



EUROPEAN CENTRAL BANK

EUROSISTEM

ANNUAL REPORT 2008

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EUROSYSTEM



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ABBREVIATIONS

COUNTRIES

BE	Belgium
BG	Bulgaria
CZ	Czech Republic
DK	Denmark
DE	Germany
EE	Estonia
IE	Ireland
GR	Greece
ES	Spain
FR	France
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	Netherlands
AT	Austria
PL	Poland
PT	Portugal
RO	Romania
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
UK	United Kingdom
JP	Japan
US	United States

OTHERS

BIS	Bank for International Settlements
BPM5	IMF Balance of Payments Manual (5th edition)
c.i.f.	cost, insurance and freight at the importer's border
CPI	Consumer Price Index
ECB	European Central Bank
EEA	European Economic Area
EER	effective exchange rate
EMI	European Monetary Institute
EMU	Economic and Monetary Union
ESA 95	European System of Accounts 1995
ESCB	European System of Central Banks
EU	European Union
EUR	euro
f.o.b.	free on board at the exporter's border
GDP	gross domestic product
HICP	Harmonised Index of Consumer Prices
ILO	International Labour Organization
IMF	International Monetary Fund
MFI	monetary financial institution
NCB	national central bank
OECD	Organisation for Economic Co-operation and Development
PPI	Producer Price Index
ULCM	unit labour costs in manufacturing

In accordance with Community practice, the EU Member States are listed in this report using the alphabetical order of the country names in the national languages.

FOREWORD



In 2008 the European Central Bank celebrated its tenth anniversary. With annual inflation averaging only slightly above 2% in the euro area, we have witnessed a decade of relatively stable prices, in line with the ECB's mandate to deliver price stability. Likewise, longer-term inflation expectations have remained broadly anchored at levels in line with price stability during this time, reflecting the high degree of credibility enjoyed by the ECB's monetary policy. This success is also tangible proof of the institutional robustness, coherence and unity of the Eurosystem – of its capacity to act in a truly European spirit on the basis of shared values, high standards and common principles. From the outset, the euro has been a stable currency. It is now used by 329 million fellow citizens in 16 euro area countries and is also widely accepted in international financial markets. I would like to take this opportunity to welcome the citizens of Slovakia to the euro area. Following the adoption of the euro by Cyprus and Malta in 2008, Slovakia joined the euro area as the 16th member on 1 January 2009.

2008 was an exceptional year which was characterised by extraordinary economic and financial developments. Owing to strong rises in commodity prices, inflation rose significantly in the first half of 2008 and upside risks to price stability mounted over this period. Annual HICP inflation peaked in the middle of the year, reaching 4.0% in both June and July. In particular, there were increasing indications of rising wage pressures. The monetary analysis confirmed the assessment that upside risks to price stability prevailed. In order to prevent broad-based second-round effects and to preserve the solid anchoring of inflation expectations, the Governing Council of the ECB raised its key interest rates in July 2008. From mid-September the financial tensions intensified considerably and increasingly spread to the real economy throughout the world. Together with strong declines in energy and other commodity prices, this led to a reduction in global and euro area inflationary pressures. At the same time, uncertainty increased to an exceptional extent, affecting liquidity, asset prices and balance sheets. Overall, these developments implied significantly higher downside risks to growth and a considerable reduction in inflationary pressures in the medium term.

In a coordinated move, the ECB and other major central banks announced reductions in their policy interest rates on 8 October 2008. Overall, between October 2008 and March 2009, the Governing Council lowered the key ECB interest rates by 275 basis points. The overnight money market rates fell even more steeply over this period, as the ECB significantly enlarged its liquidity provision to euro area banks. These unprecedented decisions were fully in line with the ECB's mandate to maintain price stability, in the light of declining inflationary pressures and risks. The monetary analysis indicated that upside risks to price stability were gradually abating, as the underlying pace of monetary expansion decelerated, particularly in the second half of 2008. The growth of loans to the non-financial private sector also moderated

in the course of the year, in line with the tightening of financing conditions and weaker economic activity.

Overall, despite the clear deceleration in inflation rates from mid-2008 onwards, average annual HICP inflation in 2008 reached 3.3%, the highest level recorded since the introduction of the euro. This compared with rates of around 2% in the preceding years. Notwithstanding sharp fluctuations in headline inflation rates, the ECB's monetary policy succeeded in keeping medium and long-term inflation expectations firmly anchored at levels broadly consistent with price stability throughout 2008. At the same time, real GDP growth in the euro area slowed to 0.8% in 2008, following solid growth rates of 2.7% in 2007 and 3.0% in 2006. While economic growth in the euro area at the beginning of 2008 was relatively resilient, it deteriorated rapidly later in the year in the face of a pronounced slowdown in world economic activity.

With regard to fiscal policy, the relatively favourable fiscal outcomes achieved in recent years were reversed in 2008 as the financial crisis unfolded and the macroeconomic environment deteriorated rapidly. According to the European Commission's interim forecast of January 2009, the average general government deficit in the euro area increased from 0.6% of GDP in 2007 to 1.7% in 2008, and it is expected to increase considerably further to 4.0% of GDP in 2009. In October 2008 euro area countries agreed on coordinated action to stabilise the banking system, including the recapitalisation of financial institutions and guarantees for loans and deposits. In December 2008 the European Council approved a European Economic Recovery Plan which is intended to support economic recovery by strengthening aggregate demand and increasing efforts to implement the structural reforms envisaged by the Lisbon strategy. The rising fiscal deficit and debt ratios and the highly uncertain outlook pose considerable challenges for fiscal policy in the euro area. To support public confidence in the sustainability of public finances, a credible

commitment to a path of consolidation in order to return to sound fiscal positions, fully respecting the provisions of the Stability and Growth Pact, is of the essence.

Turning to structural policies, the ongoing weakness of economic activity and high levels of uncertainty about the economic outlook imply the need to strengthen the resilience of the euro area economy. At the current juncture, it is essential to pursue economic policies in line with the principle of an open market economy with free competition, resisting any protectionist pressure. Moreover, product and services market reforms should foster competition. Labour market reforms should help to facilitate appropriate wage-setting, thereby protecting employment and fostering labour mobility across sectors and regions. This will be particularly important for those areas and sectors hit strongly by the negative demand shock. In several countries, it is also crucial to take measures to address competitiveness losses accumulated over recent years.

Challenges in financial markets mounted considerably during 2008. Euro money markets continued to be characterised by high credit spreads and very low trading volumes, notwithstanding the stabilising effect on these variables of the special measures which the ECB had started to introduce in 2007 and extended in 2008. These measures mainly consisted of "frontloading" the liquidity provision to the banking sector within reserve maintenance periods, increasing the average maturity of the Eurosystem's refinancing operations and, in cooperation with the Federal Reserve System, providing liquidity in US dollars.

As tensions across all money market segments and maturities intensified very significantly in mid-September 2008, the Eurosystem took further liquidity management measures to ensure the continued ability of banks to refinance themselves. In particular, a fixed rate tender procedure with full allotment was

adopted for main refinancing operations and all longer-term refinancing operations, and the set of eligible collateral accepted in refinancing operations was temporarily widened. Moreover, the corridor formed by the interest rates on the standing facilities was temporarily narrowed. As a result of these measures, banks generally continued to have broad access to euro liquidity, although tensions remained, especially at longer maturities.

The ECB actively contributed to the key policy and regulatory responses which were adopted in 2008 to address the financial crisis and to strengthen the financial system. At the global level, the ECB participated in the deliberations leading to the recommendations of the Financial Stability Forum to the G7 finance ministers and central bank governors in April 2008. These recommendations aim to strengthen prudential requirements, transparency and valuation frameworks, as well as improve the use of credit ratings, the authorities' responsiveness to risks and arrangements for dealing with stress in the financial system. The ECB also contributed to other major global policy responses, namely the action plan agreed by the G20 countries on 15 November 2008.

At the European level, the ECB gave advice on the design of measures by public authorities to support the functioning of the banking sector. The Paris Declaration of the euro area countries of 12 October 2008 – subsequently endorsed by the European Council on 16 October – set out an action plan of coordinated measures to restore confidence and improve financing conditions in the economy. These measures included the granting of government guarantees on bank debt issuance and the recapitalisation of banks. The Governing Council issued recommendations on the main features and pricing of government guarantees and recapitalisation instruments. The aims of the recommendations were to preserve the level playing-field among financial institutions, enhance the stability of the financial system, facilitate a return to

normal market conditions, and ensure the proper financing of the economy. The recommendations were duly taken into consideration by the Member States in their actions and reflected in the guidance issued by the European Commission regarding compliance with the state aid rules of the Treaty.

In early 2009 the ECB contributed to the definition of guiding principles on asset relief measures aimed at removing the uncertainty surrounding the valuation of certain securitised assets on the balance sheets of financial institutions. The contribution of the ECB was reflected in the guidance issued by the European Commission on such measures.

During 2008 the ECB continued to actively foster the process of European financial integration. The ECB provided advice in particular on financial regulation and supervision, as well as on securities clearing and settlement and payment systems. In addition, the ECB continued to act as a catalyst for private sector activities by facilitating collective action. The Single Euro Payments Area (SEPA) initiative, which the ECB has strongly supported since its inception, reached its first major milestone with the launch of the SEPA credit transfer and the SEPA cards framework in January 2008. Since then, the first benefits of SEPA have materialised for banks and, more importantly, have started to reach the end-users of payment services.

In the field of central bank services that also foster financial integration, the decentralised first-generation TARGET system, the Eurosystem's large-value payment system, was fully replaced by a second-generation single platform system (TARGET2) in May 2008. TARGET2 is the first market infrastructure to be completely integrated and harmonised at the European level. Furthermore, in July 2008 the Governing Council decided to build a new securities settlement platform called TARGET2-Securities (T2S). By offering harmonised, borderless and neutral settlement services in euro and other

currencies, T2S will be a major step towards an integrated securities market in Europe. In July 2008 the Governing Council also decided to establish a single shareable platform (CCBM2) for collateral mobilisation, with liquidity and collateral management facilities for Eurosystem counterparties.

At the end of 2008 the ECB had an approved headcount ceiling of 1,357.5 full-time equivalent positions, compared with 1,348 at the end of 2007. The members of staff of the ECB come from all 27 countries of the EU and are recruited by means of open selection campaigns to fill vacancies published on the ECB's website. In line with the ECB's mobility policy, 165 members of staff moved internally to other positions in 2008, while 23 members of staff were seconded to other organisations and 30 were granted unpaid leave, in most cases to take up employment with other organisations. The continuous acquisition and development of skills and competencies by all members of staff, including management, remained a cornerstone of the ECB's human resources strategy.

In 2008, in order to take into account the latest developments in terms of life expectancy and financial sustainability, the ECB started a review of the retirement plan it offers to its staff. The results of this review are expected to be implemented in spring 2009.

The year 2008 brought fresh challenges with regard to the New ECB Premises project, as the public tender procedure for a general contractor did not produce a satisfactory economic result. Consequently, during the summer months all possible options were thoroughly examined, and the cost calculations and tender strategy were reviewed. Based on this analysis, the Governing Council decided to divide the procurement of construction works into the main separate trades and lots, and to restart the public tender procedure accordingly. Against

the background of further research conducted on the construction market, the ECB remains determined to complete the project within the given budget.

The ECB earned a surplus of €2.66 billion in 2008 compared with a surplus of €0.29 billion in 2007. The Governing Council decided to transfer, as at 31 December 2008, an amount of €1.34 billion to the provision against foreign exchange rate, interest rate and gold price risks. The size of this provision, which, following the 2008 transfer, amounts to €4.01 billion, is reviewed annually. The ECB's net result in 2008, after the transfer to the provision had been made, was €1.32 billion. This amount was distributed to the euro area NCBs in proportion to their paid-up shares in the ECB's capital.

Frankfurt am Main, March 2009



Jean-Claude Trichet



The first Governing Council of the European Central Bank in 1998



The Governing Council of the European Central Bank in 2008

Note: Mario Draghi and Athanasios Orphanides were not present when the photograph was taken.



CHAPTER I

**ECONOMIC
DEVELOPMENTS AND
MONETARY POLICY**

I MONETARY POLICY DECISIONS

In 2008 the ECB conducted its monetary policy against the backdrop of the financial turmoil observed since August 2007. The Governing Council kept the key ECB interest rates unchanged in the first half of 2008, before raising them by 25 basis points in July and then lowering them in three stages by a total of 175 basis points in the fourth quarter of the year. Developments in key ECB interest rates in 2008 reflected the evolution of risks to price stability over the medium term, which were strongly influenced by two global phenomena: developments in international commodity prices, particularly energy and food prices; and the economic impact of the ongoing financial turmoil, which intensified in mid-September.

In the first half of 2008 inflationary pressures in the euro area increased, largely as a result of a very rapid increase in international commodity prices. Annual HICP inflation remained well above 2% during this period, increasing from 3.2% in January to peak at 4.0% in June and July, mainly owing to developments in energy and food prices. With inflationary pressures rising in the presence of relatively tight labour markets, the risk of second-round effects increased. In addition, the underlying pace of broad money growth remained vigorous, despite moderating gradually from the peaks seen in the second half of 2007. In order to contain upside risks to price stability and ensure that long-term inflation expectations remained solidly anchored in line with the ECB's definition of price stability, the Governing Council raised the minimum bid rate in the main refinancing operations by 25 basis points to 4.25% in July 2008.

Moving into the third quarter of the year, until mid-September available data suggested that risks to price stability over the medium term remained on the upside. Uncertainty regarding the outlook for economic activity remained considerable, owing, among other things, to the very high and volatile commodity prices and the ongoing tensions in financial markets. Overall, downside risks to the economic outlook prevailed.

As of mid-September, the financial turbulence intensified significantly, causing severe disruptions and liquidity shortages in many financial market segments and leading to a substantial deterioration in the global economic outlook. Inflation also fell sharply in the last few months of the year and inflationary pressures weakened. Driven by declines in commodity prices, particularly oil prices, annual HICP inflation fell in the second half of the year, reaching 1.6% in December. Monetary trends, which continued to moderate in the second half of the year, supported the view that inflationary pressures were weakening. In this context, the main refinancing rate was cut by 50 basis points to 3.75% on 8 October in a coordinated move together with other major central banks. The main refinancing rate was then lowered by a further 50 basis points in November and another 75 basis points in December and stood at 2.50% at the end of the year (see Chart 1).

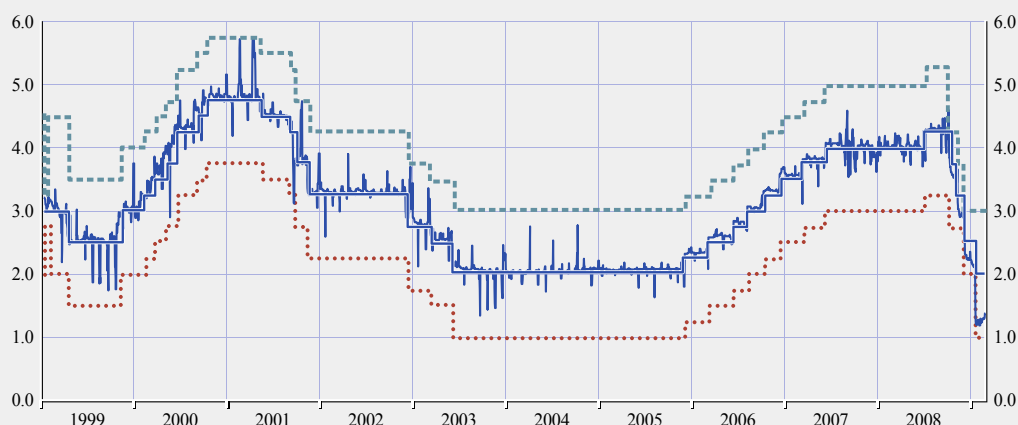
Real GDP growth in the euro area was sustained, but somewhat below trend in the first half of the year, although the impact that unusual weather conditions had on construction activity created volatility in the quarterly growth rates. Economic conditions worsened in the second half of 2008, particularly after the intensification of the financial market tensions in mid-September. The financial crisis spread to the real economy more broadly than had previously been expected. In the third quarter real GDP in the euro area contracted by 0.2% quarter on quarter, primarily reflecting the large negative contribution of net trade, which stemmed from weak export growth combined with a strong rebound in imports. The fourth quarter saw a broad-based economic contraction amid heightened uncertainty, with real GDP contracting by a further 1.5%. Overall, euro area real GDP grew by 0.8% in 2008, significantly less than the 2.7% recorded in 2007.

Average annual HICP inflation was very high in 2008, standing at 3.3%, the highest level since the introduction of the euro, after standing close to 2% in previous years (e.g. 2.1% in 2007). Inflation increased from 3.2% in January to peak at 4.0% in June and July,

Chart I ECB interest rates and money market rates

(percentages per annum; daily data)

- minimum bid rate/fixed rate in the main refinancing operations
- deposit rate
- - - marginal lending rate
- overnight interest rate (EONIA)



Source: ECB.

Note: The last observation relates to 27 February 2009.

before declining to reach 1.6% in December. These inflation developments were driven mainly by global developments in commodity prices, especially energy and food prices. In particular, oil prices increased from around USD 100 per barrel in January to peak at almost USD 150 in July, before falling to around USD 40 per barrel in December. For most of 2008 the inflation rate stood significantly above the ECB's definition of price stability, mainly on account of those commodity price developments. Unit labour cost growth remained strong, driven by stronger wage increases in the presence of tighter labour markets and some second-round effects, but also a cyclical slowdown in labour productivity growth later in the year. Signs of an upward drift in long-term inflation expectations derived from financial market instruments were apparent towards the middle of the year, but these disappeared after the interest rate increase in July and the reversal observed in the price of commodities, in particular oil, which reduced concerns regarding the emergence of second-round effects. Overall, in spite of the sharp movements observed in inflation owing to large changes in commodity prices, survey-based measures of long-term inflation expectations

remained broadly anchored at levels consistent with price stability, in line with the medium-term orientation of the ECB's monetary policy.

The underlying pace of monetary expansion moderated over the course of 2008, but remained vigorous. While M3 growth tended to overstate trend monetary dynamics owing to the impact of the flat yield curve and other temporary factors, particularly in the first half of the year, a broad-based assessment of the components and counterparts of M3 confirmed that underlying money growth remained strong. The growth of loans to the non-financial private sector also moderated in the course of the year, in line with the tightening of financing conditions and weaker economic activity. The increased stress observed in the financial system as a result of the intensification of the financial tensions in September was apparent in the monetary data towards the end of the year. As regards monetary aggregates, that increased stress mainly triggered shifts between the components of M3, rather than having an impact on M3 itself. The subdued developments in loans at the end of the year confirmed that corporate credit had weakened significantly following a long

period of dynamic growth. Those developments mainly reflected the slowdown in real economic activity, although supply factors may also have played a role, as indicated by the Eurosystem's bank lending survey. Overall, monetary trends supported the view that inflationary pressures weakened towards the end of 2008.

INFLATIONARY PRESSURES LED TO AN INCREASE IN KEY ECB INTEREST RATES IN JULY 2008

Looking more closely at the monetary policy decisions taken in 2008, the year can be divided into two parts: the period up until summer 2008, when the data available at the time indicated increasing upside risks to price stability; and the post-summer period, when new information indicated that the ongoing financial turmoil and the global economic slowdown were having a stronger impact on euro area activity and that inflationary pressures were weakening.

In the first half of the year economic conditions were characterised by high levels of uncertainty regarding the ongoing reappraisal of risk in financial markets and its potential impact on the real economy. Quarterly growth had begun to moderate in the course of 2007. Indicators of business and consumer confidence had also begun to decline, but in early 2008 remained at levels that pointed to sustained growth. The outlook for economic growth had moderated somewhat, but was still relatively favourable at the beginning of 2008. It was expected that domestic and foreign demand would moderate, but continue to support ongoing growth. Despite the dampening effect of higher commodity prices, consumption growth was expected to contribute to economic expansion, in line with rising employment, as unemployment rates had fallen to levels not seen for 25 years. With resilient economic activity in emerging market economies expected to mitigate the impact that the US economic slowdown would have on the euro area's foreign demand, external demand was expected to provide sustained support to euro area exports.

Indeed, in the first half of the year incoming macroeconomic data suggested that real

GDP growth would moderate, but only slightly. The June 2008 Eurosystem staff macroeconomic projections foresaw average annual real GDP growth of between 1.5% and 2.1% in 2008 and between 1.0% and 2.0% in 2009. While the projections for 2008 remained at the lower end of the range published in December 2007, the projections for 2009 were revised downwards somewhat. The uncertainty surrounding the outlook for economic growth was considerable, and risks were considered to lie on the downside. Those risks related mainly to the potential for financial market developments to have a broader than expected impact on financing conditions and economic sentiment, with a negative impact on world and euro area growth. Further downside risks stemmed from the scope for additional increases in oil and other commodity prices, concerns regarding protectionist pressures and the possibility of disorderly developments owing to global imbalances.

At the same time, the euro area was experiencing a period of rising annual rates of inflation, mainly as a result of sharp increases in energy and food prices at the global level. Annual HICP inflation was above 3% at the start of 2008 and increased from 3.2% in January to 3.7% in May, with strong upward pressure on headline inflation in the short term. Consequently, the Governing Council noted in June that risks to price stability over the medium term had increased further. HICP inflation was expected to remain high for a more protracted period than previously thought. There were also signs of an upward drift in long-term inflation expectations. The June 2008 Eurosystem staff projections foresaw average annual HICP inflation of between 3.2% and 3.6% in 2008 and between 1.8% and 3.0% in 2009. The ranges projected for inflation in 2008 and 2009 were thus markedly higher than those in previous staff projections, mainly reflecting higher oil and food prices and increasing inflationary pressures in the services sector. There was also a concern that wage growth might turn out to be stronger than expected, taking into account the high levels of capacity utilisation, the tight labour market conditions and the risk of second-round effects.

Despite moderating, the annual growth rate of the monetary aggregate M3 remained vigorous. A number of temporary factors, particularly the relatively flat yield curve, suggested that M3 growth was overstating the pace of the underlying monetary expansion. Even taking such effects into account, a broad-based assessment of the monetary data confirmed that the underlying rate of money and credit growth remained strong. The growth of household borrowing had moderated somewhat, reflecting the impact of the increases in key ECB interest rates as of December 2005 and the cooling housing markets in several parts of the euro area. However, the growth of loans to non-financial corporations remained robust.

In this context, the Governing Council considered that the risks to price stability remained clearly on the upside and had increased further. Those risks stemmed in particular from the possibility of second-round effects on wage and price-setting, but also from the potential for further rises in oil and food prices. The possibility of increases in administered prices and indirect taxes that exceeded those foreseen at the time also constituted an upside risk to the inflation outlook. This assessment was supported by cross-checking with data on money and credit growth. Given the strong growth seen in money and credit aggregates, the monetary analysis confirmed the indications from the economic analysis that upside risks to price stability prevailed over the medium to longer term. The Governing Council stressed its determination to firmly anchor medium and long-term inflation expectations in line with price stability.

In order to prevent broad-based second-round effects and counteract the increasing upside risks to price stability over the medium term, the Governing Council decided to raise the key ECB interest rates by 25 basis points on 3 July 2008, having kept rates unchanged since June 2007 in view of the heightened level of uncertainty in the context of the ongoing financial turmoil. The Governing Council emphasised its strong determination to keep medium and long-term inflation expectations firmly anchored in

line with price stability. This would preserve purchasing power in the medium term and continue to support sustainable growth and employment in the euro area.

Moving into the third quarter of 2008, the real GDP growth figures that were to be released for the second quarter of 2008 were expected to be substantially weaker than those for the first quarter of the year. While this was partly a technical reaction to the strong growth seen in the first few months of the year, it also reflected a weakening of GDP growth owing to slower expansion at the global level and the dampening effects of high and volatile oil and food prices. Uncertainty regarding the outlook for economic activity remained considerable, owing, among other things, to the very high and volatile commodity prices and the ongoing tensions in financial markets. Overall, downside risks continued to prevail.

At the same time, information available in August and September confirmed that annual inflation rates were likely to remain well above levels consistent with price stability for a protracted period of time. The data also suggested that risks to price stability over the medium term remained on the upside. Having reached 4.0% in June, inflation had remained at 4.0% in July and stood at 3.8% in August, largely as a result of both the direct and the indirect effects of previous strong increases in energy and food prices at the global level. Moreover, it was confirmed that wage growth had accelerated significantly. With labour productivity growth slowing, this resulted in sharp increases in unit labour costs.

WEAKENING INFLATIONARY PRESSURES LED TO MONETARY POLICY EASING IN THE LATTER PART OF 2008

The financial tensions intensified in September, dominated by events in US markets, particularly following the bankruptcy of Lehman Brothers on 15 September. This led to substantial volatility in all financial market segments, low levels of liquidity across a number of market segments, significant restructuring at several

large financial institutions, a financial crisis in Iceland and contagion effects for other countries, and unprecedented policy action by governments. The financial market turmoil also resulted in a significant increase in risk aversion. This could be seen, inter alia, in the substantial widening of corporate and sovereign bond spreads, which had a significant downward impact on the real economy. At its meeting on 2 October the Governing Council discussed extensively the recent intensification of the financial market turmoil and its possible impact on economic activity and inflation, recognising the extraordinarily high level of uncertainty stemming from recent developments. As the world economy as a whole was feeling the adverse effects of this prolonged and intense period of financial market turmoil, economic activity was also weakening in the euro area.

Inflationary pressures had begun to moderate in the euro area, as well as in a number of other major countries in the world economy, mainly reflecting a marked decline in energy and other commodity prices. Inflation expectations had declined, returning to levels consistent with the ECB's definition of price stability. By increasing the downside risks to growth, the intensification of the financial crisis had also reduced the upside risks to price stability.

In a coordinated move, 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. In this context, the Governing Council lowered key ECB interest rates by 50 basis points, acknowledging that upside inflationary risks in the euro area had recently decreased and inflationary pressures had begun to moderate. The Governing Council also adopted two temporary measures to support the implementation of monetary policy, narrowing the corridor formed by the rates on the standing facilities and announcing full allotment at fixed rates in its tender operations.

Tensions increasingly spilled over from the financial sector to the real economy and from

advanced economies to emerging market economies. The outlook for global growth deteriorated sharply, implying a contraction in foreign demand that would have a negative impact on euro area activity. Business confidence indicators, which had started to decline in mid-2007, began to fall faster and reached new record lows every month. The fourth quarter was marked by a broad-based economic slowdown with a high level of uncertainty, and governments announced substantial economic stimulus packages. Incoming information on current economic developments justified the more pessimistic outlook, which was due notably to the materialisation of previously identified risks stemming from the financial market tensions. Looking ahead, global economic weakness and very sluggish domestic demand were expected to persist in the following few quarters. In fact, the December 2008 Eurosystem staff macroeconomic projections for the euro area indicated that the outlook had significantly deteriorated. Annual real GDP growth was projected to lie between -1.0% and 0.0% for 2009 and between 0.5% and 1.5% for 2010. These figures represented substantial downward revisions relative to the previous staff projections. The economic outlook continued to be surrounded by an exceptionally high degree of uncertainty, and risks to economic growth remained on the downside.

With regard to price developments, annual HICP inflation had declined substantially, falling to 2.1% in November, down from 3.2% in October and 3.6% in September. Inflation rates were expected to continue to decline in the coming months. The intensification and broadening of the financial market turmoil was likely to dampen global and euro area demand for a protracted period of time. In such an environment, taking into account the strong declines observed in commodity prices in recent months, price, cost and wage pressures in the euro area were also expected to moderate. The December 2008 Eurosystem staff projections foresaw annual HICP inflation of between 1.1% and 1.7% for 2009 and between 1.5% and 2.1% for 2010. For 2009, these projections constituted

substantial downward revisions in relation to the previous staff projections, mainly reflecting the large declines observed in commodity prices and the impact of weakening demand. Risks to price stability at the policy-relevant medium-term horizon were considered to be more balanced than in the previous quarter.

Turning to the monetary analysis, data available towards the end of 2008 showed that the annual growth rates of broad money and credit aggregates, while still remaining strong, continued to decline. The intensification of the financial market turmoil observed since mid-September had been seen as a potential watershed in the evolution of monetary developments, with money and credit data for October indicating a significant impact on the behaviour of market participants. However, in November there were some signs of a return to the pattern of monetary developments seen prior to Lehman Brothers' default. Overall, both the broad aggregate M3 and, in particular, the components of M3 most closely related to the ongoing financial tensions – such as holdings of money market funds – showed considerable month-to-month volatility in the final months of 2008. Looking through this volatility, the underlying pace of broad money growth continued to gradually decline from the peak seen in 2007. However, the intensification of financial tensions observed as of September 2008 led to significant substitution among the components of M3. Monetary analysis also indicated the continued moderation of the growth rate of loans to the non-financial private sector. Prior to December this was largely on account of weakness in loans to households, especially for house purchase, but by the turn of the year a clear decline was also observed in the growth rate of loans to non-financial corporations. These subdued developments in loans seem mainly to reflect the slowdown in real economic activity, although the Eurosystem's bank lending survey suggests that supply factors may also have played a role. The heightened level of stress in the financial system remained apparent in the monetary data towards the end of the year.

Overall, monetary trends supported the view that inflationary pressures were weakening further.

These revisions to the outlook for economic activity, and therefore also for inflation, warranted significant monetary policy easing. On the basis of its regular economic and monetary analyses, the Governing Council decided to reduce the key ECB interest rates by a further 50 basis points at its meeting on 6 November, in line with the reduction in upside risks to price stability arising from the materialisation of downside risks to growth. At its meeting on 4 December the Governing Council then decided to reduce the key ECB interest rates by a further 75 basis points. Evidence obtained since its last meeting showed that inflationary pressures had weakened further and, looking ahead, inflation rates were expected to be in line with price stability over the policy-relevant horizon.

2 MONETARY, FINANCIAL AND ECONOMIC DEVELOPMENTS

2.1 THE GLOBAL MACROECONOMIC ENVIRONMENT

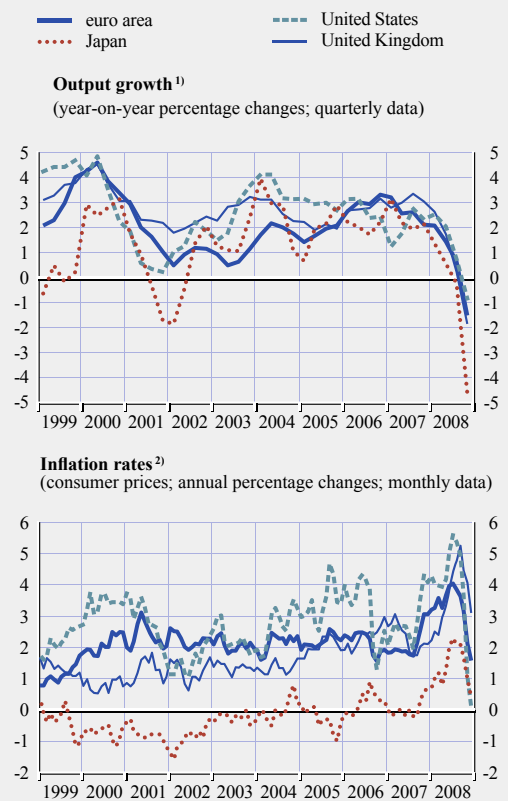
REPERCUSSIONS OF THE FINANCIAL MARKET TURMOIL ON GLOBAL ACTIVITY

In 2008 the financial market turbulence intensified and reached levels not seen in decades, with severe consequences for the real economy in the latter part of the year. In the first half of the year, the economic weakness in the United States extended beyond the housing sector, and the global repercussions of the financial turmoil translated into a slowdown in economic growth in major developed economies. Overall, global economic activity remained relatively well supported by the resilience in the economic conditions of emerging markets. However, from mid-September, when the financial crisis resulted in the collapse of a major US investment bank and the unravelling of a number of large actors in the global financial system, the challenges facing economic activity intensified. Global economic conditions deteriorated rapidly in view of faltering consumer and business confidence, tighter credit conditions worldwide and adverse wealth effects stemming from declining house prices and equity valuations. While important and unprecedented measures were taken by governments and central banks around the world to limit systemic risks and to restore financial stability, the financial market turmoil led to the global downturn becoming increasingly synchronised, which amplified the adverse feedback between the financial crisis and real economic activity. Towards the end of the year, most advanced economies were already in or on the brink of recession. Moreover, the economic weakness began to spread more forcefully to emerging economies. In particular, economic conditions in countries with large external and domestic imbalances deteriorated rapidly, and economic growth in small open economies moderated significantly in a very short space of time.

Global inflation developments were strongly affected by the sharp movements in commodity prices and global economic conditions. In

the first half of the year, global inflationary pressures mounted. In the OECD countries, annual headline inflation peaked at 4.8% in July 2008. This was mostly due to rising food and energy prices. On 11 July 2008 Brent crude oil prices surged to a record level of USD 147.5 per barrel. Emerging economies, with a higher weight of food in the consumption basket, experienced even stronger inflationary pressures. In the second half of the year, however, a sharp reversal in commodity prices associated with the global economic slowdown significantly alleviated global inflation rates. Oil prices plummeted in the second half of the year and stood close to USD 40 per barrel by the end of 2008. Accordingly, after passing its peak

Chart 2a Main developments in major industrialised economies



Sources: National data, BIS, Eurostat and ECB calculations.

1) Eurostat data are used for the euro area and the United Kingdom; national data are used for the United States and Japan. GDP figures have been seasonally adjusted.

2) HICP for the euro area and the United Kingdom; CPI for the United States and Japan.

in July, annual inflation in the OECD countries slowed to 1.5% in December. Excluding food and energy, consumer prices rose by 2.0% in the year to December.

UNITED STATES

In the United States, economic activity decelerated markedly in 2008. For the whole of 2008, real GDP increased at a rate of 1.1%. While there was positive growth in the first half of the year partly due to temporary fiscal stimulus measures and support from foreign trade, intensifying financial market strains, restrictive credit conditions and weaker foreign demand all contributed to an outright contraction in output throughout the second half of 2008. Private consumption was negatively affected by deteriorating consumer sentiment and labour market conditions, in addition to a decline in household wealth owing to falling house prices and equity valuations. At the same time, business investment weakened amid declining corporate profits, tighter lending standards, as well as the broadly weakening outlook for demand. The ongoing housing market correction – intensified by the financial turmoil – continued to be a major drag on the economy, with residential investment subtracting 0.9 percentage point from GDP growth in 2008. Foreign trade was a major contributor to growth throughout most of 2008, reflecting buoyant external demand earlier in the year and the lagged effects of past US dollar depreciation. However, the positive trade effect faded towards the end of the year as a sharp economic slowdown in a number of US trading partners weighed on foreign demand and exports. Nonetheless, the current account deficit narrowed from 5.3% of GDP in 2007 to 5.0% on average in the first three quarters of 2008, although this improvement was limited somewhat by the higher price of oil and other commodities during most of that period, which pushed up the average value of imported goods relative to the previous year.

As regards US price developments, the average annual rate of change in the CPI for 2008 was 3.8%, up from 2.9% the year before. Headline inflation oscillated in a wider than usual range,

reflecting volatility in oil and other commodity prices. CPI inflation was at elevated levels during the first half of 2008 and peaked at 5.6% in July amid rapidly rising energy costs. Towards the end of the year, the annual rate of change in the CPI fell sharply to 0.1% in December owing to sharp falls in commodity prices and increasing slack in the economy as the recession deepened. Excluding food and energy, annual CPI inflation stood at 2.3% in 2008 (the same as in 2007). The declining trend throughout most of the year reflected to some extent a deceleration in the owner-equivalent rent component.

The Federal Open Market Committee (FOMC) of the Federal Reserve System decreased the target for the federal funds rate from 4.25% at the beginning of 2008 to a range from 0.0% to 0.25% by the end of the year. At its meeting in December 2008, the Committee anticipated that weak economic conditions were likely to warrant exceptionally low levels in the policy rate for some time to come. The FOMC undertook a number of targeted programmes to enhance liquidity and provide support to financial markets in view of deteriorating conditions.

As regards fiscal policy, the federal budget deficit widened in the 2008 fiscal year – which started in October 2007 – compared with the previous year. This stemmed from a combination of lower tax receipts as the economy slowed and an increase in government spending, partly reflecting the implementation of fiscal stimulus measures. According to estimates from the Congressional Budget Office, the federal budget deficit stood at 3.2% in the 2008 fiscal year.

JAPAN

In Japan, economic expansion ended abruptly in 2008, with slightly positive growth in the first quarter followed by a marked decrease in overall production thereafter. Strong external demand and domestic investment supported real GDP growth in the first quarter. However, substantial declines in net exports and business investment – which had been the driving force of the Japanese recovery in previous years – along with restrained consumption owing to increasing

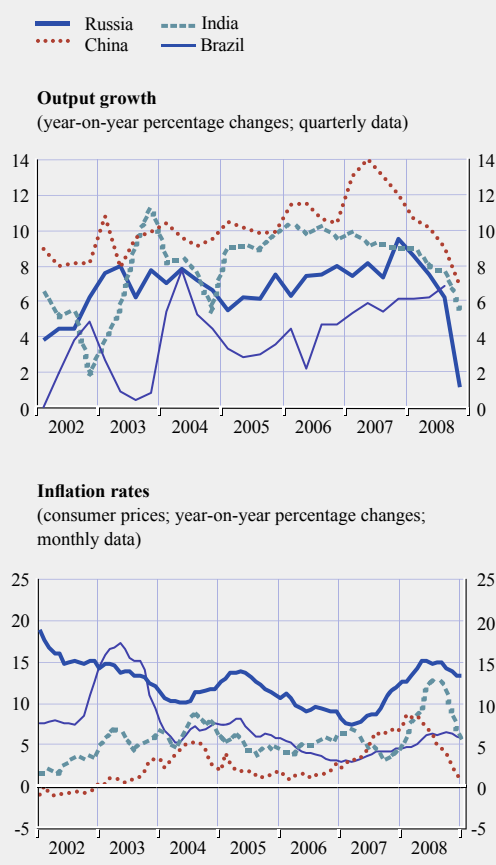
labour market uncertainty and declining real incomes offset the positive growth of the first quarter and resulted in negative GDP growth rates for the rest of the year. Consumer price inflation accelerated noticeably in the first half of the year, peaking at 2.3% in July, but slowed to 0.4% in December. While the Japanese banking sector remained relatively resilient to the global financial market turmoil, substantial stock market losses and the intensification of the financial turmoil had a negative impact on firms' investment and consumption in the second half of the year. A strong appreciation in effective terms of the Japanese yen put additional downward pressure on profitability and investment in export-oriented industries. In view of the rapid deterioration in economic conditions, the Bank of Japan decided to lower its target for the uncollateralised overnight call rate cumulatively by 40 basis points to 0.1% at its meetings on 31 October and 19 December 2008, after having left the target unchanged since February 2007.

