



ARTICLE

THE ECB'S RESPONSE TO THE FINANCIAL CRISIS

The recent global financial crisis and the subsequent economic downturn have called for unprecedented policy responses by both fiscal and monetary authorities worldwide. From the onset of the financial tensions in the middle of 2007, the ECB has reacted swiftly and decisively to deteriorating economic and financial circumstances with the aim of maintaining price stability over the medium term. In addition to reducing interest rates to levels not seen in the countries of the euro area in recent decades, the Eurosystem implemented a number of non-standard monetary policy measures during the period of acute financial market tensions, namely “enhanced credit support” and the Securities Markets Programme. These exceptional and bold measures have helped to sustain financial intermediation in the euro area and have been instrumental in maintaining the availability of credit for households and companies, while remaining fully consistent with the ECB’s primary mandate of ensuring price stability in the euro area over the medium term. Given their temporary nature, some of the non-standard monetary policy measures taken by the ECB in response to the crisis have already been discontinued, whereas others will be gradually phased out in line with the normalisation of financial and economic conditions. This article explains in detail how the ECB has responded to the various phases of the financial market tensions within its medium-term oriented monetary policy strategy and describes the results of its policy actions.

I INTRODUCTION

Central banks and governments worldwide have responded decisively to the challenges posed by the global financial crisis since it began in the summer of 2007. Bold, timely and unprecedented actions were required to maintain liquid markets, reduce systemic risk and, ultimately, restore stability in financial markets. Owing to the global nature of the crisis, fiscal and monetary authorities around the world had to address similar challenges, while, at the same time, they had to ensure that their responses were tailored to the specific features of their individual financial systems and economies.

When the first signs of the financial market tensions emerged in the middle of 2007, the ECB acted quickly to frontload liquidity provision to financial institutions in an attempt to offset disruptions in the interbank market. In the months that followed, swap lines between major central banks were established, primarily to address the mounting pressures in US dollar short-term funding markets. After the default of the investment bank Lehman Brothers in the United States in September 2008, concerns about the solvency of financial institutions worldwide eventually pushed the global financial system to the brink of collapse. In order to stop the malfunctioning of markets and limit the risk

of spillover to the real economy, and, ultimately, to ensure price stability, monetary authorities around the globe reduced their key policy interest rates to historically low levels and embarked on a series of non-standard policy measures. In parallel, fiscal authorities adopted a set of measures, such as recapitalisation schemes or government guarantees, which were designed to avert the insolvency of systemically important financial institutions or to address the funding problems of liquidity-constrained solvent banks.¹

This article discusses in detail how the Eurosystem has responded to the acute financial market tensions since the middle of 2007.² It illustrates how events have unfolded and reviews the main measures adopted and implemented by the ECB and the NCBs of those EU Member States that have adopted the euro. The article explains the economic and strategic rationale behind the measures taken and, as far as possible, assesses how effective they have been in containing the consequences of the crisis, and, in particular, in preserving the orderly transmission of monetary policy. The article also shows how the ECB’s actions since

- 1 For an overview of the euro area’s fiscal policy measures during the crisis, see van Riet, A. (ed.), “Euro area fiscal policies and the crisis”, *Occasional Paper Series*, No 109, ECB, April 2010.
- 2 The cut-off date for data used in this article is 7 September 2010.

the onset of the financial crisis have been bold, but firmly anchored within the medium-term framework of its monetary policy strategy. To put the ECB's response to the crisis into perspective, Section 2 illustrates how monetary policy works under normal circumstances. Section 3 describes in some detail the measures implemented by the Eurosystem. In so doing, the article distinguishes between four distinct phases: i) the period of financial turmoil; ii) the intensification of the financial crisis; iii) the period of temporary improvements in financial market conditions; and iv) the sovereign debt crisis. Finally, Section 4 concludes.

key policy interest rate of the central bank affect rates relevant for households and firms, including rates on bank lending and deposits, and, hence, consumption, saving and investment decisions. In turn, these decisions influence aggregate demand and, ultimately, price-setting behaviour and the formation of inflation expectations. In the euro area, this channel, usually referred to as the interest rate channel, has been found to have the most leverage on the economy.³ Other channels through which monetary policy can affect prices and real activity include the exchange rate channel and the asset price channel.

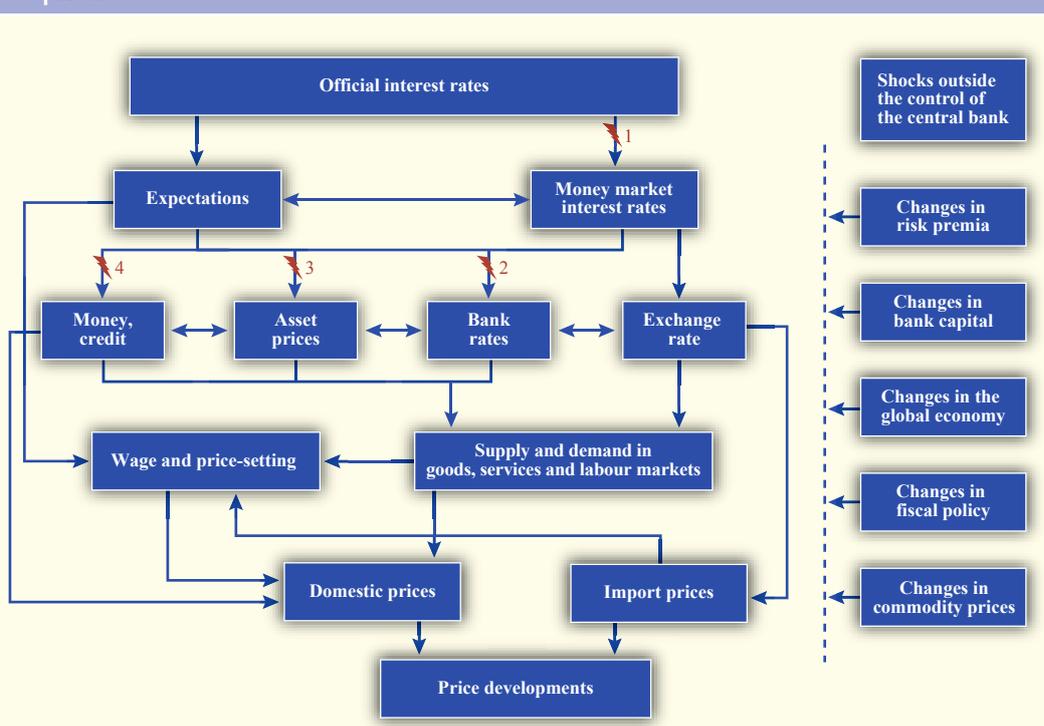
2 THE TRANSMISSION OF MONETARY POLICY IN NORMAL TIMES

