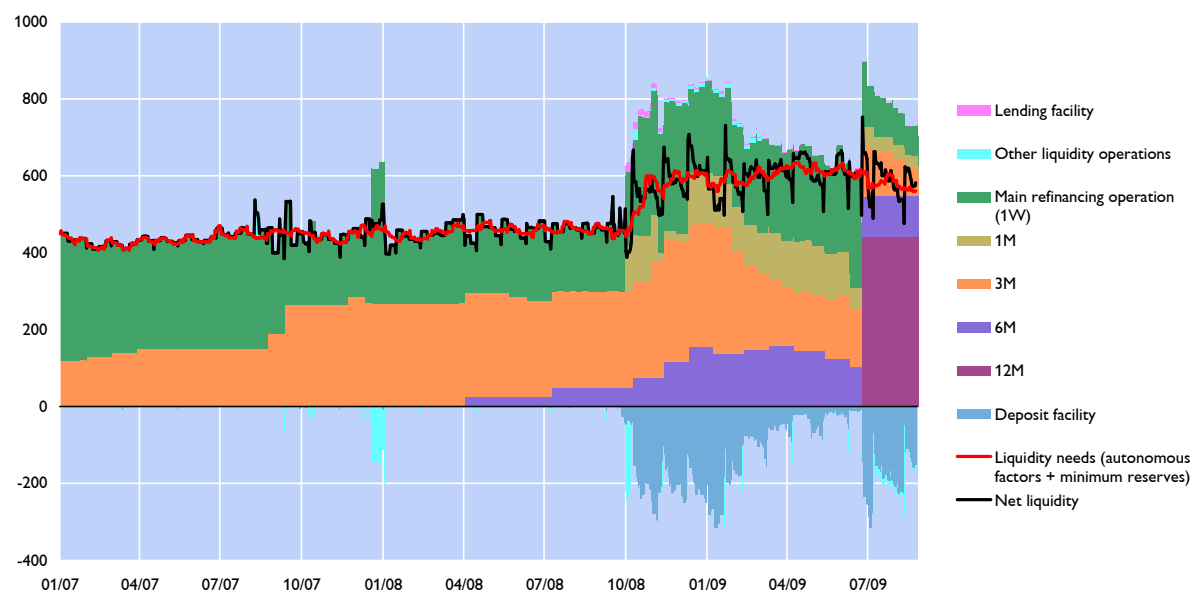
Before the summer 2007, the Eurosystem provided the bulk of liquidity through tender operations where banks bid a variable interest rate for a fixed amount of liquidity set by the ECB. Under this arrangement the Eurosystem ensures that on aggregate liquidity demand and supply are balanced. The distribution of liquidity however is left to the market mechanism, leaving the individual bank uncertain whether it will receive funds in the ECB tender operation or whether it will have to procure funds from other banks in the market. With interbank markets impaired in the crisis, this uncertainty became very costly. As a consequence the Eurosystem changed the tender procedure to full allotment at a fixed interest rate, i.e. the Eurosystem stood ready to provide against eligible collateral as much liquidity as the individual banks desired and did so at a fixed rate. The new tender procedure removed any vestiges of uncertainty about liquidity management for banks. The operation mode was first used on 9 August 2007, then again before year end 2007 and has become the standard procedure for all tender operations from mid-September 2008 onwards. Figure 2 shows how allotted amounts increased in autumn 2008 as the Eurosystem accommodated the risen liquidity demand of the banking sector.

2.2.2. Lengthening of maturities

As of September 2009, the Eurosystem not only provides unlimited amounts of liquidity, it also does so at longer maturities than before the crisis. Longer maturities give banks additional security in their liquidity management. After having introduced a new six-month facility, the Eurosystem took in June 2009 the additional step of providing one-year funds. Demand in the first one-year operation was huge, leading to a record amount of 442 billion EUR being supplied to the euro area banking system. The facility should encourage bank lending to the economy by reducing the maturity mismatch between the investment and the funding side of the balance sheet. In figure 2, the progressive lengthening of maturities in ECB refinancing operations is well visible.

Maturity composition of liquidity provided in the euro area

in billion EUR



Source: ECB

2.2.3. Collateral framework and counterparties

In order to obtain central bank liquidity banks have to be eligible counterparties in central bank operations and they need securities that the central bank accepts as collateral, e.g. government securities (Chailloux et al. 2008; ECB 2007). On both dimensions the Eurosystem entered the turmoil period with a very flexible system already in place. In the euro area, in principle all institutions subject to reserve requirements are eligible to participate in open market operations.⁶ The list of eligible collateral was also defined very widely before the outbreak of the crisis already, including, besides government securities, a range of private sector securities and loans. The list was further enlarged in autumn 2008. As a result, the total value of eligible securities is currently equivalent to about 130% of euro area GDP, giving banks plenty of choice when obtaining funds from the Eurosystem. As will be discussed in section 2.4 below, other central banks had to adapt their frameworks profoundly to achieve the same results as the Eurosystem.

2.2.4. Foreign currency

The dysfunctions in the interbank market were not limited to a single monetary area, but also affected foreign exchange markets (Baba et al. 2008). European banks found it especially difficult to obtain U.S. dollar funding. In December 2007, reciprocal swap agreements between the Fed and the ECB, BoE and SNB, respectively, were concluded to provide European banks with U.S. dollar

⁶ Before the crisis, only quick tenders were executed with a restricted set of counterparties. Since October 2008 all Eurosystem counterparties admitted to the main refinancing operations can also take part in quick tenders.

funding through the Eurosystem. Since the aggravation of the turmoil in September 2008, the tenders were equally operated with full allotment. In turn, the ECB signed swap-agreements with several European central banks outside the euro area to provide euro funding to non-euro area banks.

2.3. Additional measures: covered bonds purchase program

In May 2009 the Eurosystem added a further tool to its set of unconventional measures: the outright purchase of covered bonds. Again, the objective was to support the flow of credit to the economy through the banking sector. Covered bonds are used by banks to refinance their portfolios of long-term mortgage loans and loans granted to the public sector. Initially strongly anchored in Germany, in recent years covered bonds have become an important refinancing instrument for banks all over Europe.⁷ The crisis hurt the primary market for covered bonds badly, making it more difficult for banks to refinance and thereby reducing their willingness to grant longer-term loans. After fostering bank lending on the shorter end through the unlimited provision of one-year funds, the Eurosystem decided to support the markets necessary for more long-term refinancing by buying covered bonds outright. The purchases should help revive the market in terms of liquidity, spreads and ultimately issuance. The purchase program has a volume of 60 billion EUR and will be executed over the coming year. Purchases started on 6 July 2009 and by 31 August the Eurosystem has acquired bonds worth 9.2 billion EUR.

2.4. How do the measures of the Eurosystem compare to those of the Fed?

Like the Eurosystem other major central banks like the Fed or the Bank of England reacted to the financial market crisis and economic slowdown with measures outside their usual tool kit. Especially the Fed created numerous new programs that came to be known by their acronyms (TAF, TSLF, etc.).

The multitude of programs and technical detail complicate the direct comparison between central banks. In terms of their objectives, however, it appears that the Eurosystem and the Fed are very similar: stabilize the transmission channel from its starting point – interbank markets – to its end point – the effective flow of finance to the real economy. The apparent differences between the measures adopted can in turn be explained to a large degree by dissimilarities between the US and the euro area economies, both with respect to the pre-crisis framework for monetary policy implementation as well as to more fundamental differences in the structure of the financial system.