EMERGING ASIA

In the course of 2008 economic activity slowed down gradually in emerging Asia. Amid the broadening of the economic slowdown and tight global financial conditions, export growth declined sharply in the second half of the year, especially in small open economies, such as Singapore, Taiwan P.o.C. and Hong Kong S.A.R. The overall slowdown in economic activity was also driven by a weakening of domestic demand owing to deteriorating consumer and business confidence, and the downturn in real estate investment.

Rising commodity and food prices led consumer price inflation to increase in many countries in the first half of the year. In some countries, this led to an erosion of consumer purchasing power and some weakening in consumption expenditure. However, inflationary pressures started to ease in the second half of the year, owing to a significant decline in the prices of oil and food products. Given these countries' relatively sound macroeconomic performance and limited direct exposure to derivatives linked

Chart 2b Main developments in major emerging economies



to sub-prime mortgages, until mid-September there were only low levels of spillover from the financial turmoil into economic activity. Since then, however, the sudden shift towards risk aversion and the strong deleveraging at the global level have induced a significant sell-off on equity markets and a sharp depreciation of local currencies in most of emerging Asia. Financial market volatility has varied across countries. Its impact on China was more contained owing to the relatively closed and less developed state of its financial system, while stronger financial market volatility in Korea and Indonesia was observed amid concerns about the high level of domestic debt and falling commodity prices respectively.

As regards the Chinese economy, real GDP growth declined from 13% in 2007 to 9% in 2008. The economic slowdown was driven by both external and domestic factors. Reflecting the trade surplus and money inflows induced by expectations of steady exchange rate appreciation and a positive interest rate differential until September 2008, the foreign reserves continued to rise, totalling USD 1.9 trillion in 2008. Consumer price inflation peaked in February at 8.7%, but then dropped significantly in response to the stabilisation of domestic food prices. In September, when inflation had receded and the global financial crisis was intensifying, Chinese authorities shifted policies towards measures aimed at enhancing economic growth. The People's Bank of China started to ease its monetary policy stance: the one-year benchmark lending and deposit rates were cut respectively five and four times by a total of 216 and 189 basis points, and the reserve requirement ratio was lowered by 200-400 basis points, depending on the institution. Furthermore, the steady pace of appreciation of the renminbi against the US dollar halted in the fourth quarter.

LATIN AMERICA

Economic growth in Latin America was robust in the first half of 2008 (around 5% in South America, but only 2.1% in Mexico), while inflationary pressures were elevated and rose throughout the year, with inflation rates for the region increasing to 8.7% in 2008 from 6.1% in 2007. Countries with fixed or quasi-fixed exchange rates recorded higher inflation than those with an inflation-targeting regime. Improved macroeconomic fundamentals, high commodity prices and strong domestic demand continued to support the economic outlook in the first half of 2008, but also resulted in increased inflationary pressures. However, from mid-September 2008 external financial conditions deteriorated as the global financial crisis unfolded. In particular, spreads on credit default swaps on Latin American sovereign debt widened considerably, especially in Argentina and Venezuela (by around 4,000 and 3,000 basis points respectively at the end of the year). In addition, currencies fell vis-

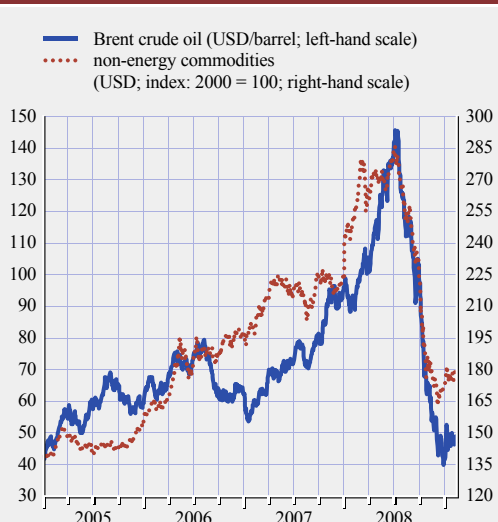
à-vis the US dollar, equity markets dropped significantly by around 50% over the year and liquidity shortages emerged. Brazil and Mexico were particularly hit by liquidity shortages, as large outflows affected the financial landscape of the region.

SHARP DECLINES IN COMMODITY PRICES IN THE SECOND HALF OF 2008

Commodity price developments attracted a great amount of attention throughout 2008. In the first half of the year, oil prices continued to surge with increasing momentum and peaked on 11 July at USD 147.5 per barrel of Brent crude oil (see Chart 3). Thereafter, prices started to decline, and the downward trend was exacerbated by the financial market turmoil. At the end of 2008, prices stood at USD 39.5 per barrel. Measured in euro terms, this corresponds to roughly the level recorded in December 2004. For the year as a whole, the average price of Brent crude oil was USD 98.3, which was 35% above the average of the previous year.

The first half of the year was characterised by very tight market conditions. On the supply side, non-OPEC supply figures repeatedly

Chart 3 Main developments in commodity markets



Sources: Bloomberg and Hamburg Institute of International Economics.

disappointed expectations. This development forced OPEC to increase production to match demand. In turn, this led to an exceptionally low spare capacity in OPEC member countries, amplifying concerns over possible supply disruptions owing to geopolitical events. On the other hand, demand continued to grow robustly. While increasing prices caused demand to moderate in OECD countries, this did not happen in emerging economies, where oil imports were buoyant owing to strong economic growth and government subsidies. Against this background, stocks in OECD countries declined, and prices proved extremely reactive to any news or rumours suggesting gloomier conditions for the supply-demand balance.

In mid-July stocks in the United States started to increase counter-seasonally, which triggered the subsequent price correction. The decline was exacerbated by the financial market turmoil and its impact on the global economic outlook. This led to the heavy downward revision of demand projections, including for emerging economies. Against this background, OPEC acted to stabilise prices by means of sizeable supply cuts.

The prices of non-energy commodities were also extremely volatile throughout the year (see Chart 3). The index increased strongly in the first quarter of 2008, mainly driven by agricultural commodities, and moved sideways thereafter. As energy prices started to decline, non-energy commodity prices followed, with the subsequent financial market turmoil hitting metals prices in particular. In aggregate terms, non-energy commodity prices (denominated in US dollars) increased by an average of approximately 14% in 2008 compared with the previous year.

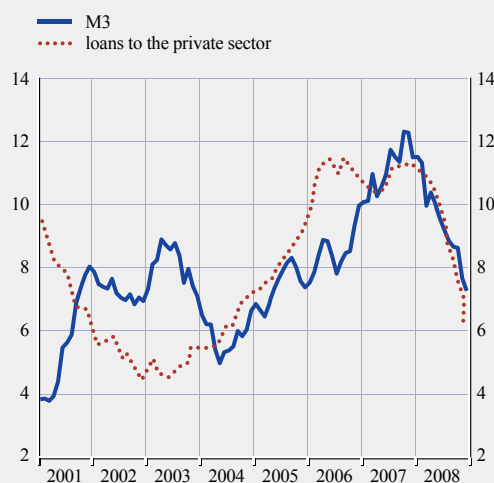
2.2 MONETARY AND FINANCIAL DEVELOPMENTS

THE UNDERLYING PACE OF BROAD MONEY GROWTH MODERATED IN THE COURSE OF THE YEAR, WHILE NONETHELESS REMAINING ROBUST

Having peaked in the fourth quarter of 2007, the underlying pace of broad money and credit growth in the euro area moderated in

Chart 4 M3 and loans to the private sector

(annual percentage changes; adjusted for seasonal and calendar effects)



Source: ECB.

the course of 2008. This is reflected in the declining annual growth rates of both the broad monetary aggregate M3 and MFI loans to the private sector, which fell to 7.3% and 5.8% respectively in December 2008, substantially lower than the 11.5% and 11.2% seen a year earlier (see Chart 4).

Despite moderating steadily, M3 growth remained robust in 2008. This partly reflected a stimulative effect stemming from the relatively flat euro area yield curve, which encouraged shifts from longer-term assets into short-term monetary instruments (notably MFI time deposits) that offered similar levels of remuneration but were subject to less risk. Such effects are unlikely to continue once the slope of the yield curve normalises. However, when these and other temporary effects are taken into account using a broad-based analysis of the monetary data, the trend rate of broad monetary expansion remained robust at the end of the year, as reflected, for instance, in the strong growth of household deposits.

The moderation of broad money and credit growth in the course of 2008 largely reflected the impact of past increases in interest rates,

generally tighter financing conditions and the slowdown in economic activity. Although at times the prevailing financial tensions had a significant impact on those specific components and counterparts of M3 that were most closely related to the nature of the turmoil (e.g. holdings of money market fund shares/units), the financial turmoil did not, overall, give rise to sharp

breaks in the moderating trend of broad money and credit growth. Meanwhile, the results of the Eurosystem's bank lending survey suggest a progressive tightening of credit standards over the course of the year. For a more detailed analysis of the impact that the financial turmoil has had on monetary analysis at the euro area level, see Box 1.

Box 1

THE IMPACT OF FINANCIAL MARKET TENSIONS ON MONETARY DEVELOPMENTS

The financial tensions that started in August 2007 have had a profound impact on shorter-term developments in some items on the MFI balance sheet, leading in a number of cases to significantly higher volatility and changes in the direction of growth. This box discusses examples of such visible effects in different phases of the period of tension. Three broad phases are used as reference points: the phase in which the tensions started, covering the period from August 2007 to February 2008 (including the uncertainties that prevailed at the end of 2007), the phase from March 2008 to mid-September 2008, and the phase from mid-September 2008 onwards, in which the tensions intensified.

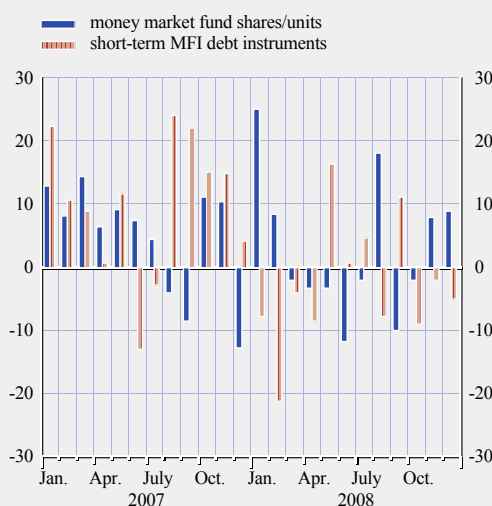
Visible effects on the components of M3

One example of the financial tensions having a clear impact on the components of the monetary aggregate M3 is their effect on marketable instruments such as money market fund shares/units or short-term MFI debt securities. The volatility of the monthly flows into/out of these instruments has increased, although there have been distinct periods of outflows and inflows (see Chart A). That increased volatility has coincided with substantial declines in the annual growth rates of these instruments.

The increases in uncertainty observed during the first phase of the tensions were reflected in sizeable outflows from money market funds both at the very start of the tensions in August 2007 and again in December 2007, driven by concerns about the exposure of some euro area money market funds to asset-backed securities. However, these outflows appear to have been reversed in subsequent months, and the rebound in January 2008 was the largest inflow recorded since the start of Monetary Union. In the second phase, the monthly flows were mostly negative

Chart A Monthly flows into or out of money market fund shares/units and short-term MFI debt instruments

(EUR billions; adjusted for seasonal and calendar effects)



Source: ECB.

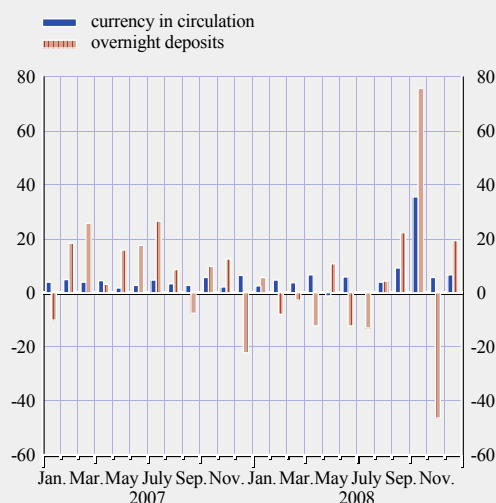
but small, and those cumulative outflows were more or less offset by a strong inflow in August, just before the tensions intensified. The third phase then saw outflows in September and October, which, by contrast with the outflows in the first phase, were due to an increase in risk aversion towards money market funds on a wider scale triggered by the collapse of Lehman Brothers and losses incurred by US money market funds investing in its commercial paper. This was exacerbated by the fact that banks' funding behaviour led to a rechannelling of funds from money market funds into favourably remunerated bank deposits. However, in the final two months of 2008, despite the fact that the enhanced deposit guarantee schemes announced by governments do not cover money market funds, positive flows were recorded again, suggesting that euro area residents' fears regarding the possible failure of such funds have been fading away.

Developments in short-term debt securities with a maturity of up to two years were, to some extent, a mirror image of those in money market funds, implying that the overall effect on shorter-term developments in the broader monetary aggregates was limited. This can be explained by the attractive remuneration of short-term debt securities, which may have led institutional investors in particular to initially hold them as a substitute for money market fund shares when the latter were perceived to be exposed to counterparty credit risk. In the second phase, the perceived counterparty credit risk gradually shifted to credit institutions and tended to result in money holders acquiring a much smaller amount of short-term MFI debt securities. In the third phase, while there was a large inflow into debt securities in September, monthly flows turned negative in the last three months of 2008, reflecting the reluctance of the money-holding sector to acquire these instruments on a net basis.

By contrast with marketable instruments, there has been little visible impact on other components of M3. An impact on M1 was visible only in the third phase of the crisis, when the default of Lehman Brothers triggered more widespread concerns about the stability of banking systems and led to considerable withdrawals of cash from euro area banks (see Chart B). In October 2008 currency in circulation was around €35 billion higher than in previous months. Flows normalised again in November and December, though the October increase did not unwind, suggesting that the sizeable share of additional currency in circulation may largely reflect demand by non-residents. A similar pattern was observed for overnight deposits, with strong inflows in October as the high level of uncertainty prompted money holders to keep their funds in highly liquid deposits. In this respect, overnight deposits have been used on a temporary basis to park funds transferred from other types of deposit or received following the sale of long-term debt securities and shares. These inflows were reversed in November in line with the announcement of government measures to support the banking system and thus the return of remuneration considerations in the allocation of funds. Renewed inflows

Chart B Monthly flows into or out of currency in circulation and overnight deposits

(EUR billions; adjusted for seasonal and calendar effects)



Source: ECB.

were recorded in December, but these could simply signal a desire on the part of money holders – and non-monetary financial intermediaries other than insurance corporations and pension funds (other financial intermediaries – OFIs) in particular – to hold liquid assets at the turn of the year.

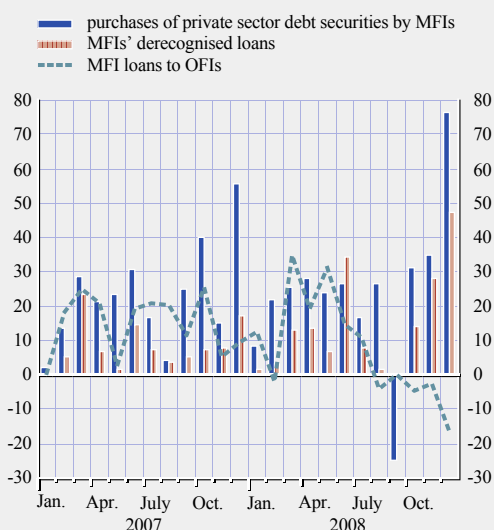
Visible effects on the counterparts of M3

Turning to the counterparts of M3, the dynamics of overall credit to the private sector did not change substantially as a consequence of the financial tensions. However, there were more visible changes at more disaggregated levels.

In particular, the flow of loans to OFIs was strong in the first phase of the tensions, reflecting the fact that conduits set up by banks and classified as OFIs, faced with investors' increased reluctance to fund them, tapped credit lines granted by their sponsoring banks (see Chart C). The flow remained considerable for most of the second phase; however, it is probable that this increasingly reflected the short-term need for financing and liquidity buffers on the part of investment funds. Whereas during the first phase MFIs provided funding to their conduits in the OFI sector directly through loans, in the second phase they did so by purchasing those conduits' debt securities. This increasingly took the form of "retained securitisation operations", whereby MFIs sold part of their loan book to special-purpose vehicles and bought back the underlying securities in order to use them as collateral in Eurosystem operations. This led to a reduction in the contribution of loans to the expansion in overall MFI credit and a corresponding increase in the contribution of debt securities. In the third phase of the tensions, retained securitisation operations and their impact on the MFI balance sheet became even more important as the extent to which MFIs used debt securities to receive liquidity from the Eurosystem increased. At the same time, lending to OFIs declined, reflecting a fall in intermediation in connection with the slowdown in real activity.

Chart C Monthly flows of loans to OFIs, debt securities purchased by MFIs and MFIs' derecognised loans

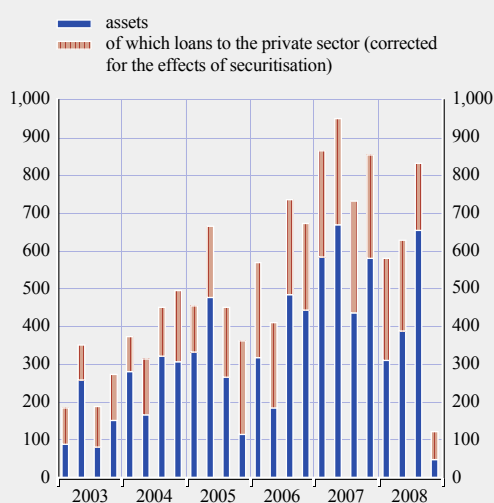
(EUR billions; adjusted for seasonal and calendar effects)



Source: ECB.

Chart D Credit institutions' asset holdings and loans to the private sector

(quarterly flows; EUR billions; adjusted for seasonal effects)



Source: ECB.

The large number of securitisation operations, especially in the second and third phases of the tensions, also had an impact on the dynamics of loans to the private sector (particularly loans to households), as the derecognition of securitised loans reduced net loan flows by up to €35 billion per month. Overall, this suggested a stronger decline in the availability of funding to the non-financial private sector than was actually the case. Despite the decreasing growth rate of loans to the private sector, their contribution to the changes in flows into and out of total MFI assets has typically been stable. The volatility observed in the flows of MFI assets was due mainly to assets other than originated loans to the private sector (see Chart D). However, this changed in the last two months of the year, when an outflow was recorded from credit institutions' assets, while in December loan flows to the private sector were negative even after correcting for the effect of securitisation operations. This might be explained by increased deleveraging at the end of the year in order to “window dress” balance sheets.

Conclusions

The period of financial tensions has triggered considerable short-term movements in specific sub-components of the broad money and credit aggregates. This has made the extraction of the policy-relevant underlying trends in monetary developments more challenging, but at the same time provided important insights as regards the conditions in the financial sector and the non-financial sector's access to financing.

THE INTENSIFICATION OF THE FINANCIAL TENSIONS IN MID-SEPTEMBER AFFECTED MONETARY DEVELOPMENTS

Financial market developments following the bankruptcy of Lehman Brothers in mid-September triggered changes in the behaviour of the banking and money-holding sectors. Given the potential for the intensification of the financial turmoil to have an impact on asset prices, wealth, financial institutions and confidence, the MFI balance sheet is likely to be affected in various ways with differing degrees of intensity and a variety of different time lags. For example, this intensification of the financial market tensions could trigger portfolio shifts both between monetary and non-monetary assets and between individual monetary instruments. Consequently, the overall impact is difficult to anticipate.

The data available up to December 2008 suggest that as the financial tensions became more acute, this led to significant shifts between the various components of broad money. For example, flows into M1 increased substantially during September and October, reflecting an increased preference for liquid assets in the presence of

financial uncertainty (including uncertainty regarding the health of the banking sector), leading to a reversal of the overall downward trend of M1. However, the overall impact on headline M3 was relatively minor, particularly if one looks through the month-to-month volatility. Moreover, while banks had to resort to different funding mechanisms (as reflected in their issuance and holdings of debt securities), there is little indication of a sharp break in the supply of bank loans after mid-September that would imply the drying-up of loans to the non-financial private sector, although monthly developments have moderated since then. However, the results of the Eurosystem's bank lending survey point to the progressive tightening of the credit standards applied to loans.

DEVELOPMENTS IN THE COMPONENTS OF M3 WERE INFLUENCED MAINLY BY THE FLAT YIELD CURVE

On the components side, the annual growth rate of M1 continued to moderate up until the third quarter of 2008, standing at 0.2% in August, markedly below the rate of around 6% recorded in the fourth quarter of 2007. This moderation

was driven mainly by developments in overnight deposits, for which a negative annual flow was observed in the third quarter. Overall, M1 growth in 2008 continued to be influenced mainly by the dampening effect resulting from the rising opportunity cost of holding M1 associated with the increases in interest rates as of December 2005. That effect was probably partially offset by the desire to hold M1 as a buffer in the context of the financial market turmoil. From mid-September onwards, however, holdings of M1 appeared to gain some momentum following the increase in financial tensions (see Box 2).

Box 2

DEVELOPMENTS IN THE EURO AREA MONEY MARKET IN THE CONTEXT OF THE FINANCIAL TURMOIL

The financial turmoil that started in August 2007 continued into 2008 and intensified in the autumn of that year, posing considerable challenges as regards the functioning of the interbank money market and the Eurosystem's liquidity management. This box describes the developments in the main segments of the euro area money market in 2008, relates developments to underlying factors in the global financial markets and explains the Eurosystem's decisions on liquidity management in response to the tensions.

The origins of the crisis

In August 2007 the global financial system entered a period of considerable turbulence, triggered primarily by the impact that rising delinquency rates for US sub-prime mortgages had on the valuation of a broad class of mortgage-based securities. The complexity and opacity of the structured securities, together with the absence in many cases of a market price for these instruments, made these products difficult to value, with adverse implications for the evaluation of banks' overall balance sheets. More precisely, investors retreated from structured investment vehicles (SIVs) and conduits that were based on asset-backed securities derived from the securitisation of US sub-prime mortgages and became reluctant to hold or roll over asset-backed commercial paper (ABCP) issued by these investment vehicles. As a consequence, banks faced the risk of having to reintermediate such SIVs onto their balance sheets and/or provide funding to SIVs and conduits issuing ABCP. As banks became increasingly concerned about their liquidity and balance sheets, they became less willing to provide funds to other banks. The complexity and opacity of many of these products increased banks' reluctance to participate in interbank transactions, both because banks doubted the creditworthiness of their potential counterparties and because banks were uncertain about their own exposures (with regard to capital and liquidity) derived from conduits and SIVs. As a consequence, banks hoarded liquidity. Liquidity diminished in the interbank money market, impairing the functioning, in particular, of the longer-term unsecured deposit markets (owing to banks' preoccupation with the possible risk exposures of their counterparties), non-government repo markets, commercial paper markets and foreign exchange swap markets.

Although considerable progress has since been made in identifying and valuing exposures to the complex securities at the epicentre of the market turbulence, there is still uncertainty about the losses that will ultimately be suffered by investors and financial institutions across the globe. Money markets therefore remained under strain throughout 2007 and 2008.

The evolution of the crisis in 2008

In reviewing developments in money markets in 2008, it is useful to divide the year into four broad periods: January to February; March to June; June to September; and September onwards. For each of these periods, the driving events, the market reactions and the measures adopted by the ECB are described.

The period from January to February 2008

The first period covers the first two months of 2008, during which no major disruptive events occurred in the euro area money market. However, unsecured money markets remained volatile, with interest rates generally falling from the peaks observed at the end of 2007 as the end-of-year effects wore off (see Chart 9). Secured rates remained largely stable, given that the ECB's monetary policy remained unchanged. As a consequence, the spread between the secured and unsecured money market rates broadly declined (see Chart 10).

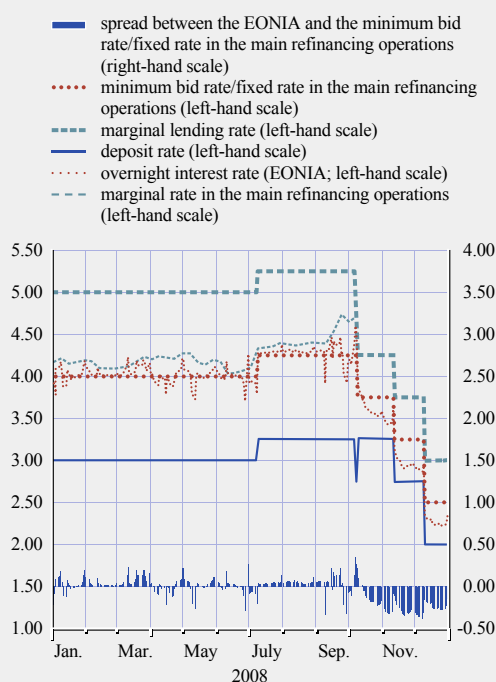
In 2008 the ECB continued to emphasise the separation it maintains between monetary policy decisions and the liquidity management necessary in order to ensure the smooth functioning of the markets. The ECB continued its policy of allocating liquidity in excess of the benchmark amount in its main refinancing operations, while still aiming for balanced conditions at the end of maintenance periods. Moreover, the ECB increased the maturity of its operations by increasing the amounts allotted in longer-term refinancing operations at the expense of main refinancing operations with a view to smoothing out conditions in the term money markets and conducted fine-tuning operations at the end of maintenance periods in order to offset liquidity imbalances. Overall, the ECB made full use of the flexibility provided by its implementation framework. The liquidity framework was kept unchanged until September. As a consequence, the EONIA remained fairly close to the minimum bid rate in the main refinancing operations, although it was relatively volatile (see Chart A).

The period from March to June 2008

The collapse in mid-March of Bear Stearns, one of the largest investment banks and securities trading and brokerage firms in the United States, triggered a period of renewed market tension amid concerns about continuing bank losses, the deteriorating macroeconomic environment and rising oil prices. This lasted until approximately mid-June. During that period unsecured money market rates increased markedly, particularly longer-term rates. This development partly reflected increased money

Chart A ECB interest rates and the overnight interest rate

(percentages per annum; daily data)



Sources: ECB, Bloomberg and Reuters.

market tensions, particularly for longer maturities, as well as increases in market expectations regarding the future path of key ECB interest rates, which were at the time more pronounced for the latter part of 2008 and thus had a greater impact on rates with longer maturities. Secured rates continued to be broadly stable, with the result that the spread between unsecured and secured rates was again determined mainly by the behaviour of unsecured rates. This period saw greater volatility in the EONIA and an increased need for liquidity provided by the Eurosystem, as suggested by the higher marginal rates in the main refinancing operations. The continuation of the Eurosystem's liquidity measures helped to address these needs to a large extent.

The period from June to September 2008

The period between mid-June and mid-September 2008 was, overall, a period of stability in the markets. Further events related to financial stability in other major economies (such as the US government takeover of government-sponsored enterprises Fannie Mae and Freddie Mac on 7 September) did not trigger any agitation in money markets. Unsecured markets, albeit still strained, were more stable, while a slight increase tended to be observed in interest rates in the secured markets, in line with the Governing Council's decision to increase the minimum bid rate in the main refinancing operations to 4.25% on 3 July. As a consequence, the spread between unsecured and secured rates at the three-month horizon declined, but did not reach the low levels of January and February. The EONIA enjoyed a period of low volatility from July until the beginning of September, when tensions resurfaced prior to the events of mid-September.

The period from September 2008 onwards

A more troubled period started in mid-September, strongly affecting the behaviour of money markets until the end of the year. There was a resurgence in tensions, which reached unprecedented levels in mid-September, when, in the space of a few days, the markets witnessed the selling-off of Merrill Lynch and the bankruptcy of Lehman Brothers (two of the four remaining global investment banks), the US government's provision of emergency liquidity to AIG, the biggest US insurance company, and the seizing by federal regulators of Washington Mutual, the largest savings and loan association in the United States. In October spillover effects were felt more widely in the euro area, while money markets suffered further tensions as a result of a sharp slump in equity markets amid the deteriorating macroeconomic environment.

Market tensions intensified significantly and credit risk premia increased to levels above those seen previously during the period of financial turmoil. Unsecured market rates, especially for short maturities, rose sharply after the failure of Lehman Brothers as the effects of that default cascaded through the euro area banking system. The implied volatility derived from options on three-month EURIBOR futures, which experienced a prolonged period of decline from March to September, increased dramatically in mid-September and reached unprecedented levels in October (see Chart B).

The Eurosystem acted quickly and decisively in response to the acute reintensification of the turmoil. The Governing Council made a number of temporary changes to its liquidity implementation framework, aimed, in particular, at strengthening its intermediation function and reassuring the markets about liquidity risks. Specifically, on 8 October the Eurosystem took the exceptional decision to temporarily conduct its main refinancing operations as fixed rate tender procedures with full allotment at the main refinancing rate and to reduce the corridor formed by the standing

facilities around the interest rate on the main refinancing operations from 200 basis points to 100 basis points (a decision that was reversed on 18 December with effect from 21 January 2009). Moreover, on 15 October the Eurosystem decided to provide enhanced longer-term refinancing until the first quarter of 2009, as well as expanding its collateral framework. At the same time, governments across the euro area made coordinated efforts to support bank solvency.

Consequently, as of October 2008 unsecured rates declined again, falling to levels lower than those observed earlier in the year. Those declines were supported by market expectations of further cuts in key ECB interest rates in the coming months. The implied volatility derived from options on three-month EURIBOR futures also tended to decline, albeit remaining much higher than the levels observed prior to September.

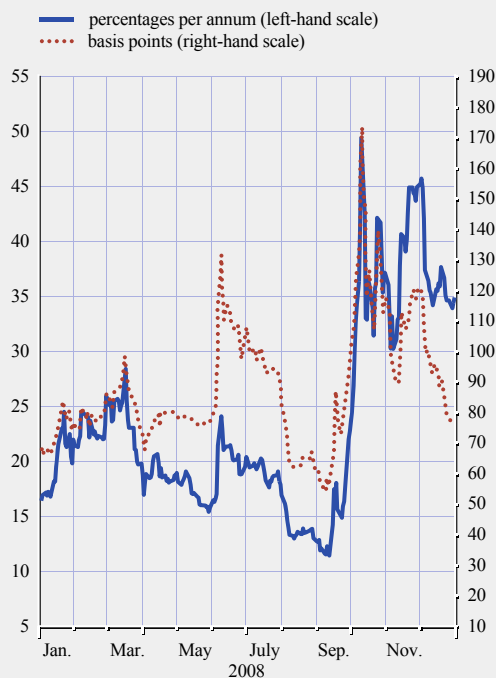
A significant and unprecedented increase was recorded in the spread between three-month secured and unsecured market rates in the weeks that followed Lehman Brothers' bankruptcy. During that period secured and unsecured market rates moved in opposite directions, with secured rates dropping fast in anticipation of future cuts in key policy rates. That steep decline in secured rates continued from late October until the end of the year, in line with cuts in key ECB interest rates and market expectations of further rate cuts. The fact that declines were observed for both secured and unsecured market rates as of late October meant that the spread remained relatively large and volatile.

Finally, looking at rates for very short maturities, the turmoil during the period from September to October dramatically increased banks' demand for liquidity, as attested to by the significant spread that developed between the marginal rate and the minimum bid rate in the main refinancing operations. This led to the Eurosystem supplying generous amounts of liquidity, which tended to drive the EONIA below the interest rate in the main refinancing operations. Before the introduction of the new framework, these declines were reversed at the end of every maintenance period. However, following the changes to the framework in mid-October and November, the EONIA tended to linger at levels below the fixed rate in the main refinancing operations, in line with the abundant liquidity provided to the markets.

Overall, the euro area money markets were relatively volatile during 2008 and were confronted with considerable challenges. In particular, in the fourth quarter of the year the tensions in the financial markets intensified greatly compared with 2007, as a number of adverse shocks hit the

Chart B Implied volatility derived from options on three-month EURIBOR futures maturing in March 2009

(percentages per annum; basis points; daily data)



Sources: Bloomberg, Reuters and ECB calculations.
 Note: The basis point measure is obtained as the product of implied volatility in percentages and the corresponding interest rate (see also the box entitled "Measures of implied volatility derived from options on short-term interest rate futures" in the May 2002 issue of the ECB's Monthly Bulletin).

banking and financial system. At the same time, the macroeconomic conditions steadily worsened and significantly burdened the already fragile financial markets. Consequently, the money market tensions in the fourth quarter of 2008 were much stronger and had a more lasting impact on money market rates. Nevertheless, the Eurosystem stepped up its efforts to ensure that market participants had access to liquidity, which – combined with government measures – helped to avoid any further deterioration in the banking sector. In this regard, throughout the year the ECB made full use of the flexibility provided by its implementation framework and continued to emphasise in its communication the importance of separating monetary policy decisions from the implementation of liquidity policy in order to ensure the smooth functioning of the markets. The monetary policy stance was aimed at achieving the price stability objective, while liquidity management measures were aimed at supporting continuity and the smooth functioning of the money markets.

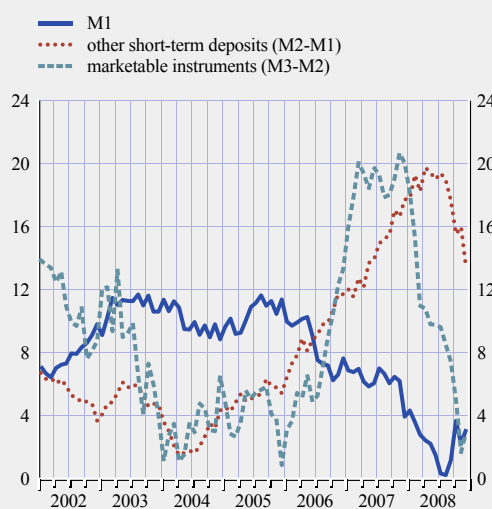
In 2008 short-term deposits other than overnight deposits (i.e. M2-M1) remained the most dynamic component of M3. However, following sustained strengthening as of mid-2004, which continued – albeit more moderately – in the first half of 2008, the annual growth rate of short-term deposits other than overnight deposits declined in the second half of the year, falling to 13.3% in December 2008 (see Chart 5). These deposits' contribution to annual M3 growth continued to increase in the course of 2008, reaching 7.4 percentage points in the third quarter, partly offsetting the declines observed for the other components of M3. It lost momentum, though, in the fourth quarter of the year in line with the decline in the growth rate. However, this strong growth masks divergent developments across the various sub-components, as the ongoing strong inflows for short-term time deposits (i.e. deposits with an agreed maturity of up to two years), which grew at an annual rate of around 40% in 2008, were accompanied by a continued decline in the holdings of deposits redeemable at notice of up to three months, which fell by more than 2% on average in the course of the year.

Up until the fourth quarter of the year the remuneration of short-term time deposits broadly followed the rise in short-term money market interest rates. Thus, the spread vis-à-vis the remuneration of short-term savings deposits and overnight deposits widened, as the remuneration of these deposits generally increased more slowly and modestly

(see Chart 6). This supported shifts within M3, namely from M1 and savings deposits into time deposits. At the same time, with a relatively flat yield curve, short-term time deposits offer a rate of remuneration that is similar to that of longer-term assets. Since longer-term assets are less liquid and holding them typically implies somewhat greater risk, a flat yield curve tends to increase the attractiveness of shifting funds into monetary assets from outside M3. The intensification of the financial tensions in the fourth quarter of the year further increased

Chart 5 Main components of M3

(annual percentage changes; adjusted for seasonal and calendar effects)



Source: ECB.

Chart 6 MFI interest rates on short-term deposits and a money market interest rate

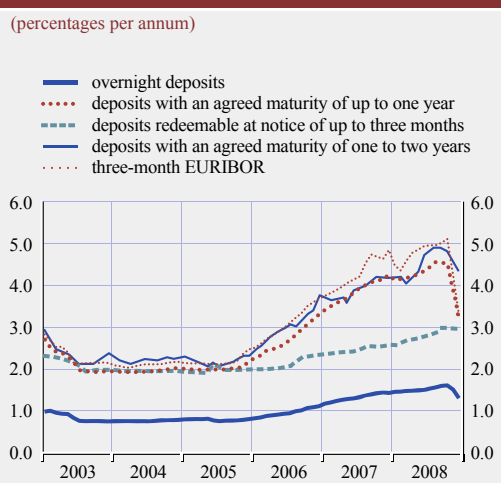
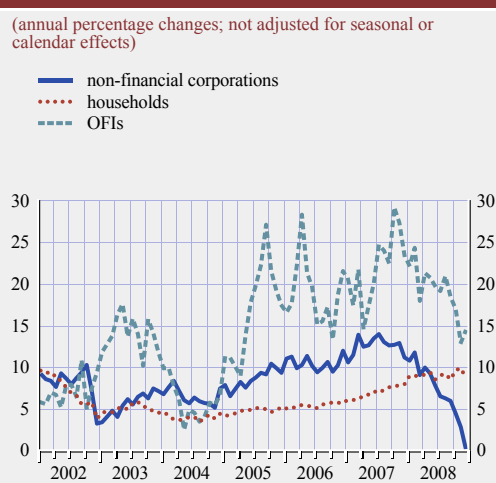


Chart 7 Sectoral deposits



the attractiveness of time deposits, with banks making additional efforts to attract such deposits at a time when it was difficult to obtain funding in the wholesale money markets and with bank deposit guarantees being raised.

