



The current global financial crisis and related European Central Bank procedures

Miroslava Kochanová
European Central Bank

Almost two past years mirrored a very hectic period for the financial markets. The financial crisis, which spread from the US mortgage crisis to the rest of the world, has required non-standard interventions of the world's major central banks. For the European Central Bank, this has been the first test of unity and readiness to intervene in difficult situations. The following article describes the individual steps taken by the ECB in order to stabilize the situation in the European financial market.

The first problems in the US financial market occurred in early 2007. At that time, indicators representing housing equities in the USA started to decrease significantly. Initially, the problems did not seem to be serious. The situation deteriorated in June 2007 when the American investment bank Bear Stearns announced that its two mortgages backed funds either have little or no capital. The amount of problems started to grow gradually when some of the US mortgage institutions shut down their branches, some investment funds holding asset backed securities suspended withdrawals, some commercial banks admitted that they would incur losses related to the American mortgage market and a large number of hedge funds reported high losses. The investors' risk aversion became visible not only in the mortgage markets, but it also spread to the other segments of the financial market. Investors left speculative carry-trade¹ positions, which had been a favorite instrument to invest one's funds. As a result, higher yielding currencies, particularly the currencies of the so-called emerging markets, depreciated and the Japanese yen, which was the one of the most preferred funding currencies in carry trade transactions, appreciated considerably. The prices of shares especially of financial companies decreased significantly, while the investor's interest moved to risk-free government bonds. The extremely stressed period also affected the global money market, including the European money market. Trading on the interbank money market with longer maturities froze completely.

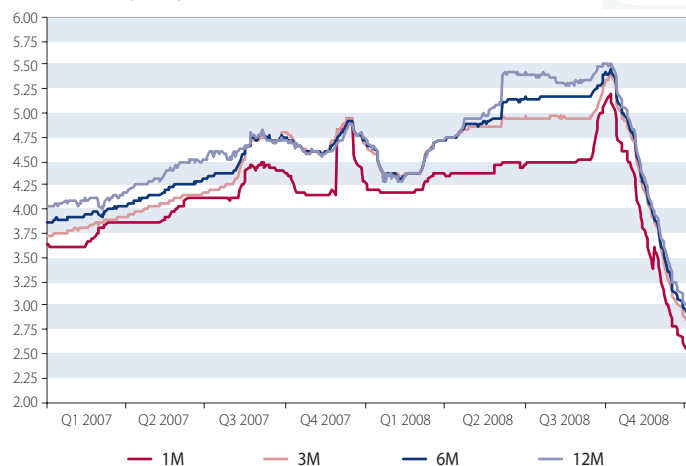
THE FIRST PHASE OF FINANCIAL TURBULENCES

The pressure bubble on the euro money market burst on 9 August 2007 as the BNP Paribas' announced that it halted redemptions from its investment funds. A lack of USD liquidity emerged in the global market, spreading also to the GBP and CHF money markets. Liquidity also froze in

the European money market as banks that had a sufficient amount of EUR were not able to lend those funds in the hope that they would be able to obtain USD for them by means of a swap transaction. Immediately afterwards, banks were totally unwilling to lend funds to each other even for short maturities and trading in the interbank money market came to a total standstill. Benchmark interest rates for unsecured deposits – the Euribor/Libor² – soared reflecting the banks' reluctance to intermediate liquidity among each other (see Chart 1 and 2). At the same time, the spread between Euribor rates for unsecured deposits and swap rates (see Chart 3) representing minimum or zero risk, visibly increased. For example, the spread between the 3-month Euribor and the OIS³ went up from 5 basis points to 70 basis points in September. The widened spreads between the rates on unsecured and secured deposits (because the repo rates are usually close to the swap rates) represents both the increased risk

- ¹ Carry trade are transactions, in which investors get a „loan“ in a lower yielding currency and swap it into the higher yielding currency.
- ² Euribor – Euro Interbank Offered Rate – is the rate at which euro interbank term deposits are offered within the euro zone (see www.euribor.org). Libor – is the rate at which interbank term deposits in other major currencies are offered in the Europe (see www.bba.org.uk).
- ³ OIS – overnight index swap, in the case of the Euroarea the Eonia index swap, see www.eoniaswap.org for details.