⁷ Investors consider covered bonds a relatively safe investment because they bear both the guarantee of the issuing bank and are backed up by a designated asset pool. From a financial stability perspective covered bonds are attractive because they don't suffer from the downsides of another class of securities used to refinance mortgages, i.e. asset-backed securities (ABS). In the case of ABS, the underlying assets are typically removed from the balance sheet of the originating bank and credit risk is transferred to the holders of the ABS. This so-called originate-and-distribute business model of banking has come under severe criticism in the course of the crisis. Covered bonds are crucially different as the credit risk remains with the issuing bank, preserving the incentives for prudent risk monitoring.

2.4.1. Operational frameworks

The central banks entered the crisis with different operational frameworks in place. In normal times these differences were inconsequential. As the crisis unfolded, however, it became necessary to adapt the frameworks in order to provide sufficient liquidity to the money markets (Jobst 2009). As already pointed out above, the framework of the Eurosystem proved very flexible, necessitating a minimum a changes. One example is the range of counterparties. The Eurosystem always operated with a large number of counterparties, while the Fed had to create a number of new facilities to grant more banks access to Fed funding.⁸ A similar phenomenon was observed in the area of collateral. Both the Bank of England the Fed entered the turmoil period with a narrowly defined list of admitted securities, basically treasury bills and bonds. When this proved too restrictive, both created swap facilities where banks could exchange previously ineligible securities, e.g. corporate bonds, against government securities (Fleming et al. 2009). In the euro area such programs were not necessary, as the Eurosystem already accepted a wide range of publicly and privately issued assets. To sum up, the different measures often reflected different starting points. Overall, operational frameworks converged in many dimensions towards the ECB standard.⁹

2.4.2. Structural differences between the US and the EA financial systems

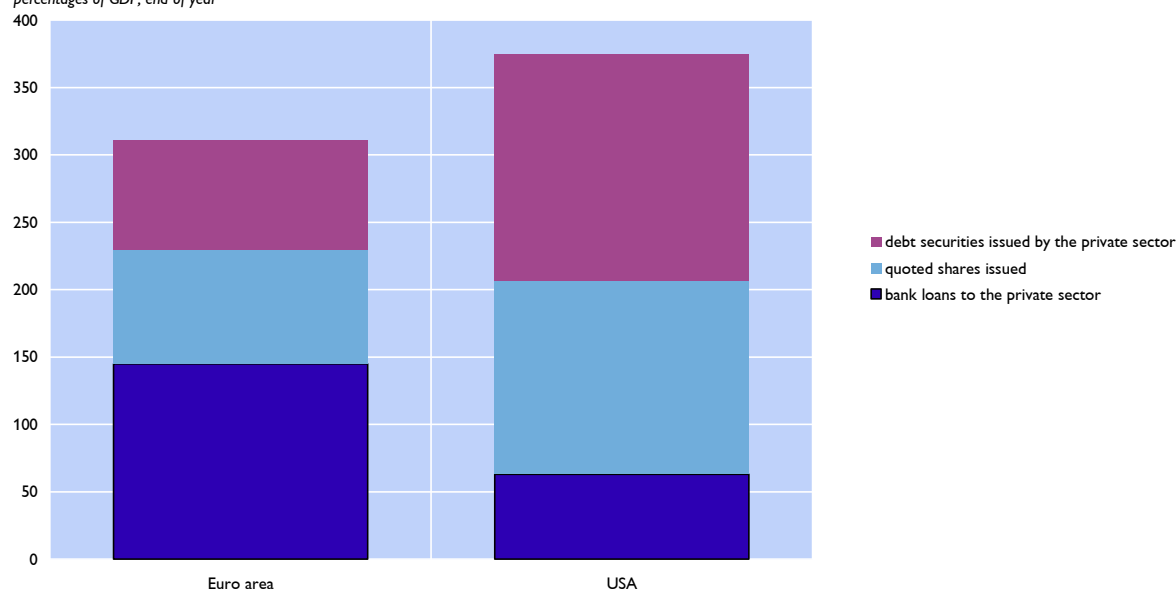
Turning to the more downstream segments of the transmission channel, policies differed again. Here the main reason lies in the profound differences how households and in particular firms are financed in the euro area and in the US. The euro area economy is to a large degree financed through banks. Bank financing accounts for 145% of GDP in the euro area while only slightly above 60% in the US. In the US, market-based funding sources like shares and bonds amount to more than 300% of GDP, more than double the share in the Euro area (ECB 2009a). The importance of banks is underscored by the key role played by small and medium-sized enterprises (SMEs) in the euro area. Typically these are too small to access financial markets. While in recent months some large companies have switched from bank to market based finance to circumvent bottlenecks in bank financing, SMEs are excluded from this alternative funding source. A second structural difference that influenced the design of the policy response is the relative importance of housing for the US economy, both in general as well as in the current crisis. In the US declining house prices have been the trigger for the crisis and have been an important drag on household balance sheets and consumption. In Europe, housing has played a much more minor role.

⁸ The Term Auction Facility (TAF) and the Primary Dealers Credit Facility (PDCF) served to broaden access to CB facilities, as before the crisis regular open market operations had been conducted with 20 investment banks, the primary dealers, only.

⁹ Other examples include the increased use of repos in liquidity provision, the introduction of remunerated reserves at the Fed, equivalent to the deposit facility of the ECB, and reforms of the lending facility.

Size of capital market related to the private sector

percentages of GDP; end of year



Source: ECB (2009a).

In order to be effective, central bank measures in the two economic areas had to target different segments of the financial sector. Given the importance of markets in the financing of the US economy, the Fed concentrated its efforts on key financial markets that were frozen or characterized by excessive risk premia. Specific programs targeted the market for commercial paper and residential mortgages. Additionally, the Fed strove to drive down interest rates on residential mortgages by buying up government bonds. These traditionally serve as benchmark for mortgage interest rates and by lowering government bond rates the Fed hoped to lower consumer lending rates as well. That the Fed bought government securities for this purpose is linked in turn to the fact that treasury notes and bonds made up a large share of the Fed balance sheet already before the crisis. Using treasuries to influence interest rate was thus a measure in line with previous Fed practice. To highlight the central role of financial market prices for its policy, the Fed has labelled its approach “credit easing”.

The effectiveness of monetary policy in the euro area depends much more on a functioning banking system. Therefore the focus of the Eurosystem has been on stabilizing the funding situation of banks. As described above, the important measures were longer maturities and full allotment in its repo operations. Again, the emphasis on repos rather than outright purchases is linked to the traditional importance of repos for liquidity provision in the euro area. In this respect the purchase program for covered bonds was a very innovative step for the Eurosystem. In terms of its objective, however, the target was again the banking system. Reviving the covered bonds market was a means to foster the lending capacity of banks. Consequently, the Eurosystem has branded its measures “enhanced credit support”, underlining the crucial role of bank intermediated lending in the euro area.

2.5. Limits to monetary policy

The valiant intervention of the Eurosystem to prevent a liquidity shortage in the banking system, to restore the functioning of the transmission mechanism and to stimulate the economy through lower interest rates should not blind to the inherent limits of monetary policy, however. In order to be successful, monetary policy had to go in tandem with fiscal measures. In particular, while in their traditional role as lenders of last resort central banks can alleviate a temporary liquidity shortage of principally sound banks and other financial institutions, monetary policy cannot be used to recapitalise banks. ECB measures had thus to be coupled with government programs aimed at restoring the balance sheet of the banking system through capital injections and guarantees. Equally important was the coordinated fiscal stimulus to support consumption and investment when confidence was too low to sustain spending through interest rate cuts alone.