In general, the functioning of the money market plays a critical role in the operation of the interest rate channel. Retail interest rates, such

Monetary policy affects prices and the economy more broadly through several channels (see Chart 1). To put it simply, changes in the

³ See the article entitled "Recent findings on monetary policy transmission in the euro area", *Monthly Bulletin*, ECB, October 2002; and the article entitled "Monetary policy transmission in the euro area", *Monthly Bulletin*, ECB, July 2000.

Chart 1 Stylised illustration of the transmission mechanism from official interest rates to prices



Source: ECB.

as rates on loans to or deposits from households and companies, are usually linked to banks' refinancing conditions, which, in turn, are linked to money market interest rates. In normal times, the ECB influences money market interest rates by setting its key interest rates and by managing the liquidity situation in the euro area money market. More precisely, it provides a given amount of funds to banks through the refinancing operations that are executed through competitive tenders. The minimum bid rates for these tenders are determined by the Governing Council on the basis of its economic and monetary analysis and constitute the main indication of its monetary policy stance.

Once the ECB has set its key interest rates, it implements its monetary policy by allotting the amount of liquidity needed by the banking sector to meet the demand resulting from so-called autonomous factors and to fulfil the reserve requirements.⁴ By enabling banks to comply with the reserve requirements on average over a maintenance period of around one month, the minimum reserve system ensures that the overnight money market rate mirrors the official interest rate. In this way, the effects of the ECB's

interest rate decisions are transmitted to financial markets and, with lags, to the real economy. The ECB normally keeps a strict dividing line between the monetary policy decisions and the implementation of that policy through monetary policy operations. This "separation principle" prevents the specification and conduct of refinancing operations from being interpreted as signals of future changes in the monetary policy stance. This procedure has proved to be a reliable way of ensuring that the monetary policy stance of the Governing Council is reflected appropriately in market interest rates and that credit markets function smoothly. The stable and predictable relationship between money market rates and the ECB's main refinancing rate that prevailed until the middle of 2007 underlines the effectiveness of the Eurosystem's operational framework in implementing the monetary policy stance as determined by the Governing Council (see Chart 2).

4 Autonomous factors are defined as the sum of banknotes in circulation plus government deposits minus net foreign assets plus other factors. Minimum reserves are defined as the balances the ECB requires credit institutions to hold on accounts with the NCBs.

Chart 2 Spread between the three-month EURIBOR and the overnight indexed swap rate

(basis points)



Sources: Bloomberg and ECB.

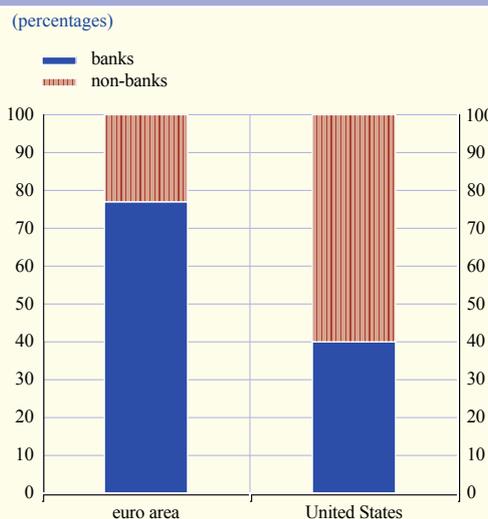
Note: The swap rate is the fixed rate that banks are willing to pay in exchange for receiving the average overnight rate for the duration of the swap agreement. It reflects the same negligible credit and liquidity risk premia as the overnight rate. The swap rate is therefore relatively immune to changes in liquidity or credit risk.

The smooth transmission of the Governing Council's monetary policy intentions to money market rates depends critically on the behaviour of banks and on their willingness to entertain smooth exchanges of liquidity in the interbank market. Typically, taking into account the reserve requirements imposed by the ECB, banks with surplus liquidity at the end of a trading day lend money to other financial institutions in need of funds. However, in an environment in which banks lack mutual confidence, the link between policy rates and money market rates could become weaker or even break (labelled as "1" in Chart 1). When the supply of interbank credit becomes scarce as a result of mistrust among market participants, the cost of interbank credit, i.e. the first step in the transmission process, rises above the level that would be consistent with the ECB's desired monetary policy stance.

The ECB has been faced with such a situation since the outbreak of the financial turmoil in the middle of 2007 (see Chart 2). In such a situation, standard monetary policy measures, i.e. changes in the key interest rates, could prove insufficient in ensuring the effective transmission of the monetary policy stance to banks and, subsequently, the real economy. In this regard, dysfunctional money markets can weaken the capacity of monetary policy to influence the outlook for price stability through interest rate adjustments alone. In order to keep the transmission mechanism fully operational in such exceptional circumstances and ensure the maintenance of price stability over the medium term, the ECB introduced non-standard policy measures.

By stabilising the very short-term costs of liquidity for banks in line with its policy intentions, the ECB also influences, both indirectly and to varying degrees, the whole spectrum of money market instruments at different maturities as well as retail interest rates in credit and deposit markets. Retail rates play an important role in the transmission of monetary policy, since borrowing and lending in the euro area still take place predominantly through the intermediation of the banking sector, contrary to

Chart 3 Sources of finance for non-financial corporations in the period 2004-08



Sources: ECB and the Board of Governors of the Federal Reserve System.

some major economies where securities markets play a much larger role in the funding of the real sector. Over the period 2004-08 bank financing constituted around three-quarters of total external financing by non-financial corporations in the euro area and less than half in the United States (see Chart 3).