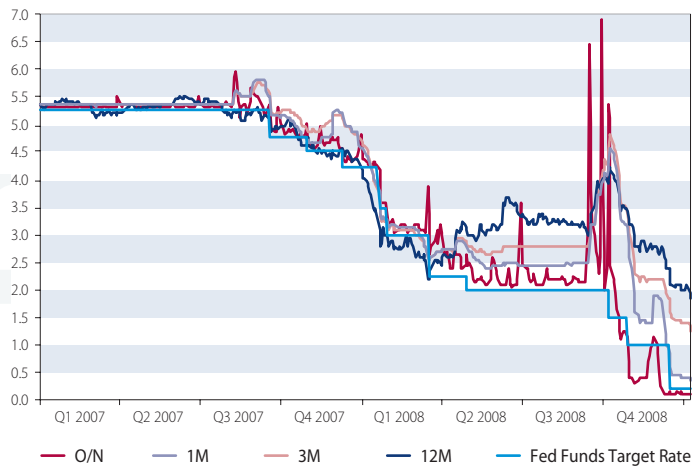
Chart 1 Euro money market interest rate for unsecured lending – EURIBOR (in %)



Source: www.euribor.org.

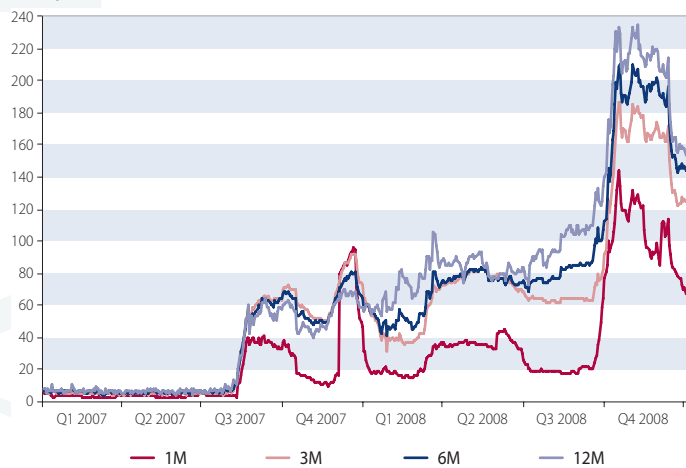


Chart 2 Money market interest rate for unsecured lending in USD in Europe – LIBOR (in %)



Source: www.bba.org.uk, www.federalreserve.gov.

Chart 3 Euro money market spreads between EURIBOR and OIS (in bps)



Source: www.euribor.org, www.eoniaswap.org.

4 For the structure of ECB monetary policy instruments see: The implementation of monetary policy in the euro area: general documentation on the Eurosystem monetary policy instruments and procedures. November 2008 available at www.ecb.europa.eu.

5 Until then, the standard and most frequently used monetary policy instruments included one-week main refinancing operations (MRO) conducted once a week, three-month long-term refinancing operations (LTRO) conducted once a month and one-day fine-tuning operations (FTO) usually conducted in the last day of the period for the reserve maintenance period.

6 Marginal rate – the rate, at which the last demand is satisfied. To be successful in the refinancing tender, banks were willing to pay high interest, which shifted the marginal rate up. This, however, put at a disadvantage small banks, which could not afford to offer an inadequately high rate as compared to big and string competitor.

of banks to lend to counterparties and the higher liquidity preference.

Reacting on the financial market turbulences, the European Central Bank (ECB)⁴ immediately intervened in the money market and provided banks with liquidity via overnight fine-tuning operations. In the following standard one-week refinancing operations, the ECB provided a volume exceeding its strict benchmark for further market support. To maintain the Eonia close to its key rate, the ECB conducted non-standard liquidity absorbing quick tender to withdraw the excess of liquidity. On 22 August 2007, the ECB launched for the first time the supplementary long-term refinancing operation⁵ to its previously firm structure of instruments.