Following sustained increases in 2007, the annual growth rate of marketable instruments (i.e. M3-M2) declined significantly in the course of 2008, reaching a low of 1.7% in November. It then recovered slightly to stand at 3.0% in December, down from 20.0% in December 2007. Developments in these instruments resulted mainly from the marked declines recorded in the annual growth rates of money market fund shares/units and debt securities with a maturity of up to two years. As a result, marketable instruments' contribution to the annual growth rate of M3 declined, standing at 0.6 percentage point in the fourth quarter of 2008, compared with 2.7 percentage points in the fourth quarter of 2007.

THE GROWTH OF HOUSEHOLDS' MONEY HOLDINGS REMAINED STRONG

The broadest aggregation of M3 components for which reliable information is available by holding sector is short-term deposits and

repurchase agreements (hereafter referred to as "M3 deposits"). The annual growth rate of households' M3 deposits reached 8.8% in December 2008 (see Chart 7), thereby making the largest contribution to aggregate M3 deposit growth. Thus, the upward trend observed since mid-2004 in the growth rate of households' M3 deposits continued in 2008, despite showing signs of stabilisation in line with the weakening of economic activity. The continued robust growth of households' M3 deposits – the sectoral component that captures the bulk of traditional bank deposits, those that are least affected by financial innovation – supports the view that underlying broad money growth remained strong at the end of 2008.

By contrast, having levelled off in mid-2007 and declined somewhat in the second half of that year, the annual growth rate of M3 deposits held by non-financial corporations declined further in the course of 2008, standing at 0.3% in December, down from 11.3% at the end of 2007. This may reflect an ongoing marked deterioration in the cash flows of non-financial corporations, given the cyclical nature of this sector's money demand. It may also indicate that non-financial corporations are using their

cash flows to compensate for a reduction in loan growth. Similarly, the growth rate of M3 deposits held by OFIs showed a high degree of volatility in the course of the year and declined by more than 5 percentage points in 2008 to reach 17.5% on an annual basis in December. However, the annual growth rate of OFIs' M3 deposits remained significantly stronger than that observed in other sectors. This probably reflected the fact that, given the current financial environment, investment funds needed to maintain cash buffers in order to accommodate possible redemptions. Those buffers may also have been bolstered by loans from parent MFIs.

GROWTH IN CREDIT TO THE PRIVATE SECTOR MODERATED

After strengthening in 2007, the annual growth rate of MFI credit to euro area residents declined in 2008, falling from 10.1% in December 2007 to 6.5% in December 2008 (see Chart 8). This mainly reflected a significant decline in the annual growth rate of credit to the private sector, while the annual growth rate of credit extended to general government turned positive. Three-month annualised growth rates, an indicator of short-term developments, declined more markedly, falling from 12.0% in December 2007 to 6.9% in September 2008 and 3.9% in December 2008.

In particular, MFI loans to general government increased somewhat, especially in the second half of the year, and while the amount of general government debt securities in MFIs' portfolios declined at the beginning of the year, it increased strongly in the final quarter. It should also be mentioned in that regard that some volatility was observed towards the end of the year, with a decline recorded in September and October in the MFI sector's holdings of government securities. That decline is linked to the deleveraging of credit institutions given the liquidity of government bond markets and the favourable nature of price developments. This decline can be seen as an indication that credit institutions have been using their more liquid assets as buffers in order to absorb the pressures

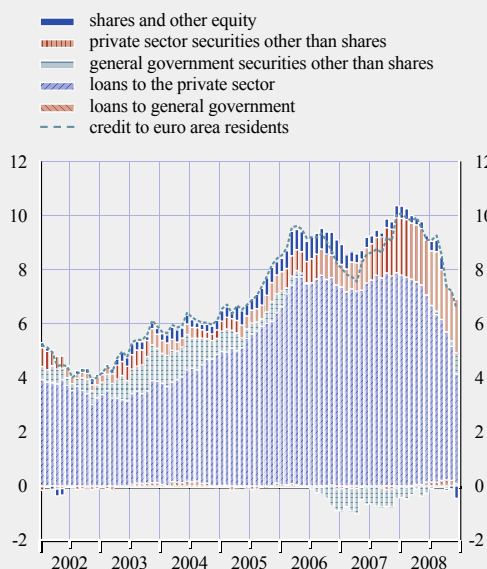
on their capital positions and funding, with a view to shielding their core, relationship-based business, namely the granting of loans to firms and households. By contrast, the November and December data indicate a substantial increase in the holdings of government debt securities.

The annual growth rate of MFI credit to the private sector remained robust in early 2008, continuing the trend observed in 2007, before declining in the second half of the year. Loans to the private sector, despite decelerating markedly, remained the dominant form of credit granted by MFIs in 2008, although the contribution of MFIs' purchases of securities other than shares increased moderately. That increased contribution largely reflected MFIs' purchases of securities issued by OFIs in the context of securitisation activities.

The annual growth rate of MFI loans to the private sector, the largest component of credit to the private sector, declined to stand at 7.3% in the fourth quarter of 2008 and 5.8% in December,

Chart 8 Credit to euro area residents

(annual percentage changes; contributions in percentage points)



Source: ECB.

Note: The reporting sector comprises MFIs excluding the Eurosystem.

after hovering around 11% at the start of the year. This decline was in line with the expected impact of the increases seen in bank lending rates as of late 2005, the ongoing slowdown in the housing market, the tightening observed in credit standards in the course of the year and developments in economic activity more generally. The three-month annualised growth rate declined sharply in late 2008, falling from 6.8% in September to 2.7% in December taking into account the effect of securitisation.

The overall deceleration in lending to the private sector was broadly based across the various money-holding sectors, although the level of adjustment varied from sector to sector. The annual growth rate of loans to households showed a marked decline, continuing the trend observed in 2007, while the declines observed in the annual growth rates of loans to non-financial corporations and non-monetary financial intermediaries were slightly smaller. In fact, the momentum observed at the end of 2007 in loans to non-financial corporations and non-monetary financial intermediaries continued in the first quarter of 2008, with a decline in the annual growth rate of loans to non-financial corporations not being recorded until the second quarter of the year.

The moderation observed in the annual growth rate of loans to households was driven mainly by the falling annual growth rate of loans for house purchase, which reflected the ongoing moderation in the housing market dynamics of a number of euro area economies, as well as tightening financing conditions and the impact of past increases in interest rates and weakening economic prospects. At the same time, securitisation activity continued to distort loan growth to some extent. In fact, the impact that true-sale securitisation activities had on annual flows reduced the annual growth rate of MFI loans to the private sector by around 1.7 percentage points in December (slightly above the average for the year). However, the nature of these securitisation activities differed from that observed prior to the onset of the market turmoil, as MFIs kept the securitised assets on their own balance sheets in order

to submit them as collateral in Eurosystem operations. Nevertheless, even taking this adjustment into account, loan growth slowed substantially in the course of the year.

The annual growth rate of MFI loans to non-financial corporations declined in 2008, although it remained strong in historical terms. Those corporations' demand for loans remained robust in the first half of the year, although the Eurosystem's bank lending survey pointed to a slight moderation. The annual growth rate of loans to non-financial corporations began to decline in the second half of 2008, but remained robust. Various factors may be supporting the ongoing dynamism of such loans. First, the fact that longer-maturity loans are the most resilient component may indicate that some frontloading of borrowing has been taking place in anticipation of a future deterioration in the availability of credit. Moreover, this may also reflect a shift from debt securities to loans in MFIs' financing of non-financial corporations. The data for the fourth quarter of 2008 point to a further moderation in the short-term dynamics of loans to non-financial corporations, which is in line with the cyclical environment and the tighter financing conditions, although it is impossible to rule out the possibility of supply factors also having played a role.

In conclusion, loan developments in 2008 appeared to reflect a robust yet declining flow of financing from banks to non-financial corporations and households, with little evidence of these sectors' access to bank loans being significantly impaired, even after the intensification of the financial tensions in mid-September. However, a significant weakening of growth in corporate credit was observed at the end of the year. Furthermore, the results of the Eurosystem's bank lending survey point to significant tightening of credit standards.

Among the other counterparts of M3, the annual growth rate of MFI longer-term financial liabilities (excluding capital and reserves) held by the money-holding sector declined substantially, reaching 1.0% in the fourth

quarter of 2008 and -0.1% in December, having stood at 8.5% at the end of 2007. Developments are especially relevant in the case of two sub-components, namely longer-term deposits and MFI debt securities. The reduction observed in the growth rate of holdings of longer-term deposits may reflect a shift towards shorter maturities given the shape of the yield curve and the intensification of financial tensions, while developments in long-term debt securities issued by MFIs point to the difficulty of obtaining funding through this source.

The net external asset position of the MFI sector displayed two different trends in the course of 2008. Sizeable capital outflows were observed in the first half of the year, averaging more than €30 billion per month, followed by smaller inflows in the second half. Those outflows were probably driven to a large extent by non-euro area residents selling euro area assets (i.e. shifts out of euro area assets), while the inflows reflect the fact that external liabilities declined more strongly than external assets. As a result, the annual inflows observed in MFIs' net external asset position in the course of 2007 became annual outflows at the start of 2008. Those annual outflows peaked at almost €300 billion in July, before decreasing thereafter. These continued outflows probably reflect the ongoing rebalancing of international portfolios, particularly in relation to the deterioration of economic prospects in the euro area and the need to obtain liquidity. The monetary presentation of the balance of payments reveals that the annual outflows observed in MFIs' net external asset position mainly reflect a decline in net portfolio investment in equity.

MONEY MARKET TENSIONS INTENSIFIED IN THE CONTEXT OF THE FINANCIAL MARKET TURMOIL

Euro money markets continued to exhibit severe tensions throughout 2008, following the onset of the global financial turmoil in August 2007. Interbank trading volumes remained very modest, particularly at longer maturities, and the spreads between secured and unsecured money market rates remained very elevated by historical standards.

Unsecured money market interest rates rose across the entire maturity spectrum between January and the beginning of October, before declining substantially thereafter. Having stood close to 4% in January 2008, the three-month EUREPO rate rose to a peak of around 4.35% at the end of July and the beginning of August. It then stayed around that level until mid-September, before declining to stand at around 0.94% at the end of February 2009. This mainly reflected developments in key ECB interest rates and market expectations regarding those rates (see Section 1 of this chapter).

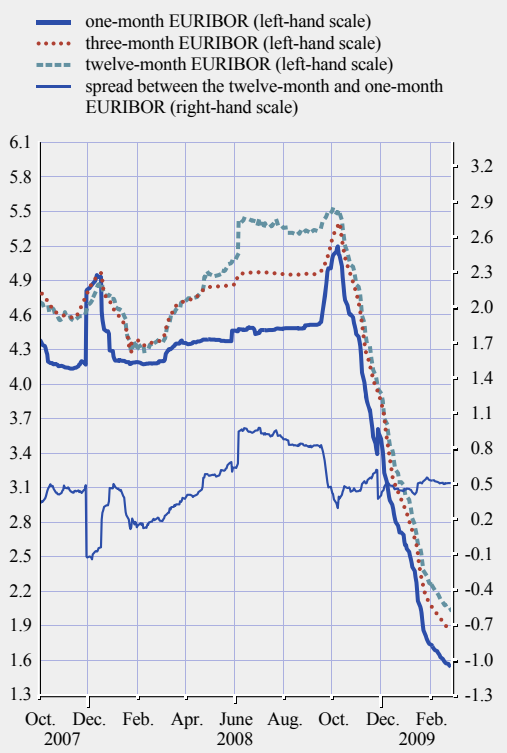
In addition to developments in policy rates, variations in both the intensity of the ongoing financial market tensions and the impact that those tensions had on credit and liquidity premia also played an important role in determining unsecured money market interest rates (see Box 2). More specifically, the three-month EURIBOR increased from a low of 4.29% on 29 January to peak at 5.39% on 9 October. The increase was particularly steep in the aftermath of Lehman Brothers' default in mid-September (see Chart 9). The three-month EURIBOR then fell to stand at 2.89% at the end of 2008 – a result not only of expectations of policy rate cuts, but also of Member States' announcement of government packages to support financial institutions. At the end of February 2009 the three-month EURIBOR stood at 1.83%.

The slope of the money market yield curve – as measured by the spread between the twelve-month and one-month EURIBOR rates – showed some volatility in the course of 2008, with that spread rising from a low of 12 basis points at the end of January 2008 to peak at 97 basis points in June, before declining and stabilising at around 50 basis points at the end of February 2009.

The spread between secured and unsecured money market rates was also very volatile in 2008, remaining elevated by historical standards and exceeding the levels observed in the second half of 2007 in the initial phases of the financial turmoil. The spread between the three-month

Chart 9 Unsecured money market interest rates

(percentages per annum; daily data)

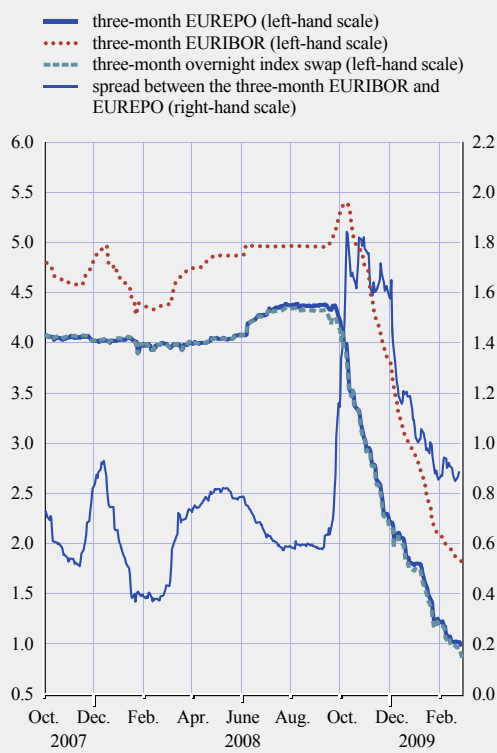


EURIBOR and EUREPO rates increased from around 40 basis points in mid-January 2008 to around 70 basis points in March following the takeover of Bear Stearns by JPMorgan Chase. It peaked at 184 basis points in early October, before declining to around 90 basis points at the end of February 2009 (see Chart 10).

Implied volatilities derived from options on three-month EURIBOR futures contracts also fluctuated significantly in 2008, reflecting the volatility of money market conditions and the uncertainty surrounding the macroeconomic outlook and thus the course of monetary policy. Driven by the high levels of uncertainty that followed Lehman Brothers' default, this measure of interest rate volatility (i.e. the implied volatility derived from three-month EURIBOR futures contracts maturing in March 2009) peaked on 10 October.

Chart 10 Three-month EUREPO, EURIBOR and overnight index swap

(percentages per annum; daily data)



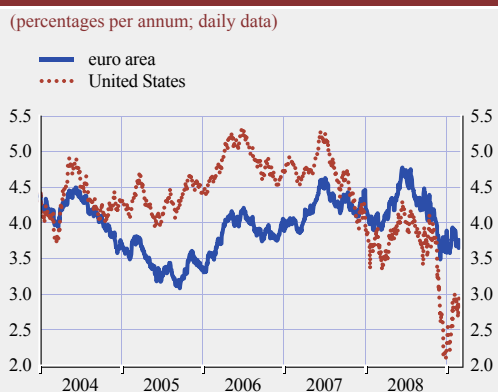
GOVERNMENT BOND YIELDS DECREASED AMID HIGH VOLATILITY IN 2008

In 2008 government bond markets in the euro area as well as in the rest of the world were characterised by large yield swings driven mainly by direct and indirect consequences of the intensified financial crisis. Amid high day-to-day volatility, long-term government bond yields in the euro area and the United States declined markedly overall in 2008, reflecting largely investors' ongoing preference for highly liquid and safe securities, strong reductions in monetary policy rates, and eventually sharp downward revisions in the market's outlook for economic activity and inflation. The extraordinary uncertainty as to the eventual impacts of the financial crisis on the future state of the global economy and the consequent monetary policy reactions was reflected in heightened levels of actual and expected bond market volatility,

whereby investors' uncertainty surged especially towards the end of the year in the context of intensified financial strains after the bankruptcy of Lehman Brothers. Moreover, the spreads between the yields on long-term euro area government bonds and those on long-term German government bonds continued to widen in 2008, reflecting differences in credit risk and liquidity premia (for further details, see Box 6). At the end of 2008 euro area and US ten-year government bond yields stood at around 3.6% and 2.2% respectively, which was 75 and 184 basis points lower than the levels prevailing one year earlier (see Chart 11).

The events related to the ongoing financial turmoil, its further escalation since September 2008, and its impacts on the real economy can, at least partly, explain the developments in major bond markets. Throughout 2008 the financial landscape underwent a dramatic reshaping amid a number of staggering events. As a consequence, governments both in the United States and in the euro area announced a number of measures aimed at supporting the financial system, strengthening consumer confidence, sustaining economic activity and ensuring credit availability for households and corporations. In the United States, starting with the takeover of Bear Stearns by JPMorgan Chase in March, the investment bank stand-alone business model disappeared. The financial crisis escalated in late summer/autumn when, inter alia, the US government-sponsored enterprises Fannie Mae and Freddie Mac were taken into public ownership, Lehman Brothers filed for bankruptcy, and the Federal Reserve extended an extraordinary loan to the insurance group AIG in exchange for an 80% stake. By the end of September severe financial distress had spread to the euro area as well, putting under strain several financial institutions. As a consequence, in the euro area, there were a number of interventions aimed at bringing relief to the banking system. As reported by the European Commission in relation to the declaration on a concerted European action plan of the euro area countries made at the 12 October summit, these

Chart 11 Long-term government bond yields



Sources: Bloomberg, EuroMTS, Reuters and ECB.

Note: Before January 2007, long-term government bond yields for the euro area refer to ten-year bonds or to the closest available bond maturity. Starting from January 2007, the euro area ten-year bond yield is represented by the ten-year par yield derived from euro area sovereign triple-A bonds.

interventions were meant “to coordinate national efforts to prop up banks and protect depositors and to increase the flow of credit. Under the plan, national governments would buy into banks to boost their finances and temporarily guarantee bank refinancing to ease the credit crunch”. Against this background and faced with the deterioration of the macroeconomic outlook, both the Federal Reserve and the ECB undertook a series of initiatives to enhance their liquidity facilities and to provide support to financial markets. In addition, the two central banks repeatedly reduced their policy rates, thereby affecting bond yields. In particular, on 16 December 2008 the Federal Reserve’s actions culminated with a reduction in policy rates to a record low. The target for the federal funds rate was kept within a range, rather than at a point, between zero and 0.25%. Moreover, among other things, the Federal Reserve announced the possibility of purchasing longer-term Treasury securities, which might have also contributed to pushing down bond yields.

Against this backdrop, until the beginning of spring 2008, on both sides of the Atlantic long-term government bond yields continued on a declining trend that started in mid-2007, when

concerns over the state of the US real estate market began to mount. This episode brought about a pronounced decline in risk appetite, which resulted in portfolio shifts from stocks and other risky assets to sovereign bonds and a consequent decrease in yields. Ten-year government bond yields increased between the spring and the end of the summer and declined sharply thereafter. While the increase in yields can be attributed to the perceptions of heightened global inflation risks amid the strong upward pressure on commodity and food prices, their subsequent decline can be explained by flight-to-quality and flight-to-liquidity episodes on account of renewed concerns regarding the financial sector and more specifically the further escalation of the financial turmoil. Moreover, in the autumn incoming macroeconomic data pointing towards a marked slowdown in global growth and a change in the perception of inflation risks, which were revised downwards, must have contributed to this decline in bond yields. Not surprisingly, in the United States, where the financial crisis became quite severe, the decline in bond yields was more pronounced than in the euro area. More generally, US government bonds were also viewed on average as being more liquid than euro area government bonds, which also contributed to a further decline in government bond yields in the United States.

In the euro area, from the beginning of the year until approximately mid-September, real government bond yields hovered around 2%. Subsequently, until about end-October real yields increased. After reaching a peak of about 3% in October, the five-year forward real yield five years ahead went down and, at the end of the year, stood just below 2%. While between September and October real yields increased owing to low liquidity and technical factors causing dislocations in the inflation-linked bond market, the trend was subsequently reversed amid concerns over the macroeconomic outlook.

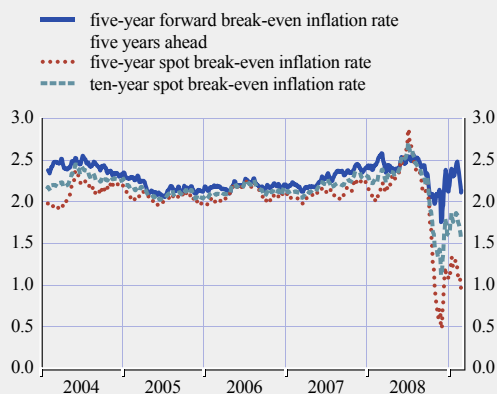
During 2008 the evolution over time of the five-year forward break-even inflation rate

five years ahead, which measures market participants' long-term inflation expectations and the related risk premia, was also affected by developments in financial markets and the macroeconomic outlook. While this measure of market participants' long-term inflation expectations and the related risk premia in the euro area edged up and stood at around 2.5% until the summer, reflecting mounting pressures in commodity and food prices, it declined significantly in the autumn (see Chart 12). At the end of 2008 this rate stood at around 2%. Both moderating inflation expectations in the context of the weakening economic outlook and technical factors distorting the relative pricing of conventional nominal bonds vis-à-vis the typically much less liquid inflation-linked government bonds contributed to this decline. Hence, the interpretation of break-even inflation rates as indicators of market participants' inflation expectations and related risk premia has been severely hampered by special market factors, in particular since the intensification of the financial crisis in September.

Market participants' perception of government bond uncertainty in the euro area and the United States, as measured by implied volatility, kept on increasing throughout the year, surging from

Chart 12 Euro area zero coupon break-even inflation rates

(percentages per annum; five-day moving averages of daily data; seasonally adjusted)



Sources: Reuters and ECB calculations.

September onwards, amid the great unrest on global financial markets. At this time of the year, following the unravelling of a number of large actors in the financial system and the consequent flight to safety and to liquidity, bond market volatility reached particularly pronounced levels in the United States. However, by the end of September, when financial instability became more severe in Europe as well, bond market volatility rose also on this side of the Atlantic (for further details, see Box 3).

In the first two months of 2009 euro area long-term government bond yields increased moderately by about 10 basis points, while the increase in US bond yields was more pronounced and equal to around 80 basis

points. On 27 February euro area and US ten-year government bond yields stood at around 3.7% and 3.0% respectively. Developments in long-term bond yields on both sides of the Atlantic were influenced by the weakening economic outlook, heightened risk aversion and the associated flight-to-safety flows, as well as increasing concerns about the financing needs of sovereign issuers. While the first two factors would tend to push yields down, the third one, which apparently dominated the other two, especially for the United States, would tend to push yields up. Over the same period, in the euro area, yields on long-term inflation-linked bonds increased as well, probably reflecting continued strains in the inflation-linked bond market.

Box 3

VOLATILITY AND LIQUIDITY IN EQUITY AND GOVERNMENT BOND MARKETS

Stock and bond markets have become increasingly volatile in the course of the financial crisis, as can be seen from Chart A.¹ This high degree of market volatility stems from a combination of the unwinding of leveraged positions, the large number of information shocks impacting markets, great uncertainty and elevated levels of risk aversion among market participants. This heightened risk aversion is likely to have compounded the impact that the information shocks and the uncertainty have had on price developments, with the result that price fluctuations have been larger than would have been the case given lower levels of risk aversion.

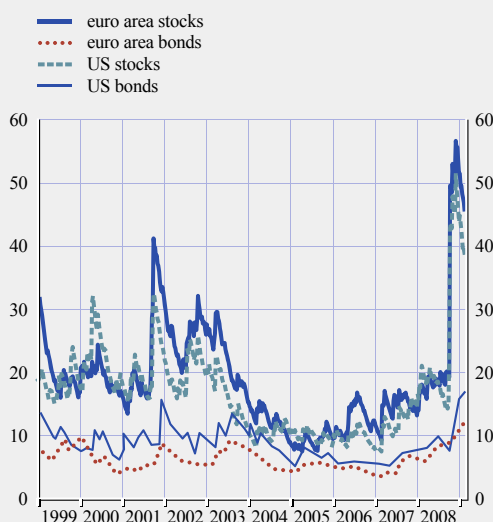
For long periods during the crisis there has been a strong negative correlation between stock and bond returns (see Chart B). This negative correlation may be interpreted as evidence of safe-haven flows from stock markets to the most liquid segments of the government bond markets. Such a pronounced negative correlation was last observed around the time that the stock market bottomed out in 2003. During the final months of 2008 the negative correlation between these markets became less pronounced as the bond markets also became more volatile. This followed increasingly clear evidence of significant spillovers from developments in financial markets to the real economy. In addition to the increased variability of inflation expectations and risk premia, large revisions to market participants' expectations regarding future developments in monetary policy rates are likely to have contributed to the increased volatility of long-term bond yields.

The increased volatility in the government bond market has generally made market participants less inclined to provide continuous liquidity to each other by posting tradable quotes for large amounts in limit order markets. Although the most liquid government bonds, such as those issued

¹ See the box entitled "Abnormal volatility in global stock markets" in the November 2008 issue of the ECB's Monthly Bulletin.

Chart A Realised volatility of weekly stock and bond returns

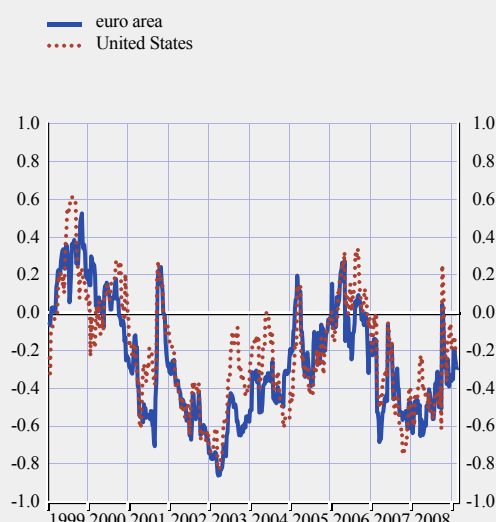
(percentages per annum; weekly data)



Sources: Bloomberg and ECB calculations.
Notes: Equity returns were calculated using the Dow Jones EURO STOXX index for the euro area and the Standard & Poor's 500 index for the United States. Bond returns were calculated from US and German zero coupon yields obtained from Bloomberg. Volatilities were calculated using exponentially weighted moving averages.

Chart B Correlation between weekly stock and bond returns

(weekly data)



Sources: Bloomberg and ECB calculations.
Notes: Returns were obtained as indicated in Chart A. Correlations were calculated using exponentially weighted moving averages.

by the US and German governments, have acted as a safe haven for investors during the financial crisis, liquidity has been under pressure even for this asset class.² Government bonds, unlike stocks, are largely traded outside exchanges, which inevitably means that the picture of trading activity in these markets is more fragmented. Available evidence from electronic platforms used for the trading of European government bonds points to sizeable declines in both volumes traded and depths quoted, even for the most liquid securities. Signs of deterioration in market liquidity are also evident in quoted bid-ask spreads, which have widened significantly. As in previous episodes of liquidity stress, such as the 1998 turmoil, the deterioration of liquidity has been most severe for securities, which were already relatively illiquid before the onset of the financial crisis. For example, the yields of inflation-linked bonds appear to have been strongly affected by liquidity premia in some markets.³

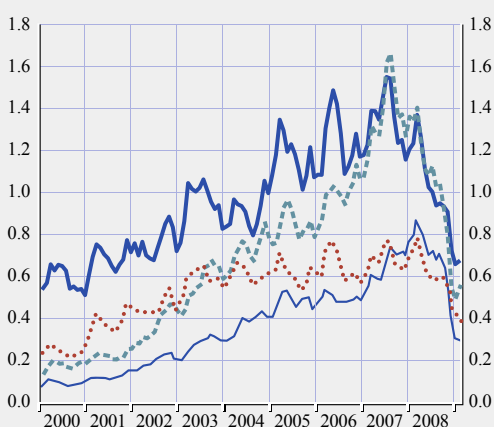
According to market participants, larger trades in particular are increasingly being executed by inter-dealer brokers, with the result that the decline in trading volumes on electronic platforms is likely to overstate the decline in overall trading activity. However, the level of trading activity in the euro area government bond market can also be gauged from the futures market. Government bond futures are among the most heavily traded instruments in the world and represent one of the few markets where liquidity is relatively intact. When it comes to measuring market activity, a clear advantage of futures is that they are exchange-traded instruments for which data on overall activity are readily available.

2 See Box 6 for further analysis of the impact of flight-to-safety flows on euro area government bond markets.
3 See the box entitled "Recent increases in real yields and their implications for the analysis of inflation expectations" in the November 2008 issue of the ECB's Monthly Bulletin.

Chart C Trading volumes for government bond futures

(millions of contracts; three-month moving averages of daily data)

- German ten-year Euro-Bund futures
- German five-year Euro-Bobl futures
- US ten-year Treasury note futures
- US five-year Treasury note futures

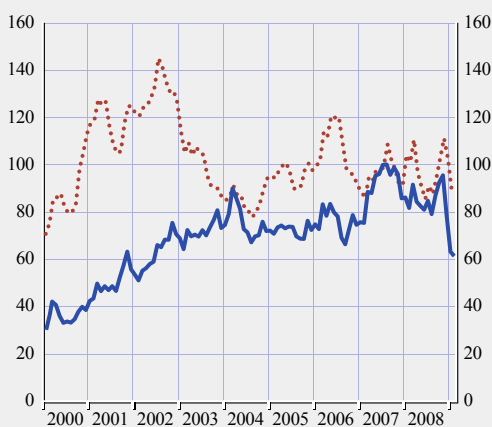


Sources: Chicago Mercantile Exchange/Chicago Board of Trade and Eurex Deutschland.
 Note: The notional size of each contract is €100,000 for the Euro-Bobl and Euro-Bund futures and USD 100,000 for the five-year and ten-year Treasury note futures.

Chart D Trading volumes in equity markets

(index: July 2007 = 100; three-month moving averages of monthly data)

- Dow Jones EURO STOXX index
- Standard & Poor's 500 index



Sources: Bloomberg and ECB calculations.
 Note: Volumes are measured as the total number of traded shares for the indices' constituent firms.

Anecdotal evidence suggests that bond dealers have significantly reduced the size of their balance sheets in response to the increased volatility in yields and the higher funding costs. Since futures contracts are very often used for the hedging of interest rate risk on dealers' bond portfolios, the number of futures traded for this purpose may have declined. Chart C shows that the trading volume for futures contracts has indeed declined since the onset of the financial turmoil in mid-2007. In particular, the number of contracts traded for the most frequently used instrument, the ten-year government bond future, has declined by more than two-thirds in the United States and by more than half in Germany since mid-2007. Slightly smaller declines have been observed in the trading volumes for five-year government bond futures.

Chart D shows that for stock markets, volumes – measured as the average number of stocks traded per month – have remained relatively resilient in both the euro area and the United States, despite declining somewhat at the beginning of 2009, particularly in the euro area. As noted above, the relatively robust trading volumes observed on stock markets may reflect the many information shocks affecting markets. All other things being equal, market prices should adjust when new information becomes available. Thus, when information shocks hit markets with a greater frequency than normal, the frequency of trading will also increase. For stock markets, these information shocks can reflect both revised expectations of future dividends and changes in the discount factor. By contrast, cash flows from standard government bonds are fixed in nominal terms, and so valuations respond only to changes in the discount factor.

The considerable increase in macroeconomic uncertainty in the course of 2008, combined with market participants' downsizing of balance sheets, has generated spikes in volatility and a severe deterioration in market liquidity in many financial market segments. This has even affected

markets which are normally considered to be highly liquid and are typically characterised by minimal levels of risk, such as the euro area government bond markets. Volatility should eventually moderate once the macroeconomic uncertainty has subsided and the period of deleveraging has run its course, leading to some normalisation of market liquidity.

STOCK PRICES DECREASED SHARPLY IN 2008

The year 2008 was characterised by high volatility and sharp declines in stock prices around the world, amid a number of events that have reshaped the financial landscape, especially in the United States, as well as deteriorating global macroeconomic conditions. All in all, at the end of 2008 equity prices in the euro area, the United States and Japan, as measured by the Dow Jones EURO STOXX, the Standard & Poor's 500, and the Nikkei 225 indices respectively, were lower by around 46%, 39% and 42% compared with the end of 2007 (see Chart 13). Stock price fluctuations became particularly pronounced in March, and from September, reflecting unrest in global financial markets. Moreover, declining actual and expected earnings growth on both sides of the Atlantic also contributed to the negative performance of stock markets. These price developments took place amid high volatility, which in October and November surged to exceptional levels.

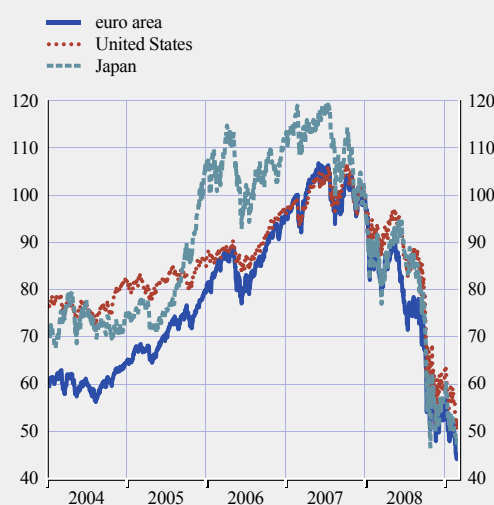
From the beginning of the year until mid-March 2008, equity prices in the euro area, the United States and Japan followed a declining trend. This trend was partly reversed when JPMorgan Chase took over Bear Stearns after receiving a loan in non-recourse financing from the Federal Reserve. The Bear Stearns rescue package was favourably perceived by market participants, who changed their risk perceptions, thereby contributing to sustaining equity markets. Against this background, from mid-March to the beginning of June the Dow Jones EURO STOXX increased by almost 10%, the Standard & Poor's 500 by around 8.5%, and the Nikkei 225 by 22.5%.

However, during the summer stock prices declined significantly on account of renewed concerns regarding the financial sector and the outlook for the world economy. Over this period

pressure mounted on the US government-sponsored enterprises (GSEs), Fannie Mae and Freddie Mac, as well as on bond insurers. Furthermore, in the first half of the summer commodity prices rose rapidly, darkening the world economic outlook. In September events in financial markets escalated further, when in the United States the aforementioned GSEs were taken into public ownership, the Federal Reserve together with the US Treasury arranged the rescue of the insurance group AIG, and the stand-alone investment bank business model ceased to exist after the bankruptcy of Lehman Brothers, the takeover of Merrill Lynch by Bank of America, and the conversion of Goldman Sachs and Morgan Stanley into bank holding companies. Following these extraordinary events and in response to the spreading of the turmoil beyond the US financial system, government-

Chart 13 Major stock market indices

(indices rebased to 100 on 31 December 2007; daily data)



Sources: Reuters and Thomson Financial Datastream.

Note: The indices used are the Dow Jones EURO STOXX broad index for the euro area, the Standard & Poor's 500 index for the United States and the Nikkei 225 index for Japan.

sponsored rescue plans were initiated for a number of European financial institutions as well. On both sides of the Atlantic governments and public institutions alike undertook a number of measures aimed at stabilising the financial system. These measures included deposit guarantees to private account holders, bank recapitalisation measures and actions to strengthen bank liquidity. In addition, major central banks cut their policy rates amid the intensification of the financial turmoil and the deterioration of the macroeconomic outlook.

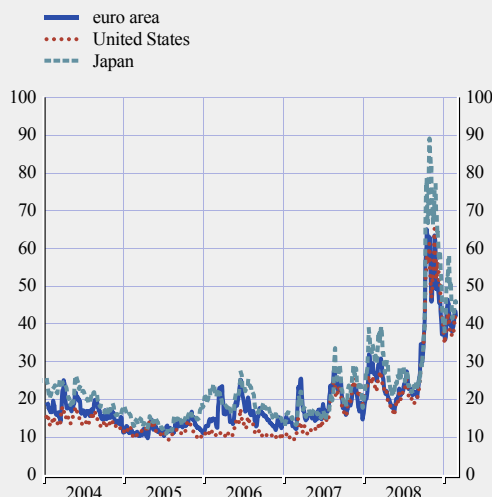
The decline in stock markets was compounded by a decrease in actual and expected earnings growth on both sides of the Atlantic. Between December 2007 and December 2008, actual earnings growth, computed in terms of earnings per share of corporations listed in the Dow Jones EURO STOXX index, turned negative to around -16%. Similarly, earnings expectations were also sharply revised downwards. The forecast annual growth rate of earnings per share 12 months ahead fell from about 9% at the end of December 2007 to around 1.6% at the end of December 2008. The decrease in euro area corporations' profitability, together with negative news from macroeconomic indicators, have weighed negatively on stock market valuations.

Against a background of continued unrest in financial markets and deteriorating macroeconomic conditions, stock markets were characterised by a high degree of uncertainty, as measured by the implied volatility extracted from stock options. Stock volatility was especially elevated during the major episodes shaking financial markets, i.e. in March and since September (see Chart 14). Against this backdrop, it is likely that equity risk premia have increased both in the euro area and the United States, thereby contributing to depressing stock market prices.

