

# **State of the Union: The Financial Crisis and the ECB's Response between 2007 and 2009\***

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## **Introduction**

In the global financial turmoil that started in 2007 and erupted into a financial crisis in 2008, the European Central Bank (ECB) has confirmed its capacity to take bold action to foster financing conditions and enhance its credit support to the euro area economy, while remaining fully aligned with its primary mandate of safeguarding medium-term price stability. The ECB has also been co-operating closely with other central banks worldwide: the network of global central bank co-operation has been as dense as the integration in the global financial system itself.

This article reviews and explains in detail how both the ECB and the Eurosystem – the latter comprising the ECB and the 16 national central banks of the euro area countries – responded to the financial tensions in 2007 and the intensification of the crisis in 2008 and 2009. In this sense, the article is backward looking. The cut-off date for data used in this article is February 2010. More recent developments are not covered, in particular, the adjustment programme for Greece negotiated by the International Monetary Fund and the European Commission, in liaison with the ECB, and the Securities Markets Programme, which was adopted by the ECB in response to severe tensions in some segments of the debt securities market in early May 2010.

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For the purpose of this article, it is useful to distinguish between three periods, each with specific challenges:

1. the period of *financial turmoil*, which started on 9 August 2007;
2. the period of the full-blown *financial crisis*, which set in on 15 September 2008;
3. the period marked by the first steps in the gradual *phasing-out of non-standard measures* towards the end of 2009.

Obviously, the considerations on the third phase can only be tentative, as in February 2010 this phase was ongoing and the economic and financial environment remains characterized by a continued high degree of uncertainty.

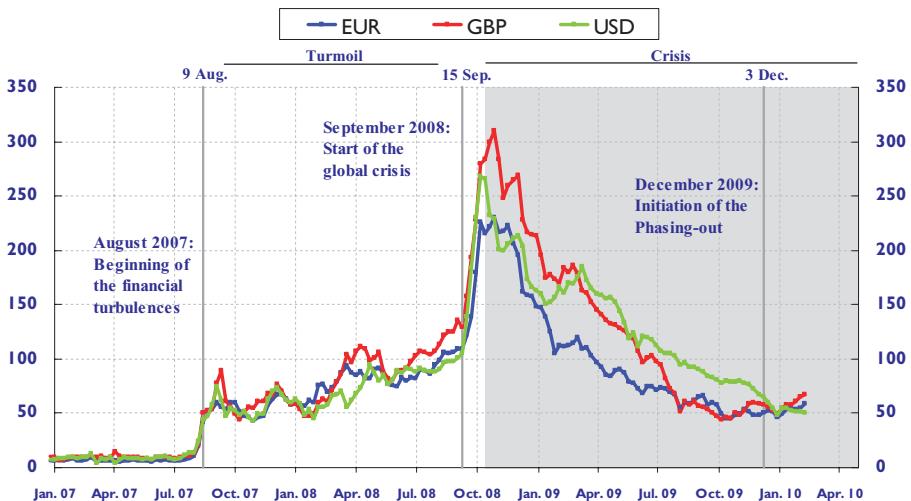
## I. The Financial Turmoil Starting on 9 August 2007

For the European Central Bank the global financial turmoil started on a precise date: 9 August 2007. On this day, severe tensions made themselves felt in the interbank market. Confidence evaporated and trading became seriously impaired. Short-term money market rates, such as the euro overnight index average (EONIA), and spreads surged significantly, both in the euro area and in other major economies, such as the United Kingdom and the United States (see Figure 1). Had it been left unaddressed, this situation would have caused a systemic liquidity threat to the financial system as a whole. The situation brought to the fore the underlying imbalances and severe weaknesses in the financial system that had been building up for some time. There were two main factors behind these developments: massive external and domestic imbalances worldwide, both in the real economy and financial systems, and the very rapid emergence of insufficiently regulated and supervised financial instruments, financial markets and non-bank financial entities. The complexity of new financial products had made it increasingly difficult to rate properly the risks contained in financial innovations, especially when distorted by bad risk management, adverse incentives and moral hazard. As long ago as in 2006 and early 2007, the BIS, the ECB and other central banks had, on a number of occasions, warned financial market participants to prepare themselves for a general reassessment and re-pricing of risk.<sup>1</sup>

The ECB's response to these unfavourable developments was bold and fast. On 9 August 2007 it provided €95 billion of overnight credit, against collateral, to euro area banks at the then prevailing main refinancing rate. This operation, which was the first of four very large overnight fine-tuning

<sup>1</sup> See, for instance, the front-page article in the *Financial Times* of 29 January 2007, which reported: 'Trichet warns markets of a re-pricing of risks'.