Despite the ample liquidity injected by the ECB to the banking sector, mood of distrust and reluctance to borrow from each other continued to prevail among banks. Market participants came with aggressive demand to the refinancing operations of the Eurosystem, resulting in a consider-

able increase in the marginal rate⁶. In October, the ECB announced that it would continue to provide liquidity above its strict benchmark and would continue to absorb excess liquidity to meet its operational target of stability of the overnight rate close to the key rate. The steps of the European Central Bank had a positive impact on the European money market, reflected in a slight decrease in the market rates and spreads between the prices of secured and unsecured deposits, indicating an improvement of the market conditions.

THE END OF 2008 PERIOD

However, the end-of-the-year mood in the inter-bank market intensified again, particularly due to the finding that the losses of banks resulting from the US mortgage crisis will be far larger and because various economic predictions indicated a slowdown of the US economic growth. Negative atmosphere prevailed in the financial markets with investors moving from risky shares to the risk-free government bonds (see Chart 4 and 5). Due to the negative conditions, the US dollar depreciated by almost 12% as compared to its level at the beginning of 2007. The oil price was growing to new historical high, at that time of above 100 USD per barrel, influenced mainly by the weakening of the USD (see Chart 6).

The spreads between the Euribor and OIS also widened to new historical highs close to 100 basis points (compared to the pre-crisis period: max. 10 basis points). Aiming at easing the year-end market tensions, the ECB announced that it would extend the maturity of the main refinancing operation in 2007 to two weeks, covering the turn of the year. At the same time, it announced that it would satisfy the entire demand of banks that will be from the weighted average rate of the preceding operation, which was at the level of 4.21% (as compared to the minimum bid MRO rate at 4.00%). In the tender, banks showed huge demand amounting of EUR 348.6 bn comparing the benchmark amount of EUR 180.5 bn which represents the approximate need of liquidity of banks for the following period until the maturity of the given operation. Following the announcement of the result, the market conditions eased slightly and the interest rates along with the spreads started to decrease gradually. During the following days, however, the ECB conducted liquidity absorbing fine-tuning operations to absorb excess liquidity which pushed the Eonia down. Despite a huge amount of liquidity, which the Eurosystem provided to the sector, unwillingness of banks to borrow to each other continued to prevail in the market resulting in accumulating excess liquidity in their accounts.

In order to mitigate the liquidity pressures in US dollars in the global money market, the Federal Reserve System, European Central Bank, Bank of Canada, Bank of England and Swiss National Bank took a joint action on 12 September 2007. They provided liquidity in US dollars to banks in local markets with a maturity of 28 and 35 days in two



operations. In those tenders, the banking sector showed a slightly higher interest as compared to the volume set in advance, which was provided by the ECB (see Chart 7). In January, the ECB again declared tenders in US dollars to revolve the due volumes, but demand in those tenders did not decrease, bringing about a decreased need of European banks for funds in US dollars. The ECB did not renew these operations in the following month.

At the beginning of 2008, fears of great losses of financial institutions due to the mortgage crisis and at the same time fears of a pending recession in the USA continued, particularly reflecting in a continuing decline in the share prices and in increasing demand for government bonds, pushing their yields down. In the European market, however, a partial correction of the market conditions occurred in the first two months of 2008.