From a sectoral perspective, in both the euro area and the United States stock prices in the financial industry suffered the heaviest losses between December 2007 and December 2008,

Chart 14 Implied stock market volatility

(percentages per annum; five-day moving average of daily data)



Source: Bloomberg.

Notes: The implied volatility series reflects the expected standard deviation of percentage changes in stock prices over a period of up to three months, as implied in the prices of options on stock price indices. The equity indices to which the implied volatilities refer are the Dow Jones EURO STOXX 50 for the euro area, the Standard & Poor's 500 for the United States and the Nikkei 225 for Japan.

declining by about 57% and 51% respectively. Stock prices in the non-financial sector also fell significantly, decreasing by around 41% in the euro area and 36% in the United States.

In early 2009 the deteriorating global economic outlook as well as renewed concerns about the health of the financial system pushed stock prices further down. Between the end of 2008 and 27 February 2009, the Dow Jones EURO STOXX and the Standard & Poor's 500 indices declined by around 17% and 19% respectively.

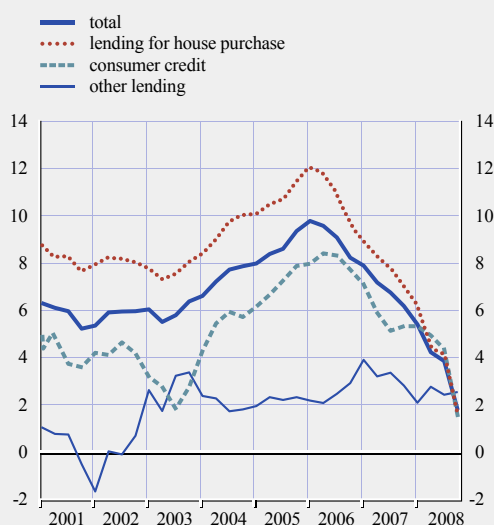
HOUSEHOLD BORROWING MODERATED FURTHER

The dynamics of household borrowing continued to slow in the course of 2008, reflecting the impact of factors such as tighter financing conditions, the weakening of economic prospects and the ongoing moderation of housing market dynamics.

The annual growth rate of MFI loans to households, which were the main source of

Chart 15 MFI loans to households

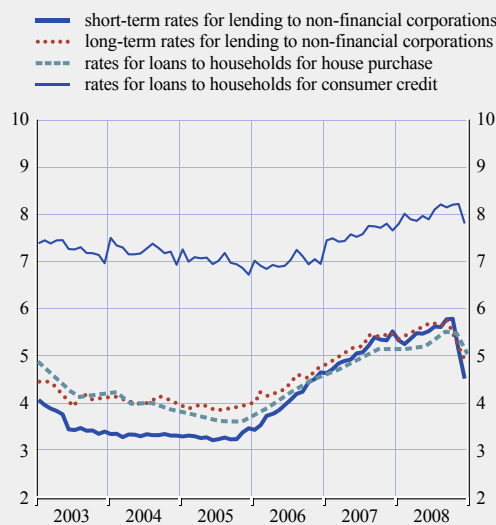
(annual percentage changes)



Source: ECB.

Chart 16 Interest rates for lending to households and non-financial corporations

(percentages per annum; excluding charges; rates on new business)



Source: ECB.

household borrowing in 2008, declined to stand at 1.8% in December, down from 6.2% at the end of 2007. At the same time, the annual growth rate of loans to households by non-MFIs (i.e. OFIs, insurance corporations and pension funds) continued to exceed that of MFI loans to households, which stood at 10.4% in the third quarter of 2008. This partly reflects the effect of true-sale securitisation activities, where loans are derecognised and thereby removed from MFI balance sheets, subsequently being recorded as loans from OFIs.

A breakdown of MFI loans to households by purpose indicates that the main driver of that moderation was the declining growth rate of borrowing for house purchase. The annual growth rate of loans to households for house purchase was 1.7% in December 2008, having stood at 7.1% in December 2007 (see Chart 15). This decline was consistent with the slowdowns observed in house price growth and housing market activity in a number of euro area economies. The results of the Eurosystem's bank lending survey support this assessment, as in the course of 2008 banks identified worsening

housing market prospects and deteriorating consumer confidence as the main factors contributing to the dampening of households' demand for loans for house purchase. Moreover, the worsening housing market prospects were also partly responsible for the tightening of banks' credit standards, which played an important role in the moderation of loan growth.

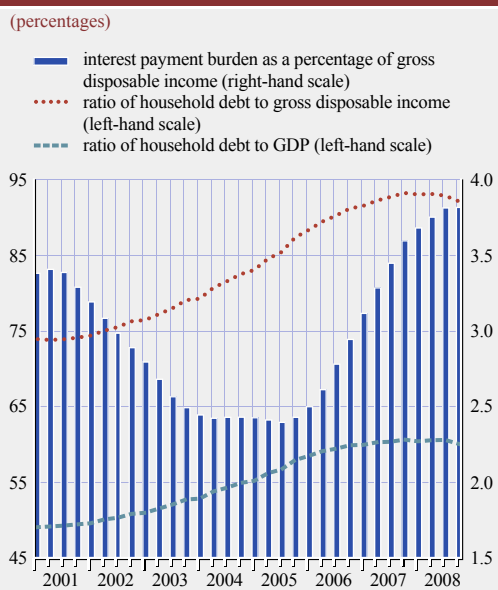
The moderation of the annual growth rate of loans for house purchase also reflected the dampening impact of the increases in key ECB interest rates as of December 2005. Continuing the trend observed in 2006 and 2007, although at a slower pace, MFI interest rates on loans for house purchase rose by 31 basis points between December 2007 and September/October 2008, before declining by 10 basis points in the fourth quarter (see Chart 16). The increase observed in the first three quarters of the year was broadly based across the maturity spectrum, although it was slightly larger for loans with initial rate fixation periods of up to one year and between one and five years.

The annual growth rate of consumer credit also declined, falling to 1.5% in December 2008, around 4 percentage points lower than at the end of 2007. Over recent quarters the annual growth rate of consumer credit has declined in line with falling consumer confidence and the gradual moderation in private consumption in the euro area. Moreover, the results of the Eurosystem's bank lending survey indicate that credit standards applied to loans for consumption continued to tighten in 2008, in line with developments in the fourth quarter of 2007, owing to the worsening expectations regarding general economic activity and the deterioration observed in the creditworthiness of borrowers. MFI interest rates on consumer credit, which remained well above those on loans for house purchase in 2008, increased by 56 basis points between December 2007 and November 2008, thereby dampening demand for consumer credit. They then declined, with the rates observed in December 2008 standing 15 basis points above those of December 2007.

HOUSEHOLD INDEBTEDNESS STABILISED

In the second half of 2008 the protracted moderation observed in the growth rate of lending to households and the ongoing increase in disposable income led to a slight decline in the ratio of household debt to disposable income, which was estimated at around 92% in the fourth quarter (see Chart 17). The same pattern can be observed for the ratio of debt to GDP, which, according to data from the euro area integrated accounts, declined to around 60% in the fourth quarter of 2008. That being said, the level of indebtedness of euro area households is relatively modest compared with countries such as the United States or the United Kingdom. The moderation of euro area households' indebtedness has helped to stabilise their exposure to changes in interest rates, income and asset prices. It is also worth mentioning that there is a large degree of heterogeneity in the indebtedness of households across the euro area. In particular, higher levels of risk apply to households in those parts of the euro area where the economic slowdown is more marked or

Chart 17 Household debt and interest payments



Sources: ECB and Eurostat.
 Notes: Household debt comprises total loans to households from all institutional sectors, including the rest of the world. Interest payments do not include the full financing costs paid by households, as they exclude the fees for financial services. Data for the last quarter shown have been partly estimated.

there are still signs of overvaluation in housing markets.

At the same time, although the level of household indebtedness stabilised in 2008, past increases in lending rates for households led to a further increase in households' debt servicing burden, measured as interest payments plus principal repayments as a percentage of disposable income. Indeed, the interest payment burden is estimated to have reached 3.8% in the second half of 2008, up from 3.6% at the end of 2007. This also exceeds the previous peak observed in 2001.

THE COST OF EXTERNAL FINANCING FOR NON-FINANCIAL CORPORATIONS INCREASED CONSIDERABLY IN 2008

In 2008, amid the financial market turmoil, the real cost of external financing for non-financial corporations in the euro area increased considerably compared with recent

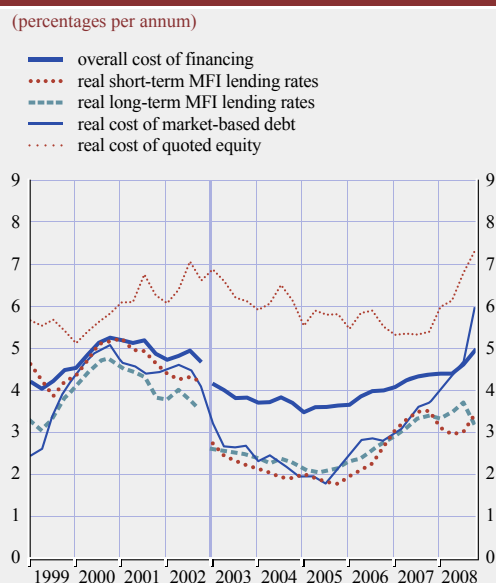
years. Although corporate profitability remained resilient in the first part of 2008, it displayed signs of rapid deterioration in the remainder of the year, markedly so in the last quarter. Following a spike in the first quarter mainly due to the strong dynamics of MFI loans, the growth of external financing to non-financial corporations moderated. However, the leverage of the non-financial corporate sector is expected to have increased further in 2008.

Amid intensifying tensions in financial and credit markets, the overall real cost of external financing for euro area non-financial corporations rose sharply in 2008 (see Chart 18). In the last quarter of 2008 the evident deterioration in both macroeconomic conditions and the macroeconomic outlook contributed to a sharp increase in the cost of external corporate finance as increased default expectations and downward earnings revisions weighed on investors' appraisal of credit and market risk. Throughout the year the increase was mostly driven by a sharp rise in the real cost of market-based debt and equity financing.

Turning to the components of the cost of external corporate financing, interest rates on MFI loans to non-financial corporations declined in real terms (see Chart 18) when compared with the end of 2007. The point-to-point comparison between year-ends conceals pronounced intra-year dynamics. Nominal short-term interest rates broadly increased for most of the year, closely tracking the upward trend of the three-month EURIBOR, although the effect was dampened in real terms by the pick-up in short-term inflation expectations until September. In November and December short-term rates declined considerably, reflecting the cuts in policy rates and the decrease in money market rates. As a result, the nominal rates on loans with a floating rate and an initial rate fixation period of up to one year fell by 70 and 106 basis points on small and large loans respectively.

Long-term MFI lending interest rates, after increasing up to September 2008, declined in the last quarter of the year, with the decline being

Chart 18 Real cost of the external financing of euro area non-financial corporations



Sources: ECB, Thomson Financial Datastream, Merrill Lynch and Consensus Economics forecasts.

Notes: The real cost of the external financing of non-financial corporations is calculated as a weighted average of the cost of bank lending, the cost of debt securities and the cost of equity, based on their respective amounts outstanding and deflated by inflation expectations (see Box 4 in the March 2005 issue of the ECB's Monthly Bulletin). The introduction of the harmonised MFI lending rates at the beginning of 2003 led to a break in the statistical series.

more marked for large loans. Compared with the end of 2007, long-term MFI rates for small loans remained broadly unchanged, while those on large loans fell by 72 basis points. Yields on government bonds of comparable maturity also displayed a mixed trend over the year, first increasing and later decreasing sharply. Overall, yields on five-year government bonds were 85 basis points lower in December 2008 compared with end-2007. As a result of these developments, the spreads between long-term bank lending rates and comparable market rates on average tended to widen during the second half of the year. The widening of the spreads came along with the soaring cost of capital market funding for banks.

The real cost of market-based debt for non-financial corporations surged during 2008, reinforcing the upward trend that started at the

end of 2007. By December 2008 this cost was 200 basis points above the level of the previous year and 420 basis points above the historical low reached in 2005. The level attained at the end of 2008 represents an all-time high since the start of EMU and was well above that recorded in 2000. By contrast, as mentioned above, yields on government bonds of comparable maturity declined. As a result, corporate bond spreads widened significantly during the second half of 2008. The increase in spreads also reflects the tightening of credit standards and higher credit risk perceptions among investors.

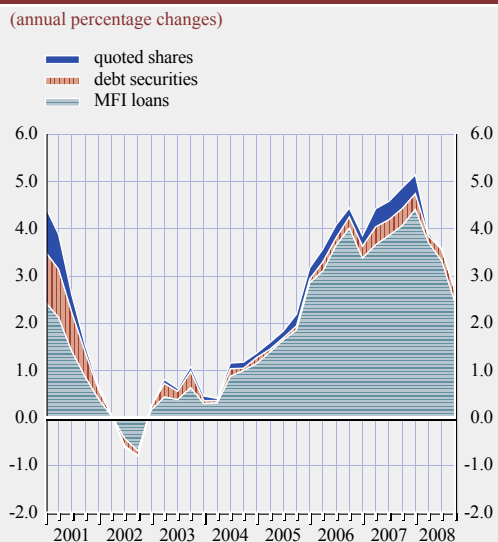
The real cost of quoted equity of non-financial corporations increased markedly during the year. An evident deterioration took place in the second half of 2008, when stock market prices (measured for instance by the Dow Jones EURO STOXX, a broad euro area index) plummeted and risk aversion reached exceptionally high levels. After showing noteworthy resilience in the first half of the year, earnings growth of listed enterprises also deteriorated sharply, turning negative by November on an annual basis.

THE PACE OF EXTERNAL FINANCING BY NON-FINANCIAL CORPORATIONS MODERATED

Non-financial corporations' external financing moderated progressively in the course of 2008. In the fourth quarter of 2008 the real annual growth rate of financing of non-financial corporations was 2.7%, down from 4.9% in the fourth quarter of 2007 and 5.1% in the first quarter of 2008. This development was mainly driven by the slowdown, albeit from high levels, in the contribution of loans granted by MFIs, and, to a lesser extent, by the decline in the issuance of quoted equity, while the contribution of debt securities remained broadly stable (see Chart 19).

According to aggregated firm-level data from corporate financial statements of listed firms, profits remained resilient during the first half of 2008 (see Chart 20). However, measures of corporate profitability dropped considerably in the second half of 2008. In parallel, earnings expectations in the euro area were abruptly

Chart 19 Breakdown of the real annual growth rate of external financing to non-financial corporations¹⁾



Source: ECB.

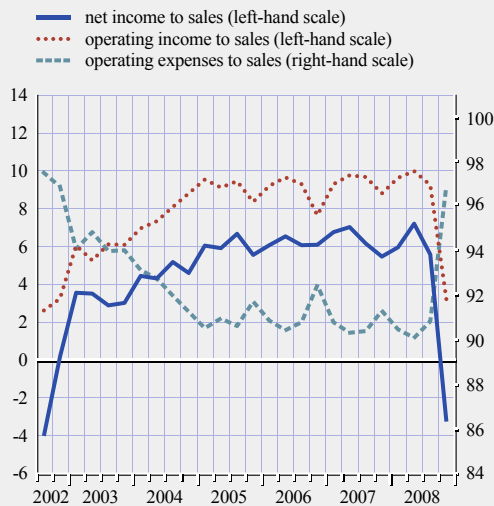
1) The real annual growth rate is defined as the difference between the actual annual growth rate and the growth rate of the GDP deflator.

revised downwards in the last quarter of 2008. The number of downward revisions to earnings expectations for listed euro area firms reached an unprecedented peak around the end of the year.

The rate of growth in MFI loans to non-financial corporations slowed down in 2008. Following a peak in nominal terms of 15.0% in March 2008, this rate of growth moderated to 9.4% in December. This still robust year-on-year growth rate somewhat conceals the underlying weakening dynamics of the growth of MFI loans to the corporate sector, through a carry-over effect from strong growth in the first half of 2008. Indeed, as shown by short-term growth rates, an acceleration in the slowdown took place towards the end of the year, more markedly in December, as a result of the deterioration in financing conditions. The deceleration is broadly in line with the tightening of financing conditions reported in the Eurosystem's bank lending surveys throughout the year, reduced merger and acquisition (M&A) activities and the moderation of economic activity. There might be a number of possible explanations

Chart 20 Profit ratios of listed euro area non-financial corporations

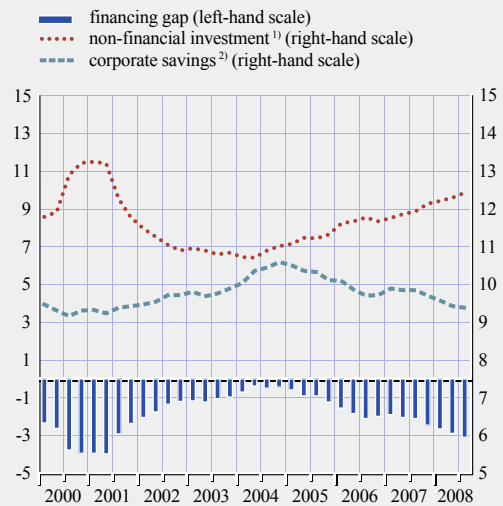
(quarterly data; percentages)



Sources: Thomson Financial Datastream and ECB calculations.
Notes: The calculation is based on aggregated quarterly financial statements of listed non-financial corporations in the euro area. Outliers have been removed from the sample. Compared with the operating income, which is defined as sales minus operating expenses, the net income refers to operating and non-operating income after taxation and extraordinary items.

Chart 21 Non-financial corporations' financing gap and its main components

(as a percentage of GDP; four-quarter moving average)



Source: ECB.
1) Includes inventories and accumulation of non-financial assets.
2) Includes net capital transfers.

why MFI loan growth, while decelerating, continued to be relatively robust, at least up to November. Corporate developments in the euro area remained relatively resilient in the first part of 2008, thereby sustaining loan demand for financing activities. Another contributing factor may have been the drawing-down of credit facilities negotiated in more benign times. The demand for bank loans could have also been supported by a substitution effect stemming from hampered capital market funding, a reduction in internally generated funds and a contraction in trade credit. Furthermore, obstacles to the prompt adjustment of productive capacity and the implementation of cost-cutting programmes often inhibit corporate spending from adjusting in the short term. This may partly explain the resilience of credit demand in the second half of the year, despite weakening growth prospects.

Growth in market-based financing (through both debt and equity) slowed down, in parallel to the surge in the cost of these sources of funding.

The annual growth rate of debt securities issued by non-financial corporations declined from around 9.0% at the beginning of the year to 6.6% in December 2008. The issuance of short-term debt securities, which picked up after the onset of the financial turmoil in the summer of 2007, also progressively moderated. This pattern is confirmed by short-term developments in seasonally adjusted data. Adding to the rise in corporate spreads, these developments may further reflect the decline in M&A activity. The annual growth rate of quoted shares issued by non-financial corporations fell considerably throughout 2008, reaching zero in December. The negligible contribution of the net issuance of quoted shares to the net financing of the euro area corporate sector is attributable to the soaring real cost of equity and to highly volatile equity market conditions.

The growth of external financing to non-financial corporations, albeit moderating, may be related to a wider financing gap or net borrowing –

calculated as the balance between gross saving and gross capital formation (see Chart 21). The financing gap experienced by non-financial corporations in the euro area in 2007 and up to the third quarter of 2008 resulted from decreases in corporate saving and, to a lesser extent, increases in real investment in relation to GDP. During the first part of 2008 falling corporate saving was mainly the result of rising interest payments.

A FURTHER RISE IN CORPORATE DEBT

With regard to developments in the balance sheet position of non-financial corporations in the euro area, the protracted rise in debt financing led to a further increase in debt ratios (see Chart 22). In the fourth quarter of 2008 the debt-to-GDP and debt-to-gross operating surplus ratios rose to 80.5% and 403% respectively. After a period of consolidation between 2002 and 2004, the debt ratios of non-financial corporations have continuously increased over the last four years. The ratio of debt to financial assets of non-financial corporations edged upwards in most of 2008,

interrupting the declining trend observed since the first quarter of 2003. The combination of higher debt and rising interest rates translated into a significant increase in the net interest burdens of non-financial corporations in the course of 2008.

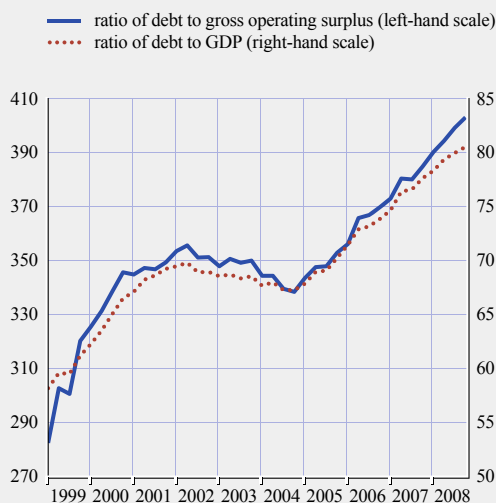
2.3 PRICE AND COST DEVELOPMENTS

Overall HICP inflation averaged 3.3% in 2008, which was a sharp increase by comparison with previous years – when annual inflation rates clustered around 2.2% – and well above the ECB's definition of price stability over the medium term (see Table 1). The increase for 2008 as a whole resulted from two sharply distinct patterns in HICP developments over the course of the year: starting from an already high level at the end of 2007 of 3.1%, annual inflation rates grew further to reach a peak of 4.0% in June and July 2008, but receded thereafter, at a rapid pace in the last few months of the year, to stand at 1.6% in December.

The sharply contrasting overall HICP inflation developments in 2008 were dominated by patterns in global commodity prices (energy prices, as well as the prices of other commodities, including food) (see Chart 23). In the first part of the year, booming world demand continued to push up commodity prices, which reached extremely high levels, while the rapid slowdown in activity in the second part of the year, which developed into a pronounced contraction by the year-end, abruptly pushed them down again. Most prominently, oil prices continued to surge in the first half of 2008, following rapid increases in 2007, and reached a historical high in early July against the background of tight supply and demand conditions. During the second half of the year oil prices fell precipitously, ending at levels well below those seen at the beginning of the year. In a parallel development, processed food price inflation, which began from already elevated levels at the end of 2007, increased sharply during the first part of the year as a result of a worldwide tightening in food commodity inventories, before receding rapidly towards

Chart 22 Debt ratios of non-financial corporations

(percentages)



Sources: ECB, Eurostat and ECB calculations.

Notes: Debt is reported on the basis of the quarterly European sector accounts. It includes loans, debt securities issued and pension fund reserves. Included is information up to the fourth quarter of 2008.

Table I Price developments

(annual percentage changes, unless otherwise indicated)

	2006	2007	2008	2007 Q4	2008 Q1	2008 Q2	2008 Q3	2008 Q4	2008 Dec.	2009 Jan.
HICP and its components										
Overall index	2.2	2.1	3.3	2.9	3.4	3.6	3.8	2.3	1.6	1.1
Energy	7.7	2.6	10.3	8.1	10.7	13.6	15.1	2.1	-3.7	-5.3
Unprocessed food	2.8	3.0	3.5	3.1	3.5	3.7	3.9	3.0	2.8	2.6
Processed food	2.1	2.8	6.1	4.5	6.4	6.9	6.7	4.3	3.5	2.7
Non-energy industrial goods	0.6	1.0	0.8	1.0	0.8	0.8	0.7	0.9	0.8	0.5
Services	2.0	2.5	2.6	2.5	2.6	2.4	2.6	2.6	2.6	2.4
Other price and cost indicators										
Industrial producer prices ¹⁾	5.1	2.8	6.2	4.0	5.4	7.1	8.5	3.7	1.6	.
Oil prices (EUR per barrel) ²⁾	52.9	52.8	65.9	61.0	64.2	78.5	77.6	43.5	32.1	34.3
Commodity prices ³⁾	24.8	9.2	4.4	1.6	11.9	7.1	8.6	-10.7	-17.1	-20.7

Sources: Eurostat, Thomson Financial Datastream, Hamburg Institute of International Economics and ECB calculations.
Note: Data on industrial producer prices refer to the euro area including Slovakia.

- 1) Excluding construction.
- 2) Brent Blend (for one-month forward delivery).
- 3) Excluding energy; in euro.

the end of the year. By contrast, HICP inflation excluding energy and food (processed and unprocessed) remained broadly stable (at 1.9% in 2008 as compared with 1.8% in 2007).

Labour costs accelerated during the first half of 2008, with substantial upward pressure on unit labour costs in the context of a marked cyclical decline in labour productivity growth. This raised serious and growing concern about the risk of significant second-round effects emerging in the euro area, which peaked around the middle of the year. These concerns receded in the autumn as the economy entered a phase of pronounced contraction.

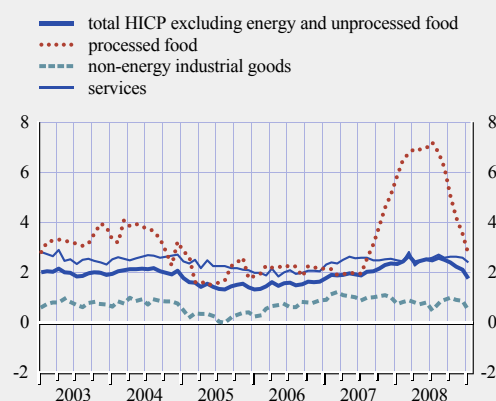
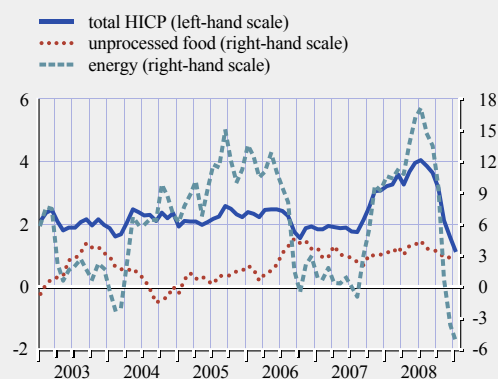
Accordingly, consumer inflation perceptions and expectations, which had risen markedly during the first part of the year, reaching their highest levels since the introduction of the euro, started to moderate towards the end of the year.

HICP INFLATION WAS SIGNIFICANTLY INFLUENCED BY ENERGY AND FOOD PRICE DEVELOPMENTS

The volatility in commodity prices was the main factor driving the pronounced movements in euro area HICP inflation during 2008. The steady increase in the annual rate, to a peak of 4.0% in June and July, followed unprecedented increases in energy, industrial and food

Chart 23 Breakdown of HICP inflation: main components

(annual percentage changes; monthly data)



Source: Eurostat.

commodity prices (see Box 4). Conversely, the subsequent rapid decline in HICP inflation, to 1.6% by the end of the year, resulted from the strong decline in crude oil prices and reductions

in the prices of a broad range of other global commodities, including food, plus a favourable base effect, in a context of rapidly deteriorating economic activity.

Box 4

COMMODITY PRICES AND HICP INFLATION

The prices of a broad range of commodities rose sharply in the period between the start of 2005 and July 2008 (see Chart A). They have declined rapidly since then, amid the marked deterioration in global economic activity. These developments – in particular those in oil and food prices – have had a major bearing on consumer prices in the euro area and largely explain the spike in overall HICP inflation in 2008. This box reviews the effects of commodity prices on euro area inflation.¹

Direct and indirect effects

Commodity price increases affect HICP inflation directly through their immediate effect on the consumer prices of energy and food, which represent almost 30% of the overall HICP. They may also have an indirect effect on consumer prices through producer prices, as firms facing higher input costs pass these cost increases on to sales prices in order to maintain or restore their profit margins.

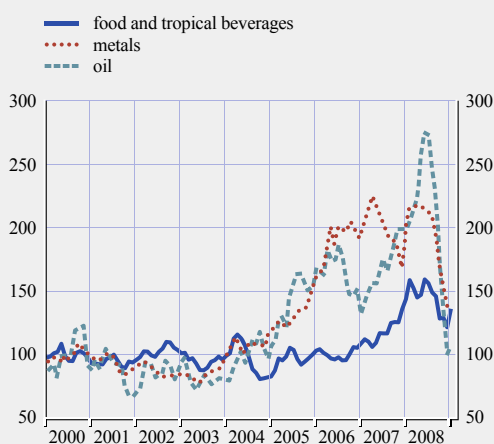
The extent to which cost increases are passed on to further stages of production and to consumers depends on several factors, including competitive pressures in the market and business cycle conditions. As cost shocks take time to work through the supply chain, indirect effects are generally thought to materialise with longer time lags and to last longer than direct effects.

Turning to the data, most of the increase in headline HICP inflation from August 2007 was due to the direct and indirect effects of the commodity price shock. In line with this, processed and unprocessed food and energy prices – the HICP components more directly exposed to the shock – rose substantially up to July 2008, whereas measures of inflation excluding food and energy remained largely unchanged over the period (see Chart B).

Indirect effects also appeared to emerge in other HICP components that use oil and raw food as a production input. For example, within the services component, the prices of transport-related services, package holidays and restaurants – which use oil and food as production inputs – rose

Chart A Commodity prices

(monthly data in euro; index: 2000 = 100)



Sources: Hamburg Institute of International Economics and ECB calculations.

¹ See the article entitled “Oil prices and the euro area economy” and the box entitled “Recent oil price developments and their impact on euro area prices” in the November 2004 and July 2004 issues of the ECB’s Monthly Bulletin respectively.

significantly in 2008, as commodity prices spiked (see Chart C). However, these rises may also reflect other factors in addition to the increases in oil and food prices, such as wage developments and the strength of consumer demand, in particular in the first half of the year.

Second-round effects

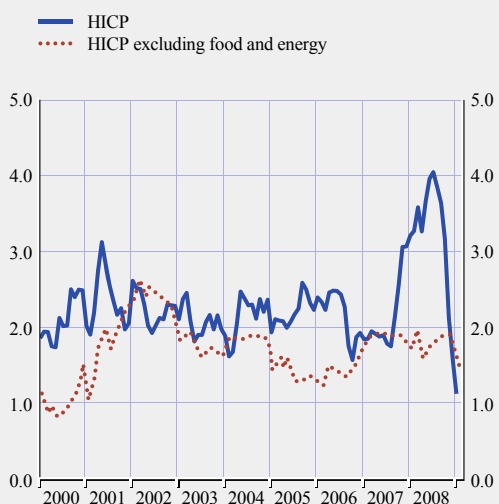
In addition to direct and indirect effects, usually described as first-round effects, a commodity price shock also entails the risk of what are known as second-round effects, which may put further upward pressure on consumer prices. Second-round effects typically refer to the increase in consumer prices over and above first-round effects owing to the impact of the shock on wage bargaining and price-setting behaviour. An increase in inflation owing to the direct and indirect effects of a commodity price shock may lead to second-round effects if economic agents (in particular price and wage-setters) attempt to compensate for the loss of real income caused by past inflation shocks. This may, in turn, affect inflation expectations and further influence price and wage-setting behaviour. In this way, a transitory inflation shock may become entrenched and thus more costly to eradicate.

The likelihood of a commodity price shock leading to second-round effects depends on several factors, including the cyclical position of the economy, the flexibility of goods and labour markets (in particular the presence of automatic indexation mechanisms affecting wage bargaining and price-setting processes), the formation mechanism of inflation expectations and, most importantly, the credibility of the central bank.

Inflation expectations and labour cost developments may be used to monitor the risk of second-round effects. Inflation expectations derived from surveys of professional forecasters rose somewhat between mid-2007 and mid-2008. Expectations implied by break-even inflation rates derived from bond yields followed a clear upward trend over the same period, but, with the intensification of the financial turmoil and the subsequent fall in oil prices, there has been a

Chart B HICP inflation

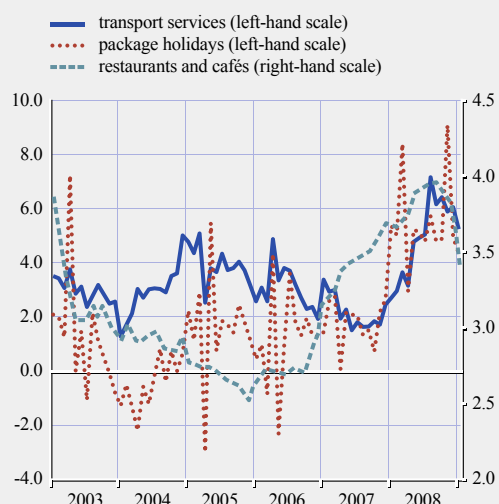
(annual percentage changes; monthly data)



Sources: Eurostat and ECB calculations.

Chart C Selected sub-components of the HICP services component

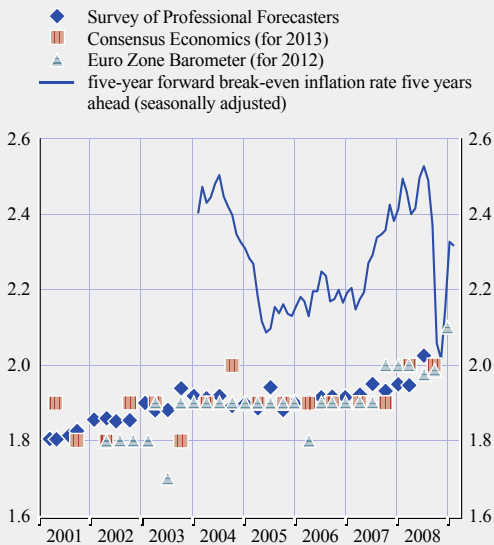
(annual percentage changes; monthly data)



Source: Eurostat.

Chart D Longer-term inflation expectations from surveys and the break-even inflation rate

(annual percentage changes)



Sources: Consensus Economics, Euro Zone Barometer, ECB, Reuters and ECB calculations.

Note: Longer-term inflation expectations are normally surveyed on a half-yearly basis by Consensus Economics and on a quarterly basis in the ECB Survey of Professional Forecasters and Euro Zone Barometer.

Latest observations: break-even inflation rate: 27 February 2009; Survey of Professional Forecasters and Euro Zone Barometer: January 2009; Consensus Economics: October 2008.

that the inflationary pressures would be significantly alleviated by the sharp fall in commodity prices and the economic downturn.

subsequent reversal of this trend (see Chart D). Evidence from wage bargaining developments in the course of 2008 also points to strong wage growth in various euro area countries, although it is difficult to pinpoint how much of the rise is attributable to second-round effects (more details on recent wage developments in the euro area can be found in Box 5).

While the direct, “mechanical” effects of a commodity price shock on consumer prices are unavoidable and indirect effects are, depending on the transmission of the shock through the price chain, possible, it is imperative that widespread inflationary pressures related to second-round effects be avoided. The role of a monetary policy geared towards maintaining price stability over the medium term is to ensure that a commodity price shock does not affect longer-term inflation expectations and trigger broader price pressures. Consequently, in a context of intensifying inflationary pressures, the ECB decided to raise its key interest rates in July 2008 in order to stabilise inflation expectations. However, interest rates were lowered later in the year, when it became clear

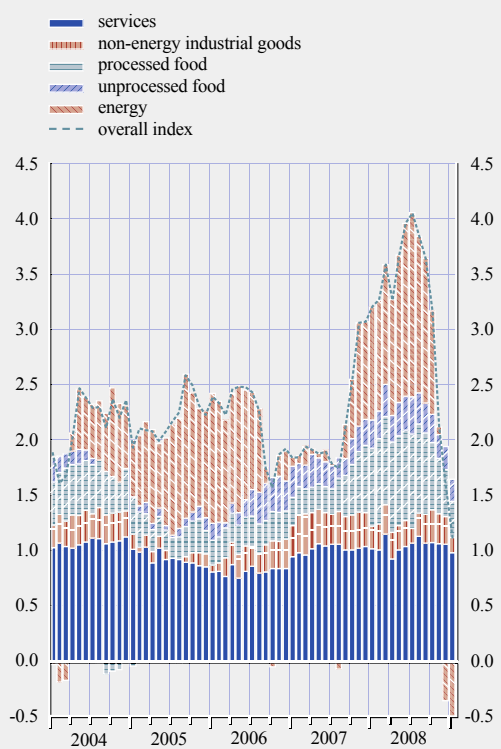
The pronounced movement in the energy component of the HICP – which has a weight of 9.8% in the overall HICP – reflected the abrupt changes in the prices of liquid fuel (such as petrol, diesel and heating fuel) driven by global oil prices, combined with the lagged response of non-oil energy components (such as electricity and gas) that tend to follow crude oil prices with a lag (see Chart 24). In June 2008 oil prices in euro were around 63% higher than a year earlier. By December 2008 they were 49% lower than a year earlier, having fallen by around 63% from their June 2008 peak. This marked variation in the annual profile was also amplified by a pronounced movement in refining margins. The year-on-year change in HICP energy prices peaked at 17.0% in July 2008, compared with 9.1% in

December 2007, before retreating rapidly and even turning negative in December, when it stood at -3.6%.

The annual growth rate of the processed food component of the euro area HICP followed a similar profile to that of the energy component, rising considerably in the autumn of 2007 before declining strongly from the middle of 2008 onwards. The annual rate of change in processed food prices reached a peak of 7.2% in July 2008, up from 2.0% in July 2007, before falling back to 3.6% in December 2008. Much of the spike in processed food prices and of the subsequent easing was related to components that are strongly affected by global agricultural commodity prices, such as bread and cereals, dairy products, and oils and fats. For the year as a whole, processed food

Chart 24 Contributions to HICP inflation from main components

(annual percentage point contributions; monthly data)



Source: Eurostat.
Note: Due to rounding errors, the contributions do not add up exactly to the overall index.

price inflation reached 6.1% on average in 2008, as compared with 2.8% in 2007. By contrast, unprocessed food prices rose by 3.5% in 2008 compared with 3.0% in 2007.