Coordination is also required with financial regulation. In the short term monetary policy can and at this time does help ease the process of resolving the financial imbalances that were at the source of the current crisis. When it comes to preventing the recurrence of similar imbalances in the future, however, the principal tool of monetary policy, the interest rate, is not the instrument of choice. The principle objective of monetary policy is price stability and using the same policy tool to achieve other targets creates potential conflicts in the setting of the policy stance. To ensure stability of the financial system monetary policy has to be complemented by a better and more encompassing regulatory regime.

3. Evaluating success

It is still early for a definite evaluation of the policy measures the Eurosystem has taken over the course of the crisis. Yet even with more distance the assessment of policy will prove difficult. To gauge the impact of central bank measures a counterfactual scenario is needed that describes what would have happened in the absence of the measures taken by the central banks. However, we do not possess an encompassing model of the financial system that could take care of all the very complex yet highly relevant interactions. During a financial crisis in particular, dynamics are highly non-linear, as the sudden worsening of conditions after the collapse of Lehman has dramatically shown. Simply extrapolating pre-intervention developments is unlikely to do full justice to central bank policy, if the real alternative scenario had been a systemic breakdown.

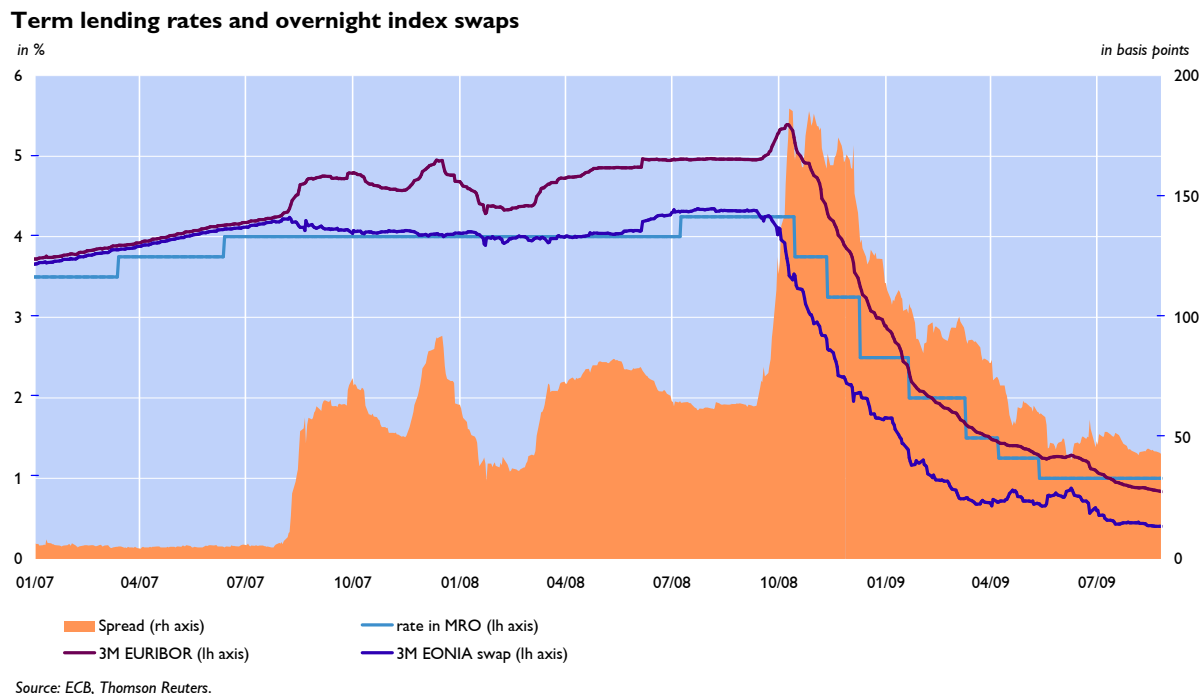
3.1. Money and financial markets

Still, some insights can be gleaned from looking at specific segments of money and capital markets. It has to be kept in mind, however, that such analysis is necessarily limited to partial equilibria that neglect possibly important general equilibrium effects. The methodology is simply to look for breakpoints in time series around the introduction of new policy measures.

The pressure on money market has manifested itself among others in rising spreads between rates on longer-term unsecured lending, e.g. three months, and expected overnight rates over the same period of time. The spread reflected two factors. First, banks worried about future funding stress, which boosted their demand for longer-term funding. At the same time, banks were concerned about counterparties' creditworthiness, which reduced their willingness to lend, in particular for

longer periods of time.¹⁰ The spread went up considerably in summer 2007, before the year end 2007 and again sharply in September 2008 (figure 4).

Figure 4

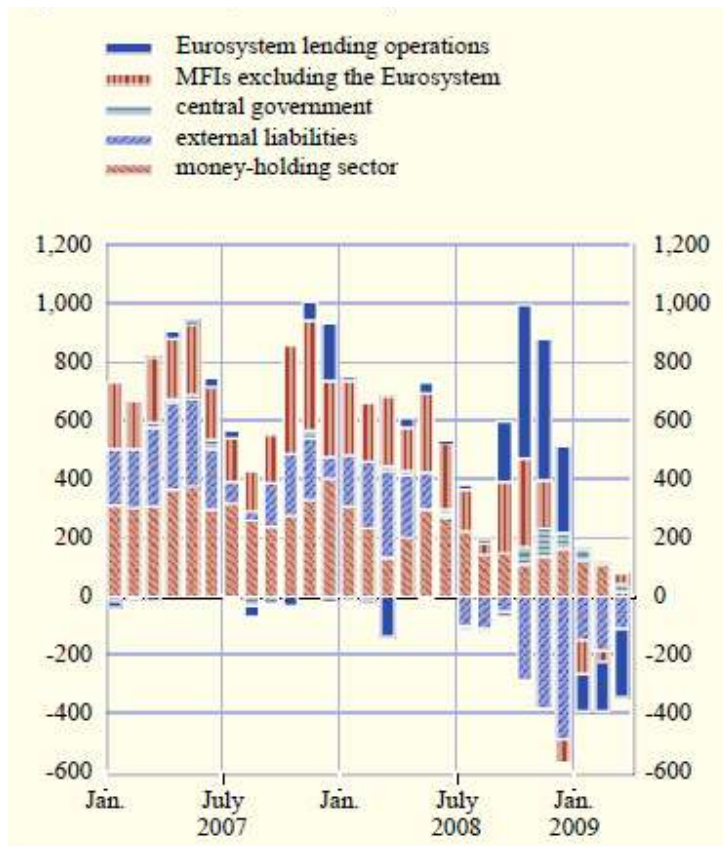


Unsecured interbank rates play an important role as benchmark for interest rates paid on loans to households and firms in the euro area. Thus high spreads between the ECB policy rate and money market rates increased financing costs of the broad economy above the level desired by the ECB. In other words, the pass-through of policy rates to the economy was impaired. As described above, the Eurosystem took a host of measures to restore the proper functioning of interbank markets. As seen in figure 4, three month interbank rates declined by 450 basispoints since their peak in October 2008. A large part of this decline is due to the lowering of the policy rate by 325 basispoints, but an additional decline came from lower risk spreads linked to the ECB liquidity measures.

Moreover, as a brief analysis in ECB (2009b) points out, the introduction of a fixed rate tender with full allotment has contributed to stabilize the funding situation of the euro area banking system and sustain the necessary flow of credit to households and non-financial companies. Figure 5 shows the importance of central bank lending in the final quarter of 2008, when international flows reversed and funding from other euro area monetary financial institutions (MFIs) dried up. In this situation, ECB funding provided a buffer, allowing even liquidity constrained banks to provide new lending or at least to roll over existing loans.