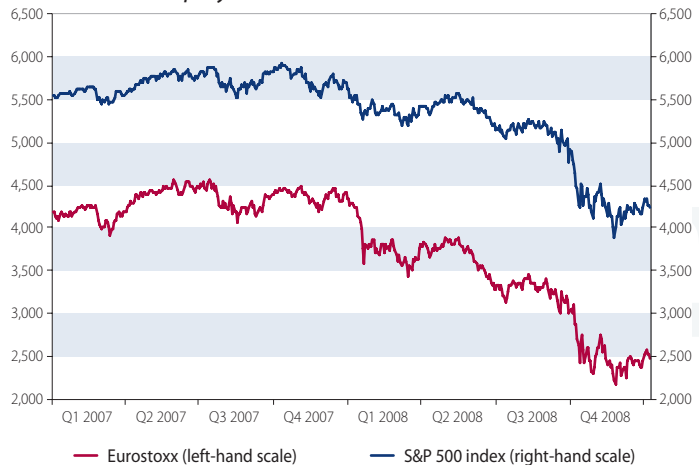
THE BEAR STERNS RESCUE

The correction period did not last for a long time and in March new problems emerged regarding the liquidity situation of many banks, which were also fostered by the need of an intervention of the Bank of England within the rescue of the investment bank Bear Sterns. New fears of the creditworthiness of further, especially American, large investment banks occurred. The renewed pressures were reflected in a deterioration of the situation in interbank financing.

On 11 March 2008, the most important central banks agreed again upon actions to be jointly taken to support financial markets. The European Central Bank declared tenders in US dollars with a 1-month maturity and expanded the volume provided from USD 10 bn to USD 15 bn and later on to USD 36 bn. The Eurosystem showed a visibly higher interest in those tenders as compared to tenders at the beginning of 2008 (see Chart 7). At the same time, the ECB increased the volume provided in its main refinancing operations beyond its strict benchmark and announced a continuation of supplementary long-term refinancing operations. At the end of March, the ECB also declared a new supplementary refinancing operation with a non-standard maturity of 6-months. All long-term operations were carried out in the form of an American auction, i.e. with a variable rate and the ECB also set the intended volume in advance.

The steps taken by the central banks helped to stabilize the global market for a certain period, which was reflected in improved sentiment and in a return of the investors to share investments. Negative mood, however, continued to prevail in the European money market as could be seen in the high spreads between the Euribor and OIS and at the same time in aggressive behavior of banks in the main ECB operations. Banks were accumulating liquidity and the distribution of liquidity in the interbank market failed. At its July meeting, the Governing Council of the European

Chart 4 Global equity indexes: Eurostoxx and S&P 500 Index



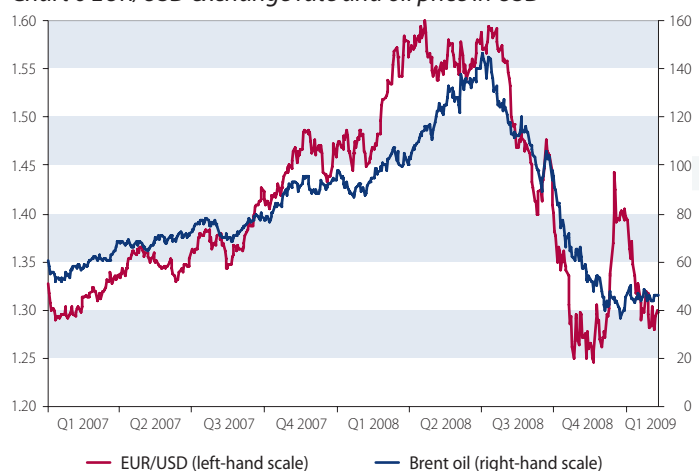
Source: Bloomberg.

Chart 5 German government bond yields



Source: Bloomberg.

Chart 6 EUR/USD exchange rate and oil price in USD



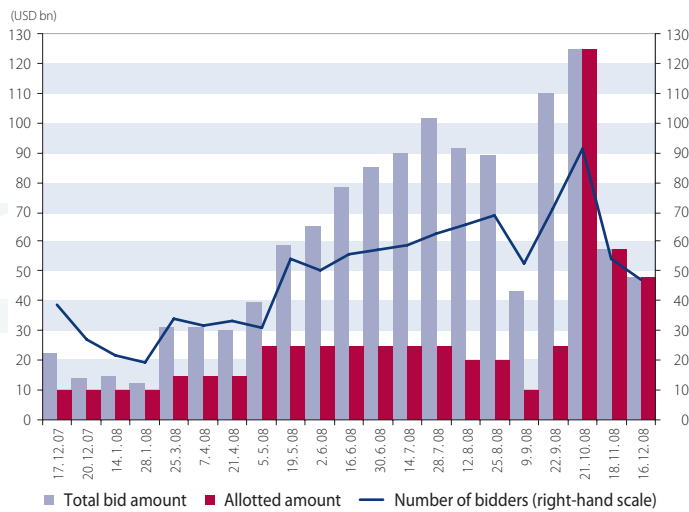
Source: Bloomberg.