Excluding energy and food (processed and unprocessed), HICP inflation was largely stable over 2008. The impact of notably higher input prices arising from high commodity prices (energy and non-energy) was offset by the dampening effect of lower import price pressures, in the context of an appreciation of the euro until the middle of the year and strong international competition, as well as by the favourable base effect relating to the fact that the 3 percentage point increase in VAT introduced in Germany on 1 January 2007 started to drop out of the annual inflation rates at the beginning of 2008.

Non-energy industrial goods prices rose by 0.8% in 2008, showing a slight deceleration compared with the rate of 1.0% recorded in 2007. Despite the input cost pressures signalled by domestic producers and the high utilisation rate of manufacturing capacity, non-energy industrial goods price inflation moderated in the first half of 2008. It rebounded somewhat from July, on account of, among other things, the impact of the abrupt appreciation of the US dollar observed in the second half of the year and of some exceptional seasonal discounting which affected textile prices in the summer.

Services price inflation was broadly stable throughout much of 2008, although remaining at relatively elevated levels of around 2.5%, following a marked increase in 2007. While the indirect impact of price increases in global commodities, especially oil and food, may have contributed to a persistent upward effect on some services components, such as transport services and restaurants and cafés, this was counterbalanced to a large extent by pronounced declines in other services components, such as communications.

HIGHER AVERAGE PRODUCER PRICE INFLATION IN 2008 BUT PRONOUNCED DOWNWARD PRESSURES TOWARDS THE END OF THE YEAR

Supply chain price pressures reached extremely elevated levels in late spring, against the background of the high commodity price inflation, exacerbating concerns about inflation. However, these pressures receded steadily in the course of the summer, and then at a more pronounced pace in the last few months of the year – with falls in index prices (excluding energy and construction) from October – as commodity prices started falling rapidly and pressures on factors of production (both capital and labour) abated.

The annual rate of change in industrial producer prices (excluding construction) in the euro area was 6.2% on average in 2008, considerably higher than in 2007 (2.8%). After reaching a historical peak of 9.2% in July 2008, the year-on-year rate of producer price inflation declined

rapidly to 1.7% in December, mainly on account of energy and food price developments. The annual rate of change in energy producer prices reached a peak of 24.9% in July 2008, but had fallen back to 1.6% by December.

Excluding construction and energy, the annual growth rate of industrial producer prices reached its 2008 peak of 4.4% in July, before declining to 1.6% in December. This marked move affected intermediate and consumer goods, although to varying degrees and at different times, but had less of an impact on capital goods (see Chart 25).

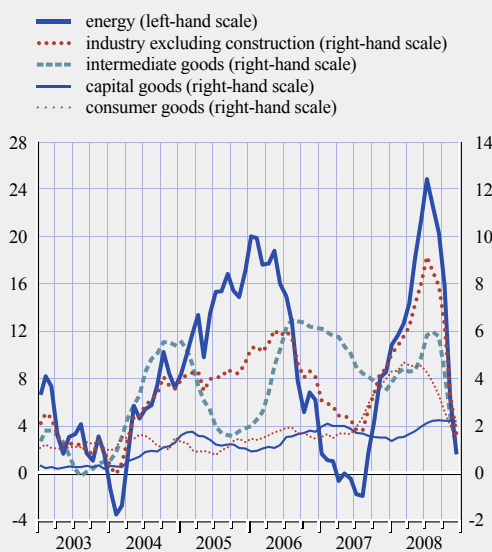
Intermediate goods price inflation accelerated during the first eight months of the year, peaking at 6.0% in August. In the first half of the year, intermediate goods prices were still affected by upward pressure from increasingly higher industrial raw materials and energy prices. During the second half of the year, the latter's decline in world markets and the slowdown in activity dampened output price developments in many parts of the intermediate goods sector. By the end of the year, many output prices were falling in the context of a sharp contraction in activity.

Movements in the annual growth rate of capital goods prices were delayed and more subdued, with a slight acceleration to 2.2% in September (reversing the downward trend observed in 2007) which levelled off towards the end of the year as competition intensified in the context of a rapid fall in demand.

Further down the production chain, the sharp acceleration in consumer goods prices observed in the last few months of 2007 continued in the first half of 2008. The annual rate of change in overall consumer goods prices rose to 4.7% in March 2008, the highest rate since the beginning of Monetary Union in 1999, mainly driven by non-durable consumer goods prices, which reflected global food price pressures. Excluding tobacco and food prices, the annual rate of change in consumer goods prices remained flat throughout the year.

Chart 25 Breakdown of industrial producer prices

(annual percentage changes; monthly data)



Source: Eurostat.

Note: Data refer to the euro area including Slovakia.

Overall, by the end of the year, the general weakening in euro area demand had resulted in considerably more competitive market conditions at various stages of production. This more competitive environment, combined with falling world commodity prices, was reflected in widespread reports of price falls (or price stabilisation), in input as well as output prices, for both manufacturing and services.

LABOUR COSTS ACCELERATED MARKEDLY

Available labour cost indicators for the euro area suggest a substantial acceleration around the end of 2007 and the beginning of 2008, following years of wage moderation. The average annual growth rate of compensation per employee in the first three quarters of the year was 3.3%, notably higher than the average annual growth rates recorded in the period 2005-07, which ranged from 1.8% to 2.5% (see Table 2). Hourly compensation provides a similar picture, although the first quarter was affected by the early timing of Easter in 2008, thus resulting in a spike in the series in that quarter. Negotiated wages also accelerated in the course of 2008 from the band of between 2.1% and 2.3% within

Table 2 Labour cost indicators

(annual percentage changes, unless otherwise indicated)

	2006	2007	2008	2007 Q4	2008 Q1	2008 Q2	2008 Q3	2008 Q4
Negotiated wages	2.3	2.1	3.2	2.1	2.8	2.9	3.4	3.5
Total hourly labour costs	2.5	2.6	.	2.9	3.5	2.8	4.0	.
Compensation per employee	2.2	2.5	.	2.9	3.1	3.4	3.5	.
<i>Memo items</i>								
Labour productivity	1.3	0.8	.	0.4	0.5	0.2	-0.1	.
Unit labour costs	0.9	1.7	.	2.5	2.6	3.2	3.6	.

Sources: Eurostat, national data and ECB calculations.

which they had fluctuated in past years, rising to 2.9% in the first half of the year, 3.4% in the third quarter and 3.5% in the fourth quarter.

The acceleration in wage growth in the first half of the year may have reflected, aside from some differences in employment growth rates across wage levels, the prevailing tightness in the labour market and the direct or indirect impact of past HICP developments. Given the sizeable hike in global commodity prices, the very tight labour market conditions and the long lag required for movements in economic activity to have a decisive impact on labour costs, there was a significant risk by mid-2008 that second-round effects, stemming in particular from the indexation of wages to high inflation outcomes (even if temporary), might outweigh any possible dampening impact on wage costs stemming from the gradual slowdown in activity foreseen at that time.

The rapid alleviation of global inflation pressures, which saw headline HICP inflation fall back below 2% by December 2008, and the sudden and stronger than expected contraction in euro area activity considerably weakened the risk of broad-based second-round effects materialising. Firms were expected to implement measures to contain labour costs in view of the uncertainty surrounding the euro area outlook, and the rapid deterioration in labour market conditions also contributed to the moderation of wage cost pressures.

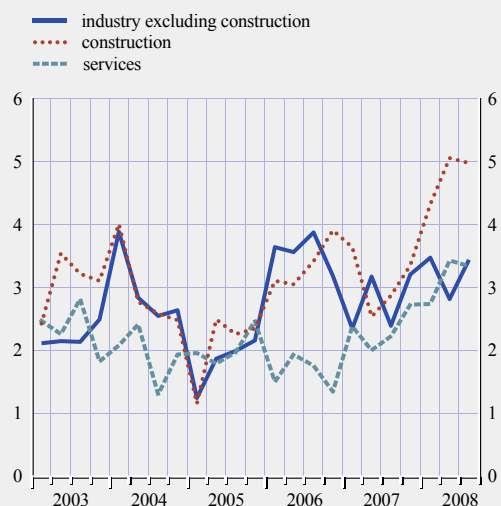
Sectoral data indicate some heterogeneous behaviour across sectors. Growth rates in all labour cost indicators were particularly high

for the construction sector in 2008, perhaps reflecting some composition effects, with lay-offs concentrated among lower-paid workers amid pronounced regional differences. Compensation per employee in the services sector also increased strongly, particularly with regard to non-market services (see Chart 26). By contrast, labour cost inflation in the industrial sector increased only moderately on average and displayed a high degree of volatility in the course of 2008.

Given the slowdown in activity and the expected adverse cyclical impact on labour productivity, unit labour costs accelerated rapidly, reducing business margins. Annual growth in labour

Chart 26 Sectoral compensation per employee

(annual percentage changes; quarterly data)



Sources: Eurostat and ECB calculations.

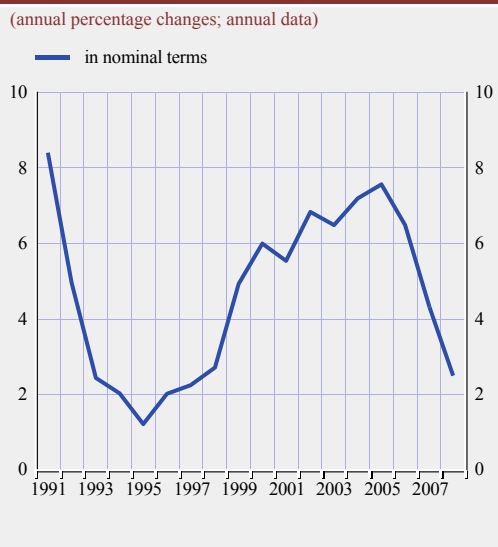
Note: Data refer to the euro area including Slovakia.

productivity slowed to 0.2% in the first three quarters of 2008 on average, even turning negative in the third quarter, compared with annual growth rates of around 1% on average in 2006-07. Unit labour costs thus surged from an annual growth rate of 1.6% in the third quarter of 2007 to 3.6% by the third quarter of 2008. In the first three quarters of 2008, unit labour costs grew at an annual rate of 3.2%, compared with average growth rates of 1.7% and 0.9% in 2007 and 2006 respectively. The rapid increase in unit labour costs compressed profits in the course of 2008, as companies were unable to pass on these higher costs in full. An indicator of overall profit mark-up, measured as the difference in the rates of growth of the GDP deflator and unit labour costs, points to a fall in profit margins after several years of increases. Mark-ups fell on average by 0.9 percentage point in the first three quarters of 2008 compared with the corresponding period of the previous year, after increasing by 0.9 percentage point in 2007.

RESIDENTIAL PROPERTY PRICE INCREASES SLOWED DOWN FURTHER

Residential property prices, which are not included in the measurement of the HICP, decelerated in the first half of 2008, continuing the slowing trend observed since the second half of 2005. According to the latest estimates, the annual growth rate of residential property prices for the euro area as a whole declined to 2.7% in the first half of 2008, from 3.9% in the second half of 2007 (see Chart 27). Country data confirm that the gradual moderation in house price inflation in the euro area was relatively broad-based in the first half of 2008, notwithstanding a certain degree of heterogeneity across countries. House price increases slowed down significantly in Belgium, Spain and France compared with the period 2006-07. House prices started falling in Ireland in the second half of 2007, and in Malta in the first half of 2008. However, in Italy, the Netherlands, Portugal and Austria, house price increases in the first half of 2008 were roughly comparable with those observed in 2007. In Germany, data showed small increases in house prices in 2008, following a period of subdued developments.

Chart 27 Residential property price developments in the euro area



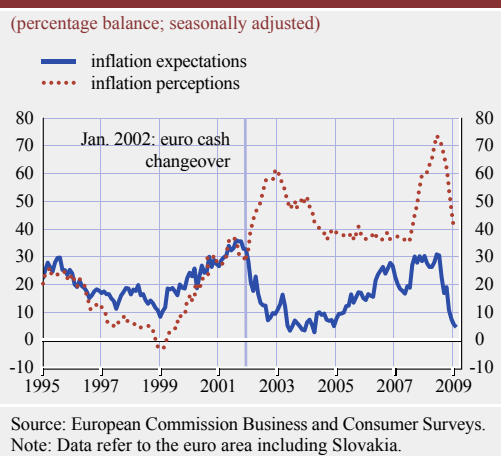
Source: ECB calculations, based on non-harmonised national data.
Note: Data for 2008 refer to the first half of the year.

DEVELOPMENTS IN INFLATION PERCEPTIONS AND EXPECTATIONS

The sharp rise in headline inflation during the first half of 2008 increased the focus on inflation perceptions and expectations for the assessment of future inflation developments. The European Commission's measure of consumers' qualitative perceptions of inflation over the previous 12 months continued to increase, by mid-2008 reaching levels far beyond those seen in the wake of the euro cash changeover in January 2002 (see Chart 28).

By the end of the year, these perceptions had receded somewhat. Similarly, consumers' inflation expectations for the next 12 months tended to increase (expectations reported in the survey are to be judged by reference to the perceptions reported) in the early months of 2008 until the summer, before converging towards lower levels by the end of the year. However, the European Commission survey provides a measure of short-term expectations which is closely in line with observed inflation. It does not gauge long-term expectations, which are more important for monetary policy-

Chart 28 Euro area consumers' qualitative inflation perceptions and expectations



making. Information derived from professional forecasters indicates that survey-based long-term inflation expectations (five years ahead) remained anchored around 2.0%, although there were, in the middle of the year, indications of some upward movements and increased risks. These were reversed later in the year, according to survey data from Consensus Economics, Euro Zone Barometer and the ECB Survey of Professional Forecasters. Break-even inflation rates derived from inflation-linked bonds and swaps in the euro area (using the implied one-year forward break-even inflation rate four years ahead) increased gradually to more than 2.5% by mid-2008, before receding in the autumn, falling to around 1.8% by the year-end. However, these market-based measures (in particular bond-based measures) were distorted at the time by sudden movements in investors' preferences and portfolio shifts. All in all, by mid-2008 a number of survey and market-based indicators pointed to a clear risk of inflation expectations becoming unanchored, which required a clear but balanced signal on the part of the ECB, and by the end of the year, inflation expectations had fallen back to more satisfactory levels.

2.4 OUTPUT, DEMAND AND LABOUR MARKET DEVELOPMENTS

SHARP SLOWDOWN IN ECONOMIC ACTIVITY

Real GDP growth in the euro area slowed to 0.8% in 2008, following solid growth rates of 2.7% in 2007 and 3.0% in 2006 (see Table 3). While the year started on a relatively resilient note, there was a rapid deterioration in activity from the middle of the year in the face of weakening domestic demand and a pronounced slowdown in the world economy. The year ended with a sharp contraction in activity amid renewed financial turmoil and a virtually unprecedented downturn in global activity and demand.

Quarterly growth rates were affected by certain technical factors. The strong GDP growth rate of 0.7% in the first quarter partly reflected an unusually mild winter in many parts of Europe, which boosted construction and thus investment, and a positive contribution to growth from inventories at the start of the year. The unwinding of these factors contributed to the quarter-on-quarter contraction in GDP of 0.2% in the second quarter of 2008. Notwithstanding these technical factors, the first half of 2008 taken as a whole pointed to a continuation of the mild slowdown in activity observed in the course of 2007, with quarterly GDP trend growth slowing down from ½% to ¼%. Only half of the quarter-on-quarter growth in the first part of the year arose from internal demand, amid particularly subdued consumption and weakening residential investment, while the other half resulted from net exports.

However, external demand started to show significant signs of contraction in the summer, as renewed weaknesses emerged in the US economy and activity in emerging markets – which had previously been perceived to be shielded from the effects of the global slowdown – decelerated (see Chart 29).

Table 3 Composition of real GDP growth

(percentage changes, unless otherwise indicated; seasonally adjusted)

				Annual rates ¹⁾					Quarterly rates ²⁾				
	2006	2007	2008	2007	2008	2008	2008	2008	2007	2008	2008	2008	2008
				Q4	Q1	Q2	Q3	Q4	Q4	Q1	Q2	Q3	Q4
Real gross domestic product	3.0	2.7	0.8	2.2	2.1	1.5	0.7	-1.2	0.3	0.7	-0.2	-0.2	-1.5
<i>of which:</i>													
Domestic demand ³⁾	2.9	2.4	.	2.1	1.7	1.1	0.8	.	0.1	0.6	-0.3	0.4	.
Private consumption	2.1	1.7	.	1.3	1.3	0.4	0.1	.	0.2	0.0	-0.2	0.1	.
Government consumption	1.9	2.2	.	2.0	1.4	2.0	2.2	.	0.3	0.3	0.8	0.7	.
Gross fixed capital formation	5.8	4.2	.	3.2	3.7	2.6	0.9	.	1.0	1.4	-0.9	-0.6	.
Changes in inventories ⁴⁾	0.0	0.0	.	0.2	-0.1	-0.2	0.1	.	-0.3	0.2	-0.2	0.4	.
Net exports ³⁾	0.2	0.3	.	0.1	0.4	0.4	-0.1	.	0.3	0.1	0.1	-0.6	.
Exports ⁵⁾	8.6	6.0	.	4.0	5.3	3.9	2.0	.	0.5	1.7	-0.1	0.0	.
Imports ⁵⁾	8.4	5.4	.	3.9	4.4	3.1	2.2	.	-0.2	1.6	-0.5	1.4	.
Real gross value added													
<i>of which:</i>													
Industry excluding construction	3.9	3.6	.	3.3	2.7	1.3	-1.1	.	0.5	0.2	-0.6	-1.3	.
Construction	3.0	3.2	.	1.7	2.8	1.6	0.4	.	0.9	2.6	-1.8	-1.2	.
Purely market-related services ⁶⁾	3.6	3.2	.	2.7	2.6	1.9	1.2	.	0.4	0.6	0.2	0.0	.

Sources: Eurostat and ECB calculations.

Notes: The figures reported are seasonally and partly working day-adjusted, as not all euro area countries report quarterly national account series adjusted for the number of working days. Data refer to the euro area including Slovakia.

1) Percentage change compared with the same period a year earlier.

2) Percentage change compared with the previous quarter.

3) As a contribution to real GDP growth; in percentage points.

4) Including acquisitions less disposals of valuables.

5) Exports and imports cover goods and services and include internal cross-border trade in the euro area. Since intra-euro area trade is not cancelled out in import and export figures used in national accounts, these data are not fully comparable with balance of payments data.

6) Includes trade and repairs, hotels and restaurants, transport and communication, financial intermediation, real estate, renting and business activities.

From September 2008 the sudden and extraordinary intensification and broadening of the financial turmoil and the ensuing heightened uncertainties led to a rapid contraction of euro area GDP (-1.5% quarter on quarter). Firms started to react forcefully to the rapid depletion of order books, postponing expansion plans and cutting inventories in the face of costlier and reduced access to financing, while households increased their savings in reaction to the increased uncertainty about short-term job prospects and to negative wealth effects.

THE SLOWDOWN IN GDP GROWTH WAS BROAD-BASED

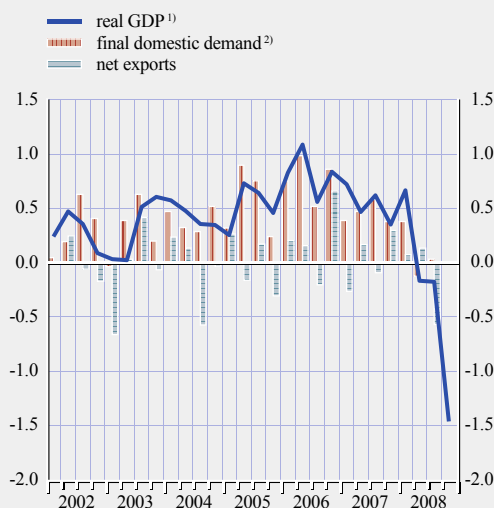
The weakening in demand during 2008 was broadly based across GDP components. External demand slowed as activity in advanced economies decelerated and emerging markets became increasingly affected by the financial turmoil. Domestic demand also softened considerably. Rising commodity prices strongly affected households' real income in the first half of the year, while cooling housing markets led to a

rapid decline in residential investment. Waning capacity pressures, renewed uncertainty and tighter financing conditions led to cuts in corporate investment.

Faced with subdued real income growth, falling financial wealth, tightening credit conditions and worsening labour market prospects, household spending moderated considerably in the course of the year, with private consumption growing by around 0.6% in 2008 as a whole – fully on account of the carry-over effect from 2007 on the yearly growth rate, as during 2008 consumption increased in only one quarter – compared with 1.7% in 2007. Although nominal household income growth was reasonably robust during most of the year, owing to the solid growth in compensation of employees (resulting from the acceleration in compensation per employee and still resilient employment), the real disposable income of households came under significant downward pressure from accelerating HICP inflation. Large increases in commodity prices raised the cost of households' typical

Chart 29 Contributions to quarterly real GDP growth

(quarterly percentage point contributions; seasonally adjusted)

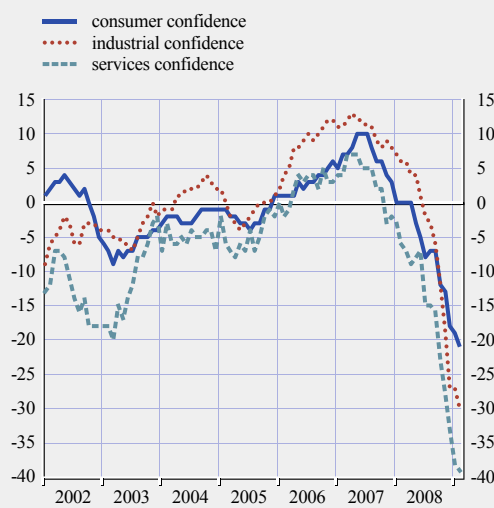


Sources: Eurostat and ECB calculations.

- 1) Percentage change compared with the previous quarter.
- 2) Defined as domestic demand excluding changes in inventories.

Chart 30 Confidence indicators

(percentage balances; seasonally adjusted)



Source: European Commission Business and Consumer Surveys.

Note: Data shown are calculated as deviations from the average over the period since January 1985 for consumer and industrial confidence, and since April 1995 for services confidence.

consumption basket, and year-on-year growth in real household disposable income fell to its lowest rate since 2003 (to around 0.7% on average in the first three quarters of 2008). Households reacted cautiously, choosing to retrench spending rather than to smooth consumption and reduce savings.

While the recent cycle has generally been characterised by relatively subdued household spending, the ongoing financial turmoil is likely to have been an additional factor behind households' reluctance to spend. Large falls in financial wealth as stock markets slumped caused households – either because some of the losses were perceived to be permanent or because uncertainty about the economic outlook was heightened – to reduce expenditure and build up precautionary savings. The deteriorating outlook for the labour market also contributed to a decline in consumer sentiment. Consumer confidence indicators, which had peaked in mid-2007, fell to their long-term average levels in the early months of 2008, sharply deteriorating further to reach very low levels by the end of the year (see Chart 30).

Total investment growth declined sharply to around 0.6% in 2008 following two years of elevated growth (5.8% in 2006 and 4.2% in 2007), with quarter-on-quarter contractions in the last three quarters offsetting the positive carry-over effects from 2007 and a strong first quarter that benefited from unusually good weather (with the latter mechanically depressing the figures for the second quarter). This deceleration was more marked for residential investment than for other private investment.

Indeed, housing investment contracted in 2008, following the end of the expansionary phase of the residential construction cycle in 2007 in the context of slowing house price growth. The deceleration was generally more pronounced in countries that had experienced very fast growth in previous years. The Eurosystem's bank lending survey also indicated a considerable drop in demand for loans for house purchase since the start of the financial turmoil in summer 2007, reflecting the downturn in the housing market. At the same time, there was a substantial tightening in credit conditions.

Corporate investment, which had expanded at a brisk pace in 2007, reflecting strong profitability and high capacity utilisation rates, also slowed markedly in 2008, contracting in the second half of the year after a dynamic first half. This reversal in corporate investment resulted to varying degrees from weakening demand and the ensuing waning capacity pressures, from reduced profitability owing to the incomplete pass-through of the commodity price shock in the first part of the year and to the surge in unit labour costs over the course of the year, and from tighter lending standards.

The tightening of financing conditions, which had been ongoing since the start of the financial turmoil, accelerated abruptly in September 2008, pushing the cost of market-based finance considerably higher, as well as the overall real cost of finance (an aggregate measure combining the costs of market debt, equity and bank-based finance). Nonetheless, the proportion of firms citing financing as a factor limiting production remained low in 2008. This was largely due to the fact that the impact of tighter credit conditions tends to appear with a lag, because firms can rely on previously committed credit lines, and that internally generated funds remained at a high level. In addition, the proportion of industrial firms identifying a lack of equipment or space as a factor limiting production decreased sharply after peaking in the third quarter of 2007, while the utilisation rate of industrial capacity returned to its long-term average in October 2008. Firms also faced heightened uncertainty concerning the economic outlook, as evidenced by the exceptional volatility of financial markets, particularly in the last few months of 2008, and by the unusually wide dispersion of GDP forecasts in the ECB Survey of Professional Forecasters for the fourth quarter of 2008.

Growth in euro area exports slowed down markedly in 2008, to an annual rate of around 1.8%, compared with 6.0% in 2007, and turned negative over the last three quarters of the year. The external environment deteriorated

significantly in 2008, aggravated by the financial crisis, with growth slowing in advanced economies and emerging markets becoming increasingly affected. During the last few months of the year, various survey indices on industrial export orders or order books fell to historically low levels. Euro area imports also slowed in 2008, reflecting sluggish domestic demand. Net trade had a neutral impact on growth in 2008, following two years of positive contributions, with the strongly negative figures in the second half of the year offsetting the positive figures recorded in the first half and carry-over effects from 2007.

From a sectoral perspective, the slowdown in activity was broadly based, although more marked in the industrial sector, which tends to display greater sensitivity to economic cycles. Manufacturing activity fell abruptly in the second half of the year, in particular with regard to capital goods, which suffered from weaker external demand, a rapid depletion of order backlogs and sharp cuts in activity in the car industry. Construction continued to be very weak, despite a temporary boost in the first quarter owing to good weather conditions, with a steady deterioration in the residential sector which was particularly severe in some countries. Although more resilient, services grew at their slowest pace since 2004, against the background of weak private consumption and slackening business activity.

DECLINE IN THE LABOUR MARKET

Conditions in the euro area labour market worsened in 2008, after two years of substantial improvements.

Over the previous few years, euro area labour markets had performed very positively, with strong increases in employment, rising participation levels and low unemployment rates, the latter reaching in early 2008 the lowest level since the 1980s (7.3%). Thus, by the end of 2007 labour markets were particularly tight and wage pressures were beginning to rise. However, these trends were reversed in the course of 2008, with employment contracting in the second half of

Table 4 Labour market developments

(percentage changes compared with the previous period; percentages)

	2005	2006	2007	2006 Q2	2006 Q3	2006 Q4	2007 Q1	2007 Q2	2007 Q3	2007 Q4	2008 Q1	2008 Q2	2008 Q3
Labour force	1.0	1.0	0.9	0.3	-0.0	0.2	0.2	0.3	0.4	0.2	0.3	0.3	0.1
Employment	1.0	1.6	1.8	0.6	0.3	0.4	0.5	0.5	0.5	0.3	0.4	0.2	-0.0
Agriculture ¹⁾	-0.7	-1.9	-1.2	0.8	-1.3	-0.3	0.4	-0.5	-1.0	-0.4	0.5	-1.2	-0.8
Industry ²⁾	-0.0	0.6	1.4	0.2	0.3	0.5	0.6	0.3	0.0	0.1	0.2	-0.3	-0.7
– excluding construction	-1.1	-0.3	0.3	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.3	0.1	-0.3
– construction	2.7	2.7	3.9	0.5	0.8	1.5	1.8	0.6	-0.1	0.0	0.0	-1.2	-1.5
Services ³⁾	1.4	2.2	2.1	0.7	0.3	0.4	0.5	0.7	0.7	0.4	0.4	0.4	0.2
Rates of unemployment⁴⁾													
Total	9.0	8.4	7.5	8.5	8.2	8.0	7.7	7.5	7.4	7.3	7.3	7.4	7.6
Under 25 years	17.5	16.3	14.9	16.5	15.9	15.9	15.2	14.8	14.8	14.7	14.6	15.1	15.5
25 years and over	7.9	7.4	6.6	7.5	7.2	7.0	6.8	6.6	6.5	6.4	6.4	6.5	6.6

Sources: Eurostat and ECB calculations.

Note: Data refer to the euro area including Slovakia.

1) Includes fishing, hunting and forestry.

2) Includes manufacturing, construction, mining and quarrying, electricity, gas and water supply.

3) Excludes extra-territorial bodies and organisations.

4) Percentage of the labour force according to ILO recommendations.

the year and the unemployment rate rising from the second quarter and accelerating towards the end of the year (see Box 5 for more details).

Taking a sectoral perspective, employment in the construction sector was contracting at an annual rate of 2.7% by the third quarter of 2008, after having grown at a very strong rate of 3.9% in 2007 (see Table 4). Employment in industry excluding construction increased in the first half of the year, continuing an unusual pattern that began in 2007 after years of job losses, but reverted to its historical downward trend in the second half of the year. Employment growth in the services sector was relatively resilient, recording an annualised quarter-on-quarter rate of change of 1.6% in the first half of the year.

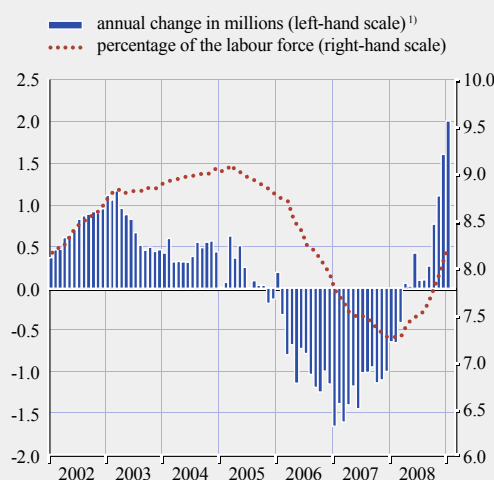
The average monthly increase in the number of unemployed persons during 2008 stood at around 170,000. The unemployment rate was 8.1% in December 2008 (see Chart 31).

Labour productivity growth, measured as GDP divided by total employment, slowed to almost zero in 2008 on average (with falls during the second half of the year), down from 1% in 2007. This sharp deceleration in labour productivity growth was mainly due to the business cycle. It

is costly for firms to recruit and dismiss staff, particularly those with permanent contracts, as this often involves large losses in firm-specific human capital. Companies may thus initially retain staff at the beginning of a slowdown if they expect it to be mild or relatively short-lived, or if they wish to wait to assess its magnitude.

Chart 31 Unemployment

(monthly data; seasonally adjusted)



Source: Eurostat.

1) Annual changes are not seasonally adjusted.

LABOUR MARKET DEVELOPMENTS IN THE EURO AREA IN 2008

After three years of buoyant employment growth and rapidly declining unemployment, euro area labour markets experienced a clear slowdown in 2008. Unemployment started to rise in the second quarter of the year, reaching 8.1% by the end of 2008, while the annual rate of employment growth slowed to 0.8% in the third quarter, more than 1 percentage point below the average rate for the previous year. This box examines the factors behind the downturn in euro area labour market developments.

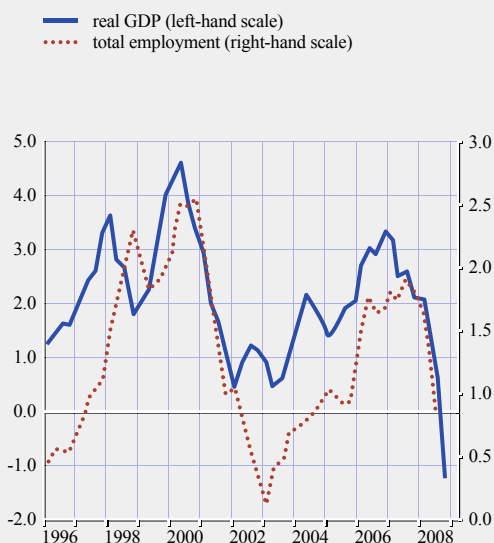
In general, developments in labour market variables tend to lag those in economic activity. Chart A shows employment growth clearly lagging economic growth. When a fall in demand first occurs, firms do not know whether this fall is temporary or likely to be more persistent. They therefore tend to react by maintaining production and employment levels, leading to a build-up of inventories of unsold goods. If, over time, the fall in demand becomes more persistent, firms need to stop the excessive accumulation of inventories and start reducing production. However, they still generally maintain employment levels. When employers are uncertain about the probable depth or duration of a downturn, they are likely to adjust labour input by varying working hours rather than the number of people employed. The reasons for this are clear: given the significant costs involved in recruiting, training and dismissing staff, employers are reluctant simply to “write off” their investment in staff until they are convinced that a downturn in product markets is likely to persist. Consequently, firms prefer to maintain employment levels and cut production via a reduction in capacity utilisation (e.g. a shortening of hours worked or a decline in output per worker). While it is not immediately apparent from recent quarterly data (owing to the distortionary effect of the early timing of Easter in 2008), some slowdown in the rate of growth of hours worked seems to have occurred in the course of 2008 (see Chart B). Averaging hours worked in the first half of 2007 and those worked in the first half of 2008 shows a sharp decline in the growth rate of total hours worked (down from around 1.7%, on an annualised basis, in the first half of 2007 to just over 1.2% in the first half of 2008; see the dotted line). Moreover, in 2008 working hours, rather than the level of employment, seem to have played an increasingly important role in determining developments in the growth of total hours worked in comparison with previous years.

It is only when the fall in demand and the required cutback in production are expected to be persistent and large that a significant reduction in employment levels is observed, as firms seek to cut labour costs. A marked deterioration in labour demand is likely to hit first those categories of workers with more flexible working conditions, such as temporary workers, who are less costly to lay off. There is now considerable empirical evidence that developments in temporary employment exhibit different patterns to those in permanent employment in periods of weakening activity and economic downturn.¹ As is often the case in the early stages of an economic slowdown, in 2008 temporary employment growth declined more rapidly than permanent employment growth (see Chart C).

¹ See, for example, S. Bentolila and G. Saint-Paul, “The macroeconomic impact of flexible labor contracts, with an application to Spain”, *European Economic Review*, Vol. 36, 1992, pp. 1013-1047; B. Holmlund and D. Storrie, “Temporary work in turbulent times: the Swedish experience”, *Economic Journal*, Vol. 112, June 2002, pp. F245-F269.

Chart A Euro area real GDP and total employment growth

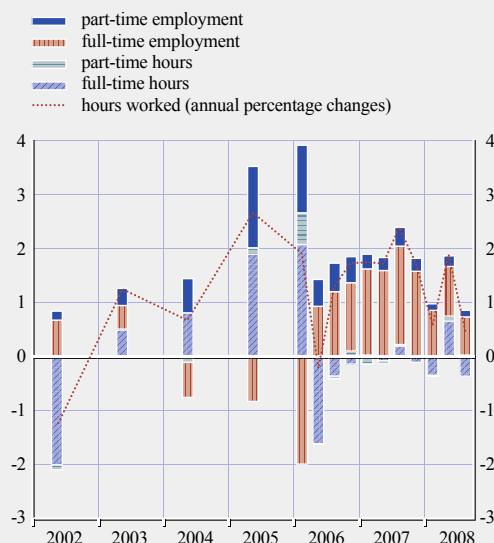
(annual percentage changes)



Source: Eurostat.

Chart B Breakdown of growth in hours worked

(in percentage points, unless otherwise indicated)



Source: Eurostat.

An increase in part-time work is also likely to be observed during a downturn, for a number of reasons. First, the weakening of economic activity may lead to changes in the structure of the economy, including a shift towards those sectors that are typically more reliant on part-time jobs. Second, employers may modify the hours worked in line with changes in output demand, to the extent that previously full-time positions are transformed into part-time jobs.² Third, workers who would prefer to work full time may be forced to consider part-time work because they cannot find a full-time position. Finally, additional workers may enter the labour market as household members take up part-time jobs to compensate for the unemployment or under-employment of the main worker in the household.³ However, these cyclical effects are not always easy to identify in the data, since part-time employment growth has followed a clear long-term upward trend in the euro area, in large part owing to labour market reforms aimed at fostering increased labour force participation (see Chart D).

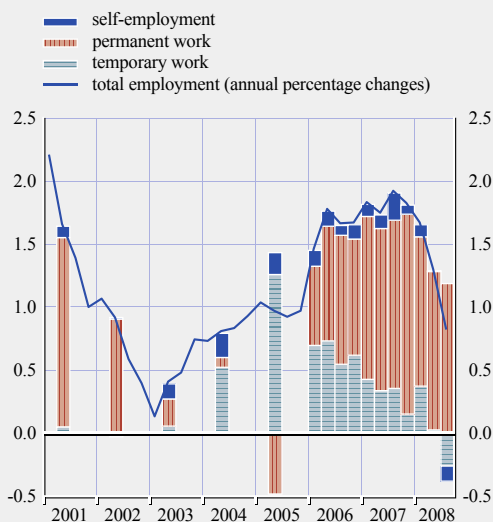
Meanwhile, the potential supply of labour is likely to grow less rapidly as a result of an economic slowdown. It is a well-known phenomenon that some workers become discouraged from seeking work as they see the number of available jobs fall. The nature of the current slowdown may result in some reallocation of workers away from those sectors worst affected by the downturn (e.g. financial services, real estate and construction, as well as the car industry), while the resulting mismatch – as people take time to retrain and relocate – may result in a slowdown in labour supply. Looking ahead, cyclical downturns can have a negative long-term effect on labour supply growth through the atrophy of skills. This problem becomes particularly acute if individuals remain unemployed for a long period of time: the longer they remain unemployed,

2 For the most part, Eurostat's Labour Force Survey distinguishes between full-time and part-time employment on the basis of respondents' assessments.