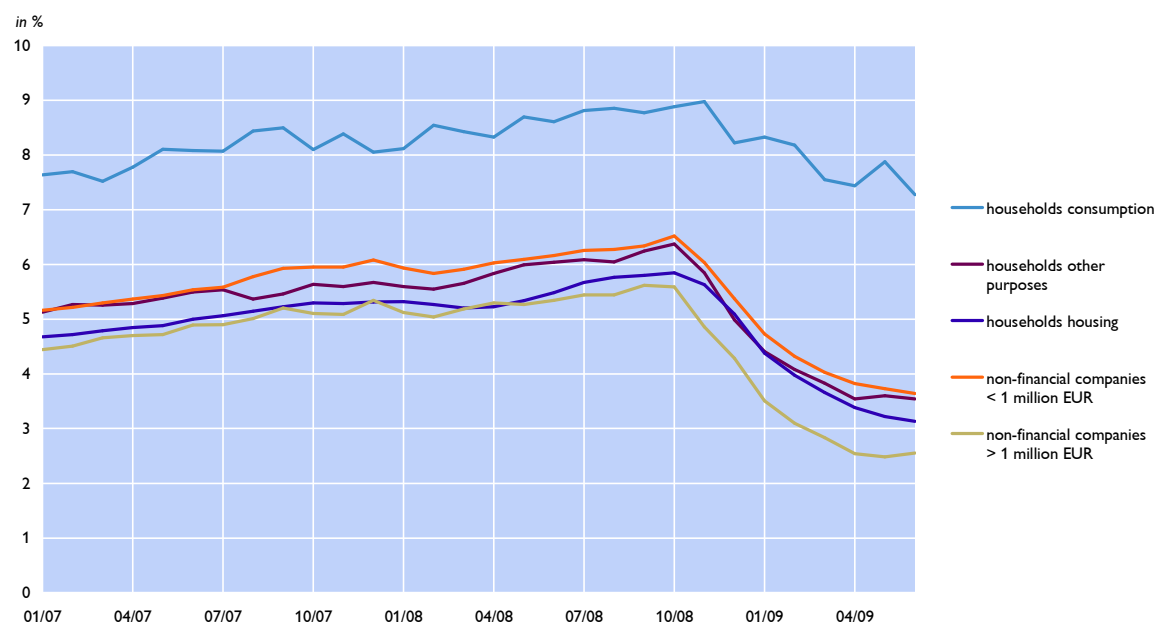
¹⁰ Distinguishing between credit and liquidity risk is difficult empirically; see Michaud and Upper (2008).

Figure 5: Funding sources of euro area credit institutions by counterpart sector
(three-month flows; EUR billions)



Source: ECB.

Further down the transmission mechanism, it was important to see that lower money market rates have fed through to lending rates paid by households and firms. The pass-through typically takes some time to materialize. Evidence on lending rates so far suggests that the historic relationship between money market rates and lending rates has continued to hold (ECB 2009c, Jobst and Kwapil 2008). As a result rates on new loans for house purchases and to non-financial corporations have come down broadly in line with reductions in the policy rate, providing some needed stimulus to investment and consumption (figure 6).

Bank lending rates in the euro area

Source: ECB.

Another market, where a calming influence of central bank policy can be documented, is the international market for US dollar. Over the past decade European financial institutions had built up a structural shortage of US dollar (Mc Guire and Peter 2009) and depended heavily on FX swaps. With the onset of the turmoil in the money markets in August 2007, the imbalance between US dollar demand and supply and the perceived counterparty risk of European banks led to illiquidity and marked deviations from covered interest parity, i.e. the implicit USD interest rate paid in FX swap contracts came to exceed the onshore USD rate significantly (Baba et al 2008). The failure of Lehman led to a global scramble for US dollar. The swap lines established in a joint action by the Fed, ECB, SNB and BoE contributed to calm the foreign exchange markets, reducing deviations from covered interest parity by about 30 basis points, which is quite considerable given that average deviations at the beginning of 2009 were about 50 basis points (Baba and Packer 2009).

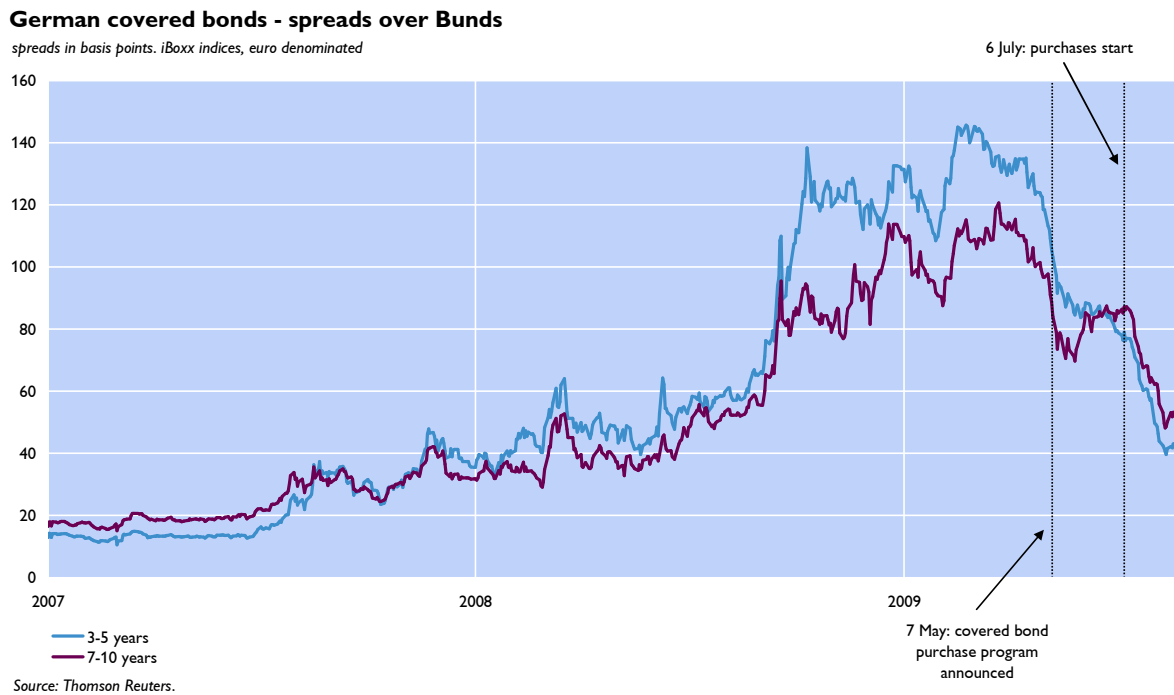
Finally, the newly inaugurated covered bond purchase program equally seems to bear first fruits. The announcement of the ECB program in May 2009 has led to a significant pick-up in the primary market that had seen only few new emissions after September 2008. Remarkably, new bonds have not only been issued in countries with traditionally large markets for covered bonds like Spain, France or Germany, but also in the Netherlands, Italy and Portugal where covered bonds had so far played a limited role only.¹¹

The purchase programme also impacted on prices. Between 2000 and 2007 spreads on 3-5 year German covered bonds over German government securities have fluctuated around 20 basis points. In early 2009 spreads peaked at over 140. The announcement of the covered bond program led to a first drop in spreads (figure 7). With the implementation of the purchases, spreads have declined

¹¹ See the monthly reports on the Eurosystem's covered bond purchase program on the ECB's website-

further. Spreads between German covered bonds and covered bonds of other euro area countries, which have similarly increased over the course of the crisis, have equally come down recently.