Figure 1: Money Market Spreads in the Euro Area, United Kingdom and United States  
(*in basis points*)



*Notes:* Spreads are the difference between the 12-month unsecured Euribor/Libor and secured Overnight Index Swap rates and are commonly used as measures of market perceptions of potential insolvency of counterparties, i.e. the higher the spread, the greater the risk of default by a counterparty. The shaded area refers to the period when the ECB conducted its operations by means of a fixed rate tender procedure with full allotment. Data are given as weekly averages.

*Sources:* Bloomberg and ECB calculations.

operations, was conducted at a fixed rate and the entire demand was accommodated, prefiguring what the ECB would do one year later.<sup>2</sup> As a result, tensions in the short-term segment of the euro area money market abated to a significant extent.<sup>3</sup>

In the following months the ECB lengthened the average maturity of its liquidity provision through the adoption of supplementary refinancing operations with maturities of three and six months. It also began to provide US dollar liquidity against euro-denominated collateral, on the basis of a swap agreement with the US Federal Reserve System. The ECB borrowed US dollars from the Federal Reserve and passed them on to the banking sector, at conditions agreed with the Federal Reserve, thus addressing a potential US dollar liquidity shortage in Europe resulting from a less than fully

<sup>2</sup> See Mercier (2009) for an account of the Eurosystem's liquidity management during the initial 18 months of the crisis.

<sup>3</sup> This liquidity injection did not, however, change the overall amount provided during the maintenance period, as the ECB provided larger amounts of credit at the beginning of each reserve maintenance period and smaller amounts of credit at the end (a procedure known as 'frontloading'). See also Trichet (2009a,b).

functioning transatlantic interbank market. Moreover, the ECB conducted special tender procedures at the end of 2007 to counter the major funding concerns of banks over the year-end period.

Two features of the ECB's response during the financial turmoil stand out:

- First, all measures were taken within the existing operational framework of the Eurosystem. This framework proved sufficiently flexible and robust to align short-term money market rates with the ECB's main refinancing rate. In this respect, the relatively broad collateral framework and the large list of counterparties in the main refinancing operations were particularly helpful. These favourable elements reflect the diversity of the national frameworks that had prevailed in the euro area countries before EMU;
- Second, the monetary policy operations kept the short-term money market interest rates in line with the level determined by monetary policy decisions.

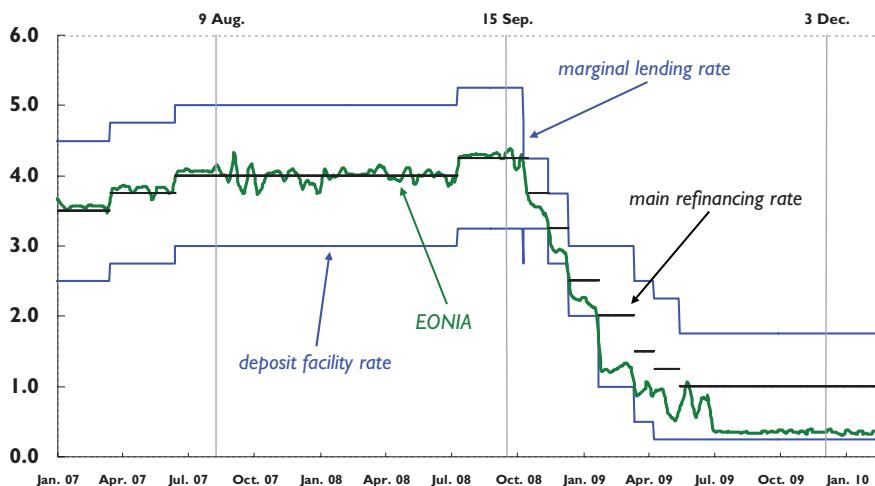
In the event, the EONIA remained very close to the main refinancing rate. Still, volatility in money market rates remained significantly higher than before August 2007, and money market spreads at longer maturities also remained elevated. Hence, we were a long way from a return to normality.