The rates at which banks remunerate deposits and issue loans to the private sector depend on a number of factors, such as the interplay of supply and demand for credit and deposits, the structure of the financial sector and banks' overall funding conditions (labelled as "2" in Chart 1). The latter element has become increasingly important in the transmission of monetary policy over time. Financial innovations and, in particular, the advent of securitisation made banks become gradually more reliant on financial market funding, thereby increasing their vulnerability to changes in the financing conditions in interbank markets. In a nutshell, such financial innovations enabled institutions and investors to raise funds in the money market by selling short-term asset-backed securities. The proceeds of these operations were usually invested in long-term assets. Similarly, interbank

lending was backed increasingly by securitised collateral, with collateralised interbank lending in the form of repurchase agreements doubling in Europe during the period 2002-07, to reach €6.4 trillion outstanding in 2007 (or around 71% of euro area GDP).⁵

The trend towards financial market funding, and with it the emergence of a plurality of new instruments and players, has led to other segments of the financial market playing a more prominent role in the transmission process. Banks' funding costs, and, hence, retail interest rates, have become more sensitive to developments in the market for structured finance products, the covered bond market and the market for secured interbank lending (part of the asset price channel,⁶ labelled as "3" in Chart 1). For example, covered bonds have not only grown in importance as a source of direct funding for many financial institutions in Europe, but have also come to be used increasingly as collateral in money market transactions.⁷ In a similar vein, with the rapid increase in secured interbank lending, the impact on money markets of developments in government bond markets has grown substantially. While government bonds have traditionally been an important element in the transmission process because they serve as a benchmark, or floor, for the pricing of other financial contracts and fixed income securities, they have also emerged as a prime source of collateral in interbank lending over the past few years. As a result, excessive or abrupt changes in the value or availability of these securities can imply a sharp deterioration in banks' funding conditions, with adverse effects on both the supply of bank loans to the real economy and their prices.

In turn, the growing recourse to non-deposit sources of funding has rendered other, non-price, transmission channels, such as adjustments in the volume of credit and loans in response to a change in the official interest rate, less important. Bank lending tends to contract after a tightening in monetary policy because an increase in the policy rate is usually followed by a reduction in the availability of bank deposits

as deposit holders shift their investments from deposits towards assets offering a higher return. Unless banks can compensate for the decline in deposits via other sources of funding, the downward adjustment acts as a constraint on the asset side of banks' balance sheets, ultimately inducing a contraction in bank loans. This effect on banks' capacity to issue new loans is usually known as the bank lending channel (labelled as "4" in Chart 1).

The proper functioning of the money market and the market for longer-term securities is therefore central to the transmission of the ECB's policy rates. Section 3 describes the measures that the Eurosystem implemented during the financial crisis in order to avert a situation in which tensions in these markets would impair the orderly transmission of its monetary policy stance.

3 THE ECB'S RESPONSE IN THE VARIOUS STAGES OF THE CRISIS

This section illustrates in detail the way that the ECB has responded to the various phases of the financial crisis, covering the period from August 2007 to early September 2010.⁸ The focus is on developments that triggered a response from the Eurosystem, rather than on the underlying imbalances that caused these developments. The effectiveness of the measures taken is also discussed. The article distinguishes between four different phases: i) the period of financial turmoil; ii) the intensification of the financial crisis; iii) the period of temporary improvements in financial market conditions; and iv) the sovereign debt crisis.

5 See the International Capital Market Association, *European repo market survey*, various issues.

6 The asset price channel also operates by affecting the balance sheets of households and non-financial corporations, which in turn induces changes in consumption and investment behaviour.

7 Covered bonds are long-term debt securities issued by banks to refinance loans to the public and private sectors, often in connection with real estate transactions, and are a main financing source for banks in some countries.

8 See also Trichet, J.-C., "State of the Union: The Financial Crisis and the ECB's Response between 2007 and 2009", *Journal of Common Market Studies*, Vol. 48, 2010, pp. 7-19; and the article entitled "The implementation of monetary policy since August 2007", *Monthly Bulletin*, ECB, July 2009.

THE PERIOD OF FINANCIAL TURMOIL

On 9 August 2007 severe tensions emerged in interbank markets worldwide, including in the euro area (see Chart 2). Risk premia soared on interbank loans with various maturities and market activity declined rapidly. The tensions reflected primarily a lack of confidence among market participants and uncertainty about the financial health and liquidity of counterparties.

These tensions threatened to impair the orderly functioning of the euro money market (labelled as “1” in Chart 1) and even lead to a gridlock of the payment system. The ECB reacted immediately, and, on that same day, allowed euro area banks to draw the full amount of liquidity they needed, on an overnight basis, against collateral at the prevailing main refinancing rate. In total, banks drew €95 billion of liquidity, giving an indication of the severity of the shock. In the months that followed, the ECB conducted supplementary refinancing operations with maturities of three and six months. The reduced uncertainty and longer

liquidity planning horizon afforded by the longer maturities aimed at encouraging banks to continue providing credit to the economy. At the same time, the amounts allotted in shorter-term refinancing operations were reduced.

The ECB also adapted the intra-maintenance period pattern of the supply of liquidity to allow banks to “front load” reserves in the first half of the maintenance period then reverse this in the second half. As a result, the overall amount of liquidity provided by the Eurosystem over a full maintenance period remained unchanged, but the average maturity of its liquidity-providing operations increased and more liquidity was provided earlier in the maintenance period. Fine-tuning operations were also carried out to ensure that very short-term money market rates remained close to the ECB’s main refinancing rate (see Chart 4). Moreover, in view of the tensions in the foreign exchange market and on the basis of a swap agreement with the Federal Reserve System, the ECB also began to provide US dollar liquidity against euro-denominated collateral. Towards the end of 2007 the ECB

Chart 4 Key ECB interest rates and the EONIA

(percentages per annum)



Sources: Bloomberg and ECB.

Note: The EONIA (euro overnight index average) is an effective overnight rate computed as a weighted average of all overnight unsecured lending transactions in the interbank market initiated within the euro area by contributing panel banks.

also adopted special tender procedures to counter the major funding concerns of banks over the year-end period.