Figure 7



3.2. Thinking about a counterfactual

While a general evaluation of specific central bank programs remains elusive given the complexity of the underlying dynamics, it might still be insightful to step back and think about a very general counterfactual scenario – namely what would have happened to the euro area economies without EMU in place.

Such a scenario is not wide of the mark. The euro was introduced only ten years ago. Before, the European Community tried to ensure stable exchange rates via the Exchange Rate Mechanism (ERM). Exchange rate stability was perceived an important element of the common market as it provides a reliable basis for the trade in goods and services between the different member states. ERM had been haunted by repeated devaluations and exchange rate crises, the most notorious episode occurring in 1992/1993. In the absence of EMU, the 2007/2008 financial crisis would have brought such a system under severe pressure, as doubts about the liquidity and solvency of specific banks would have combined with a drying up of funding in the interbank and foreign exchange markets, concerns about government budgets and doubts about the willingness to defend fixed exchange rates in particular if this meant raising official interest rates in the face of economic slowdown.

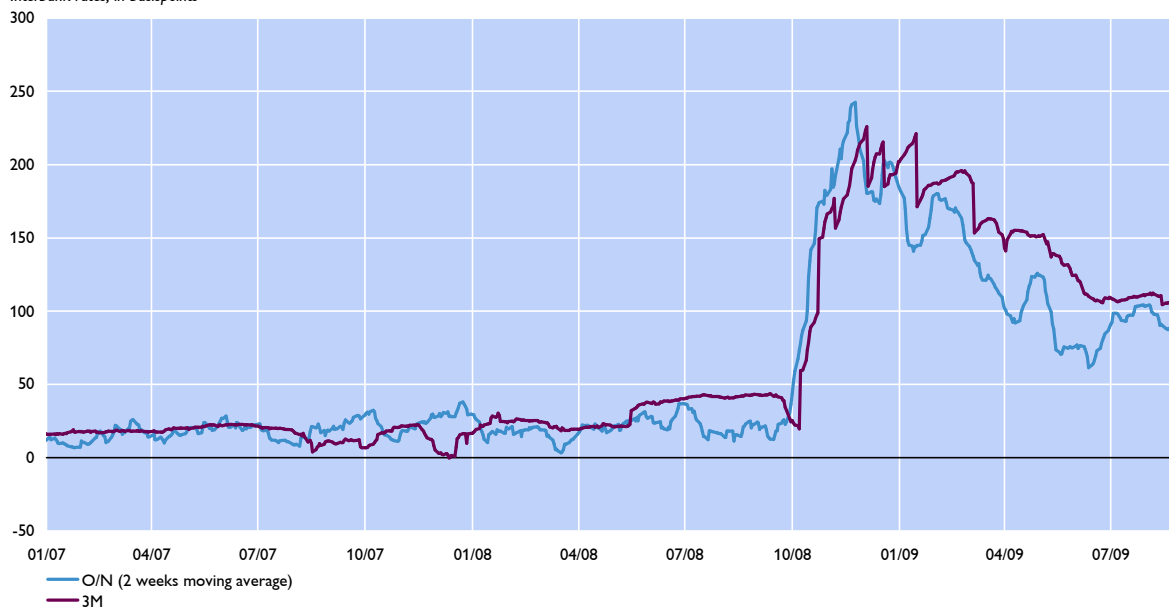
The experience of Denmark, an EU country that has opted out of the common currency, provides a glimpse on what could have happened. While the fundamentals of the Danish economy and banking system were no particular source of concern, the Danish currency came under pressure when the financial crisis intensified in September 2008 (Danmarks Nationalbank 2008). As foreign exchange

market interventions were unable to prevent a weakening of the krone, Danmarks Nationalbank had to raise its lending rate on 7 October 2008, at a moment when the ECB, the Fed and the BoE started to slash policy rates to counter financial market turmoil and the dramatic fall in GDP growth. The result is visible in figure 8: The spread between interbank rates in Denmark and the Euro area shot up from below 50 basis points to about 200 basis points at the end of 2008. As pressure subsided in the following months, Danmarks Nationalbank managed to reduce the spread to currently about 100 basis point, which still implies a burden for the Danish economy through higher lending rates.

Figure 8

Interest rate spread Denmark - Euro area

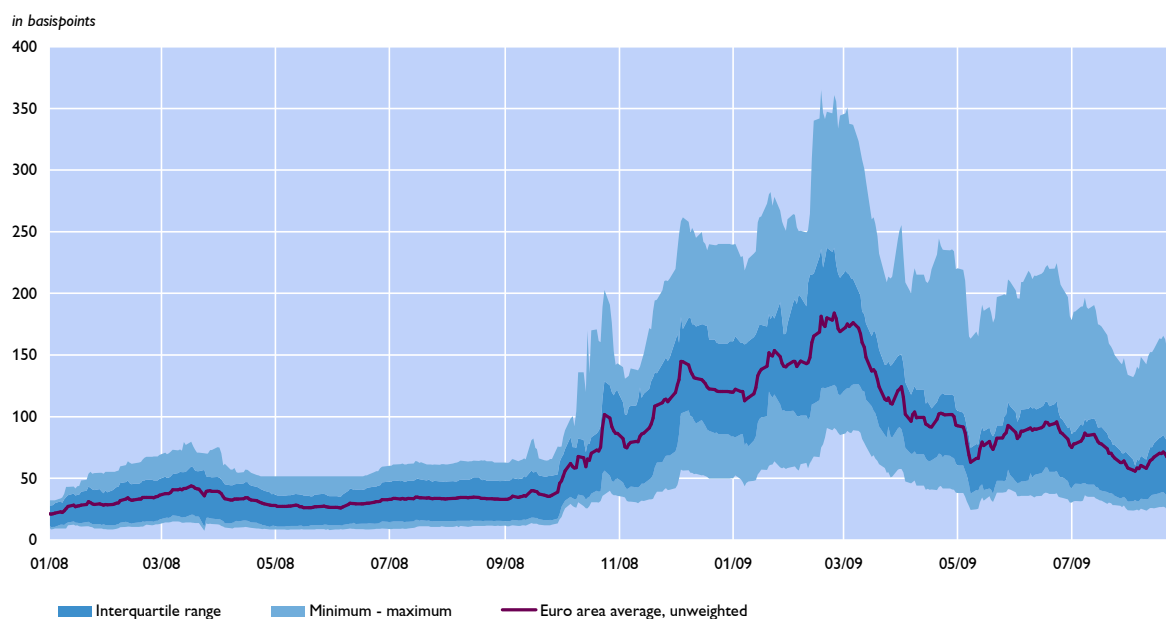
Interbank rates, in basispoints



Source: Thomson Reuters.

For the members of the euro area itself, a scenario of exchange rate pressure resulting from a flight to safety and liquidity can be constructed using alternative financial market prices. One is the price of a previously obscure instrument that the evolving crisis gave sudden prominence: credit default swaps (CDS) on government bonds, i.e. the insurance premium paid to protect against sovereign default. At times mirroring, at times leading developments in government bond yields, CDS premia of different euro area members started to diverge widely and became a much observed indicator of the health of the banking system of the various countries and the fiscal outlook. The developments evident in figure 9 give an idea of the strains countries would have been exposed to in the absence of a common currency. Some countries would have probably been forced off fixed exchange rates or could have avoided devaluation only at high costs for the domestic economy. While a common currency supports smaller or more fragile economies (or at least economies that are perceived to be more fragile), large or hard currency countries profit equally from monetary union as it protects them from the competitive disadvantages following a devaluation of the weaker currencies.

Credit default swaps on Euro area government bonds



Source: Thomson Reuters.