## **II. The Crisis Period From 15 September 2008 to 3 December 2009**

On 15 September 2008 the collapse of a major US financial institution transformed a large-scale crisis of confidence in the financial markets of the advanced economies into a global financial and economic crisis. Information asymmetries, together with heightened liquidity and counterparty risks, became overwhelming. This led to a virtual breakdown of the money market, with spreads soaring to abnormally high levels both inside and outside the euro area (see Figure 1). Financial intermediaries tried to restore liquidity buffers, shedding risk and tightening lending conditions. This resulted in large-scale 'deleveraging'. Credit spreads surged and financial activity in a large number of financial markets collapsed. This severe intensification of financial market tensions was accompanied by a free fall in global trade and a rapid and synchronized deterioration of economic conditions in most major economies of the world.

In response to these developments, central banks around the globe took prompt and resolute action. In a co-ordinated move, both exceptional and historic in nature, the Bank of Canada, the Bank of England, the ECB, the Federal Reserve System, Sveriges Riksbank and the Swiss National Bank announced reductions in policy interest rates on 8 October 2008. On this occasion, the ECB lowered its key rates by 50 basis points (see Figure 2),

Figure 2: ECB Interest Rates and Money Market Rates  
(percentages per annum)



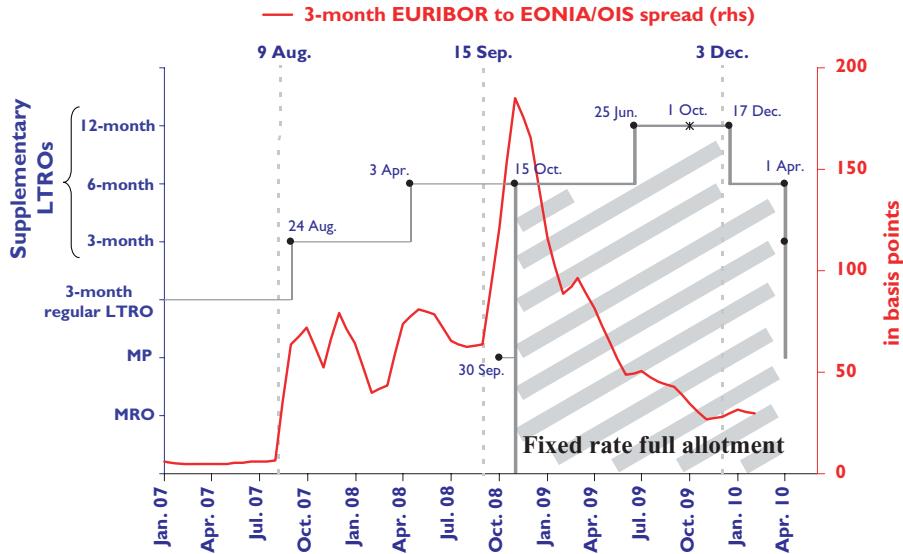
*Notes:* In addition, the Governing Council of the ECB reduced the interest rate on the deposit facility by 50 basis points on 8 October 2008 and narrowed the corridor of standing facilities by 100 basis points around the interest rate on the main refinancing operation on 9 October 2008. The EONIA rate is given in weekly averages.

Source: ECB.

taking into account subdued inflationary pressures in a context where the intensification of the financial crisis had weakened the economic outlook and significantly diminished upside risks to price stability. In the following months, further rate cuts followed. Overall, between October 2008 and May 2009, i.e. within a period of only seven months, the main refinancing rate of the Eurosystem was reduced by 325 basis points to 1 per cent, a level not seen in the countries of the euro area in recent history.