Central Bank, in order to keep inflation close to 2%, decided to increase the key rates by 25 basis points, which brought the minimum rate for main refinancing operations to a level of 4.25%.⁷

⁷ The slight increase in the Euribor levels at the beginning of July 2008 was a manifestation of expectations of increases in key ECB rates at the following ECB meeting.

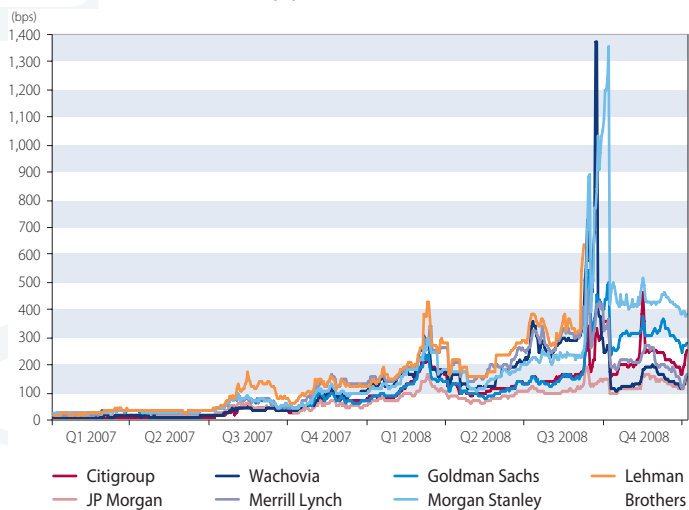


Chart 7 28-day USD operation conducted by the ECB



Source: www.ecb.europa.eu.

Chart 8 Credit default swap premia



Source: Bloomberg.

PROBLEMS WITH US GOVERNMENT SPONSORED COMPANIES

The European money market remained unaffected after the emergence of another problems connected to the American government sponsored companies Fannie Mae and Freddie Mac in early July 2008. Opinions, according to which those two companies could record high or even existential losses related to the mortgage crisis, considerably affected the equity markets. Share prices, particularly those of financial institutions, fell considerably, for example the S&P financial sub-index dropped by 14%. Investors moved to risk-free government bonds again, the yields of which were decreasing significantly (see Charts 4 and 5).

At the beginning of July 2008, the oil price reached its historical maximum, approximately 145 USD per barrel. However, it started to decrease from that time onwards. According to the market participants, the turn in the oil price was caused primarily by the beginning of a recession

in the USA, to which the decline in oil consumption can be attributed.

In July 2008, the ECB together with the Federal Reserve System and the Swiss central bank announced a change in the provision of liquidity in US dollars with the aim of extending the maturity of trades. The ECB undertook to provide a maximum of USD 20 bn to the European banking sector in each of the two 1-month operations and started a new 3-month operation, in which it planned to place a maximum of 10 bn USD in the market. Although the European money market was not influenced by the pending economic slowdown in the USA and by the unfavorable financial situation of Fannie Mae and Freddie Mac, banks continued to approach refinancing operations of the Eurosystem (both in the US dollars or euros) with high demand. However, in the period between August 2007 and Lehman Brothers collapse, there was no additional provision of liquidity on average during a given maintenance period, but just a change in the pattern, so-called frontloading. In spite of liquidity injections into the banking sector, activity between banks remained sporadic.

From the beginning of the crisis, the situation in financial markets escalated several times. Various analyses during this period predicted the end of the global financial crisis. After a busy period, the result of which was a quasi-nationalization of Fannie Mae and Freddie Max in the USA, the situation started to deteriorate in the so-called credit market. Attention focused on further losses of financial institutions and their refinancing problems by means of issuing bonds meeting minimum or no demand. Credit default swap (CDS) premium, which express a sort of price of insuring a debt instrument of a company against bankruptcy, increased considerably. Five year CDS premium for Lehman Brothers, Merrill Lynch and Wachovia traded around the level of 300 basis points, which was approximately 250 basis points more than in the pre-crisis period (see Chart 8).