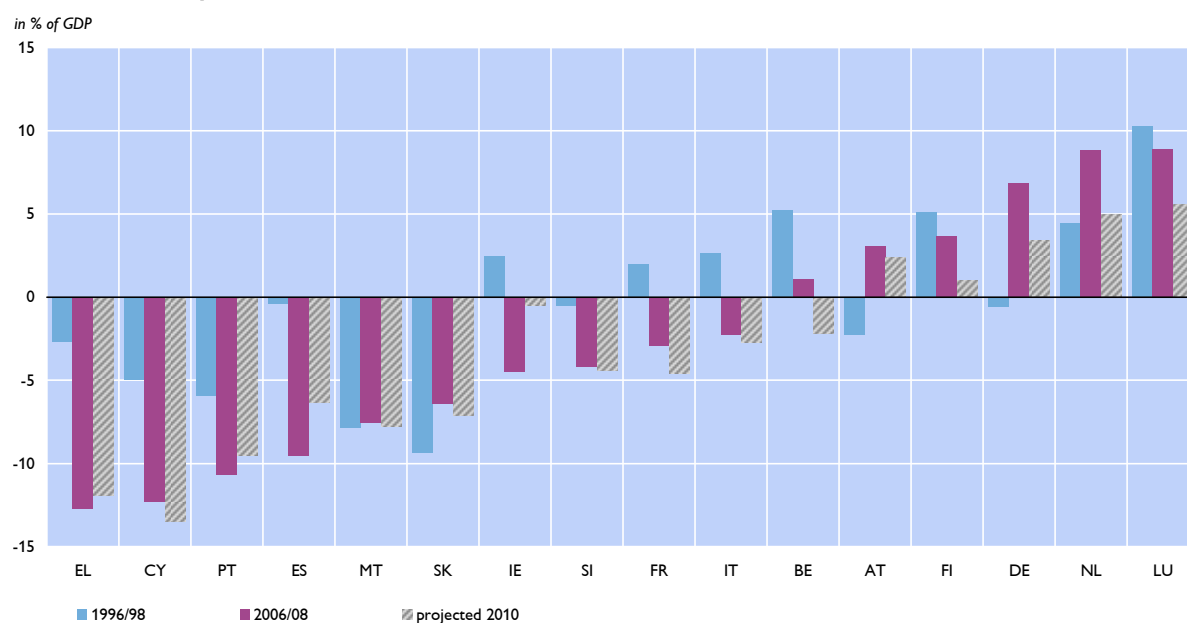
Beyond these two illustrative examples of euro's role as guarantor of stability, the euro provided stability by its simple existence. In some policy areas economic pressure led governments to pay more attention to national interests. While understandable, such behaviour at term risked a slowdown or even reversal of the European integration process. Within this context, the euro represented the most visible symbol of European unification.

4. Monetary union as work in progress – ensuring convergence within the euro area

Section 3 has illustrated the advantages of the common currency and the success of the Eurosystem in providing stability. Still, the financial crisis has also highlighted some more problematic developments within the euro area. A particular area of concern is the relative competitive position of the euro area members and developments in the intra-euro area current account positions.

A recent study by the European Commission (2009) traces various measures of the external performance of the members of the euro area. Real effective exchange rates, a measure for price and cost competitiveness, have diverged widely since 1999. While large differences have been observed occasionally before 1999 as well, divergence has become more persistent since, as changes in the nominal exchange rate cannot anymore correct misaligned real exchange rates. Price competitiveness in turn goes a long way towards explaining trade performance. Divergence in price and cost competitiveness has also been associated with a steady widening of current account differences within the euro area (see figure 10). In contrast to earlier years, current account deficits also exhibit high persistence, leading to the accumulation of large negative net foreign asset positions.

Current account positions of euro area member states



Source: European Commission.

As such, divergent developments in real exchange rates and current account position need not reflect structural imbalances in the economies. Changes in real exchange rates, for instance, might be a sign of different positions in the economic cycle. Current account deficits can reflect capital flows from capital rich to catching-up economies, where returns on capital are higher. Financial market integration, supported by the introduction of a common currency, could be a catalyst in this process. In these cases policy would have no reason to intervene.

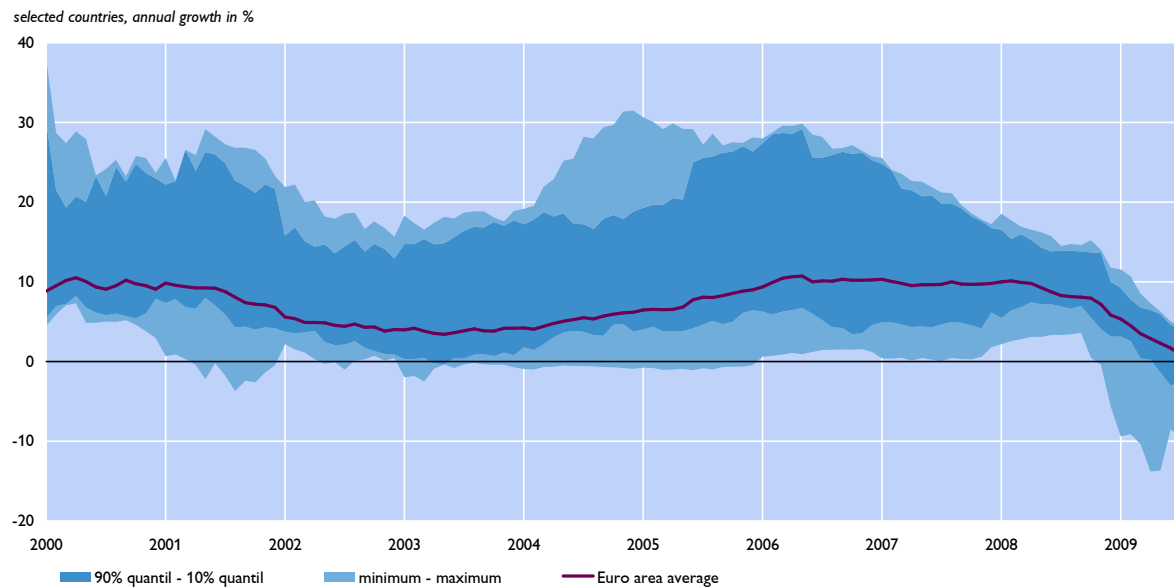
However, analysis by the European Commission (2009) shows that not all divergence in external performance indicators can be attributed to such benign causes. In fact, while countries with real GDP per capita below euro area average typically run large current account deficits, these countries show little signs for catching up with higher GDP countries (EC 2008). A reason might be that capital imports often ended up in household consumption or housing with a limited positive effect on productivity at best. Apparently capital inflows were not put to the most productive use. Instead, by removing financing constraints on private households, they contributed to sharp increases in real estate prices in several countries. Historically, such developments do not come as a surprise. Innovation or sudden liberalization in the financial sector often leads to excessive leverage coupled with an overshooting in asset prices. Decline in interest rates together with the removal of constraints on the current account brought by membership in the euro area are most likely a driving factor behind the financial imbalances that can today be observed in Greece or Spain.

According to recent projections, the ongoing financial crisis will bring about some convergence in current accounts. Deficit countries will see falling domestic demand and rising household savings rates, while surplus countries face a decline in exports. A first indication for the process of rebalancing is declining credit growth in those countries that had enjoyed buoyant credit markets in recent years (Fig 11). At the same time, current projections see little movement in real exchange

rates. While current account imbalances will diminish nevertheless, adjustment through quantities instead of prices is economically costly in terms of unemployment and underutilisation of capital. The size of costs will depend crucially on the speed with which resources can be shifted between the traded and non-traded sectors, in particular out of the oversized housing sector.