The additional liquidity-providing operations that the ECB undertook during this period of financial turmoil were facilitated by the Eurosystem's broad and flexible operational framework, which includes a long list of both collateral and counterparties eligible for Eurosystem refinancing operations. This feature meant that all additional measures during the early phase of turmoil could be implemented without changes to existing procedures or the key interest rates. The important signalling role of the policy rate in the formation of inflation expectations could therefore be preserved. This was particularly important in the context of rising inflationary pressures stemming from a series of adverse supply-side shocks that hit the euro area economy in the course of 2007 and 2008. Specifically, in order to prevent broadly based second-round effects from materialising at that time and to counteract the increase in upside risks to price stability in the medium term as a result of these shocks, the ECB decided in July 2008 to raise its key interest rate by 25 basis points to 4.25% (see Chart 4). This move underlined the ECB's commitment to its primary objective of maintaining price stability.

INTENSIFICATION OF THE FINANCIAL CRISIS

Following the collapse of the US financial institution Lehman Brothers on 15 September 2008, the period of financial turmoil turned into a global financial crisis. Growing uncertainty about the financial health of major banks worldwide led to a collapse in activity in a large number of financial markets. The virtual breakdown of the money market caused short-term interest rate spreads to increase to abnormally high levels, both inside (see Chart 2) and outside the euro area. During this period of great uncertainty banks built up large liquidity buffers, while shedding risks off their balance sheets and tightening loan conditions. The crisis also began to spread to the real sector, with a rapid and synchronised

deterioration in economic conditions in most major economies and a free fall in global trade.

The ECB reacted swiftly and decisively to these developments by lowering its key interest rates and by implementing a set of non-standard measures. The policy interest rate was reduced by 50 basis points on 8 October 2008 in a concerted and historic move with other major central banks, namely the Bank of Canada, the Bank of England, the Federal Reserve System, Sveriges Riksbank and the Swiss National Bank.⁹ This decision took into account the substantial decline in inflationary pressures in a context in which the intensification of the financial crisis had weakened the economic outlook and significantly diminished upside risks to price stability over the medium term. In the months that followed interest rates were cut further, with the result that, overall, the ECB lowered the interest rate on its main refinancing operations between October 2008 and May 2009 (i.e. in just seven months) by 325 basis points to 1.00% (see Chart 4), a level not seen in euro area countries in recent decades.

Meanwhile, the severe constraints on the functioning of the financial system in general, and the money market in particular, threatened to impair the normal monetary policy transmission process, in particular channels 2 to 4 as identified in Chart 1. When securities markets virtually dried up and risk premia rose to exceptionally high levels, there was a risk that banks would quickly reduce the availability of loans and pass the resulting increase in their funding costs on to households and companies in the form of higher credit rates, thereby blurring the signals of the ECB's monetary policy stance. If the ECB had not addressed the persistent funding problems of financial institutions, it would have risked changes in policy interest rates being significantly less effective than during normal times.

⁹ The Bank of Japan expressed its strong support of the concerted reduction in policy interest rates.

To ensure that the monetary policy stance was reflected in actual money and credit market conditions, and to preserve credit flows to the euro area economy above and beyond what could be achieved by reducing interest rates, the Governing Council adopted a number of non-standard measures in October 2008, which were subsequently referred to as “enhanced credit support”.¹⁰ Consequently, the strict separation between the formulation and implementation of monetary policy as enshrined in the “separation principle” was temporarily loosened. The non-standard measures focused specifically on banks in the euro area and comprised the following elements:

- First, the Eurosystem applied a “fixed rate full allotment” tender procedure in all refinancing operations, ensuring the provision of unlimited central bank liquidity to eligible euro area financial institutions at the main refinancing rate and against adequate collateral. Contrary to normal practice, financial institutions were allotted the full amount of liquidity that they sought at the prevailing interest rate. This measure was designed to support the short-term funding needs of banks, with a view to maintaining and enhancing the availability of credit to households and companies at accessible rates. In this way, part of the impairment in the monetary policy transmission mechanism could be remedied.
- Second, the list of assets accepted as eligible collateral for refinancing operations was extended to further ease access to Eurosystem operations in an attempt to reduce asset-side constraints on banks’ balance sheets. At the same time, the list of counterparties eligible for fine-tuning operations was extended, implying an increase from around 140 to around 2,000 eligible counterparties.
- Third, the ECB announced its intention to implement additional longer-term refinancing operations with a maturity of up to six months. In May 2009 it also announced that such operations would be conducted with a maturity of one year. The aim of these operations was

to improve banks’ liquidity position, further reduce money market spreads and contribute to keeping term money market interest rates at a low level. The longer maturities enabled banks to attenuate the mismatch between the investment side and the funding side of their balance sheet.

In addition to these measures, the Eurosystem continued to provide liquidity in foreign currencies, most notably in US dollars. This measure supported banks that faced a massive shortfall in US dollar funding in the aftermath of the events that took place in the middle of September 2008. The ECB also made agreements with Denmark’s Nationalbank, the Magyar Nemzeti Bank and Narodowy Bank Polski to improve the provision of euro liquidity to the banking sectors of the respective countries.

Finally, in May 2009 the ECB announced a €60 billion programme to purchase euro-denominated covered bonds issued in the euro area over the period until June 2010. The aim of the programme was to revive the market, which had virtually dried up, in terms of liquidity, issuance and spreads.

The enhanced credit support had a strong impact on market prices, banks’ liquidity management and the Eurosystem’s balance sheet. First, the very high level of demand for liquidity in the “fixed rate full allotment” tender procedure, in particular in the longer-term refinancing operations, exerted significant downward pressure on short-term money market rates (see Chart 4), with a corresponding decline in nominal yields at somewhat longer maturities. Real interest rates at longer maturities also fell substantially, and even turned negative for some time, reflecting the fact that, amid higher market volatility, inflation expectations remained well anchored at levels consistent with price stability (see Chart 5). In turn, the very low levels of nominal and real interest rates promoted the stabilisation of financial markets

¹⁰ See Trichet, J.-C., *op. cit.*

Chart 5 Zero coupon break-even inflation rates in the euro area

(annual percentage changes)



Sources: Reuters and ECB calculations.
Note: The data are seasonally adjusted.

during this period of extraordinary turbulence, and were instrumental in countering the fall in real economic activity.