3 See, for example, H. Buddelmeyer et al., "Why do Europeans work part-time? A cross-country panel analysis", *Working Paper Series*, No 872, ECB, February 2008.

Chart C Breakdown of employment growth by type of contract

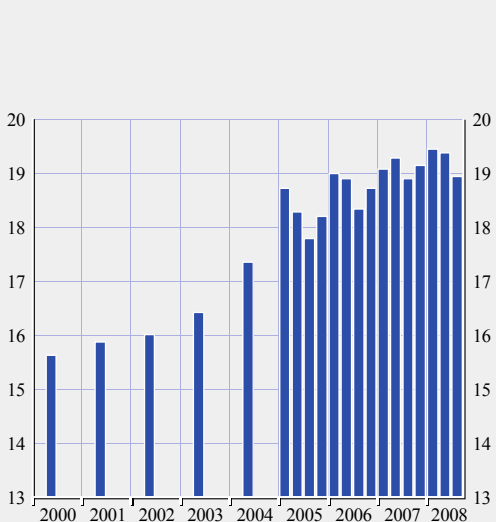
(in percentage points, unless otherwise indicated)



Source: Eurostat.

Chart D Part-time work in the euro area

(as a percentage of total employment)



Source: Eurostat.

the more detached they become from the labour market. As it becomes increasingly difficult for these people to find work, long-term unemployment is likely to increase.

Under such circumstances, labour market measures need to avoid a structural deterioration in unemployment levels and a reduction in long-term labour force participation. Such measures should include policies to support wage flexibility and foster wage moderation, not least through the abolition or overhaul of wage indexation schemes. Such policies would reduce cost pressures on firms, enhance competitiveness and support employment. Reforms which enhance the effectiveness and efficiency of active labour market policies would make it easier for the unemployed to (re)train and find new jobs. With regard to those in employment, policies permitting greater flexibility in fine-tuning working hours could give firms some leeway to reduce working hours without losing human capital through lay-offs. Labour market reforms must be implemented with a view to improving the resilience of the euro area economy to the crisis and creating a favourable environment for recovery and long-term economic growth and job creation.

2.5 FISCAL DEVELOPMENTS

REVERSAL IN BUDGETARY POSITIONS IN 2008

The relatively favourable fiscal outcomes achieved in recent years were partly reversed in 2008 as the financial crisis unfolded and the macroeconomic environment deteriorated rapidly. According to the European Commission's interim forecast of January 2009, the average general government balance in the euro area worsened from -0.6% of GDP in 2007 to -1.7% in 2008

(see Table 5). The deficit increase is accounted for by lower revenue, also owing to tax cuts, and higher primary expenditure, in the context of a slowdown in economic activity. The impact of government interventions to stabilise the financial system on the 2008 deficit was negligible.

In Ireland, Greece, Spain, France and Malta, the government deficit rose above the 3% of GDP reference value in 2008, whereas in 2007 only Greece had a deficit higher than 3% of GDP. The

Table 5 Fiscal positions in the euro area and euro area countries

(as a percentage of GDP)

General government surplus (+) / deficit (-)

	2006	2007	2008
Belgium	0.3	-0.3	-0.9
Germany	-1.5	-0.2	-0.1
Ireland	3.0	0.2	-6.3
Greece	-2.8	-3.5	-3.4
Spain	2.0	2.2	-3.4
France	-2.4	-2.7	-3.2
Italy	-3.4	-1.6	-2.8
Cyprus	-1.2	3.4	1.0
Luxembourg	1.3	3.2	3.0
Malta	-2.3	-1.8	-3.5
Netherlands	0.6	0.3	1.1
Austria	-1.5	-0.4	-0.6
Portugal	-3.9	-2.6	-2.2
Slovakia	-3.5	-1.9	-2.2
Slovenia	-1.2	0.5	-0.9
Finland	4.1	5.3	4.5
Euro area	-1.3	-0.6	-1.7

General government gross debt

	2006	2007	2008
Belgium	87.8	83.9	88.3
Germany	67.6	65.1	65.6
Ireland	24.7	24.8	40.8
Greece	95.9	94.8	94.0
Spain	39.6	36.2	39.8
France	63.6	63.9	67.1
Italy	106.9	104.1	105.7
Cyprus	64.6	59.4	48.1
Luxembourg	6.6	7.0	14.4
Malta	63.8	61.9	63.3
Netherlands	47.4	45.7	57.3
Austria	62.0	59.5	59.4
Portugal	64.7	63.6	64.6
Slovakia	30.4	29.4	28.6
Slovenia	26.7	23.4	22.1
Finland	39.2	35.1	32.8
Euro area	68.3	66.1	68.7

Source: European Commission.

Notes: Data are based on ESA 95 definitions. In the Commission's forecast, the euro area average includes Slovakia, which joined the euro area on 1 January 2009.

2007 Greek deficit was revised upwards to 3.5% of GDP in Eurostat's validation of the autumn 2008 notification, from 2.8% in the spring 2008 notification. The revision resulted from the correction of the recording of EU grants and the improved coverage of extra-budgetary, local government and social security funds. Comparing the 2008 figures with the targets set in the stability programme updates released at the end of 2007 and in early 2008, the euro area average balance fell short by 0.8 percentage point of GDP.

As a result of the economic and fiscal deterioration and the interventions by governments to stabilise the financial system, the average government

debt ratio in the euro area rose from 66.1% of GDP in 2007 to 68.7% of GDP in 2008. The debt increase could end up being even more sizeable, depending on the statistical classification of financial rescue operations by Eurostat, which has yet to be finalised (see Box 7). In particular, government debt increased significantly in countries which undertook sizeable interventions in financial institutions or which experienced a sharp macroeconomic slowdown. The annual growth rate of debt securities issued by euro area governments in 2008 increased noticeably compared with 2007, while sovereign spreads vis-à-vis Germany widened considerably for some countries (see Box 6).

Box 6

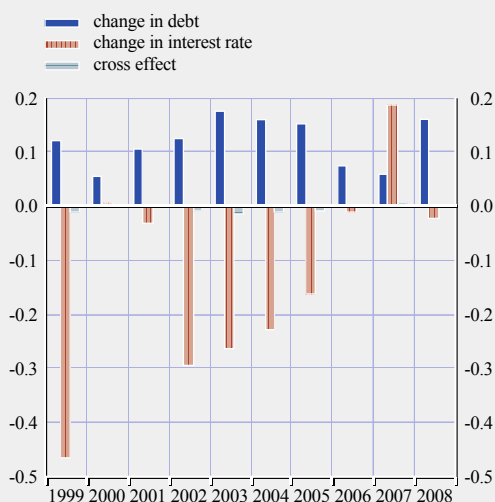
DEVELOPMENTS IN THE ISSUANCE AND YIELD SPREADS OF EURO AREA GOVERNMENT DEBT SECURITIES

The annual growth rate of the outstanding amount of euro area general government debt securities stood at 8.0% in 2008. Although significantly higher than the 2.8% recorded in 2007 (see Table A)¹, it is comparable to the figures recorded in previous periods of slowing economic growth. This growth in the net issuance of government debt securities, together with the sharp slowdown in GDP growth observed in 2008, was also reflected in the deterioration in the government debt-to-GDP ratio for the euro area, which rose from 66.1% in 2007 to 68.7% in 2008.²

Looking at the composition of net issuance in 2008, the activity of the euro area short-term debt securities primary market was remarkably strong. This partly reflects the fact that the yield curve became steeper during 2008, making short-term financing relatively cheaper. This is a feature common to other episodes of slower economic growth with declining short-term interest rates. As a result, long-term debt accounted for around 88.7% of outstanding debt securities in 2008, the lowest level since the start of Stage Three of EMU (see Table B).

Chart A Breakdown of the change in interest payments for the period 1999-2008

(as a percentage of GDP; annual data)



Source: European Commission (AMECO database).

1 Growth rates are calculated on the basis of financial transactions and therefore exclude reclassifications, revaluations, exchange rate variations and other changes that do not arise from transactions. For details, see the technical notes relating to Sections 4.3 and 4.4 of the "Euro area statistics" section of the ECB's Monthly Bulletin.

2 As at January 2009 the potential direct impact of announced government support to the banking sector on euro area general government debt was estimated at €284.6 billion (around 3% of euro area GDP).

Table A Annual growth rates of debt securities issued by euro area governments

(percentages; end of period)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Total general government	3.4	2.7	3.3	5.0	5.5	5.8	4.7	2.4	2.8	8.0
Long-term	5.6	3.6	2.8	3.9	4.8	6.2	5.5	3.4	2.3	3.6
Fixed rate		5.2	5.6	4.6	5.7	6.4	5.4	3.4	2.0	3.6
Floating rate		-2.5	-13.4	-4.5	-1.6	7.0	8.3	3.0	5.4	3.5
Short-term	-16.5	-7.1	8.7	18.5	13.6	2.1	-4.0	-8.8	9.5	62.6

Source: ECB.

Table B Structure of amounts outstanding of debt securities issued by euro area governments

(percentages of total debt securities issued by general government; end of period)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Central government	96.9	96.7	96.3	95.5	94.7	94.3	93.8	93.4	93.2	93.5
Long-term securities	89.3	89.8	89.0	87.3	85.9	85.8	86.0	86.5	86.1	82.7
Short-term securities	7.6	6.9	7.2	8.2	8.9	8.5	7.8	6.8	7.1	10.8
Other general government	3.1	3.3	3.7	4.5	5.3	5.7	6.2	6.6	6.8	6.5
Long-term securities	3.0	3.2	3.6	4.4	5.2	5.6	6.0	6.4	6.4	6.0
Short-term securities	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.5
Total general government										
Long-term	92.3	93.0	92.6	91.7	91.0	91.4	92.1	92.9	92.5	88.7
Fixed rate	79.2	81.1	82.5	82.1	82.2	82.7	83.2	84.0	83.3	79.9
Floating rate	10.6	10.0	8.8	8.1	7.5	7.6	7.9	8.0	8.2	7.8
Short-term	7.7	7.0	7.4	8.3	9.0	8.6	7.9	7.1	7.5	11.3
Total general government in EUR billions	3,453.4	3,549.1	3,775.5	3,949.4	4,151.7	4,386.7	4,604.8	4,706.6	4,836.7	5,239.6

Source: ECB.

Chart A breaks down changes in interest payments into: i) an effect stemming from changes in government debt, ii) an effect resulting from changes in interest rates and iii) a residual cross effect.³ Interest expenditure increased by around 0.2 percentage point of GDP in 2008. This was mostly a reflection of the increase in the level of debt, whereas the impact of the decline in interest rates and cross effects was marginal.

Following the developments triggered by the onset of the financial turmoil in August 2007, the spreads between the yields on long-term euro area government bonds and those on German bonds widened significantly in 2008, particularly over the second half of the year. This is illustrated in Chart B, which shows the spreads against Germany for eight euro area countries (Belgium, Ireland, Greece, Spain, France, Italy, the Netherlands and Portugal). The differences between government bond yields across euro area countries ultimately reflect differences in credit risk and liquidity premia.

First, in response to the intensification of the financial turmoil in the second half of 2008, the summit of euro area countries in Paris on 12 October announced coordinated rescue packages, including guarantees for bank debt, capital injections for banks and outright purchases of banks' risky assets. The expected fiscal burden of such measures may have increased the perceived probability of defaults on sovereign bonds. Credit risk premia increased in all euro area countries, albeit to varying degrees, as illustrated in Chart C, which shows sovereign credit default swap spreads.⁴

Second, for most of 2008 the changes in euro area government bond yields also reflected flight-to-quality behaviour on the part of investors. This process was also characterised by increased discrimination among investors with regard to their flight-to-quality destinations. German

3 The change in the nominal interest payments, I , can be broken down as follows:

$$\Delta I = \Delta B \times i + \Delta i \times B + \Delta B \times \Delta i$$

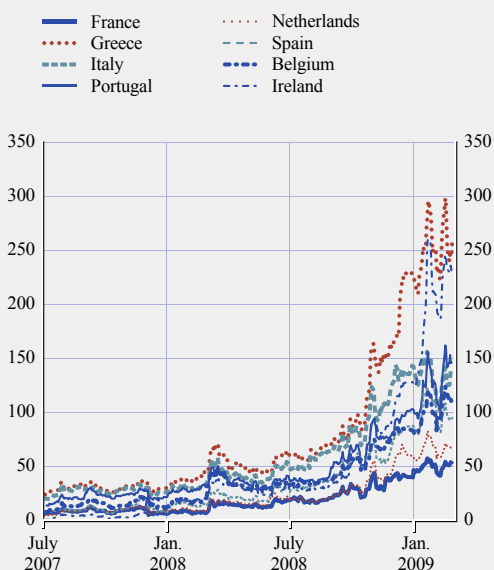
{ Effect via
change in
debt
{ Effect via
change in
interest rate
Cross effect
(residual)

where B is the nominal general government debt and i is the average implicit interest rate (I/B).

4 Sovereign credit default swap spreads have the advantage of not being distorted by changes in the benchmark bonds of the countries concerned, of not being affected by any maturity mismatches, and of tending to be more responsive to market changes.

Chart B Government bond yield spreads against German government bonds

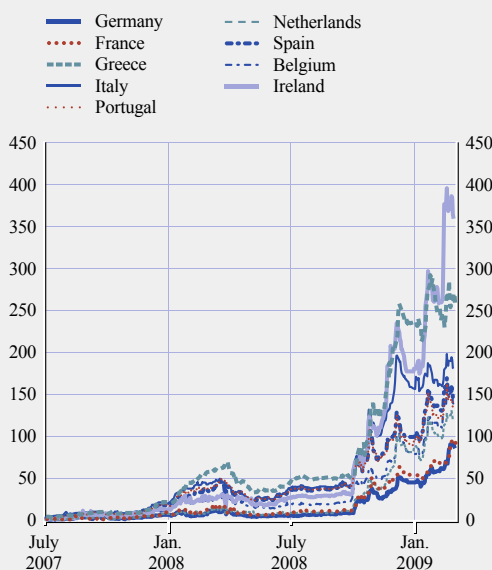
(daily data; basis points)



Source: Thomson Financial Datastream.
Note: Government bonds with a ten-year maturity.

Chart C Sovereign credit default swaps

(daily data; basis points)



Source: Thomson Financial Datastream.
Note: Credit default swaps with a five-year maturity.

bonds are generally regarded as the most liquid of all the euro area government bonds, with the result that these attracted most of the flight-to-quality flows, partly explaining the widening of sovereign spreads vis-à-vis Germany even where countries were perceived as having an identical or even a better fiscal outlook.⁵

⁵ See the box entitled “Recent widening in euro area sovereign bond yield spreads” in the November 2008 issue of the ECB’s Monthly Bulletin.

According to the European Commission’s estimates, the average structural budget balance (the cyclically adjusted balance excluding one-off and other temporary measures) in the euro area worsened in 2008 by 0.7 percentage point to -2.3% of GDP. The deterioration in structural balances amounted to more than half of the rise in the average government deficit, which suggests that cyclical conditions (on average) had a more limited impact. Moreover, there was a favourable “composition effect”. The growth in tax-rich wages, salaries and (nominal) private consumption continued to support tax receipts in some countries, despite the overall worsening economic situation. However, it should be noted that structural balance estimates are subject to

considerable uncertainty in the current situation and, in particular, may be revised at a later stage. Looking at individual countries, among the euro area countries, only Cyprus, Luxembourg, the Netherlands and Finland met their medium-term budgetary objective, while Spain and Slovenia moved away from theirs.

MEASURES IN RESPONSE TO THE FINANCIAL CRISIS AND ECONOMIC DOWNTURN

In October 2008 the euro area countries and the United Kingdom agreed on coordinated action to stabilise the financial sector, including the recapitalisation of financial institutions and guarantees for loans and deposits, which was subsequently approved by the European

Council. The effects of these interventions on public finances in the euro area are difficult to assess (see also Box 7). As at 1 January 2009 the potential direct impact of announced government support to the banking sector on euro area general government debt was estimated at €284.6 billion (around 3% of euro area GDP), and on government contingent liabilities at around 19%. The impact of these interventions on the euro area government deficit in 2008 was estimated to be negligible.

In response to the severe economic downturn, the European Council approved a European Economic Recovery Plan in its meeting on 11 and 12 December 2008. According to this plan, individual EU Member States will contribute €170 billion to a total fiscal stimulus of €200 billion (1.5% of EU GDP), with the remainder coming from the EU budget and the European Investment Bank. This coordinated effort by the Member States is intended to support economic recovery by strengthening aggregate demand and increasing efforts to implement the structural reforms envisaged in the Lisbon strategy. Depending on national circumstances, measures can take the form of increased public spending, a reduction in tax burdens or social security contributions and aid to certain categories of enterprises or households. At the same time, the European Council confirmed its full commitment to the implementation of the Stability and Growth Pact and to sustainable public finances. Member States were called on to return as soon as possible to their medium-term budgetary targets.

Many euro area countries adopted fiscal measures to stimulate aggregate demand. In the autumn of 2008, the German government adopted a package of measures, mostly on the revenue side of the budget, amounting to 1.3% of GDP in 2009 and 2010. At the beginning

of 2009, the government announced a second stimulus package, accounting for about 2% of GDP and consisting of additional measures in the same two years. In France, measures worth some 1.5% of GDP were announced at the end of 2008 for the period 2009-11, including accelerated public investment and support for small businesses and specific industries. In 2008 the Italian government adopted expansionary measures, mostly focusing on the expenditure side, amounting to half a percentage point of GDP for 2009 and 2010. Their impact on net borrowing is planned to be largely offset by compensating measures. In Spain, a number of revenue measures to stimulate the economy were taken in the first half of 2008, and additional public investment plans were announced in November, representing more than 3% of GDP in the period 2008-10. Most other countries also adopted sizeable fiscal stimulus measures.

While a deeper assessment of the stimulus policies will have to wait until the exact measures and their implementation are known, it is clear that current government intentions pose some risks (see also Box 8). Rising deficits can undermine confidence in fiscal sustainability, especially since the reversibility of the stimulus measures is in many cases not addressed and may prove to be very difficult. The sharp rise in government bond spreads vis-à-vis Germany is a warning sign that financial markets are watching the evolution of the potential risks very carefully. The effectiveness of the stimulus measures is sometimes doubtful, as a wide range of measures has been envisaged. Not all measures are clearly linked to the root of the current economic problems and some may reflect political compromises rather than economic considerations. Government intervention also carries the risk of distorting the behaviour of economic agents.

STATISTICAL ACCOUNTING CONSEQUENCES OF THE FINANCIAL CRISIS ON GOVERNMENT DEFICIT AND DEBT

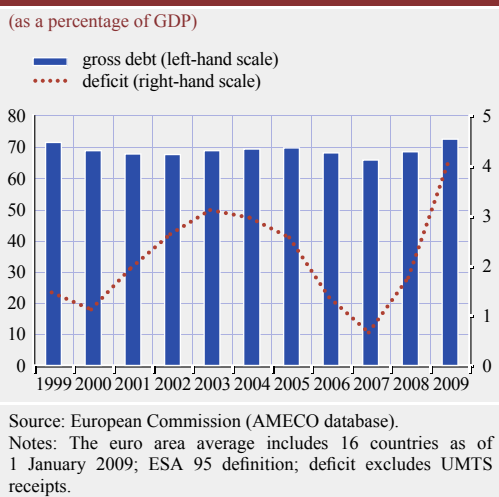
In response to the global financial crisis and its consequences for European financial institutions, European governments, central banks and other public authorities are implementing measures to stabilise the financial markets and the economy in general. These government operations include (partial) nationalisations, capital injections (recapitalisations), the purchase and/or exchange of financial assets and the provision of guarantees (on deposits and new debt issuances by banks, as well as on interbank lending).

The government deficit and debt, which are the key fiscal variables monitored under the Stability and Growth Pact, are recorded in accordance with the European statistical accounting rules known as the European System of Accounts 1995 (“ESA 95”) and the ESA 95 Manual on deficit and debt. The European Commission (Eurostat) has further developed methodological guidance on recording the above-mentioned government operations, on the basis of the ESA 95 and the Manual, in order to ensure that the compilation of government deficit and debt statistics is carried out consistently and homogeneously across Member States. In this process, Eurostat has consulted the Committee on Monetary, Financial and Balance of Payments Statistics (in which the national statistical institutes and the national central banks of the EU Member States, as well as the European Commission and the ECB, are represented) to determine how the accounting rules should be applied. In each individual case a number of questions will need to be answered, to decide on the appropriate recording:

- Do the entities created to recapitalise financial institutions or provide guarantees to financial institutions belong to the government sector in national accounts? If so, their deficit and debt will augment the government deficit and debt.
- Have governments bought shares in financial institutions at market prices, which indicate that a financial asset has been acquired (without an impact on the deficit), or should part of the amount injected into financial institutions be considered as a capital transfer (a subsidy)?
- If the government lends money to a financial institution, does the financial institution have an obligation to pay interest and to repay the loan? If not, it should be recorded as a capital transfer and not as a financial transaction.
- If the government takes over part of a financial institution’s liabilities and obtains a stake in the financial institution in return, is the stake worth the same as the liabilities? If not, (part of) the takeover of liabilities is considered a capital transfer with a negative impact on the government budget balance.
- At what point are government guarantees very likely to be called, so that they may have an impact on the deficit and debt at the moment they are granted? Normally guarantees have an impact on the deficit and debt only at the time when they are called.
- If a financial institution is fully nationalised, should it be reclassified to the government sector? As a general rule, it will become a public corporation, but not a governmental body. However, if a special unit is set up by government to acquire shares in a financial institution, this unit may need to be classified within the government sector if it is not autonomous or if it is not deemed to be engaged in a market activity.

Eurostat will publish the preliminary statistics on the government deficit and debt of the EU Member States for 2008 in the second half of April 2009.

Chart 32 Fiscal developments, 1999-2009



FURTHER FISCAL DETERIORATION EXPECTED IN 2009

The fiscal outlook in euro area countries is set to deteriorate further in 2009. According to the interim forecast of the European Commission, which includes the available stability programme updates at the end of 2008 and the beginning of 2009, the average general government deficit in the euro area is expected to increase by 2.3 percentage points to 4.0% of GDP (see Chart 32). Government expenditure is set to increase by 2.1 percentage points of GDP, and revenues to decrease by 0.1 percentage point of GDP. The average government debt ratio in the euro area is expected to increase in 2009, by 4.0 percentage points, to 72.7% of GDP.

In all euro area countries except Malta, the general government balance is expected to decline, according to the Commission's interim forecast. Ireland, Greece, Spain, France, Italy, Portugal and Slovenia are expected to breach or remain above the 3% of GDP reference value in 2009, in some cases by a wide margin. Deficits in Belgium and Austria are expected to be at the 3% reference value and in Germany and Slovakia to be just below it. There are

clear risks that actual outcomes could be even worse than expected.

FOCUS ON FISCAL SUSTAINABILITY ESSENTIAL

The reversal in fiscal outcomes and the highly uncertain outlook pose considerable challenges to fiscal policy in the euro area. Public finances are coming under pressure from four developments. First, deficits are rising significantly as a result of the operation of automatic stabilisers in the macroeconomic slowdown. Second, on top of the unwinding of revenue windfalls of recent years, additional revenue shortfalls may materialise owing to, among other factors, sharp falls in financial asset prices, as well as a housing slump in some countries. Third, the government interventions in the financial sector to prevent a systemic banking crisis and much more severe macroeconomic disruption carry substantial fiscal risks. Fourth, stimulus measures to counter the economic slowdown put the fiscal outlook under pressure.

In this challenging environment, it is crucial that fiscal discipline and a medium-term perspective are maintained. A precondition for maintaining the public's trust in the sustainability of public finances is to safeguard the integrity of the rules-based EU fiscal framework. It is therefore essential that all parties involved adhere to their commitment to fully apply the provisions of the Stability and Growth Pact, which provide the necessary flexibility to deal with adverse economic circumstances.

The substantial stimulus packages adopted in 2008 and early 2009 add to fiscal imbalances in the euro area. To prevent a loss of confidence in the sustainability of public finances, a credible commitment to undo stimulus measures as soon as possible is required. In the implementation of the stimulus packages, careful consideration should be given to the quality of the measures to ensure their effectiveness. Determined efforts in euro area countries to achieve and maintain sound public finances are also

warranted because of the need to cope with the expenditure pressure resulting from an ageing population in the decades ahead. A binding medium-term fiscal framework at the national level, if properly designed and rigorously implemented, can complement the European fiscal framework enshrined in the Stability and Growth Pact in assisting a quick return to the medium-term budgetary objectives (see also Box 8).

Box 8

THE FINANCIAL CRISIS AND FISCAL POLICY

A key policy challenge is to prevent the financial crisis and the subsequent economic downturn from undermining the credibility and sustainability of public finances. In the EU, the Stability and Growth Pact provides the appropriate framework for the conduct and coordination of fiscal policies, in good as well as bad times. While compliance with the Pact in the initial ten years was somewhat uneven, the EU's overall fiscal performance in terms of avoiding high budget deficits and the build-up of government debt was much better than in the decades preceding the Pact.¹

A missed opportunity making the fiscal challenge unnecessarily onerous

Many euro area countries entered the financial crisis and the economic downturn with weak fiscal positions. Governments had not used the opportunity presented by past years' revenue windfalls to consolidate their budgets. In this regard, the arguments set out in the ECB's Annual Report 2007 still hold and, indeed, their relevance is now magnified.² At the time, the ECB emphasised an important fiscal lesson to be learnt from the period 2000-01, namely that the revenue outlook can change dramatically in a short period of time. Indeed, experience shows that the volatility of government revenues is greater than that of the spending side and also exceeds that of the business cycle. Taken together with the difficulty of predicting turning points for GDP growth, this presents a strong reason to increase caution in good times, i.e. to use revenue windfalls for faster deficit and debt reduction rather than for extra spending.³ This would allow countries to create budgetary room for manoeuvre to absorb revenue shortfalls and deal with extra spending should conditions change. One of the fiscal policy errors prior to and during 2000-01 was to mistakenly interpret budgetary improvements in good times as evidence of structural improvements, which were often used to motivate spending increases or tax cuts.

The role of automatic stabilisers

The fiscal adjustment in response to the economic downturn reflects to a large extent the operation of automatic fiscal stabilisers, which contribute to smoothing economic fluctuations. This is appropriate, since this type of fiscal reaction is timely and shielded from political economy risks that can undermine the effectiveness of discretionary fiscal measures. In particular, automatic stabilisers are not subject to time lags in the identification of measures or in the political decision-making and implementation processes. Moreover, the automatic reaction of revenues and, to a lesser extent, expenditures to the cycle makes automatic stabilisers self-reversing. Finally, the impact of particular interest groups in

1 See the article "Ten years of the Stability and Growth Pact" in the October 2008 issue of the ECB's Monthly Bulletin.

2 See in particular the box entitled "Learning from the fiscal policy experience of 2000-01" in the ECB's Annual Report 2007.

3 For a review of forecasting accuracy and the difficulties with turning points, see M. Blix, J. Wadefjord, U. Wienecke and M. Ådahl, "How good is the forecasting performance of major institutions?", *Economic Review*, 2001:3, Sveriges Riksbank, pp. 38-68.

achieving group-specific benefits is low. Countries in the euro area that comply with the Stability and Growth Pact can take advantage of their relatively large automatic stabilisers.

The risks of fiscal activism in times of financial crisis

Regarding the use of discretionary fiscal policy measures to stimulate demand, a consensus has emerged that such measures should be timely and targeted to ensure effectiveness, and temporary to avoid additional risks for fiscal sustainability. In particular, unless a reversal of deficit-increasing fiscal measures is expected, such measures may undermine public confidence in the sustainability of public finances and lead to higher precautionary savings or negative financial market reactions and higher interest rates – thus counteracting the intended expansionary effect. In this regard, the experience of fiscal activism during the oil crisis of the 1970s stands out as a warning: instead of boosting demand, it ultimately contributed towards destabilising the real economy and increasing inflationary pressures and government debt – with little, if any, net gain.

Regarding targeting, actions should be taken where elasticities are the highest and where the distortions to incentives are the least onerous. In this regard, consideration should be given to the quality of the fiscal stimulus so that action can be taken that is most conducive to a sound foundation for recovery and long-term growth. Timeliness is essential, since past experience shows that discretionary policy measures frequently end up being pro-cyclical, because they become effective only after a considerable time lag.

The quality of fiscal policy is important in many ways. While the issue of the optimal size of government is a matter for debate,⁴ the citizens of euro area countries could be at least as well off as they are today, but pay less in taxes, if the quality of public spending were better. Moreover, there is some evidence that past increases in government size have come at the cost of lower economic growth.⁵ If euro area governments comply with the Stability and Growth Pact, their economies are more likely to reap long-term benefits and their citizens to enjoy greater welfare.⁶

4 There is evidence to suggest that, in many industrialised countries, governments have grown in size beyond what is warranted to attain core objectives. See, for example, A. Afonso, L. Schuknecht and V. Tanzi, “Public sector efficiency: an international comparison”, *Public Choice*, Vol. 123 (No 3-4), 2005, pp. 321-347, and A. Afonso and D. Furceri, “Government size, composition, volatility and economic growth”, *Working Paper Series*, No 849, ECB, 2008.

5 See A. Afonso, W. Ebert, L. Schuknecht and M. Thöne, “Quality of public finances and growth”, *Working Paper Series*, No 438, ECB, 2005.

6 The costs of downsizing governments may be rather limited if appropriately designed and implemented; see for example S. Hauptmeier, M. Heipertz and L. Schuknecht, “Expenditure reform in industrialised countries: a case study approach”, *Working Paper Series*, No 364, ECB, 2006.

2.6 EXCHANGE RATES AND BALANCE OF PAYMENTS DEVELOPMENTS

THE EURO APPRECIATED MODERATELY IN 2008 IN EFFECTIVE TERMS

The financial turmoil in money and credit markets which started in August 2007 and its ensuing spillovers into the real economy worldwide significantly influenced developments in foreign exchange markets in

2008. More precisely, the first four months of 2008 saw the euro continue its strengthening trend established in late 2000, supported by fairly upbeat market expectations about the relative economic prospects of the euro area. After reaching a historical peak in April, the nominal EER broadly stabilised until August. Thereafter the euro experienced a sharp depreciation which, in just three months, brought it to the level prevailing around mid-2007. The

sharp depreciation of the euro was associated primarily with a revision of market expectations about the euro area economic outlook – as the financial crisis continued to unfold and its global reach gradually began to be realised – and took place within an environment of heightened market uncertainty and global risk aversion. Towards the end of the year, the euro rebounded strongly, reaching another historical peak on 18 December 2008. By the end of 2008 the euro was, in nominal effective terms, about 2.5% higher than at the beginning of the year and about 7% above the average level in 2007. Much of the nominal effective appreciation of the euro in 2008 can be accounted for by its sizeable strengthening against the pound sterling, which was only partly counterbalanced by the euro's weakening against the US dollar and the Japanese yen.

Against the US dollar, the euro underwent a strong appreciation in the first eight months of the year, peaking in mid-July at USD 1.60. This appreciation was driven largely by expectations of a widening interest rate differential in favour of euro area assets, reflecting market beliefs that the euro area was going to be affected by the ongoing financial turmoil to a significantly lesser extent than the United States. From that period on, however, data releases began to show that the financial turmoil that originated in the sub-prime US mortgage market in August 2007 was unfolding into a synchronous economic slowdown across all main economic areas. As a result, the euro began to depreciate sharply against the US currency in August. In the course of the autumn, renewed strains in global money and credit markets intensified the downward pressure on the euro, with the single currency reaching USD 1.25 in October. This sizeable depreciation was associated partly with a worldwide dollar liquidity shortage which commanded a sizeable repatriation of foreign investments and concerted central bank policy actions. In this environment of extremely heightened risk aversion and financial deleveraging, the US dollar found support in its international status. Other technical, and possibly transitory, factors in foreign exchange markets also appear to have lent support to the US dollar,

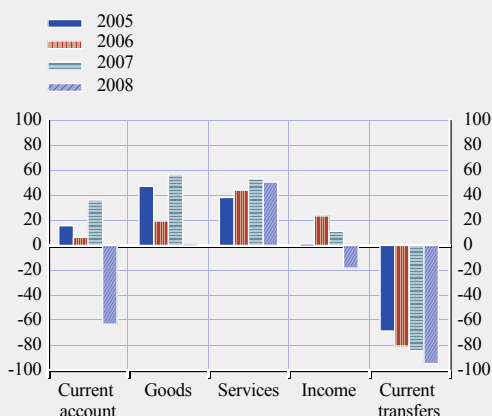
as can also be deduced from the weakening of the link between interest rate differentials and movements in the EUR/USD exchange rate during this period. In December, however, the euro experienced a strong rebound as the strength of the above-mentioned non-cyclical factors that supported the dollar in the autumn waned and foreign exchange markets refocused attention on the growth outlook and interest rate differentials across major economic areas. On 31 December the euro was trading at USD 1.39, i.e. about 5% weaker than at the beginning of 2008 and about 6% stronger than its 2007 average.

Following a similar pattern to the EUR/USD exchange rate, the euro also fluctuated widely against the Japanese yen in the course of 2008, trading within an unusually wide range of JPY 115.75 and JPY 169.75. The volatility in the EUR/JPY exchange rate seems to have reflected not only a changing market assessment of relative economic prospects, but most importantly market expectations relating to asset price volatility. As a consequence, the latter had an impact on the expected profitability of carry trades, i.e. trades that consist of borrowing in a low-yielding currency (such as the yen) and investing in a high-yielding currency. In general, an increase in the expected volatility of the yen reduces its attractiveness as a funding currency for carry trades, tending to put upward pressure on the yen and downward pressure on high-yielding currencies. Indeed, implied volatility in the EUR/JPY exchange rate – as measured through indicators based on option prices – saw wide gyrations in the course of 2008, peaking in October and subsiding thereafter. These extremely volatile conditions in the foreign exchange market accounted mostly for the initial appreciation and subsequent sharp depreciation of the euro against the yen in 2008. On 31 December 2008 the euro traded at JPY 126.14, i.e. 23% weaker than at the beginning of the year and about 22% lower than its 2007 average.

The euro also continued to appreciate against the pound sterling in 2008, strengthening by a sizeable 28.5% by the end of the year, after the 9% appreciation witnessed in 2007. On

Chart 33 Current account balance and its components

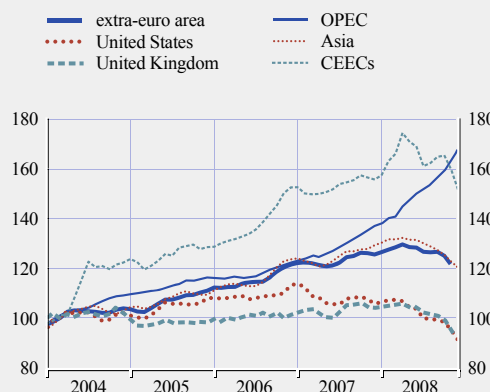
(annual data; EUR billions)



Source: ECB.
Note: Data for 2008 refer to the year to October.

Chart 34 Euro area export volumes to selected trading partners

(indices: Q1 2004 = 100; seasonally adjusted; three-month moving average)



Source: ECB.
Notes: Last observation refers to December 2008 except for extra-euro area and the United Kingdom (November). "CEECs" stands for central and eastern European countries.

29 December the euro traded at GBP 0.98, the highest level since the launch of the single currency in 1999. The noticeable weakening of the pound, particularly in the last months of 2008, relates to the significant slowdown in economic activity in the United Kingdom, which triggered a sizeable easing of monetary policy conditions and an associated fall in longer-term yields.

The euro appreciated significantly against the currencies of several EU trading partner economies between early January and 31 December, for example by 15.3% against the Swedish krona, 15.3% against the Polish zloty, 12.3% against the Romanian leu, 5.3% against the Hungarian forint and 1.9% against the Czech koruna. A sizeable strengthening was also witnessed vis-à-vis the Korean won (33.6%), the Norwegian krone (22.1%) and the Australian and Canadian dollars (21.0% and 17.1% respectively). The appreciation of the euro against these currencies was counterbalanced partly by its weakening against the currencies of several Asian partners whose currencies are linked to the US dollar, namely the Chinese renminbi (11.4%) and the Singapore and Hong Kong dollars

(5.2% and 6% respectively). The euro also lost ground against the Swiss franc (10.2%) amid positioning in and out of carry trades, given that the Swiss franc, like the Japanese yen, played the role of funding currency in this form of financial transaction.

The real EER, based on different cost and price measures, appreciated in the first four months of 2008 and then stabilised until August. After declining until November it rebounded somewhat in the last month of 2008. In the last quarter of 2008 the real EER of the euro, based on consumer prices, was 2% below its average value in 2007 and 4% below its average level in the corresponding quarter of 2007.

CURRENT ACCOUNT SHIFTED INTO DEFICIT IN 2008

In 2008 the current account of the euro area recorded a deficit of €63.2 billion (or 0.7% of euro area GDP), compared with a surplus of €36.3 billion in 2007. This resulted largely from the goods balance shifting into deficit. In 2008 the goods balance recorded a deficit of €0.6 billion, compared with a surplus of €56.6 billion in 2007. The weakening of exports, particularly in the second half of the year, together with a robust increase in import

prices in the first eight months of the year, were the main factors behind this development. The higher deficit in current transfers and the shift into deficit of the income component also contributed to the overall deterioration in the current account balance. At the same time the surplus in services, which stood at €50.6 billion in 2008, decreased only marginally (by €2.6 billion) compared with the previous year (see Chart 33).

The contraction of goods exports in the course of 2008 can be largely explained by the fall in global demand and possibly by a deterioration in trade financing conditions worldwide. After a temporary rebound in the first quarter of the year, euro area exports to the United States and

other OECD countries, as well as to China and the rest of Asia, contracted, while exports to the EU Member States that have joined the EU since 2004 also weakened. By contrast, the growth in exports to OPEC countries remained robust over the entire year, amid strong economic growth in these countries and wealth effects from oil revenues (see Chart 34).