Figure 11

Loans to the private sector in the different EMU-member countries



Countries included: BE, AT, DE, ES, FI, FR, GR, IE, IT, NL, PT.

Source: ECB.

Divergence in the external position of member countries associated with financial imbalances is a serious concern for monetary policy as these developments render the setting of a common policy stance more difficult. At the same time they pose a significant risk to the economic development in deficit countries if imbalances were to be reversed abruptly. Given the growing interdependence of euro area economies such corrections in individual countries could spill over to the rest of euro area and threaten economic stability more widely. Economic policy therefore has to watch for unsustainable imbalances and react accordingly. Key elements are improvements in the functioning of product and labour markets and measures to increase productivity in the traded and particularly also in the non-traded sector. While capital flows to catching-up economies are potentially advantageous, the built-up of excessive debt and asset price bubbles has to be avoided. This is in line with the general need to improve macroprudential supervision.

5. The next ten years – perspectives beyond the crisis

The immediate urgency of the financial crisis over, the attention of monetary policy has to return to ensuring the long-term success of the common currency. The most important task is to restore a positive role of the financial system in the distribution of resources and risk management. This challenge is very similar for all developed economies. In addition, monetary policy in the euro area has to deal with the further development of the monetary union, enlargement and the international role of the euro.

5.1. Managing enlargement

Since its creation the euro area has grown from eleven to sixteen countries. In addition, the euro plays an inofficial yet important role in many countries, in particular in neighbouring Central, Eastern and Southeastern Europe (CESEE). The euro is used there for savings, to denominate debts and even as means of payment.¹² Over the coming years the euro area is set to welcome further members. According to the EU treaties, all member states are required to adopt the euro as soon as they fulfil the criteria set out by the Maastricht treaty. Only the UK and Denmark have an opt-out clause.

In addition to the legal obligation, the events of the last two years have made the advantages of being member of the euro area plain to see. In an initial phase, the crisis had been confined to the advanced economies of Western Europe, as the financial systems of the CESEE countries were little affected by toxic assets and financial innovation. Following the collapse of Lehman Brothers in September 2008, however, financial market turmoil spilled over to the CESEE region. The countries were hit by a loss of investor confidence and a flight to quality that led to rising risk premia on bonds, falling stock markets and, depending on the exchange rate regime, currency depreciation. In this situation EU membership alone already provided an important boost to stability for the CESEE countries. Membership enhanced the credibility of local governments, provided indirect support to local banks via their euro area parent companies, and secured access to international financial markets through EU participation in multilateral lending and repurchase agreements between the ECB and CESEE central banks. Membership in the monetary union would have provided additional benefits by ruling out potentially destabilizing movements of the exchange rate, bringing access to ECB liquidity policy and helping swift, effective and coherent economic policy coordination. For countries considering to join EMU, these advantages in a period of crisis come on top of the more general benefits offered by membership of the euro area like lower transactions costs, increased competition, stronger real and financial integration and last but not least a credible monetary policy targeted towards price stability.

In order to allow countries to fully reap the benefits of EMU membership, acceding countries have to fulfil the convergence criteria laid down in the Maastricht treaty. The convergence criteria are important to ensure that the fixed exchange rate implied by a common currency is in fact sustainable for the new member country. While EMU membership is greatly advantageous in the long-term, choosing the right moment to join and the best way towards membership depends on the specific situation of every individual country, as the future members differ in their economic structure, their current exchange rate regime, integration with the euro area and the degree of nominal and real convergence already achieved.

The crisis has put the limelight on the role of financial factors in the convergence process. Capital flows from Western to Eastern Europe have been an important factor driving the catching-up. The sustainability of these flows has now been put into doubt. Euro membership would certainly help countries to continue importing the capital necessary for further development. At the same time the crisis has also exposed the risks associated with financial imbalances. An early entry into the euro

¹² The Oesterreichische Nationalbank regularly conducts surveys in Central, Eastern and Southeastern Europe on the use of the euro. For the results of the latest wave see Dvorsky, Scheiber, Stix (2009).

area before price levels have reasonably converged bears the risk that higher inflation rates in the acceding country lead to too low real interest resulting in harmful boom-bust cycles. As in the well-developed western economies financial regulation will have to play a stabilising role. The proper timing of the enlargement process remains a tricky issue.

5.2. The future role of the euro as international currency

In the last ten years the euro has acquired a significant position not only in the neighbouring countries but on an international scale as well (ECB 2008). At the same time, mounting US indebtedness has fuelled a debate on the future of the dollar as the leading world currency. The discussion was stimulated recently by concerns that the measures taken in the US in the wake of the financial crisis – looser monetary policy, sharp increase in public debts – increase long-term inflation risks and make the dollar as reserve currency less attractive. Officials of China, which is the largest foreign holder of US assets, have called for changes in the world monetary order and a move to a new global reserve currency. The final chapter considers the challenges of international currency status and the euro's prospects on the international stage.

Being the issuer of an international currency brings potentially significant advantages. As the market for assets denominated in a leading currency is liquid, external imbalances can be managed much more easily. The issuing country profits not only from more elastic demand but also lower interest rates. Over the past twenty years, the US has turned to from a lender to large debtor vis-à-vis the rest of the world. Still, its income balance has stayed positive as the US earns a higher return on its foreign assets than it pays on its foreign liabilities. Estimates put the annual benefits to the United States of the dollar's key currency role at 2 percent of US GDP (Gourinchas and Rey 2007). Key currency status also serves as an insurance policy in case of economic and financial stress. If a crisis provokes a fall in the exchange rate, foreign liabilities denominated in domestic currency lose in value while foreign assets in foreign currency appreciate (Lane and Milesi-Ferretti 2005).

However, international currency status comes along with challenges to economic policy as well. When foreigners hold significant amounts of domestic currency assets, the exchange rate becomes highly sensitive to shifts in foreign investor sentiment. Any attempt of foreign investors to reduce their holdings of the anchor currency risks triggering a plunge in the currency's value. If some of the international holders are large players, interesting strategic questions arise, as for China today. While China would have to take large losses in case of a USD devaluation, effects on the US would also be far from benign. International currency status is therefore a double edged sword.

What determines the international role of a given currency? International currency status has several related yet distinct dimensions. When looking at the determinants of international currency status and the likely future evolution of the euro, it is useful to distinguish a currency's role as store of value, e.g. in the form of foreign exchange reserves, from its role as unit of account and means of payment, e.g. to denominate bonds or invoice trade. Overall, as international currencies both the US dollar and the euro punch above their weight measured as e.g. share of world GDP or world trade (figure 12). This reflects the well-known economies of scale in international monetary relations. When looking in more detail at different metrics the euro has shown variable performance relative to the US dollar however. The euro has a prominent role as denomination of international bond issues. As a transaction medium and international reserve currency, its role is

more limited. Evidently, depending on the function under consideration different factors drive the attractiveness of international currencies.

Figure 12

International role of the euro

2007 values, in %



Quelle: Source: IMF WEO spring 09, IWF DOT, ECB (2008), BIS Triennial survey.

1) Share of currency areas

2) Excluding home currency issuance

3) Scaled to 100: 19% means that euro is present on the buying or the selling side in $19\% \times 2 = 38\%$ of all foreign exchange transactions.