At the same time, the functioning of the financial system – in particular the money market – was severely hampered, and the transmission of the substantially reduced key ECB interest rates to money market and bank lending rates impaired (ECB, 2009). Dysfunctional money markets had weakened the ability of monetary policy to influence the outlook for price stability by interest rate decisions alone (ECB, 2010). Therefore, to bring the spreads down and ensure a proper transmission of monetary policy impulses, the Governing Council adopted a number of non-standard measures and allowed the EONIA rate to be positioned closer to the deposit rate. In fact, during the 2008/2009 crisis, the deposit facility rate played a more prominent role as regards the dynamics of the EONIA rate and very short-term money market rates than in normal times.

Figure 3: Phasing-In/Out of the Eurosystem's Enhanced Credit Support



*Notes:* Left-hand scale: the thick line represents the domain of the fixed rate full allotment across operations of various maturities and over time. The thin line represents the maximum maturity of the operations. The dots represent the introduction/phasing-out of the various operations. Right-hand scale: 3-month EURIBOR–EONIA swap spread.

Sources: Bloomberg and ECB.

These non-standard measures were tailored to the specific financial structure of the euro area, in which banks are the primary source of credit to the economy. In the euro area a much larger share of corporate financing is provided by banks (whereas the financing structure in the United States is such that a larger share of financing is market-based). Thus, banks play a pivotal role in the transmission of monetary policy to the economy of the euro area. What we have called the ECB's 'enhanced credit support' comprises the following key measures:

- First, since October 2008 the Eurosystem has been providing unlimited central bank liquidity to euro area banks at a fixed rate (i.e. the main refinancing rate) and against adequate collateral in all refinancing operations (see Figure 3). The primary aim of these non-standard measures is to support the short-term funding of banks in order to alleviate the potential negative impact of liquidity risk on the availability of credit to households and companies across the euro area economy;
- Second, the list of assets accepted for use as collateral has been extended until the end of 2010 (Cheun *et al.*, 2009). This measure has enhanced

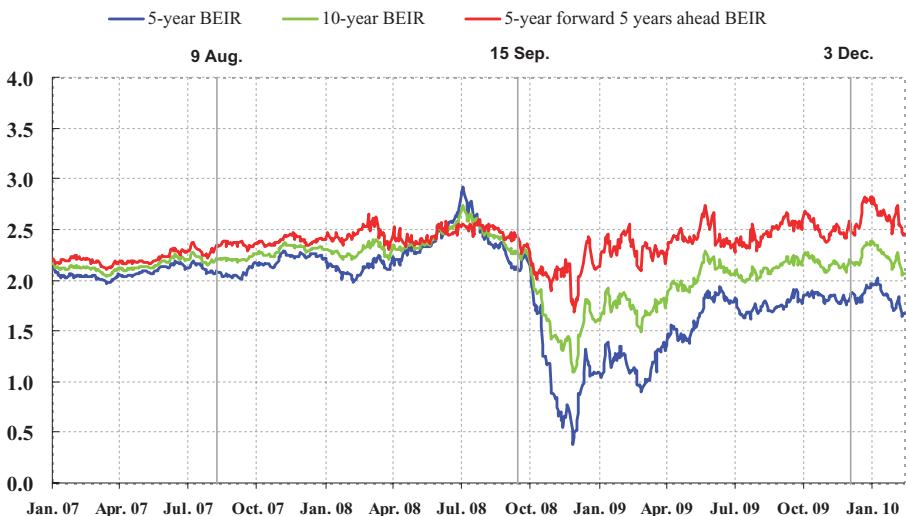
banks' access to liquidity during the crisis. In particular, it has allowed many banks to refinance a larger share of their balance sheet with the Eurosystem;