Second, while the “fixed rate full allotment” tender procedure and the refinancing operations with longer maturities were critical in meeting the demand for liquidity on the part of euro area banks, as markets virtually ceased to allocate liquidity, the unlimited supply of central bank funds meant that the ECB played a greater role as an intermediary between euro area financial institutions. This can be seen by the much larger amounts of liquidity taken up in refinancing operations and the increased use of the ECB’s deposit facility after the start of the global financial crisis (see Chart 6). As a result, money market activity declined substantially and the size of the Eurosystem’s balance sheet increased significantly.

In particular, after having expanded considerably in October 2008, the Eurosystem’s balance sheet increased further in June 2009 when the Eurosystem was confronted with an extraordinarily high level of demand (€442 billion) in its first one-year longer-term refinancing operation (LTRO).¹¹ This relatively large increase in the Eurosystem’s balance sheet

also reflected the fact that many more counterparties were taking part in refinancing operations and their numbers were increasing. Prior to the crisis around 360 financial institutions participated on average in each main refinancing operation.¹² Subsequently, in view of the limited access to interbank and securities markets, the number rose to more than 800 in the midst of the crisis. The broad list of counterparties eligible for Eurosystem refinancing operations was particularly helpful in containing concerns among market participants about a possible liquidity shortage during this acute phase of the crisis.

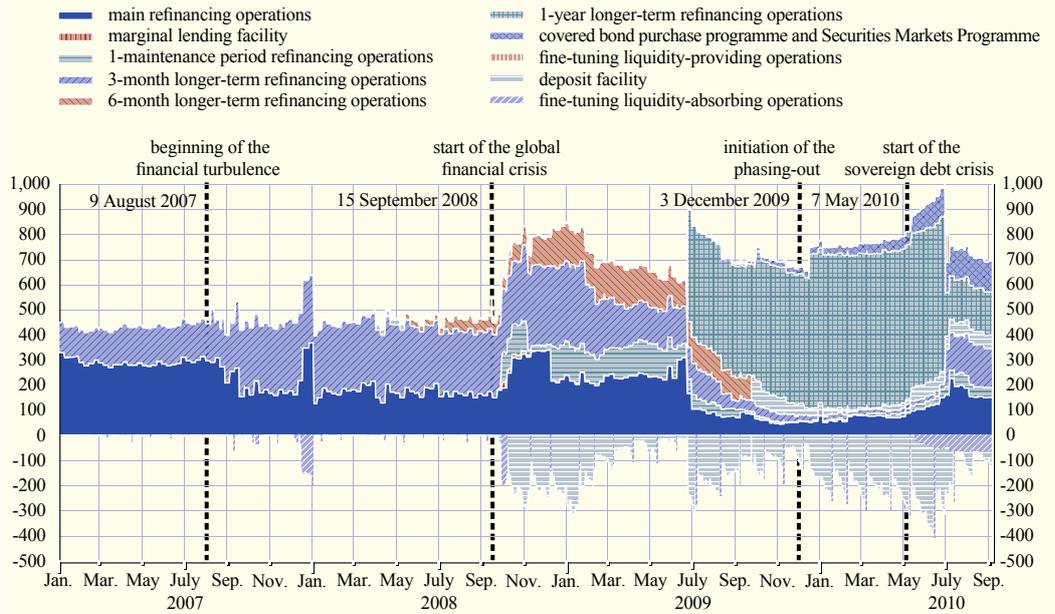
As a result of the decline in money market activity and the adoption of the “fixed rate full allotment” tender procedure in Eurosystem operations, banks demanded more liquidity than they needed to finance their daily transactions. Chart 7 shows how the increasing recourse to Eurosystem operations after the implementation of the changes to the operational framework in

¹¹ See also the article entitled “Recent developments in the balance sheets of the Eurosystem, the Federal Reserve System and the Bank of Japan”, *Monthly Bulletin*, ECB, October 2009.

¹² This figure corresponds to the average number of counterparties participating in the ECB’s main refinancing operations in the period from January 2005 to July 2007.

Chart 6 Provision and absorption of liquidity by the Eurosystem

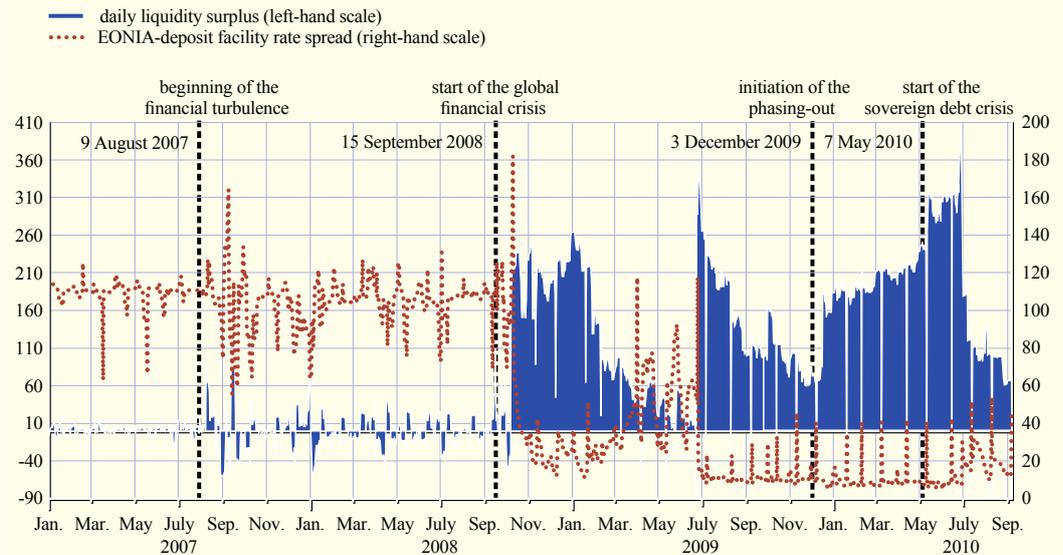
(EUR billions)



Source: ECB.