The decline in euro area price and cost competitiveness observed since 2001 was partly reversed after mid-2008 owing to the depreciation of the euro. The moderation in the growth of euro area export prices in the first half of the year may indicate that euro area firms adjusted their profit margins to offset the decline in price and cost competitiveness (see also Box 9).

Box 9

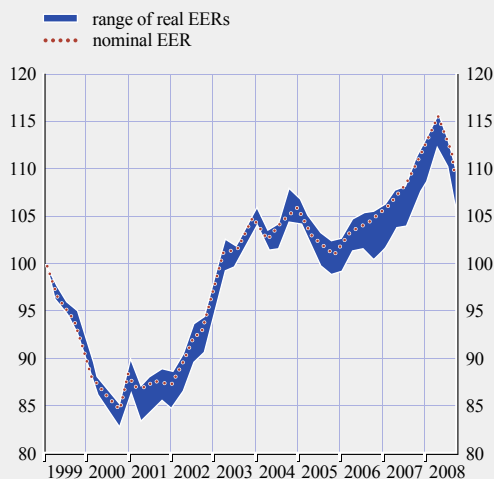
RECENT DEVELOPMENTS IN EURO AREA COMPETITIVENESS

An assessment of the international price and cost competitiveness of the euro area – which also reflects the competitiveness of the individual euro area countries – can provide important information for monitoring the euro area economy. This box therefore looks at developments in euro area competitiveness as measured by various real EERs, both at the aggregate and individual Member State levels. In summary, these indicators show a decline in the euro area's price and cost competitiveness over the past decade, owing largely to the nominal appreciation of the exchange rate of the euro over the same period. Although this result holds true irrespective of the deflators used, there is considerable heterogeneity in competitiveness developments across the individual euro area countries.

Looking at the euro area as a whole, Chart A compares the evolution of the nominal EER of the euro and a range drawn from five real EER indices based on different deflators.¹ Overall, the various measures reveal a decrease

Chart A Nominal and real effective exchange rates of the euro

(index: Q1 1999 = 100; quarterly data)



Source: ECB calculations.

Notes: Last observation refers to the fourth quarter of 2008.

The real EER in the last quarter of 2008 is available only on the basis of the CPI and the PPI.

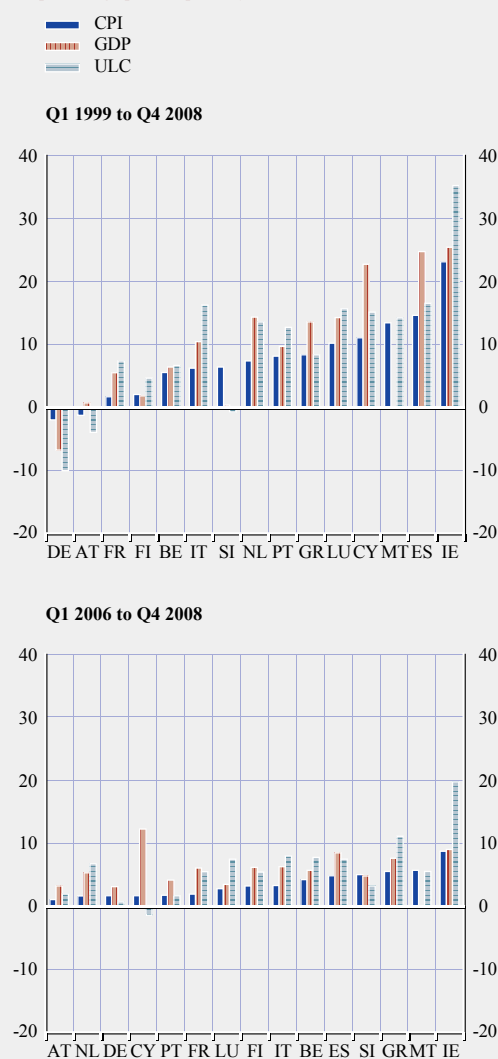
¹ The five deflators are the CPI, producer prices, GDP, unit labour costs in manufacturing and unit labour costs in the total economy.

in competitiveness of around 5-10% between 1999 and 2008, according to both real and nominal EERs. Thus, there is a high degree of co-movement between nominal and real EERs, reflecting similarities in price developments in the euro area and its trading partners. The overall decline in competitiveness for the euro area is therefore explained primarily by movements in the nominal exchange rate, which can be split into several episodes. The first episode saw an increase in competitiveness between 1999 and 2001, reflecting the depreciation of the euro around this time. This was followed by decreases in competitiveness driven primarily by the appreciation of the euro in the period 2002-04 and again from 2006. More recently, the euro area has registered a rise in competitiveness owing to the depreciation of the euro during the second half of 2008.

The evolution of price competitiveness for the euro area as a whole can mask quite different developments across the individual countries. For an analysis of the latter, the ECB employs a consistent methodology by compiling for each euro area country a set of harmonised competitiveness indicators against the other euro area countries and a set of extra-euro area trading partners.² There are three harmonised competitiveness indicators that are calculated as a weighted average of bilateral exchange rates based on trade weights – which reflect the relative importance of the individual country’s major competitors – deflated by either the CPI, GDP or unit labour cost deflator. Among these harmonised competitiveness indicators, the CPI-based indicator seems to be the most widely used, partly because of the relatively homogeneous definition of the CPI across countries, as well as the absence of significant data revisions and the relatively short delay in availability. Meanwhile, the GDP deflators and unit labour cost-based indicators provide alternative measures of competitiveness

Chart B Changes in harmonised competitiveness indicators¹⁾ across euro area countries

(in percentage points; quarterly data)



Source: ECB calculations.

1) Based on the CPI, GDP or total unit labour cost (ULC) deflators, including intra- and extra-euro area trade.

Notes: A negative (positive) number signifies a gain (loss) in price competitiveness. The last observation refers to the fourth quarter of 2008 (based on the CPI deflator) and the third quarter of 2008 (based on GDP and ULC deflators). For the period from the first quarter of 2006 to the fourth quarter of 2008 the harmonised competitiveness indicators were rescaled to Q1 2006 = 100. The GDP deflator-based harmonised competitiveness indicator for Malta is not published by the ECB.

2 For a more detailed analysis of the harmonised competitiveness indicators, see F. di Mauro and K. Forster, “Globalisation and the competitiveness of the euro area”, *Occasional Paper Series*, No 97, ECB, September 2008, and the article entitled “Monitoring labour cost developments across euro area countries” in the November 2008 issue of the ECB’s Monthly Bulletin.

focused more on the production rather than the consumption side of the economy.

Various caveats should be borne in mind when interpreting these indicators. Index-based competitiveness indicators do not account for differences in initial price levels, hence it is not possible to draw conclusions as to which country is more competitive in absolute terms. Conclusions based on such indicators are also sensitive to the choice of the start and end point of the period considered. Furthermore, the harmonised competitiveness indicators capture only limited aspects of competitiveness. In order to obtain a broader picture, other factors, such as trade specialisation or the general business environment, as well as the degree of pricing to market and the responsiveness of trade prices to changes in the exchange rate, could be considered in a more detailed analysis.³ Moreover, at the current juncture, the methodology used for these indicators does not fully recognise cross-country differences in the productivity of the services sector. (The trade patterns of this sector are not reflected in the weighting of trading partners.)

Turning to past movements in the harmonised competitiveness indicators, Chart B reveals considerable heterogeneity in competitiveness developments across the euro area countries. Using the CPI-based harmonised competitiveness indicator, Ireland has recorded the strongest declines in competitiveness since 1999 (above 20%), followed by Cyprus, Malta, Luxembourg and Spain (10-20%). Austria, Germany, Finland and France show the smallest declines or even slight improvements in competitiveness over the same period. Focusing on the period of the most recent appreciation of the euro, i.e. since the beginning of 2006, the differences appear to be less pronounced, with all countries recording decreases in price competitiveness. While the magnitude of competitiveness developments across the countries is sometimes sensitive to the choice of deflator, the qualitative conclusions remain the same across the different measures.

The harmonised competitiveness indicators also make it possible to distinguish between developments in intra-euro area and extra-euro area competitiveness at the country level. This is a useful distinction, as movements in the nominal exchange rate since the launch of the euro remain important only for external competitiveness. Hence, price competitiveness between the euro area countries is influenced only through differing developments in costs and prices. In general, declines in price competitiveness at the country level are more

Chart C Developments in intra- and extra-euro area harmonised competitiveness indicators¹⁾

(cumulated changes in percentage points from Q1 1999 to Q4 2008)

x-axis: change in extra-euro area harmonised competitiveness indicator
y-axis: change in intra-euro area harmonised competitiveness indicator



Source: ECB calculations.

1) Based on the CPI.

Notes: A positive (negative) number represents a loss (gain) in price competitiveness. For the euro area, the chart shows the real EER of the euro vis-à-vis 22 trading partners based only on extra-euro area trade.

³ For an analysis of these broader competitiveness issues, see Task Force of the Monetary Policy Committee of the ESCB, "Competitiveness and the export performance of the euro area", *Occasional Paper Series*, No 30, ECB, June 2005, and U. Baumann and F. di Mauro, "Globalisation and euro area trade: interactions and challenges", *Occasional Paper Series*, No 55, ECB, March 2007.

pronounced with respect to extra-euro area trade partners, as shown by the regression line which captures the relationship between the intra- and extra-euro area indicators (see Chart C). This largely reflects the overall nominal appreciation of the exchange rate of the euro between 1999 and 2008. Accordingly, countries such as Ireland, which have a relatively large share of trade with partners outside the euro area, also exhibit a relatively larger decline in extra-euro area competitiveness. However, for most countries, the high correlation between intra- and extra-euro area competitiveness also suggests that the relative competitive positions of the individual euro area countries are determined mainly by the evolution of domestic costs and prices. Overall, Austria is the only country which improved its competitiveness both inside and outside the euro area. Finland, France and Germany also recorded increases in their intra-euro area competitiveness, but registered declines vis-à-vis their extra-euro area trade partners. The remaining euro area countries recorded decreases in competitiveness both inside and outside the euro area.

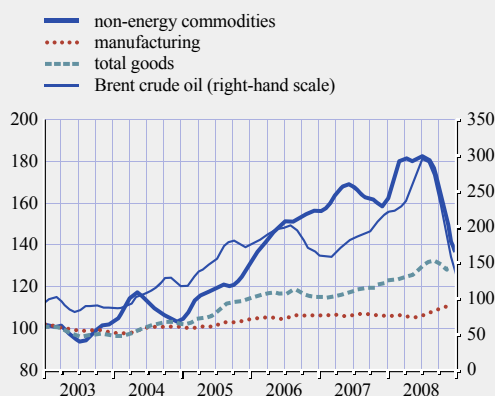
In summary, according to various measures of real EERs, the euro area has experienced a decline in price and cost competitiveness over the past ten years or so, owing largely to the nominal appreciation of the euro. However, there is considerable heterogeneity in competitiveness developments among the euro area countries, reflecting mostly differences in the evolution of their domestic costs and prices, as well as the geographical specialisation of their foreign trade.

Volumes of imported goods decreased in 2008, particularly those of intermediate goods. At the same time, import prices increased robustly up to the third quarter of 2008 and moderated in the last quarter of the year. As price developments more than offset the decline in the volume of imports, overall import values increased noticeably over the first three quarters of the year. Price data by category of goods suggest that the steady increase in import prices up to

the summer and the subsequent deceleration were driven largely by developments in oil and non-energy commodity prices (see Chart 35). Nevertheless, despite the fall in oil prices from the summer onwards, in the 12-month cumulated period up to November 2008, the oil trade deficit stood at €223.6 billion, well above the already high level of more than €170 billion registered at the end of 2007.

Chart 35 Extra-euro area import prices

(indices: Q1 2003 = 100; seasonally adjusted; three-month moving average)



Source: ECB.

NET INFLOWS IN COMBINED DIRECT AND PORTFOLIO INVESTMENT INCREASED IN 2008

In the financial account, the euro area experienced net inflows of €128.5 billion in combined direct and portfolio investment in 2008, compared with net inflows of €47.3 billion a year earlier. This increase reflected a rise in net inflows of debt instruments and equity portfolio investment. The above developments were offset partly by an increase in net outflows in direct investment (see Chart 36).

In 2008 the financial turmoil led to heightened volatility in all segments of the financial markets and, given the financial spillovers to the real side of the economy, to a high degree of uncertainty over the global outlook. In this context, global portfolio allocation decisions were influenced by the ensuing drain of liquidity in key market

segments and, in turn, affected euro area cross-border portfolio investment flows. Specifically, the equity market witnessed unusually high net sales of both euro area financial instruments by global investors and foreign equities by euro area investors. Global investors seemed to reduce their foreign investments, possibly reflecting more cautious investment strategies and the global fall in equity prices.

Also in the wake of the financial turmoil, both foreign direct investment flows into the euro area and euro area investment flows abroad fell substantially in 2008, indicating a preference for home markets. Disinvestments by non-residents in the euro area were larger than euro area disinvestments abroad, leading to overall higher net outflows of direct investment for the euro area.

Finally, higher net inflows of debt securities, amounting to €345.6 billion, compared with €122.8 billion in 2007, contributed to the increase in net inflows in the financial account. Increased risk aversion, heightened liquidity needs and short-term interest rate differentials might have contributed to this development. In particular, money market instruments recorded

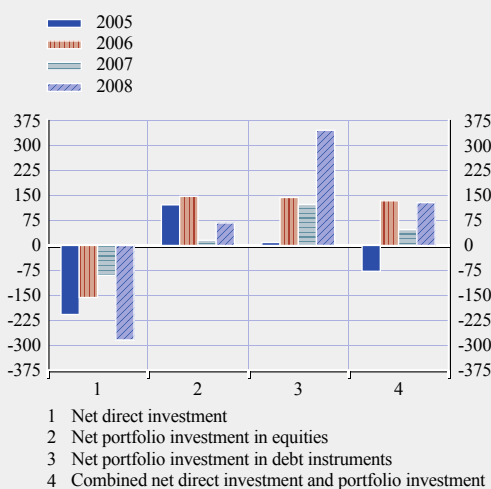
strong net inflows, reaching in September and October 2008 their highest levels since 1999. These developments possibly reflect attempts to boost liquidity amid the intensification of the financial turmoil.

INTERNATIONAL INVESTMENT POSITION IN 2008

Data on the international investment position (i.i.p.) of the euro area vis-à-vis the rest of the world, available up to the third quarter of 2008, indicate that the euro area recorded net liabilities of €1,158 billion vis-à-vis the rest of the world (representing 12.5% of euro area GDP), compared with net liabilities of €1,131 billion (also equal to 12.5% of GDP) at the end of 2007 (see Chart 37). This marginal increase in net liabilities in 2008 resulted largely from an increase in the net liability position in other investment (by €191 billion) and in portfolio investment (by €76 billion), which were almost entirely offset by an increase in the net asset positions in euro area direct investment abroad (by €182 billion) and in financial derivatives (by €35 billion). Reserve assets also increased only marginally, with valuation effects resulting from asset price changes and movements in the exchange rate contributing to these developments.

Chart 36 Euro area direct and portfolio investment

(annual data; EUR billions)

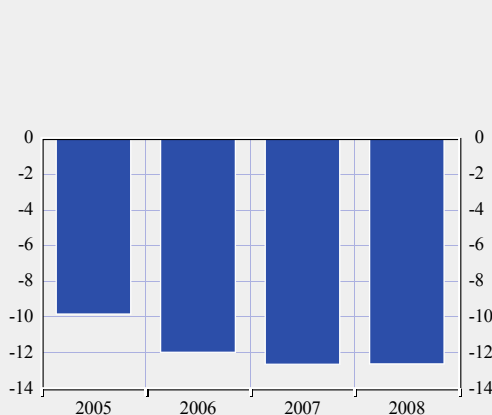


Source: ECB.

Note: Data for 2008 refer to the year to October 2008.

Chart 37 Net international investment position

(as a percentage of GDP)



Source: ECB.

Note: Data refer to the year-end except for 2008 (third quarter).

3 ECONOMIC AND MONETARY DEVELOPMENTS IN NON-EURO AREA EU MEMBER STATES

ECONOMIC ACTIVITY

In most non-euro area EU Member States economic growth declined in the course of 2008 following several years of robust expansion (see Table 6).¹ While this pattern of slowing economic activity was observed across almost all of the countries, annual GDP growth rates and the extent of the slowdown differed considerably.

The Baltic States experienced the most pronounced slowdown, with average annual growth more than halving in Lithuania compared with the previous year and turning negative in Estonia and Latvia. In all three countries these developments followed several years of very strong growth in economic activity, accompanied by exceptionally strong increases in wages, credit and inflation, as well as very large current account deficits. Indeed, macroeconomic imbalances in the Baltic States remained large in 2008, notwithstanding the partial correction observed in the course of the year.

The deceleration in GDP growth in most other non-euro area EU Member States was driven mainly by the weakening external environment and, later in the year, by the direct impact of the

intensifying financial crisis. Tighter financing conditions and falling asset prices weakened consumer and industrial confidence and dampened domestic demand.

The deceleration of economic growth in Slovakia, from 10.4% in 2007 to 6.4% in 2008, was in part a normalisation following exceptionally high growth in the previous year. In Hungary, the very low annual growth of 0.5% in 2008 reflects the lagged impact of the sizeable fiscal consolidation package in 2007, from which the economy started to recover slowly in 2008, combined with the subsequent impact of the financial crisis on the economy. In the three non-euro area EU Member States that joined the EU before 2004, the impact of the financial crisis was equally pronounced, resulting in annual GDP growth rates for 2008 of 0.7% in the United Kingdom, -0.2% in Sweden and -1.3% in Denmark. Economic activity in Poland and the Czech Republic appears to have been affected to a somewhat lesser extent, decelerating in 2008 to 5.4% and 3.2% respectively. While Romania

1 The non-euro area EU Member States referred to in this section comprise the 12 EU Member States outside the euro area in the period to the end of December 2008 (i.e. Bulgaria, the Czech Republic, Denmark, Estonia, Latvia, Lithuania, Hungary, Poland, Romania, Slovakia, Sweden and the United Kingdom).

Table 6 Real GDP growth in the non-euro area EU Member States and the euro area

(annual percentage changes)									
	2004	2005	2006	2007	2008	2008 Q1	2008 Q2	2008 Q3	2008 Q4
Bulgaria	6.6	6.2	6.3	6.2	6.0	7.0	7.1	6.8	3.5
Czech Republic	4.5	6.3	6.8	6.0	3.2	4.4	4.4	4.0	0.2
Denmark	2.3	2.4	3.3	1.6	-1.3	-0.7	0.8	-1.6	-3.9
Estonia	7.5	9.2	10.4	6.3	-3.6	0.2	-1.1	-3.5	-9.7
Latvia	8.7	10.6	12.2	10.0	-4.6	0.5	-1.9	-5.2	-10.3
Lithuania	7.4	7.8	7.8	8.9	3.1	7.0	5.2	2.9	-2.0
Hungary	4.8	4.0	4.1	1.1	0.5	1.7	2.0	0.8	-2.3
Poland	5.3	3.6	6.2	6.6	5.4	6.2	5.8	5.2	2.3
Romania	8.5	4.2	7.9	6.2	7.1	8.2	9.3	9.2	2.9
Slovakia	5.2	6.5	8.5	10.4	6.4	9.3	7.9	6.6	2.5
Sweden	4.1	3.3	4.2	2.6	-0.2	0.9	3.0	0.3	-4.9
United Kingdom	2.8	2.1	2.8	3.0	0.7	2.3	3.2	1.8	.
EU9 ¹⁾	5.8	4.9	6.7	6.2	4.3	5.7	5.5	4.7	0.9
EU12 ²⁾	3.6	2.9	3.9	3.6	1.3	2.7	3.5	2.2	.
Euro area	2.1	1.7	2.9	2.6	0.8	1.9	2.0	0.8	-1.4

Sources: Eurostat and national sources.

Note: Data are non-seasonally adjusted for all countries.

1) The EU9 aggregate comprises the nine non-euro area EU Member States that joined the EU on 1 May 2004 or 1 January 2007.

2) The EU12 aggregate comprises the 12 non-euro area EU Member States as at 31 December 2008.

and Bulgaria registered robust growth figures of, respectively, 7.1% and 6.0% in 2008, economic activity in these countries also slowed more noticeably towards the end of the year, following a lengthy period of very high growth fuelled by buoyant domestic demand and strong credit and wage growth, and supported by sizeable foreign direct investment inflows.

PRICE DEVELOPMENTS

Average annual inflation increased in 2008 in all non-euro area EU Member States (with the exception of Hungary) and, in inflation-targeting countries, significantly exceeded inflation targets. The increase reflects the initial upward trend in inflation rates in most countries in the first half of the year, which was later reversed. In December 2008 inflation was in most countries lower than at the beginning of the year.

The highest inflation rates were recorded in the Baltic States and Bulgaria, where average annual HICP inflation ranged between 10.6% and 15.3%. In the Czech Republic, Hungary and Romania, average annual HICP inflation was between 6.0% and 7.9%, while in the remaining countries – Denmark, Poland, Slovakia, Sweden and the United Kingdom – inflation was between 3.3% and 4.2%.

One of the main factors behind the broad-based rise in inflation was common to almost all non-euro area EU countries, namely a strong increase in the world prices of food and energy. Some countries also implemented marked increases in administered prices and indirect taxes, and in a number of economies currency depreciation also contributed to the rise. Finally, in some cases buoyant domestic demand, increasing capacity constraints and agricultural supply shocks also exerted strong upward pressure on wages and prices.

The factors driving the considerable moderation in inflation later in 2008 were also common to most countries. First, annual inflation rates started to decline as the effects of the global commodity price shock of 2007 and early 2008 faded and world prices of oil declined significantly. Second, domestic demand pressures eased in parallel with the decline in economic growth in the previously fastest-growing economies, and later also in most other non-euro area EU Member States as the financial crisis intensified. Nevertheless, wage pressures remained significant in a number of countries, where real wage growth continued to outpace productivity growth, leading to significant increases in unit labour costs.

Table 7 HICP inflation in the non-euro area EU Member States and the euro area

(annual percentage changes)									
	2004	2005	2006	2007	2008	2008 Q1	2008 Q2	2008 Q3	2008 Q4
Bulgaria	6.1	6.0	7.4	7.6	12.0	12.4	14.0	12.5	9.0
Czech Republic	2.6	1.6	2.1	3.0	6.3	7.6	6.7	6.5	4.4
Denmark	0.9	1.7	1.9	1.7	3.6	3.2	3.7	4.6	3.0
Estonia	3.0	4.1	4.4	6.7	10.6	11.3	11.5	11.0	8.7
Latvia	6.2	6.9	6.6	10.1	15.3	16.3	17.5	15.6	11.9
Lithuania	1.2	2.7	3.8	5.8	11.1	10.8	12.3	12.0	9.4
Hungary	6.8	3.5	4.0	7.9	6.0	6.9	6.8	6.3	4.2
Poland	3.6	2.2	1.3	2.6	4.2	4.5	4.3	4.4	3.6
Romania	11.9	9.1	6.6	4.9	7.9	8.0	8.6	8.2	6.9
Slovakia	7.5	2.8	4.3	1.9	3.9	3.4	4.0	4.5	3.9
Sweden	1.0	0.8	1.5	1.7	3.3	3.1	3.6	4.0	2.7
United Kingdom	1.3	2.1	2.3	2.3	3.6	2.4	3.4	4.8	3.9
EU9 ¹⁾	5.3	3.8	3.3	4.2	6.4	6.8	7.0	6.7	5.2
EU12 ²⁾	2.6	2.6	2.6	2.9	4.7	4.2	4.9	5.5	4.3
Euro area	2.1	2.2	2.2	2.1	3.3	3.4	3.6	3.8	2.3

Source: Eurostat.

1) The EU9 aggregate comprises the nine non-euro area EU Member States that joined the EU on 1 May 2004 or 1 January 2007.

2) The EU12 aggregate comprises the 12 non-euro area EU Member States as at 31 December 2008.

FISCAL POLICIES

The fiscal situation in the non-euro area EU Member States evolved very heterogeneously in 2008. Only Bulgaria, Denmark and Sweden continued to record fiscal surpluses; the remaining countries registered in some cases high fiscal deficits (see Table 8). The deficit ratio rose to above 3% of GDP in Latvia, Romania and the United Kingdom and was close to this level in Lithuania. Hungary reduced its deficit from 5.0% of GDP in 2007

to 3.3% in 2008. In the Baltic States, Romania and the United Kingdom, and to a lesser extent in Sweden, budgetary outcomes for 2008 failed to meet the targets contained in the updated convergence programmes submitted at the end of 2007 or the beginning of 2008. For the Baltic States as well as for the United Kingdom, this was partly the result of the considerably worsening macroeconomic conditions, which rendered planned continued expenditure growth and therefore the 2008 budget unsustainable.

Table 8 Fiscal positions in the non-euro area EU Member States and the euro area

(as a percentage of GDP)

General government surplus (+) / deficit (-)

	2005	2006	2007	2007 convergence programme updates 2008	2009 European Commission forecast 2008
Bulgaria	1.9	3.0	0.1	3.0	3.2
Czech Republic	-3.6	-2.7	-1.0	-2.9	-1.2
Denmark	5.2	5.2	4.5	3.0	3.1
Estonia	1.5	2.9	2.7	1.3	-2.0
Latvia	-0.4	-0.2	0.1	0.7	-3.5
Lithuania	-0.5	-0.4	-1.2	-0.5	-2.9
Hungary	-7.8	-9.3	-5.0	-4.0	-3.3
Poland	-4.3	-3.8	-2.0	-2.5	-2.5
Romania	-1.2	-2.2	-2.5	-2.9	-5.2
Slovakia	-2.8	-3.5	-1.9	-2.3	-2.2
Sweden	2.4	2.3	3.6	2.8	2.3
United Kingdom	-3.4	-2.7	-2.7	-2.9	-4.6
EU9 ¹⁾	-3.7	-3.5	-2.0	-2.4	-2.6
EU12 ²⁾	-2.3	-1.8	-1.5	-1.8	-2.8
Euro area	-2.5	-1.3	-0.6	-0.9	-1.7

General government gross debt

	2005	2006	2007	2007 convergence programme updates 2008	2009 European Commission forecast 2008
Bulgaria	29.2	22.7	18.2	18.3	13.8
Czech Republic	29.8	29.6	28.9	30.3	27.9
Denmark	36.4	30.7	26.3	21.6	30.3
Estonia	4.5	4.3	3.5	2.3	4.3
Latvia	12.4	10.7	9.5	8.3	16.0
Lithuania	18.4	18.0	17.0	17.2	17.1
Hungary	61.7	65.6	65.8	65.8	71.9
Poland	47.1	47.7	44.9	44.2	45.5
Romania	15.8	12.4	12.7	13.6	15.2
Slovakia	34.2	30.4	29.4	30.8	28.6
Sweden	50.9	45.9	40.6	34.8	34.8
United Kingdom	42.3	43.4	44.1	44.8	50.1
EU9 ¹⁾	38.5	37.4	35.5	35.6	36.6
EU12 ²⁾	41.9	41.4	40.5	39.6	43.4
Euro area	70.0	68.3	66.1	65.1	68.7

Sources: European Commission data (for 2005-08), 2007 convergence programme updates and 2009 European Commission interim forecast (for 2008), and ECB calculations.

Notes: Data are based on ESA 95 definitions. The 2008 figures in the convergence programmes are estimated by national governments and hence could differ from the final outcomes.

1) The EU9 aggregate comprises the nine non-euro area EU Member States that joined the EU on 1 May 2004 or 1 January 2007.

2) The EU12 aggregate comprises the 12 non-euro area EU Member States as at 31 December 2008.

In the remaining non-euro area EU countries (i.e. Bulgaria, the Czech Republic, Denmark, Hungary, Poland and Slovakia), budgetary outcomes for 2008 were broadly in line with or better than the convergence programme targets.

In a generally deteriorating economic and fiscal environment, Slovakia, Sweden and the United Kingdom planned or implemented fiscal stimulus packages towards the end of 2008, whereas several other non-euro area EU Member States announced plans for – in some cases ambitious – fiscal consolidation in 2009. Latvia and Hungary, which received emergency financial support from, among others, the EU and the IMF, committed to sizeable fiscal consolidation packages for 2009 and beyond.

At the end of 2008, Hungary and the United Kingdom were subject to excessive deficit procedures. The ECOFIN Council abrogated the excessive deficit procedures for the Czech Republic and Slovakia in June and for Poland in July. In June Romania received policy advice from the European Commission in view of the risk that it would breach the

3% of GDP deficit ceiling in an environment of strong GDP growth.

The government debt ratio remained substantially below the 60% of GDP reference value in 2008 in most non-euro area EU Member States, with only Hungary recording a debt ratio above 60%. However, developments differed significantly across countries. The debt ratio increased in Denmark, Estonia, Latvia, Hungary, Poland, Romania and the United Kingdom, while it declined or was broadly unchanged in the other countries. Increases in the debt ratio in most countries reflect mainly the deterioration in GDP growth and in the budget balance. For the United Kingdom the increase in the debt ratio relates to some extent also to the budgetary impact of emergency support provided to financial institutions. In the case of Denmark, the increase reflects bond issuance in excess of the funding requirement.

BALANCE OF PAYMENTS DEVELOPMENTS

The combined current and capital accounts of the non-euro area EU Member States continued to vary considerably across countries in 2008

Table 9 Balance of payments of the non-euro area EU Member States and the euro area

(as a percentage of GDP)

	Current and capital account balance				Net direct investment				Net portfolio investment			
	2005	2006	2007	2008	2005	2006	2007	2008	2005	2006	2007	2008
Bulgaria	-11.3	-17.1	-20.6	-22.7	14.7	23.3	21.8	18.0	-4.7	1.3	-1.6	-2.4
Czech Republic	-1.2	-2.3	-1.2	-1.4	9.4	2.8	4.5	4.9	-2.7	-0.8	-1.5	1.3
Denmark	4.5	2.9	0.7	1.6	-1.3	-2.1	-2.8	-3.6	-4.5	-6.3	-2.0	-6.2
Estonia	-9.2	-14.6	-16.9	-10.5	15.7	4.2	5.3	5.5	-16.0	-8.0	-2.4	0.5
Latvia	-11.2	-21.3	-20.6	-13.0	3.6	7.5	6.7	4.4	-0.8	0.2	-2.3	1.2
Lithuania	-5.8	-9.5	-12.8	-12.4	2.6	5.1	3.6	2.5	-1.0	-0.8	-0.8	0.7
Hungary	-6.7	-7.1	-5.1	-5.7	5.0	1.0	3.2	1.7	3.9	5.5	-1.6	1.7
Poland	-0.9	-2.1	-3.6	-3.7	2.3	3.1	4.3	2.8	4.1	-0.9	-1.2	0.7
Romania	-7.9	-10.5	-13.1	-13.2	6.6	8.9	5.8	6.3	1.0	-0.2	0.4	-0.2
Slovakia	-8.5	-7.8	-4.7	-5.2	4.8	7.5	3.8	2.8	-2.0	2.9	-1.0	1.3
Sweden	7.0	7.8	8.4	8.0	-4.5	0.6	-3.7	2.0	-0.1	-5.2	2.2	-2.0
United Kingdom	-2.5	-3.4	-2.7	-1.3	4.4	2.6	-2.7	-2.8	-1.5	1.1	8.4	20.5
EU9 ¹⁾	-4.1	-5.5	-5.5	-5.6	5.9	4.4	4.9	4.0	0.7	0.7	-1.2	0.9
EU12 ²⁾	-1.0	-1.8	-1.5	-0.8	3.1	2.4	-1.1	-0.6	-1.0	-0.4	4.5	10.7
Euro area	0.3	0.2	0.6	-0.2	-2.6	-1.9	-1.0	-1.9	1.6	3.5	1.5	1.6

Source: ECB.

Note: Data for 2008 refer to the sum of the four quarters up to the third quarter of 2008.

1) The EU9 aggregate comprises the nine non-euro area EU Member States that joined the EU on 1 May 2004 or 1 January 2007.

2) The EU12 aggregate comprises the 12 non-euro area EU Member States as at 31 December 2008.

(see Table 9). While Denmark and Sweden reported surpluses, all other countries recorded deficits. For many of the countries that joined the EU in 2004 or later, deficits are a normal feature of the catching-up process, to the extent that they reflect favourable investment opportunities and inter-temporal consumption smoothing. However, the very large current and capital account deficits in some non-euro area EU Member States were also driven by buoyant domestic demand, benign global financing conditions and strong credit growth. The global financial turmoil in 2008 and its spillover to the real economy led to cooling or contracting domestic demand, thereby contributing to a narrowing of the deficit in several non-euro area EU countries.

Looking at the high-deficit countries, the contraction in the current and capital account deficit was the most pronounced in Estonia and Latvia, even though the deficits recorded by those countries remained very large at the end of 2008. In Lithuania the deficit narrowed to a significantly lesser extent and in Romania it remained broadly unchanged, while Bulgaria recorded a further increase. In all the above countries the deficit continued to exceed 10% of GDP, with the Bulgarian deficit at over 20%.

As regards countries with lower external deficits, only the United Kingdom witnessed a contraction in its deficit in 2008. In the Czech Republic and Poland the deficit was broadly unchanged, while in Hungary and Slovakia it increased somewhat. The external imbalances in most countries originated from a deficit in goods trade, except in the Czech Republic, Hungary and Slovakia, where the deficit in the income balance was the most important factor. In comparison with 2007, net direct investment inflows decreased in some countries in 2008. Most non-euro area EU Member States recorded a deficit in the basic balance, i.e. the sum of the combined current and capital account and the direct investment balance, which exceeded 4% of GDP in several economies. Net portfolio investment flows were negative or broadly neutral in all non-euro area EU Member States in 2008, with the exception

of the United Kingdom. Net “other investment” flows continued to be largely positive in most countries that joined the EU in 2004 or later, reflecting mainly loans from foreign-owned parent banks to their subsidiaries in the region.

EXCHANGE RATE DEVELOPMENTS

Exchange rate developments in the non-euro area EU Member States in 2008 were strongly influenced by the exchange rate regimes of the individual countries.

The currencies of Denmark, Estonia, Latvia, Lithuania and Slovakia participated in ERM II. They were subject to a standard fluctuation band of $\pm 15\%$ around their central rates against the euro, except for the Danish krone, with a narrower band of $\pm 2.25\%$ (see Chart 38). ERM II participation is, in some cases, accompanied by unilateral commitments on the part of the countries concerned to maintain narrower fluctuation bands. These unilateral commitments place no additional obligations on the ECB. In particular, it was agreed that the

Chart 38 Developments in ERM II

(daily data; deviation from the central rate in percentage points)



Source: ECB.

Notes: A positive (negative) deviation from the central rate against the euro implies that the currency is on the weak (strong) side of the band. For the Danish krone, the fluctuation band is $\pm 2.25\%$; for all other currencies, the standard fluctuation band of $\pm 15\%$ applies. However, on the basis of unilateral commitments, the fluctuation band for the Latvian lats is $\pm 1\%$, and for both the Lithuanian litas and the Estonian kroon a currency board arrangement is maintained. The central rate of the Slovak koruna was revalued by 8.5% on 16 March 2007 and by 17.6472% on 29 May 2008.

Estonian kroon and the Lithuanian litas could join ERM II with their existing currency board arrangements in place. The Latvian authorities decided to maintain the exchange rate of the lats at its central rate against the euro with a fluctuation band of $\pm 1\%$. The agreements on participation for the countries whose currencies joined ERM II in 2004 or later (i.e. all the countries listed above except Denmark) are also all based on a number of other policy commitments by the respective authorities. These relate to, among other things, the pursuit of sound fiscal policies, the promotion of wage moderation and wage developments in line with productivity growth, the pursuit of prudent credit policies and the implementation of further structural reforms.

Prior to the collapse of Lehman Brothers in September 2008, money market spreads were relatively stable in most of the above-mentioned countries, some volatility in the Latvian market notwithstanding. In the fourth quarter of 2008, while exchange rate developments continued to reflect the official exchange rate regimes, the intensification of the global financial crisis, the deteriorating economic outlook, investors' concerns about external vulnerabilities in some countries, together with credit rating downgrades for Latvia and Lithuania and decisions on the part of credit rating agencies to place Estonia under review for a rating downgrade, contributed to a rapid and pronounced widening of bond and money market spreads vis-à-vis the euro area in all ERM II countries except Slovakia. In Latvia, where the money market spread widening was particularly pronounced, and in Denmark, the central banks supported their currencies with foreign exchange intervention and by increasing the official interest rate spreads vis-à-vis the euro area. Against the background of a sharp deceleration in economic activity and tensions in the financial system, Latvia nationalised its largest domestically owned bank and in December 2008 arranged a €7.5 billion joint international financial support programme. The programme includes measures to stabilise the financial sector, substantial domestic economic reforms, fiscal consolidation and significant

public wage reductions, and is based on maintaining the current narrow-band exchange rate peg with a view to achieving Latvia's policy goal of entering the euro area at the earliest possible date.

By contrast, the prospect of Slovakia joining the euro area appears to have shielded the Slovak koruna from the negative impact of the global financial crisis. In the first half of 2008 the koruna strengthened considerably against the euro. On 29 May the currency's central rate was revalued by 17.6472% to SKK 30.1260 against the euro. After the decision of the EU Council in July 2008 allowing Slovakia to adopt the euro, the Slovak koruna remained close to its new central rate, which was also the rate at which it was converted to the euro when the latter was introduced in Slovakia on 1 January 2009.