THE LEHMAN BROTHERS BANKRUPTCY

The situation culminated in September 2008, when Lehman Brothers filed for bankruptcy, the government had to bail out the AIG, followed the bankruptcy and partial takeover of the Washington Mutual by the investment bank JP Morgan and the Wachovia was taken over by Citigroup. These events, but particularly the bankruptcy of Lehman Brothers, created a shock wave in the global financial market resulting in extreme volatility in its various segments and maximum pressure on the money markets. Euribor-OIS spreads rocketed up, reflecting the high risk appetite in the unsecured deposits market and reaching new historical highs of around 240 basis points. The world's equity indexes dropped strongly, falling by more than 30% in value (Eurostoxx). The US dollar, which started to appreciate in July after a longer period of depreciation, was strongly depreciating against the euro again.



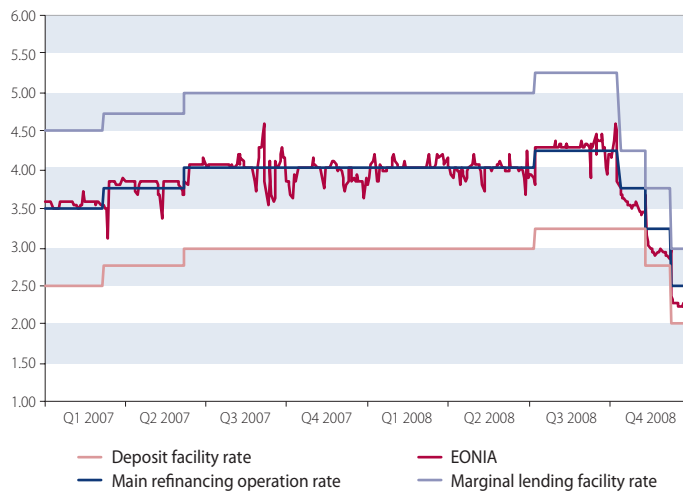
The global central banks intervened again by means of joint action helping the market to absorb the unfavorable situation. The ECB started to provide overnight refinancing transactions in US dollars to the European market in a volume of USD 40 bn in a variable rate tender. The ECB expanded long-term dollar refinancing from USD 50 to 70 bn providing the total volume of USD 110 bn to the euro market. In late September, the ECB declared the extension of dollar financing by a one-week operation, planning to place USD 35 bn (expansion of the total volume to USD 120 bn) in the sector by the operation, and later on it published a doubling of this swap line to USD 240 bn. At the same time, it announced that it would provide a special long-term refinancing operation in euros with a maturity of one month. A very important and welcomed step for the European financial market was a change in the procedure of the main refinancing operation, which was conducted with full allotment and at a fixed rate of main refinancing operation from 15 October. To further support the market, the ECB narrowed the standing facility rate corridor from 200 to 100 basis points. In mid-October, the ECB decided to narrow funding in US dollars to the maturities of one week, one month and three months. It also changed the procedure for full allotment at fixed rate. As banks reported insufficient collateral to secure trades with the Eurosystem, the ECB extended the range of eligible collateral and simultaneously created the possibility of refinancing oneself in US dollars also by means of FX swaps.

After reported difficulties with the Swiss franc financing, the ECB offered refinancing in Swiss francs to banks on a one-week basis at a fixed rate with an intended volume set in advance.

In October 2008, the global central banks decided to take another joint action and announced the cut of their key policy rates by 50 basis points starting the phase of global monetary policy easing. At the same time, the ECB narrowed the spreads between overnight facilities to 100 basis points. In November, the ECB Governing Council decided to decrease the key rate by 50 basis points, and in December it decided on a further slash by 75 basis points (see Chart 9).