Chart 7 Daily liquidity surplus and the spread between the EONIA and the deposit facility rate

(EUR billions; basis points)



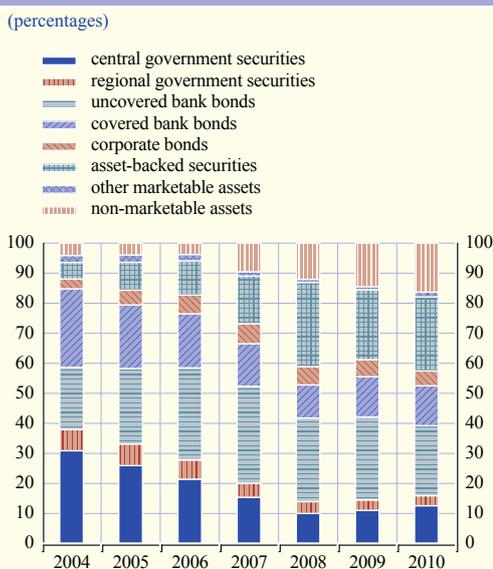
Source: ECB.

Note: The daily liquidity surplus is defined as total open market operations minus the sum of reserve requirements and autonomous factors (i.e. the sum of banknotes in circulation plus government deposits minus net foreign assets plus other factors).

October 2008 led to an abrupt rise in the liquidity surplus held by euro area banks. Banks did not use this additional liquidity for interbank lending, but deposited it back in the ECB's deposit facility, leading to a close convergence of the overnight interest rate in the money market (the EONIA) and the rate on the deposit facility.

Third, the list of eligible collateral accepted in Eurosystem refinancing operations was expanded, which allowed banks to use a larger share of their assets to obtain central bank liquidity. In contrast to many other central banks, the ECB had already accepted private securities as collateral prior to the crisis. This policy was strengthened during the crisis because in periods of stress private repurchase transactions can become highly sensitive to the degree of liquidity of the collateral. The ability to refinance illiquid assets through the central bank acts as an effective remedy to liquidity shortages emerging from a sudden halt in interbank lending. This applies, for instance, to asset-backed securities, for which the market collapsed after the Lehman Brothers default. The share of these assets in total assets deposited for use in Eurosystem refinancing operations increased

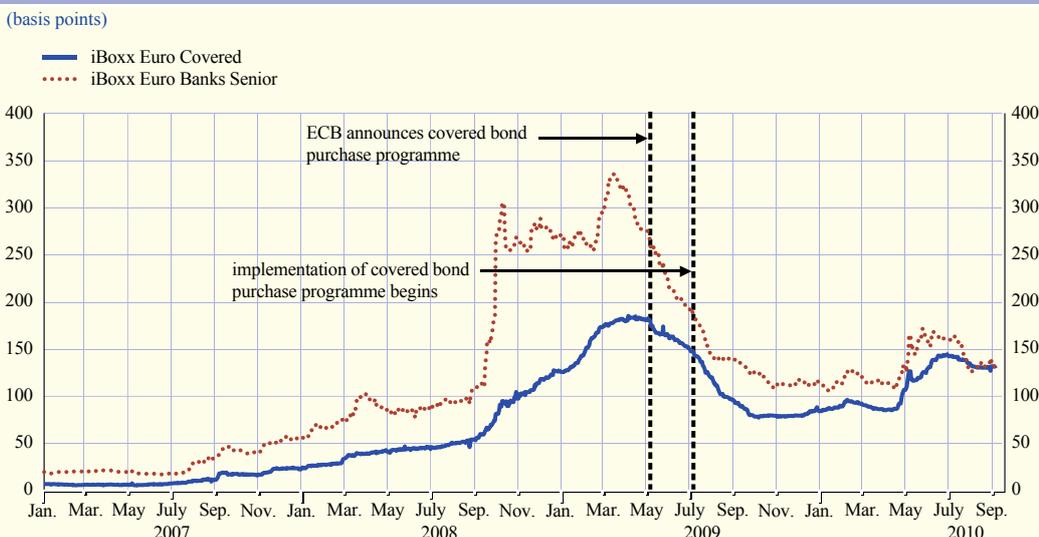
Chart 8 Assets deposited for use as collateral in Eurosystem credit operations



Source: ECB.
Notes: The figures refer to averages over the period. For 2010, the data refer to the first and second quarters.

substantially over the crisis period, while the share of government securities declined progressively until 2008 before rising slightly again in 2009 and 2010 (see Chart 8).

Chart 9 iBoxx spreads against swaps



Source: Markit.

Finally, the inception of the covered bond purchase programme (CBPP) on 6 July 2009 contributed to the revitalisation of the covered bond market and a decline in covered bond spreads, although they remained elevated compared with their levels in the period prior to the start of the crisis (see Chart 9). By 30 June 2010, when the programme was completed, 422 different bonds had been purchased, 27% of which in the primary market and 73% in the secondary market, for a total nominal amount of €60 billion.¹³ Some national markets saw a significant increase in the number of issuers and outstanding amounts, and thus a deepening and broadening of their covered bond markets. The Eurosystem mainly purchased covered bonds with maturities of three to seven years and intends to hold the bonds until maturity.

TEMPORARY IMPROVEMENTS IN FINANCIAL MARKET CONDITIONS

In the course of 2009 financial markets increasingly showed signs of stabilisation.