4) Only reserves with disclosed currency composition (63.7% of total reserves)

As a transactions medium, a currency will be more attractive the more potential trading partners use it. This is true for international trade but also the use of currencies as investment or financing instruments. The size of the issuing country as well as the size and liquidity of financial markets are therefore crucial determinants of currency status (Kindleberger 1967). The euro area is of comparable size to the US and therefore, in principle, the euro should have the same potential as the USD. However, an implication of the size argument is that because use by other parties increases the value of transacting in a given currency there is scope for strategic externalities that support the leading currency (Krugman 1980; Rey 2001). As a consequence currency rankings are characterized by a high degree of inertia. New or rising currencies, as the euro today, have a difficult time against the incumbent. Similar phenomena have been documented empirical for earlier historical episodes, e.g. the late 19th century when despite a large and fast growing US economy the pound sterling continued to dominate (Flandreau and Jobst 2009). The same is true today, as there is significant shortfall between the actual role of the euro in trade invoicing and financial flows and what could be expected because of the size of the euro area (Pisani and Posen 2008).

While widespread use as transaction medium and the size and liquidity of underlying financial markets also sustain a currency's use as store of value, reserve currency status has additional, potentially more volatile determinants, including expectations about future monetary and fiscal policy as well as strategic considerations epitomized in China's "dollar trap". Further factors are geopolitical influence and the quality of the political, economic and judicial system. A historic example for the vagaries of reserve currency status is the fate of the US dollar and pound sterling in the interwar years. Recent research has shown the two currencies changing their relative standing as

reserve currency repeatedly between 1920 and 1938, mainly driven by political factors rather than economic fundamentals (Eichengreen and Flandreau 2008).

Looking ten years into the future, it is highly improbable that the euro will eclipse the US dollar as world leading currency. Instead the international monetary geography is much more likely to evolve towards a multipolar world both in terms of transaction media as with respect to reserve holdings. Within the Euro area the challenge will be to ensure macroeconomic and financial stability to support confidence in the euro as investment asset. On the international level, the coexistence of two or more large international currencies creates new challenges for policy coordination and the management of volatility between the main currencies areas. The euro has the potential to provide a significant contribution to world financial stability. This opportunity has to be seized by European politics.

6. References

- Baba, Naohiko, Frank Packer and Teppei Nagano (2008): The spillover of money market turbulence to FX swap and cross-country swap markets. *BIS Quarterly Review* (March), 73-86.
- Baba, Naohiko and Frank Packer (2009): From turmoil to crisis: dislocations in the FX swap market before and after the failure of Lehman Brothers. *BIS Working Papers* No 285 (June).
- BIS (2008): *78th Annual report*.
- BIS (2009): *79th Annual report*.
- Blanchard, Olivier (2009): The crisis: Basic mechanism and appropriate policies. *IMF Working Paper* 09/08.
- Borio, Claudio (1997): The Implementation of Monetary Policy in Industrial Countries: A Survey. *BIS Economic Paper* 47.
- Chailloux, A., S. Gray and R. McCaughrin. (2008): Central Bank Collateral Frameworks: Principles and Policies. *IMF Working Paper* 08/222.
- Danmarks Nationalbank (2008): *Monetary Review*. 4th Quarter.
- De Grauwe, Paul (2007): *The economics of monetary union*. 7th edition. Oxford: Clarendon.
- Dvorsky, Sandra, Thomas Scheiber and Helmut Stix (2009): The 2008 fall wave of the OeNB euro survey – A first glimpse of households' reactions to the global financial crisis. *Focus on European Economic Integration Q2*, p. 67-77.
- ECB (2004): *The Monetary Policy of the ECB*. 2nd edition. Frankfurt.
- ECB (2007): The collateral frameworks of the Federal Reserve System, the Bank of Japan and the Eurosystem. *ECB Monthly Bulletin* 2007(10). p. 85–100.
- ECB (2008): The international role of the euro.

- ECB (2009a): The external financing of households and non-financial corporations: A comparison of the euro area and the United States. *ECB Monthly Bulletin* 4 p.69-84.
- ECB (2009b): The implementation of monetary policy since August 2007. *ECB Monthly Bulletin* 7 p.75-89.
- ECB (2009c): Recent developments in the retail bank interest rate pass-through in the Euro area. *ECB Monthly Bulletin* 8 p.93-105.
- Eichengreen, Barry and Marc Flandreau (2008): The rise and the fall of the dollar, or when did the dollar replace sterling as the leading international currency? *NBER Working Paper* 14154.
- European Commission (2008): EMU@10. Successes and challenges after ten years of Economic and Monetary Union. *European Economy* 2.
- European Commission (2009): Special report. Competitiveness developments within the euro area. *Quarterly Report on the Euro Area* I p. 20-51.
- Feldstein, Martin (1997): The political economy of the European economic and monetary union: political sources of an economic liability. *Journal of Economic Perspectives* 11(4) p. 23-42.
- Feldstein, Martin (2009): Reflections on Americans' views of the euro ex ante. *NBER Working Paper* 14696.
- Fleming, M., W. Hrungrung and F. Keane 2009. The Term Securities Lending Facility: Origin, Design, and Effects. *Current Issues in Economics and Finance*. Federal Reserve Bank of New York. 15(2) February. 1–10.
- Flandreau, Marc and Clemens Jobst (2009): The empirics of international currencies: Historical evidence. *The Economic Journal* 119 (April).
- Frankel, Jeffrey and Andrew Rose (1998): The endogeneity of the optimum currency criteria. *The Economic Journal* 108 (July) p. 1009-25.
- Gourinchas, Pierre-Olivier and Hélène Rey (2007): From World Banker to World Venture Capitalist: US External Adjustment and the Exorbitant Privilege. In Richard Clarida (ed.) *G-7 Current Account Imbalances: Sustainability and Adjustment*. Chicago: University of Chicago Press.
- Jobst, Clemens and Claudia Kwapil (2008): The interest rate pass-through in Austria – effects of the financial crisis. *Monetary Policy and the Economy* Q4 p. 54-67.
- Jobst, Clemens (2009): Monetary Policy Implementation during the Crisis 2007 to 2008. *Monetary Policy and the Economy* Q1 p. 53-77.
- Jonung, Lars and Eoin Drea (2008): The euro: It can't happen, It's a bad idea, It won't last. US economists on the EMU, 1989-2002. Prepared for the session Reflections on American Views of the Euro Ex Ante: What We Have Learnt 10 years Ex Post, American Economic Association meeting, San Francisco 2009.
- Kindleberger, Charles (1967): *The Politics of International Money and World Language* (Essays in International Finance No. 61), Princeton: Princeton University Press.
- Krugman, Paul (1980): Vehicle currencies and the structure of international exchange. *Journal of Money, Credit and Banking* 12(3) p. 513–26.
- Lane, Philip (2008): EMU and financial market integration. OeNB: *36th Economics Conference "Towards the first decade of Economic and Monetary Union: Experiences and perspectives"* p. 91-95.

- McGuire, P and G von Peter (2009): The US dollar shortage in global banking. *BIS Quarterly Review* (March) p. 47-63.
- Michaud, F-L and Ch Upper (2008): What drives interbank rates? Evidence from the Libor panel. *BIS Quarterly Review* (March) p. 47-58.
- Mundell, Robert (1961): A theory of optimum currency areas. *American Economic Review*.
- Pisani-Ferry, Jean and Adam Posen (2008): *The euro at ten: the next global currency?* Bruegel.
- Rey, H el ene (2001): International trade and currency exchange. *Review of Economic Studies* 68(2) p. 443–64.
- Rose, Andrew (2008): EMU, trade and business cycle synchronization. OeNB: *36th Economics Conference "Towards the first decade of Economic and Monetary Union: Experiences and perspectives"* p. 97-106.