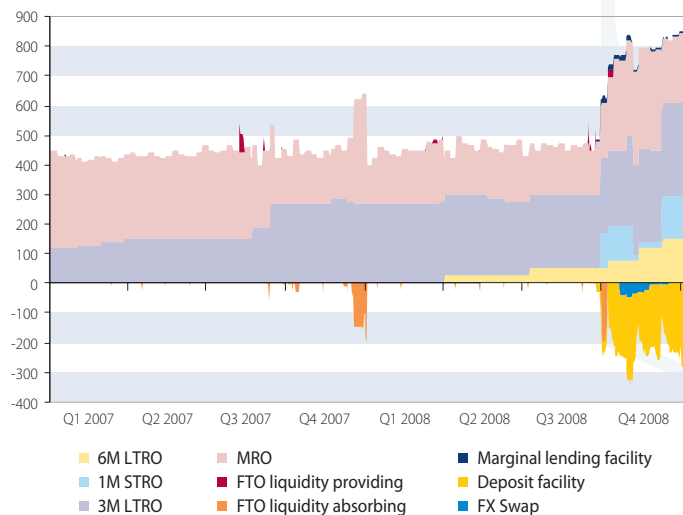
The banking sector reacted to all taken measures positively. In the course of time and after all the new settings had been implemented, the conditions in the interbank market started to improve. By the end of the year, the ECB had allotted in all euro-denominated and US dollar-denominated operations the full bid. Banks thereby started to have a high liquidity surplus, which they placed back with the ECB by means of a deposit facility (see Charts 10 and 11). Confidence in the financial system is being restored very slowly, which became visible in continuing risk aversion and unwillingness of banks to provide funds to each other. The ECB almost became the exclusive liquidity intermediary, because banks both refinanced themselves via the ECB and deposited

Chart 9 ECB monetary policy interest rates and overnight rate EONIA (in %)



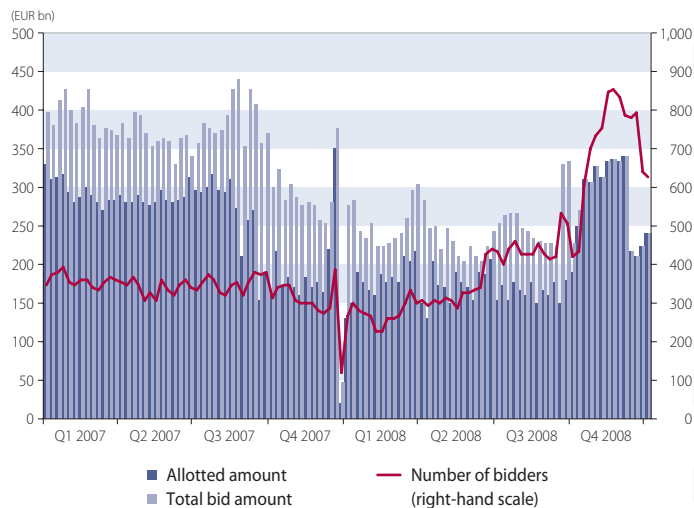
Source: www.euribor.org, www.ecb.europa.eu.

Chart 10 ECB Open market operations and recourse of Standing facilities (in bn EUR)



Source: www.ecb.europa.eu.

Chart 11 Total bid amount, allotted amount and number of bidders in ECB main refinancing operations



Source: www.ecb.europa.eu.



surplus funds in it. This fact is demonstrated by a considerable increase in the number of participants in operations with the Eurosystem. While 300 banks had exhibited demand in tenders prior to the crisis period, their number increased to almost 900 at the end of 2008.

The current financial crisis, which also affected the economic development of the strongest states, has required immediate non-standard interventions of the major global central banks. The

European Central Bank has been able to demonstrate its unity and readiness to intervene even in difficult or even chaotic situations, by which financial markets were hit over the last almost two years. It is not possible to predict, how the year 2009 will be for the global financial market. A gradual improvement of the money market conditions and the investors' return to shares suggest a return of confidence. However, we witnessed such returns several times over the last almost two years.

BLIATFE