- Third, the Eurosystem provided liquidity for longer periods. Specifically, it lengthened the maximum maturity of refinancing operations to up to one year. These longer-term refinancing operations (LTROs) have extended banks' liquidity into the traditionally less liquid segment of the money market, thus prolonging the rollover date and reducing the refinancing requirements of banks in the short term;<sup>4</sup>
- Fourth, in order to address euro area banks' needs to fund their US dollar assets, the Eurosystem has continued to provide liquidity in foreign currencies, most notably in US dollars. In addition, the ECB agreed with the central banks of several European countries outside the euro area to improve the provision of euro liquidity to their banking sectors. This measure has been particularly valuable in supporting banks faced with a massive shortfall in US dollar funding in the aftermath of mid-September 2008;
- Finally, in order to support the long-term refinancing operations of the financial sector, in May 2009 the ECB initiated a measured, but significant, programme to purchase euro-denominated covered bonds issued in the euro area. Such covered bonds – known as ‘Pfandbriefe’ in Germany, ‘obligations foncières’ in France and ‘cédulas’ in Spain – are long-term debt securities that are issued by banks to refinance loans to the public and private sectors, often in connection with real estate transactions. The covered bond market represents a major source of funding for banks in large parts of the euro area. This market nearly collapsed when the financial crisis intensified. The total sum allocated to the programme (€60 billion) represents around 2.5 per cent of the total outstanding amount of covered bonds at the end of 2008 (according to the European Covered Bond Council), a sum which may appear relatively modest. In fact, the covered bond market is the largest and most active segment of the fixed income market in the euro area – even exceeding the corporate bond market – with the exception of the public sector bond market.

The response of the ECB has been particularly effective, as inflation expectations in the euro area have remained broadly stable (see Figure 4). The impact on money markets of the ECB's decisive, yet steady-handed, interest rate cuts has led to a corresponding decline in nominal and real yields at two and three-year maturities (see Figure 5). This reflects, in part, private

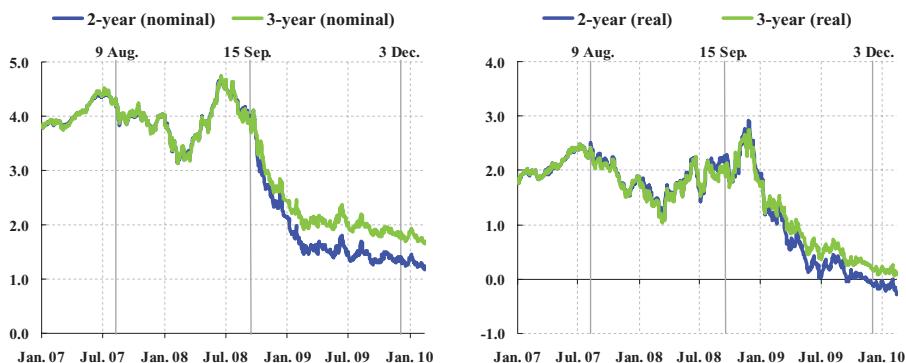
<sup>4</sup> The outstanding amount of LTROs increased from €150 billion in June 2007 to over €600 billion by the end of 2008. Over the same period, the total amount of outstanding liquidity almost doubled, peaking at €857 billion on 2 January 2009, more than 9 per cent of euro area GDP and nearly 4 per cent of total euro area MFI financial assets.

Figure 4: Break-Even Inflation Rates (BEIRs)  
(percentages per annum; daily data)



Source: ECB.

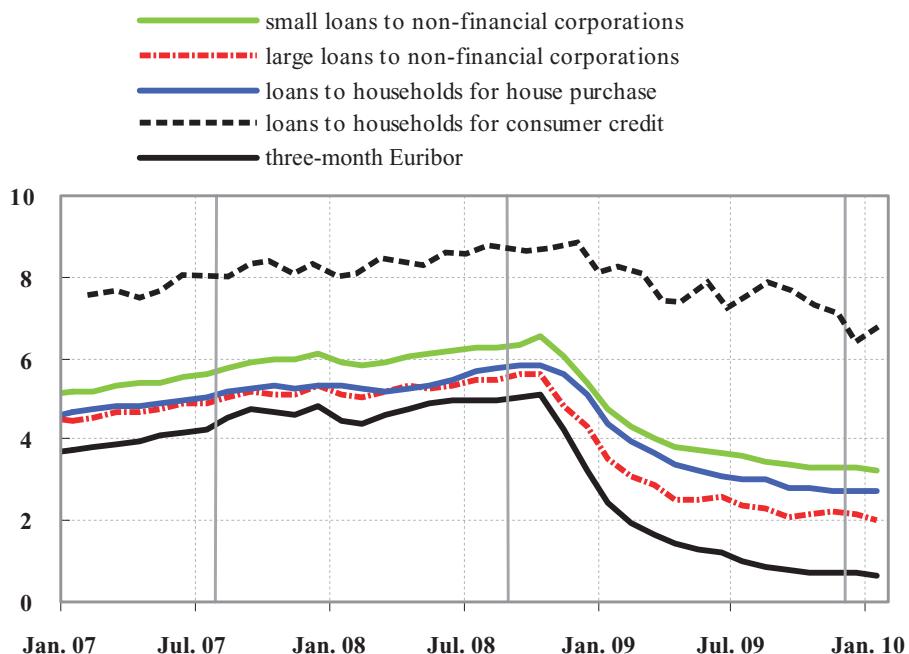
Figure 5: 2-Year and 3-Year Bond Yields: Nominal and Real  
(percentages per annum; daily data)