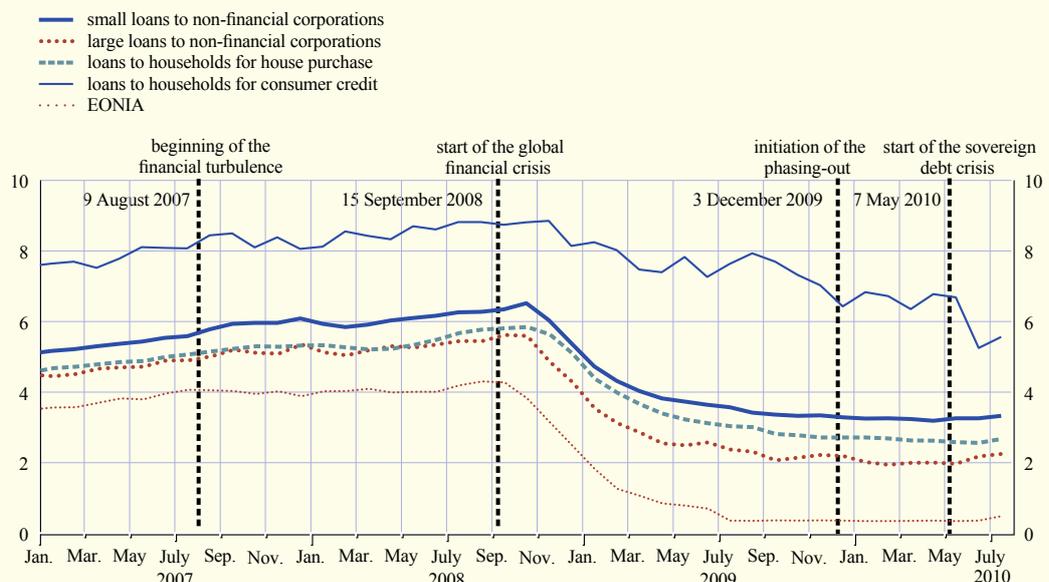
Money market spreads gradually declined (see Chart 2), while stock and bond markets revitalised. Bank lending rates also fell broadly in line with market rates, providing evidence that the implementation of the ECB's non-standard measures was effective in preserving the normal functioning of the monetary policy transmission mechanism (see Chart 10).

At the same time, the exceptional policy measures were successful in supporting the supply of credit to the real economy by alleviating funding pressures in the banking sector. The growth of loans to households picked up at the same time as economic activity rebounded. The growth of loans to non-financial corporations, which in July 2010 was still in negative territory, lagged this development in line with historical patterns. This sectoral difference may be explained by a pick-up in household demand for loans when house prices and interest rates decrease

¹³ See also the box entitled "Covered bond market developments and the covered bond purchase programme", *Monthly Bulletin*, ECB, August 2010.

Chart 10 Money market rate and short-term bank lending rates

(percentages per annum)



Sources: ECB and Reuters.

Notes: Small loans refer to loans with an issuance volume of less than €1 million, whereas large loans are loans over €1 million.

Chart 11 Loans to the private sector

(annual percentage changes; 3-month annualised growth rate)



Source: ECB.

and expectations of a recovery strengthen. Corporations, by contrast, usually prefer to use their internal funds first for financing before turning to bank financing.¹⁴

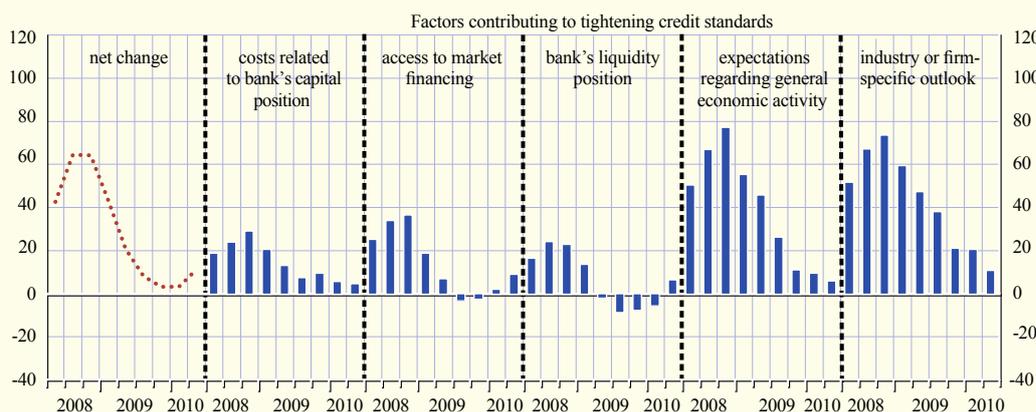
The supportive role of the ECB's enhanced credit support is also reflected in the results of the bank lending survey for the euro area. Chart 12 shows the net percentage of banks reporting a tightening of credit standards on loans to enterprises. Among various factors that could contribute to a tightening or loosening of credit standards, i.e. costs related to banks' capital position, access to market financing, banks' liquidity position, expectations regarding general economic activity, and the industry or firm-specific outlook, the latter two factors contributed most strongly to the initial tightening of standards. At the same time, the factors on which central banks can exercise most influence, i.e. the liquidity position of banks and their access to market funding, appear to have played only a minor role in the tightening of credit standards and have actually contributed to an easing of these standards in the second half of 2009 and the first quarter of 2010. Fears of a credit crunch, as sometimes voiced by external observers, have not materialised.

Given the improvements observed in financial markets in the course of 2009, the Governing Council of the ECB announced in December 2009 that those non-standard measures that were no longer needed would begin to be gradually phased out, in order to avoid the distortions associated with maintaining non-standard measures for too long or keeping interest rates at very low levels for a protracted period of time. For example, an overly accommodative monetary policy stance, supported by both standard and non-standard policy measures, could fuel excessive risk-taking by banks and households and limit incentives for the consolidation of public finances. Over a longer period of time, these effects can have adverse consequences for economic growth, the sustainability of asset price developments and, ultimately, the outlook for price stability. For these reasons, the Governing Council made it clear that the non-standard policy measures would be phased out once the underlying rationale had ceased to apply and the situation had normalised. The phasing-out has been facilitated by the

¹⁴ As well as these demand factors, supply considerations may also play a role: banks may be more willing to lend to households, as loans for house purchases are collateralised and can be easily funded through the issuance of covered bonds.

Chart 12 Changes in credit standards applied to the approval of loans or credit lines to enterprises

(net percentages of banks reporting tightening standards)



Source: Bank lending survey for the euro area.

Notes: The data refer to the period from the second quarter of 2008 to the second quarter of 2010. The net percentage is the difference between the sum of the percentages of banks reporting “tightened considerably” and “tightened somewhat” and the sum of the percentages reporting “eased somewhat” and “eased considerably”. The net percentages for the survey questions related to the factors are defined as the difference between the percentage of banks reporting that a given factor contributed to a tightening and those reporting that it contributed to an easing.

fact that most operations carried out in the context of the non-standard measures have been conducted as repurchase transactions (and swap transactions in the case of foreign exchange operations), which can easily be terminated by not renewing them upon maturity.