Notes: Nominal yields are based on the triple A euro area yield curve, published by the ECB. Real yields are based on index-linked government bonds.

Sources: MTS and ECB.

Figure 6: MFI Interest Rates on Short-Term Loans  
(percentages per annum)



Sources: ECB and Reuters. Last observations: January 2010.

expectations of continued low policy rates for some time to come. At the same time, expectations regarding euro area inflation remained well anchored in line with price stability. By implication, real rates at such maturities fell substantially, pointing to significant monetary easing in the euro area.

Moreover, the Eurosystem's exceptional policy measures supported the flow of credit to the economy through both demand factors (owing to the very low level of interest rates) and supply factors (notably by alleviating funding pressures in the banking sector). Providing central bank liquidity to banks in unlimited amounts at a fixed rate exerted significant downward pressure on money market rates, as it ensured that banks had broad and deep access to liquidity, thereby increasing their ability to lend to the real economy and placing downward pressure on bank lending rates. Consequently, interest rates on short-term loans declined steadily (see Figure 6). Likewise, overall financial market volatility decreased substantially.

At the same time, the purchase of covered bonds by the ECB has contributed to the revitalisation of the covered bond market and to the decline of covered bond spreads.<sup>5</sup>

Equally importantly, the Eurosystem's non-standard measures have bought time for banks in the process of deleveraging and building up of capital buffers. These processes should help banks in the euro area to restart loan growth as early as possible under the circumstances.

### **III. A Gradual Phasing-Out Initiated on 3 December 2009**

Without the ECB's non-standard measures in response to the crisis, a breakdown in money markets would have occurred. The refinancing of many bank assets might have been impeded, risking a massive and disorderly deleveraging by credit institutions. This might have altogether frozen the bank-lending channel, rendering the ECB's monetary policy ineffective. Such a breakdown, had it been protracted, would have turned the financial crisis into a profound and long-lasting economic depression.

The ECB's extraordinary policy measures have been a response to extraordinary circumstances. From the start, the Governing Council emphasized that these measures would not be maintained forever and that they would have to be gradually phased out once the underlying rationale had faded away and the situation had normalized.

Continued very abundant liquidity in an environment of accommodative interest rates may ultimately lead to excessive risk-taking and a misallocation of resources. This, in turn, may have adverse effects on economic growth and the sustainability of asset price developments. The 2008/2009 crisis has graphically illustrated the fact that the economic fallout from bursting bubbles can be considerable. At the same time, gradualism is warranted in phasing out non-standard measures, given the continued high uncertainty surrounding the overall financial market situation.

In summer 2009 the ECB announced the overall framework that would guide its exit considerations, which was based, in particular, on the following key elements (Trichet, 2009d):

- First, the ECB's exit strategy is embedded in its monetary policy strategy, with a focus on the medium term. This is essential for fulfilling the ECB's mandate to maintain price stability in the euro area. Accordingly,

<sup>5</sup> Preliminary empirical analysis suggests that, when comparing covered bond yields with a risk-free benchmark, it appears that German covered bond spreads have declined to below pre-2008 levels, whereas covered bond spreads in other euro area countries have reached their pre-Lehman levels.

in order to counter any threat to price stability over the medium term, the liquidity provided will be absorbed when necessary. At the same time, in the absence of such risk, non-standard measures could be maintained to the extent that they are needed in order to support the flow of credit to the economy;