More concretely, the Eurosystem decided in December 2009 that the LTRO in that month would be the last one with a twelve-month maturity, that only one more six-month LTRO would be conducted (in March 2010), and that the supplementary three-month LTROs would be discontinued. Moreover, in March 2010 it was decided to return to a variable rate tender procedure in the three-month LTROs. Finally, in coordination with other central banks, the ECB terminated the provision of non-euro funding. At the same time, other elements of the ECB’s enhanced credit support were continued.

THE SOVEREIGN DEBT CRISIS

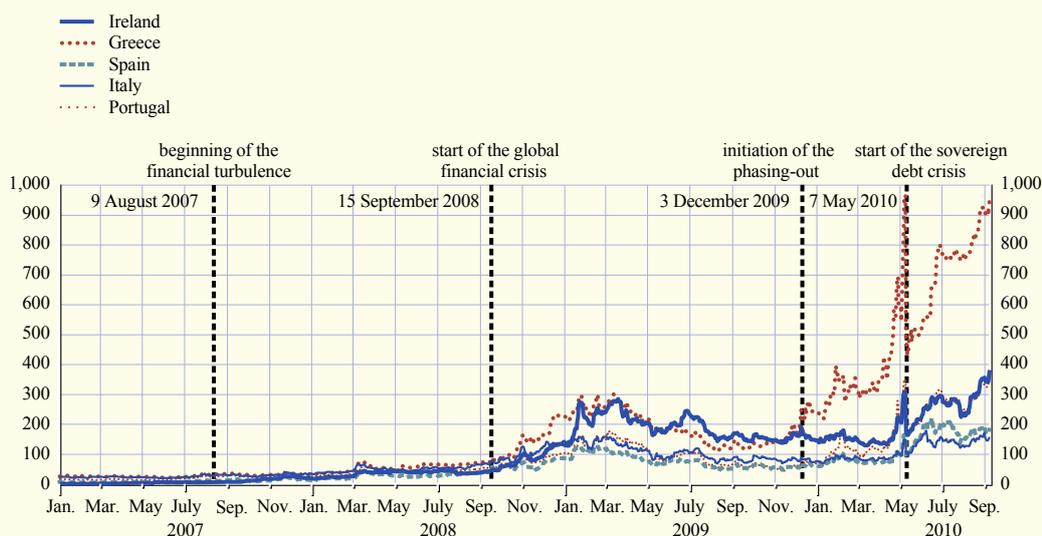
In early 2010 tensions re-emerged in some segments of the financial markets, in particular in the euro area government bond markets.

Spreads between ten-year government bonds of some euro area countries relative to German bonds started to increase (see Chart 13), mainly as a result of increasing market concerns about the sustainability of public finances in view of rising government deficits and debt. These concerns were such that some secondary markets dried up. The widening of spreads accelerated in April and early May 2010. On 6 and 7 May government bond spreads in the euro area reached record highs, leading euro area governments on 9 and 10 May 2010 to announce a comprehensive package of measures, including the European Financial Stability Facility.

On 10 May the ECB announced the launch of the Securities Markets Programme. This is the third element in the ECB’s response to the crisis, the other two being the series of interest rate reductions and the enhanced credit support measures. Under the programme, Eurosystem interventions can be carried out in the euro area public and private debt securities markets to ensure depth and liquidity in dysfunctional market segments and to restore the proper functioning of the monetary policy transmission

Chart 13 Ten-year government bond spreads for selected euro area countries vis-à-vis the German Bund

(basis points)



Source: Bloomberg.

mechanism.¹⁵ In line with the provisions of the Treaty on the Functioning of the European Union, Eurosystem purchases of government bonds are strictly limited to secondary markets. To ensure that liquidity conditions will not be affected, all purchases are fully sterilised by conducting liquidity-absorbing operations (see Chart 6).¹⁶

In addition, the ECB reintroduced some of the non-standard measures that had been withdrawn earlier, in order to avoid spillovers from domestic sovereign bond markets to other financial markets. In particular, the Eurosystem reintroduced the fixed rate tender procedure with full allotment in the regular three-month LTROs for the period starting at the end of May and a new six-month refinancing operation with full allotment was conducted. The temporary liquidity swap lines with the Federal Reserve System were also resumed.

Following the announcements by euro area governments and by the ECB on 9 and 10 May 2010, tensions in financial markets initially abated, before spreads started widening again in a number of countries (see Chart 13).

4 CONCLUSIONS

The financial market tensions that started in August 2007 have called for exceptional actions on the part of policy-makers worldwide. Central banks, in particular, have faced unprecedented challenges. The ECB, for its part, has demonstrated its capacity to react swiftly, flexibly and decisively to these developments. During the initial period of turmoil the ECB was quick to adjust the provision of liquidity to the banking sector. Moreover, it did not hesitate to reduce interest rates to historically low levels and to implement a broad set of non-standard measures after the intensification of the crisis in the autumn of 2008, fully in line with its primary mandate of maintaining price stability

¹⁵ See Section 2 of this article for a description of the role of sovereign bond markets in the monetary policy transmission process.

¹⁶ In the sterilisation operation of 29 June 2010 the ECB received bids for €31.8 billion in one-week deposits – less than the €55 billion corresponding to the amount of purchases under the Securities Markets Programme that was settled by Friday, 25 June 2010. The exceptional underbidding took place amid heightened financial market volatility and was due to special factors, in particular the maturing of the one-year refinancing operation on 1 July when €442 billion needed to be repaid.

over the medium term in the euro area. The purpose of these non-standard measures was to support the transmission mechanism of monetary policy in a context of dysfunctional markets.

Overall, the ECB's response helped to sustain financial intermediation in the euro area by safeguarding the refinancing of solvent banks and restoring confidence among financial market participants. In turn, this success in preserving the viability of the banking system and important segments of the financial markets has been instrumental in maintaining the availability of credit for households and companies at accessible rates and, ultimately, in maintaining price stability.

Looking ahead, the ECB will continue to closely monitor economic and financial developments. The non-standard monetary policy measures that were taken by the ECB in response to acute financial market tensions, and that are temporary in nature, will be gradually phased out in line with improvements in financial markets and economic activity.