- Second, the ECB has designed its non-standard measures with exit considerations in mind: in fact, with the exception of the covered bond purchase programme – which is itself relatively modest in scope – all operations are repo transactions, i.e. the liquidity is provided in exchange for collateral and for a defined period. This allows a relatively easy and ‘natural’ phasing-out of a number of measures upon maturity, once the overall situation has normalized, unless there are good reasons to extend them. In addition, outright purchases for which an exit would require either unwinding or offsetting operations have indeed been carefully calibrated, whereby the offsetting operations fully reabsorb the additional liquidity provided through purchase operations;
- Third, with its operational framework the Eurosystem is well equipped to facilitate the unwinding of non-standard measures when the need arises. In particular, the framework permits short-term interest rates to be changed, while keeping some non-standard measures in place, should continued credit support be needed. Additionally, given its independent status, the ECB can carry out any action it deems necessary to deliver on its mandate to maintain price stability in line with the Treaty on the functioning of the European Union.

It is against this background that the Governing Council, on 3 December 2009, announced that it was initiating a gradual phasing-out of those non-standard measures that were not needed to the same extent as in the past. At the same time, the Governing Council made clear that the ECB’s enhanced credit support to the banking system would be continued, while taking into account financial market conditions and avoiding distortions associated with maintaining non-standard measures for too long.

With the benefit of hindsight, the first steps in the phasing-out of non-standard measures were announced at a time of improving financial market conditions. This picture changed in the first few months of 2010, when developments related to Greece accelerated and severe tensions in certain segments of the financial markets emerged abruptly in early May. To address these issues, the Greek authorities negotiated an economic and financial adjustment programme with the International Monetary Fund and the European Commission, in liaison with the ECB. As already indicated, these more recent developments are not discussed in this article.

#### IV. Some Lessons from the Crisis in 2008/2009

As of February 2010, the euro area economy, having avoided a depression and having displayed modest growth since the third quarter of 2009, is projected to post moderate growth in 2010. At the same time, the international environment is still uncertain and could present new challenges in the period ahead. The ECB stands ready to act within a posture of credible alertness.

The 2008/2009 crisis has clearly demonstrated the absolute necessity to reform financial regulation and supervision in such a way that market participants' incentives are aligned with the risks that they take. It must be clear that whoever acts bears both the risk and the consequences. This crisis has also shown that we have to work very intensively on the issue of systemic risks at the level of the global financial system. Systemic risk is the threat that developments in the financial system can cause a seizing-up or breakdown of this system and trigger massive damages to the real economy.<sup>6</sup> Such developments can stem from the failure of large and interconnected institutions, from endogenous imbalances that accumulate over time, or from a sizeable unexpected event. A seizing-up of the financial system – or large parts of it – is what we experienced in September 2008, triggering an economic free fall, a surge in unemployment and a massive increase in public debt.

The 2008/2009 crisis has also demonstrated that price stability is a necessary though insufficient precondition for financial stability. At the same time, financial stability helps a central bank to foster price stability by ensuring an orderly functioning of the transmission mechanism. In this respect, regular in-depth analysis of developments in monetary and credit aggregates and their interaction with financial trends is essential. In particular, by giving importance to money and credit developments in its two-pillar monetary policy strategy, the ECB's monetary analysis has proven invaluable in difficult times. It has provided a channel through which elements pertaining to possible risks to financial stability can be taken into account. In particular, our monetary pillar serves not only to detect risks to price stability but also to detect cases in which excessive money and credit growth may lead to risks of asset price misalignments. Once such misalignments reverse, this can pose serious risks to price stability and the economy<sup>7</sup>.

The ECB and the Eurosystem, which responded decisively to the financial crisis, can be counted on to remain a reliable anchor of stability and confidence.

<sup>6</sup> For a detailed discussion of this concept, see Trichet, 2009e.

<sup>7</sup> See also Stark, 2008; Papademos, 2009; Trichet, 2009c. For more information on the new areas of research that we are pursuing in this regard, see Alessi and Detken, 2009; De Santis *et al.*, 2008; Gerdesmeier *et al.*, 2009; Moutot and Vitale, 2009.

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