Turning to the currencies of the non-euro area EU Member States that did not participate in ERM II, developments varied considerably across countries (see Chart 39). Most currencies were broadly stable in the first half of 2008, while some, such as the Czech koruna,

Chart 39 Developments in non-ERM II EU currencies

(daily data; index: 2 January 2008 = 100)



Source: ECB.

the Hungarian forint and the Polish zloty appreciated and reached record levels against the euro. From September, however, the deepening of the financial crisis, amid marked global deleveraging and severe problems in the functioning of interbank markets worldwide, resulted in a rapid and pronounced depreciation of several currencies, in particular the Polish zloty, the Hungarian forint, the Romanian leu and, to a lesser extent, the Czech koruna.

The joint international financial support programme for Hungary, which was aimed at alleviating the tensions in the financial market, helped initially (in late October and November 2008) to ease the downward pressure on both the forint and other currencies in the region. However, the deteriorating economic outlook and investors' concerns about external vulnerabilities in some countries, together with credit rating downgrades for Bulgaria, Hungary and Romania in October and November, resulted in a further sharp depreciation of the zloty, the forint, the leu and, to a lesser extent, the koruna. Reflecting its euro-based currency board arrangement, the Bulgarian lev remained fixed against the euro, notwithstanding an increase in interest rate spreads vis-à-vis the euro area. The pound sterling weakened sharply against the euro in the fourth quarter of 2008, with mounting recession fears in the United Kingdom and decreasing interest rate differentials vis-à-vis the euro area. In the first two months of 2009 the pound appreciated somewhat against the euro amid high volatility. The Swedish krona depreciated substantially against the euro in the course of 2008.

FINANCIAL DEVELOPMENTS

Between January and December 2008 long-term government bond yields in the non-euro area EU Member States (other than Estonia, for which no comparable long-term interest rate is available) were strongly affected by the global financial crisis. Portfolio changes due to a general increase in investor risk aversion were an important factor driving bond market developments in these countries. In the first

part of 2008, developments in government bond yields in most non-euro area EU countries were similar to those in the euro area, where yields were relatively stable. This was followed by a period of increased divergence across the non-euro area EU countries, with some countries showing declining yields, as in the euro area, and others experiencing abrupt increases. In December 2008 long-term interest rates in the non-euro area EU Member States were, on average, around 85 basis points higher than at the beginning of 2008, compared with a decrease of 34 basis points in the euro area. The largest increases took place in Lithuania and Latvia (by 430 and 330 basis points respectively), mainly reflecting the increased difficulties encountered by those governments in meeting their financing requirements in the context of a sharp deterioration in economic growth.

Between January and December 2008, government bond yield spreads against the euro area increased on average in the non-euro area EU Member States. In Lithuania and Latvia they reached historical peaks, standing in December at around 500 basis points.

As in the bond markets, stock exchange indices were negatively affected in all non-euro area EU countries in 2008 by higher uncertainty, negative sentiment as regards future economic developments and news of continued losses in the financial sector. Stock markets were generally characterised by high volatility and marked declines – on average by 50% between December 2007 and December 2008. Stock prices fell most in Bulgaria and Romania, where they decreased by more than 70%, mainly reflecting the higher risk assigned by investors to the capital markets of these countries.

MONETARY POLICY

The primary objective for monetary policy in all non-euro area EU Member States is price stability. Monetary policy strategies, however, differ considerably from country to country (see Table 10).

Table 10 Official monetary policy strategies of the non-euro area EU Member States

	Monetary policy strategy	Currency	Features
Bulgaria	Exchange rate target	Bulgarian lev	Exchange rate target: peg to the euro at BGN 1.95583 per euro within the framework of a currency board arrangement.
Czech Republic	Inflation target	Czech koruna	Inflation target: 3% \pm 1 percentage point until end-2009; thereafter 2% \pm 1 percentage point. Managed floating exchange rate.
Denmark	Exchange rate target	Danish krone	Participates in ERM II with a \pm 2.25% fluctuation band around a central rate of DKK 7.46038 per euro.
Estonia	Exchange rate target	Estonian kroon	Participates in ERM II with a \pm 15% fluctuation band around a central rate of EEK 15.6466 per euro. Estonia continues with its currency board arrangement as a unilateral commitment.
Latvia	Exchange rate target	Latvian lats	Participates in ERM II with a \pm 15% fluctuation band around a central rate of LVL 0.702804 per euro. Latvia continues with a fluctuation band of \pm 1% as a unilateral commitment.
Lithuania	Exchange rate target	Lithuanian litas	Participates in ERM II with a \pm 15% fluctuation band around a central rate of LTL 3.45280 per euro. Lithuania continues with its currency board arrangement as a unilateral commitment.
Hungary	Inflation target	Hungarian forint	Inflation target: 3% \pm 1 percentage point medium-term target since 2007. Free-floating exchange rate.
Poland	Inflation target	Polish zloty	Inflation target: 2.5% \pm 1 percentage point (12-month increase in the CPI). Free-floating exchange rate.
Romania	Inflation target	Romanian leu	Inflation target: 3.8% and 3.5% \pm 1 percentage point for end-2008 and end-2009 respectively. Managed floating exchange rate.
Slovakia	Inflation targeting under the conditions of ERM II	Slovak koruna	Participated in ERM II with a \pm 15% fluctuation band around a central rate of SKK 35.4424 per euro, and from 29 May a central rate of SKK 30.1260 per euro. The inflation target was set at below 2% for end-2008. Adopted the euro as of 1 January 2009.
Sweden	Inflation target	Swedish krona	Inflation target: 2% increase in the CPI with a tolerance margin of \pm 1 percentage point. Free-floating exchange rate.
United Kingdom	Inflation target	Pound sterling	Inflation target: 2% (12-month increase in the CPI). ¹ In the event of a deviation of more than 1 percentage point, the Monetary Policy Committee is expected to write an open letter to the Chancellor of the Exchequer. Free-floating exchange rate.

Source: ESCB.

1) The CPI is identical to the HICP.

In 2008 the monetary policy and exchange rate regimes of most non-euro area EU Member States remained largely unchanged. However, in February Hungary replaced its exchange rate band vis-à-vis the euro with a free-floating exchange rate and freed its existing inflation-targeting regime. Some refinements were made to monetary policy frameworks in a few other countries with a view to future monetary integration in the euro area.

The intensification of the global financial turmoil in autumn 2008 brought about several

challenges for monetary policy in most non-euro area EU countries, with a number of countries experiencing liquidity constraints in their interbank markets, as well as tensions in their foreign exchange markets. The responses by the NCBs to these challenges varied depending on the economic conditions and the monetary policy framework in place.

With regard to monetary policy decisions taken in 2008, most central banks participating in ERM II adopted monetary policy measures which often mirrored moves by the ECB. In July, the ECB raised the minimum bid rate

on the main refinancing operations of the Eurosystem by 25 basis points, before cutting its main policy rate in the last quarter of the year in three steps by a total of 175 basis points.

Given their currency board arrangements, Българска народна банка (Bulgarian National Bank), Lietuvos bankas and Eesti Pank have no official policy rates; they automatically adjust to the rates set by the ECB. In addition, in view of diminishing confidence among domestic banks and liquidity pressures in the interbank markets, the former two central banks lowered their minimum reserve requirements to ease liquidity constraints.

Turning to the countries participating in ERM II and not operating under a currency board arrangement, Latvijas Banka, which maintains a $\pm 1\%$ fluctuation band around the central rate of the lats as a unilateral commitment, kept its main interest rate at 6% throughout the year. However, it increased the deposit facility rate by 100 basis points to 3% and applied different marginal lending facility rates depending on the number of days the lending facility had been used within the previous 30-day period. Latvijas Banka also reduced its minimum reserve ratio for bank liabilities of over two years in five steps by a total of 500 basis points to 3%, and for other liabilities by a total of 300 basis points to 5%, in order to ease the liquidity constraints in the banking sector. In December it entered into a swap agreement with Sveriges Riksbank and Danmarks Nationalbank, enabling it to borrow up to €500 million as short-term funding to preserve macroeconomic and financial stability.

Danmarks Nationalbank increased its main policy interest rate in four steps by a total of 125 basis points between May and October 2008. While one decision (in July) followed a 25 basis point rate increase by the ECB, the other measures were taken when the interest rate on the main refinancing operations of the Eurosystem was left unchanged or even decreased, and were aimed at increasing the spread in policy rates vis-à-vis the euro area. The interest rate increases by Danmarks

Nationalbank were intended to support the weakening krone in periods of tension in the foreign exchange markets. In October, Danmarks Nationalbank and the ECB announced the establishment of a swap line amounting to €12 billion to improve liquidity in short-term euro markets. This followed the conclusion of a similar arrangement by Danmarks Nationalbank with the Federal Reserve System in September. Following some easing of tensions in Danish financial markets, Danmarks Nationalbank followed the ECB in November and December 2008 and decreased its main policy interest rate in two steps by a total of 125 basis points.

In light of Slovakia's coming adoption of the euro, Národná banka Slovenska followed the monetary policy decisions of the ECB from October 2008 and reduced its repo rate in three steps by a total of 175 basis points to 2.5%. It also narrowed the corridor of overnight rates around the repo rate to 100 basis points.

Most NCBs with inflation targets and not participating in ERM II tightened their monetary policy stance at the beginning of 2008, with the aim of containing inflationary pressures stemming in large part from food and energy price increases, and in some countries also from robust wage growth. In the first three quarters of 2008 Sveriges Riksbank, the Magyar Nemzeti Bank and Narodowy Bank Polski each increased their main policy rates by a total of 100 basis points in several steps, while Banca Națională a României increased its key interest rate in six steps by 275 basis points. Česká národní banka increased its main policy rate only once, by 25 basis points in February, a move which was reversed in August. Having already started to lower policy rates in December 2007, the Bank of England continued to cut interest rates throughout the first three quarters of 2008.

As inflationary pressures diminished on the back of declining commodity prices, a weakening economic outlook and an intensification of the global financial crisis, most NCBs with an inflation target decreased their policy interest rates in the fourth quarter of 2008. On 8 October

the Bank of England and Sveriges Riksbank cut interest rates by 50 basis points in a concerted action with the ECB and other, non-EU central banks. On 22 October, however, the Magyar Nemzeti Bank raised its key policy rate by 300 basis points in response to financial market developments. In contrast, the Bank of England and Sveriges Riksbank continued to reduce rates in several steps, by a total of 300 basis points and 275 basis points respectively in the fourth quarter. The central banks of the Czech Republic, Poland and Hungary also made a series of policy rate decreases, reducing rates by a total of, respectively, 125, 100 and 150 basis points in November and December.



Former ECB President Willem F. Duisenberg with his wife Gretta and German Chancellor Helmut Kohl arriving at the ceremony to celebrate the inauguration of the ECB on 30 June 1998

CHAPTER 2

CENTRAL BANK OPERATIONS AND ACTIVITIES

I MONETARY POLICY OPERATIONS, FOREIGN EXCHANGE OPERATIONS AND INVESTMENT ACTIVITIES

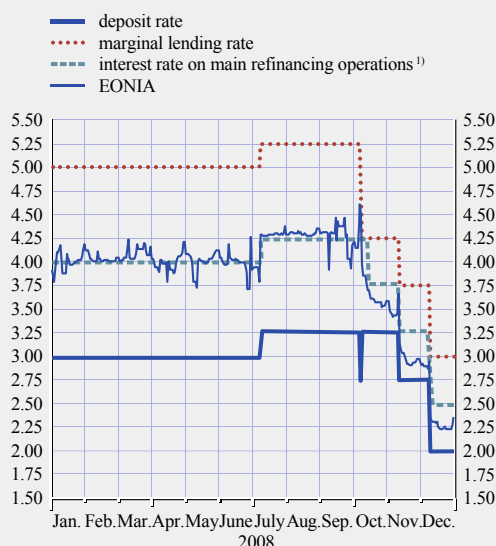
I.1 MONETARY POLICY OPERATIONS

The monetary policy operations of the Eurosystem comprise on the one hand open market operations, such as main refinancing operations (MROs), longer-term refinancing operations (LTROs) and fine-tuning operations, and on the other hand standing facilities. Within the operational framework for the implementation of monetary policy, which is based on a system of minimum reserve requirements, these instruments are used to manage liquidity conditions in the interbank money market with a view to steering very short-term interest rates close to the ECB's key policy rate.

During 2008 Governing Council decisions affecting the key ECB interest rates were taken on four occasions. On 3 July the Governing Council decided to increase the key ECB interest rates by 25 basis points to 4.25%. On 8 October, 6 November and 4 December it decided to lower the key ECB interest rates to 3.75%, 3.25% and 2.50% respectively. In addition, on 8 October the Governing Council decided to narrow the corridor around the MRO interest rate formed by the rates on the standing facilities, from 200 to 100 basis points, as of 9 October. As a consequence, the marginal lending facility rate was set at 50 basis points above the MRO interest rate, and the deposit facility rate at 50 basis points below the MRO rate. On 18 December the Governing Council decided to restore the width of the corridor to its pre-October levels with effect from 21 January 2009.

The implementation of monetary policy during 2008 was driven by the Eurosystem's efforts to address the tensions in the money markets related to the financial turmoil. In a first wave of measures, in the period up to September, the Eurosystem frontloaded the supply of liquidity at the beginning of the reserve maintenance period, allowing the banks to fulfil their minimum reserve requirements somewhat earlier in the maintenance period, and reduced it later, thus leaving the total supply of liquidity

Chart 40 Key ECB interest rates and the EONIA



Source: ECB.

1) Minimum bid rate until 14 October 2008; fixed rate from 15 October 2008.

over the entire maintenance period unchanged. At the same time, the average maturity of open market operations was lengthened by increasing the share of liquidity provided via longer-term operations.

In October 2008, following a marked deterioration in financial market conditions after the failure of Lehman Brothers, the ECB launched a second wave of measures. These measures included a move to a fixed rate tender procedure with full allotment for open market operations, the reduction of the corridor of standing facility rates from 200 to 100 basis points and the expansion of the list of assets eligible to be used as collateral in Eurosystem credit operations.

All these measures aimed to ensure the continued access of solvent banks to liquidity, thus helping to improve the impaired functioning of the money market, while at the same time also steering short-term interest rates (see Box 10 for more details).

MONETARY POLICY OPERATIONS DURING THE RECENT FINANCIAL MARKET VOLATILITY

The financial market turmoil affected the conduct of monetary policy operations throughout 2008. This box describes the monetary policy operations conducted by the ECB in relation to the turmoil. It focuses on liquidity management measures, with regard to both euro operations and operations in foreign currencies, and describes how the collateral framework supported the implementation of monetary policy during this period.

Two phases of liquidity management can be identified in 2008. The first was the period from January to September, when the ECB broadly continued with the measures it had adopted during the second half of 2007. The second phase began with the failure of Lehman Brothers in September, which led to intensified money market tensions and triggered a new wave of liquidity management measures.

Liquidity management from January to September 2008

The ECB's measures to address the tensions in the money market in the period from January to September 2008 can be grouped under three headings:

1 Provision of liquidity earlier in the maintenance period

During this period the ECB increased the supply of liquidity at the beginning of the maintenance period and reduced it towards the end. This "frontloading" of liquidity enabled counterparties to fulfil their reserve requirements somewhat earlier in the maintenance period, but did not change the average supply of liquidity over the entire maintenance period. Credit institutions appeared to develop a preference for the early fulfilment of reserve requirements in an environment of high uncertainty and decreasing turnover, especially in longer-term segments of the money market. On some occasions, the ECB conducted fine-tuning operations on days within a maintenance period with the aim of steering short-term interest rates close to the policy rate.

2 Supplementary longer-term refinancing operations

In this period the outstanding amount of refinancing provided via longer-term operations, which had increased from roughly 30% before the start of the turmoil in July 2007 to around 60% in January 2008, was kept broadly unchanged. On 7 February 2008 the Governing Council decided¹ to renew the two additional three-month operations that had been introduced in 2007 with the aim of supporting the normalisation of the money market (initially for an amount of €60 billion and then for the reduced amount of €50 billion). At the same time, the average maturity of outstanding refinancing was further increased with the introduction of supplementary LTROs with maturities of three and six months. On 28 March 2008 the Governing Council decided to introduce additional three-month operations of €50 billion as well as six-month operations. The first such six-month operations were settled on 3 April and

¹ The full list of statements communicated by the ECB can be found at <http://www.ecb.europa.eu/mopo/implement/omo/html/communication.en.html>.

10 July for amounts of €25 billion each. During 2008 these operations were all renewed when they matured.

3 Operations in connection with the US dollar Term Auction Facility

In order to address disruptions in the European US dollar funding markets triggered by the financial market turmoil, in 2007 the ECB established a reciprocal currency arrangement (swap line) with the Federal Reserve System. In connection with the US dollar Term Auction Facility of the Federal Reserve System, and in close cooperation with other central banks, the Eurosystem provided the US dollar funding received via this swap line to its counterparties against collateral eligible for Eurosystem credit operations.

The Eurosystem provided US dollar liquidity for the first time in December 2007, in two operations which were renewed in January 2008. In view of the reduced demand for US dollars following these operations, the Eurosystem temporarily discontinued its US dollar-providing operations in February. However, liquidity pressures in funding markets increased again in February and at the beginning of March and prompted coordinated action by several central banks to address the renewed tension. As part of this coordinated action, the Governing Council decided on 11 March to reactivate the provision of US dollar funding to Eurosystem counterparties.

US dollar funding was provided on a bi-weekly basis with a maturity of 28 days and for an amount of USD 15 billion in each auction. However, in view of persisting money market strains in some funding markets, evidenced by the high deposit rates for terms longer than overnight (e.g. one week) in various currencies, the unusually high US dollar rates implied by foreign exchange swap rates and the strong levels of demand in the Eurosystem's US dollar operations, the amount in each bi-weekly auction was raised to USD 25 billion on 2 May.

In order to better accommodate banks' US dollar funding needs, the existing Eurosystem US dollar funding facilities were further enhanced on 30 July. The ECB, in coordination with the Federal Reserve System, announced the introduction of an 84-day Term Auction Facility to complement the existing 28-day US dollar funding. However, the total outstanding amount was left unchanged at USD 50 billion.

Liquidity management from October to December 2008

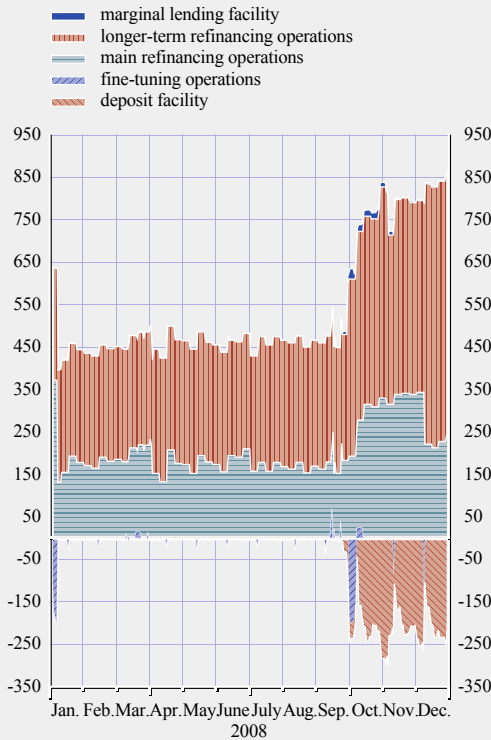
As tensions across all segments of the money market intensified in mid-September 2008, the ECB adopted five additional liquidity management measures.

1 Fixed rate tenders with full allotment

Heightened pressure in financial markets in the second half of September and early October 2008 led to additional disruption in money markets, making it increasingly difficult for credit institutions to obtain funding on the money market. In response to these developments, the Governing Council decided on 8 October that as of 15 October, and at least until the end of the maintenance period ending on 20 January 2009, all MROs would be conducted as fixed rate tenders with full allotment. This measure was aimed at signalling to market participants that the ECB was willing to supply as much liquidity as needed to avoid a liquidity crisis.

Chart A Liquidity supply through open market operations and use of standing facilities

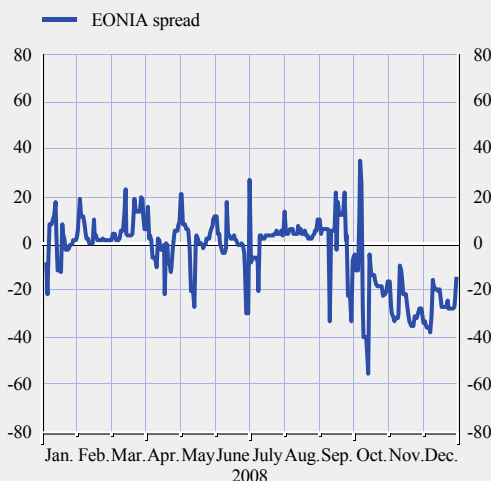
(EUR billions)



Source: ECB.

Chart B Spread between the EONIA and the MRO rate

(until 14 October: minimum bid rate; from 15 October: fixed rate)



Source: ECB.

The measure led to a significant increase in the total volume of outstanding euro-denominated open market operations, as the liquidity supply was now determined by the aggregate amount bid by counterparties (see Chart A). The full allotment policy was de facto implemented on 9 October by means of a liquidity-providing fine-tuning operation in which all bids were satisfied.

Moreover, on 15 October the Governing Council decided to apply fixed rate tenders with full allotment also to LTROs (and supplementary LTROs), with effect from 30 October and at least until the end of the first quarter of 2009.

This enhanced liquidity provision significantly alleviated tensions at the short end of the money market and led to a general decline in the EONIA, starting from the date of the announcements (see Chart B). Between mid-October and the end of 2008, the EONIA was consistently below the MRO rate. Moreover, the EONIA declined within each maintenance period, in line with counterparties' gradual fulfilment of reserve requirements and increasing overall use of the deposit facility.

2 Reduction of the corridor formed by the standing facility rates

On 8 October the Governing Council also decided to reduce the width of the corridor formed by the two standing facilities (i.e. the marginal lending facility and the deposit facility) from 200 to 100 basis points. The rate on the marginal lending facility was set at 50 basis points above the MRO rate, and the rate on the deposit facility was set at 50 basis points below the MRO rate. The reduction of the corridor aimed to further ease banks' liquidity management by offering cheaper central bank intermediation to the banking sector. This measure became effective on 9 October and remained in place until 20 January 2009, when the width of the corridor was widened again to 200 basis points.

3 Supplementary longer-term refinancing operations

Following a decision by the Governing Council on 15 October, the provision of longer-term refinancing was enhanced by rolling over existing operations and launching new operations. As a result, during each maintenance period four longer-term operations were conducted: one for the length of the maintenance period (a special-term refinancing operation), two with a maturity of three months, and one with a maturity of six months. Consequently, by the end of 2008 the share of MROs in the total refinancing volume had declined to about 28%, while LTROs, supplementary LTROs and the special-term refinancing operation accounted for the remaining 72% (see Chart A).

4 Additional US dollar and Swiss franc-providing operations

The Eurosystem's US dollar-providing operations

From mid-September 2008 strains in the US dollar money markets worsened significantly. In particular, the rates quoted for US dollar deposits during Asian, European and early US trading hours were very high, at times reaching levels above 10%. Market liquidity in the foreign exchange swap market was also unusually low amid signs of increased stress and market segmentation, whereby access to US dollar funding became extremely difficult for institutions outside the United States. In response, the Eurosystem further reinforced its provision of US dollar liquidity to Eurosystem counterparties by adding operations with a 7-day and thereafter an overnight maturity to the existing 28-day and 84-day operations. It also further increased the amounts offered to counterparties in these US dollar-providing operations in two steps, each time also increasing the swap line with the Federal Reserve System. In early October the maximum amounts in the Eurosystem's US dollar liquidity-providing operations reached USD 50 billion in the overnight operations, USD 40 billion in the 28-day operations and USD 20 billion in the 84-day operations.

On 15 October, given the high levels of uncertainty prevailing in the banking system, the ECB, in coordination with the Federal Reserve System, committed to fulfil all bids at a fixed rate for the 7-day, 28-day and 84-day operations, while the overnight operations were discontinued.

In order to mitigate the potential problem of insufficient availability of eligible collateral, given the full allotment procedure in both euro and US dollar liquidity-providing operations, the ECB announced on 15 October 2008 that the Eurosystem would also conduct US dollar liquidity-providing operations in the form of EUR/USD foreign exchange swaps. These foreign exchange swap operations, conducted in parallel with the existing US dollar collateralised repurchase operations, were also financed through the swap agreement with the Federal Reserve System, which had been extended until 30 April 2009.

The Eurosystem's US dollar repurchase operations continued to meet with fairly high demand, with large bid amounts and a large number of bidders, whereas participation in the US dollar foreign exchange swap operations generally remained very limited in terms of both bidding volumes and the number of participants.

The Eurosystem's Swiss franc-providing operations

The increased tensions in international money markets observed in October 2008 also led to upward pressure on short-term Swiss franc money market rates. At the same time, the Swiss

franc funding needs of banks with no direct access to the Swiss National Bank's operations, notably in the euro area, increased. Therefore, on 15 October the Swiss National Bank and the ECB jointly announced measures to improve liquidity in short-term Swiss franc money markets, whereby the Eurosystem would provide its counterparties with Swiss franc funding received via a swap line with the Swiss National Bank.

The provision of Swiss franc liquidity by the Eurosystem took the form of EUR/CHF foreign exchange swaps at a fixed price and with a maximum allotment amount determined by the ECB in coordination with the Swiss National Bank. These swaps were initially introduced with a seven-day maturity only, but were later complemented by swaps with a three-month maturity, which were aimed at reducing tensions in this segment of the Swiss franc money markets.

The maximum amount for each of these tenders was set at €20 billion in the 7-day and €5 billion in the 84-day operations. The EUR/CHF foreign exchange swaps met with fairly moderate demand, with bidding volumes below the maximum amount in all operations. The bid-to-cover ratio was stable at around 0.6 in the 7-day swaps and around 0.1 in the 84-day operations.

The ECB's euro liquidity provision to some EU central banks

In October and November 2008 the ECB signed agreements to provide euro liquidity to a number of EU central banks outside the euro area. The ECB's intention in establishing these agreements was to support various measures taken by these central banks, all of which were aimed at improving euro liquidity in their respective domestic financial markets.

This support took the form of repurchase agreements for an amount of up to €5 billion with the Magyar Nemzeti Bank and for up to €10 billion with Narodowy Bank Polski. The ECB and Danmarks Nationalbank established a reciprocal currency swap arrangement amounting to €12 billion.

5 Expansion of the list of collateral

On 15 October the Governing Council decided to expand the list of eligible collateral on a temporary basis until the end of 2009. Availability of collateral was not a constraint throughout much of 2008, owing to the breadth of the Eurosystem's collateral framework. Nevertheless, in the light of the extension of liquidity at various maturities in euro and in US dollars and of the introduction of fixed rate tenders with full allotment, the collateral framework was temporarily expanded as follows:

- As of 22 October 2008 the credit threshold for marketable and non-marketable assets was lowered from "A-" to "BBB-", with the exception of asset-backed securities, for which the credit quality threshold of "A-" remains in force. In addition, since 22 October 2008 the Eurosystem has also accepted debt instruments issued by credit institutions, including certificates of deposit, which are not listed on a regulated market, but traded on certain non-regulated markets deemed acceptable by the ECB. Subordinated marketable debt instruments, which are protected by an acceptable guarantee and which fulfil all other eligibility criteria, can also be used as collateral.

- Since 14 November the Eurosystem has also accepted marketable debt instruments issued in the euro area and denominated in US dollars, pounds sterling and Japanese yen, provided that the issuer is established in the EEA.

In order to fulfil the Eurosystem's statutory obligation to ensure that its balance sheet remains protected against financial risk, risk control measures are applied to the enlarged set of eligible collateral. The expansion of the eligibility criteria is thus combined with vigilant monitoring of the use of the framework.

LIQUIDITY NEEDS OF THE BANKING SYSTEM

When supplying liquidity through open market operations, the Eurosystem takes into account a daily assessment of the liquidity needs of the aggregate euro area banking system. These liquidity needs are determined by the sum of minimum reserve requirements, funds held in excess of these requirements on credit institutions' current accounts with the Eurosystem (excess reserves) and autonomous factors. Autonomous factors are those items on the Eurosystem's balance sheet, such as banknotes in circulation and government deposits, which have an impact on credit institutions' current account holdings but are not under the direct control of the Eurosystem's liquidity management.

In 2008 the average daily liquidity needs of the euro area banking system amounted to €487.1 billion, 10.3% higher than in 2007 (see Chart 41). One reason for the increase was the continued growth in reserve requirements, by 12.5%, to €210.8 billion. Another important reason was an exceptional increase in the demand for banknotes which was unrelated to seasonal factors. Chart 42 shows that the amount of banknotes in circulation rose significantly, by more than 6% between September and early November 2008, which contributed to the total increase in liquidity needs. Overall, in 2008 autonomous factors increased by 8.9% to €274.5 billion. Although average excess reserves for the maintenance periods ending in 2008 increased compared with 2007, by €0.2 billion to €1.1 billion, they remained negligible in relative terms at 0.5% of reserve requirements.

Chart 41 Liquidity factors in the euro area in 2008

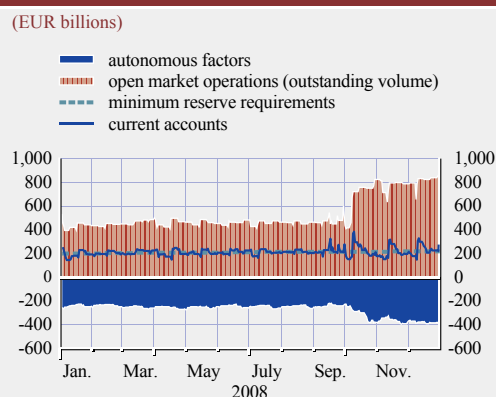
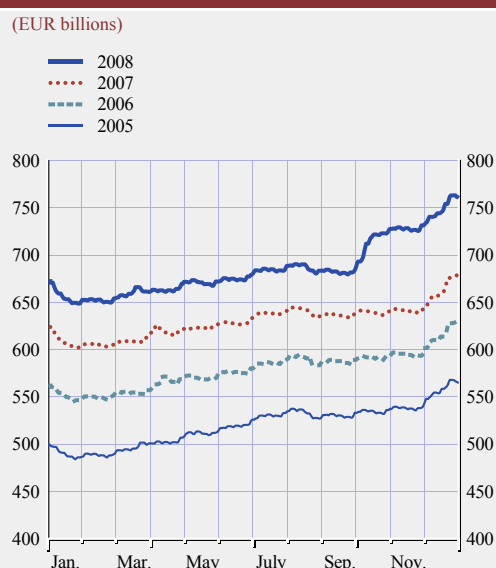


Chart 42 Banknotes in circulation



MINIMUM RESERVE SYSTEM

Credit institutions in the euro area are required to hold minimum reserves on current accounts with the Eurosystem. As has been the case since 1999, the minimum reserve requirements were equal to 2% of credit institutions' reserve base in 2008 and amounted to €210.8 billion on average. It is the growth in the reserve base, which is determined by certain short-term liabilities on credit institutions' balance sheets, which explains the above-mentioned 12.5% increase in the total amount of reserve requirements during 2008. Since for any maintenance period the Eurosystem remunerates reserve holdings at a rate which is the average of the marginal rates of the MROs (if conducted as variable rate tenders) or at the fixed MRO rate (in the case of fixed rate tenders), the minimum reserve system does not impose significant costs on the banking sector. At the same time, it fulfils two important functions in the operational framework for monetary policy implementation. First, it stabilises short-term money market rates, because the reserve requirements have to be fulfilled only on average over the maintenance period, allowing credit institutions to smooth out temporary and unexpected liquidity inflows and outflows. Second, it enlarges the liquidity deficit of the banking system, i.e. banks' overall need for refinancing from the Eurosystem.

OPEN MARKET OPERATIONS

The Eurosystem uses MROs, LTROs and fine-tuning operations to manage the liquidity situation in the money market. All liquidity-providing operations have to be fully collateralised. MROs are regular operations with a weekly frequency and normally have a maturity of one week. They are the main instrument for signalling the ECB's monetary policy stance.

Until 8 October 2008 MROs were conducted as variable rate tenders with a minimum bid rate, and from 15 October as fixed rate tenders in which all bids were satisfied. The number of eligible counterparties increased during 2008 from 1,693 to 2,099. Most of this increase took place during the months of October and November, when

some banks decided to apply for eligibility owing to borrowing constraints in the money market. On average, 443 counterparties participated in MROs in 2008, 31% more than in 2007 (when 338 counterparties participated on average). This increase was also related to the intensified pressure in the money market, which meant that many counterparties had to fulfil their liquidity needs by borrowing from the ECB instead of the market. The number of bidders in the MROs increased further when the ECB switched to fixed rate tenders with full allotment in October, from an average of 354 in the variable rate tenders to 747 in the fixed rate tenders.

Up until 8 October the Eurosystem allotted €175 billion on average in the variable rate tender MROs. The allotted amount varied considerably during this period owing to the frontloading policy, which resulted in a declining pattern of allotment amounts in the course of each maintenance period, and to the increased liquidity provision through LTROs. When fixed rate tenders with full allotment were introduced for MROs on 15 October 2008, allotment amounts increased significantly, to €291 billion on average. By the end of 2008 the liquidity provided in MROs represented 28% of the total refinancing volume, considerably less than in previous years, when it amounted to around 65-75%.

LTROs are monthly liquidity-providing operations with a three-month maturity. In addition to these operations, a number of further supplementary LTROs were introduced gradually during 2008. By the end of the year, two supplementary LTROs were conducted during each maintenance period, one with a three-month and one with a six-month maturity, as well as one special-term refinancing operation with a maturity equal to the length of the maintenance period. Until mid-October LTROs and supplementary LTROs were conducted as pure variable rate tenders (i.e. without a minimum bid rate). The allotment amount in the LTROs and three-month supplementary LTROs during this period was €50 billion (with the exception of two supplementary

LTROs settling on 21 February and 13 March, in each of which €60 billion was allotted). Two of the six-month supplementary LTROs were conducted for an amount of €25 billion (on 2 April and 9 July), and one was conducted for an amount of €50 billion (on 8 October).

As of 30 October 2008 longer-term operations were also conducted as fixed rate tenders with full allotment. The rate applied in all these operations was the MRO rate. The change to fixed rate tenders led to a general increase in allotment amounts also for longer-term operations. However, given strong expectations of a cut in key ECB interest rates, especially towards the end of 2008, the fixed rate applied in these tenders led to only a moderate increase in allotment amounts for supplementary LTROs with a maturity of three or six months. At the end of 2008 the outstanding amount of all longer-term operations (LTROs, supplementary LTROs and special-term refinancing operations) stood at €617 billion, which represented the largest share of ECB refinancing to the banking sector ever, at roughly 72% of all open market operations.

LTROs are open to the same set of counterparties as MROs, 157 of which participated on average during 2008, compared with 145 in 2007. The introduction of fixed rate tenders led to a decrease in the average number of bidders in the LTROs from 161 (in variable rate tenders) to 146 (in fixed rate tenders). In the special-term refinancing operations, which are also open to the same set of counterparties, 210 counterparties participated in the variable rate tender settled on 30 September, while an average of 97 counterparties participated in the following two fixed rate tenders.

The ECB may conduct liquidity-providing and liquidity-absorbing fine-tuning operations on an ad hoc basis to manage liquidity conditions in the market and to steer interest rates. Until 5 October 2008 the Eurosystem selected a limited number of counterparties most active in the money market for these operations (136 on 30 September 2008). Following a decision by

the Governing Council, from 6 October 2008 access to fine-tuning operations was widened by granting eligibility to all counterparties that are eligible to participate in Eurosystem open market operations based on standard tenders, and that additionally fulfil certain selection criteria specified by the respective NCBs.

In 2008 the ECB conducted 25 fine-tuning operations. The practice of conducting end-of-period fine-tuning operations was maintained throughout the year, with 12 of these operations taking place on the last day of the maintenance periods. The remaining 13 were conducted in response to prevailing liquidity conditions and short-term money market interest rates. On 2 and 3 January, when tensions related to the year-end eased, liquidity-absorbing fine-tuning operations were conducted in an environment of excess liquidity supply. On 20 and 31 March liquidity was provided in fine-tuning operations as a result of money market tensions related to the Easter holiday period and the bankruptcy of Bear Stearns. To address the heightened pressure in money markets in September, the ECB conducted nine fine-tuning operations between 15 September and 9 October, five of which were liquidity-providing and four of which were liquidity-absorbing.

STANDING FACILITIES

Counterparties may use the two standing facilities on their own initiative to obtain overnight liquidity against eligible collateral or to place overnight deposits with the Eurosystem. At the end of 2008, 2,267 counterparties had access to the marginal lending facility and 2,802 counterparties had access to the deposit facility. The rates for these facilities in principle provide a ceiling and a floor for the overnight rate and therefore perform an important function for monetary policy implementation.

In October 2008, following a decision by the Governing Council, the width of the corridor formed by these two rates was reduced from 200 to 100 basis points symmetrically around the MRO rate as a measure to alleviate tensions in the money market. This measure, together

with the ample allotments in the fixed rate open market operations, led to a significant increase in the use of the deposit facility (see Chart A in Box 10). Until 8 October the average daily use of the deposit facility was €2.5 billion (compared with €0.5 billion in 2007). In the period from 9 October until the end of the year, this figure increased dramatically to €208.5 billion. During this period, recourse to the deposit facility followed a broadly similar pattern during each reserve maintenance period: the amounts were relatively low at the beginning of each period, but increased subsequently as more counterparties fulfilled their reserve requirements.

The daily average recourse to the marginal lending facility was €0.9 billion until 8 October 2008 (compared with €0.2 billion in 2007), and increased to €6.7 billion thereafter. This rise reflects the lower interest rate on this facility, in relative terms, as a result of the reduced corridor, but to some extent may also be linked to heightened uncertainty about individual bank liquidity needs.

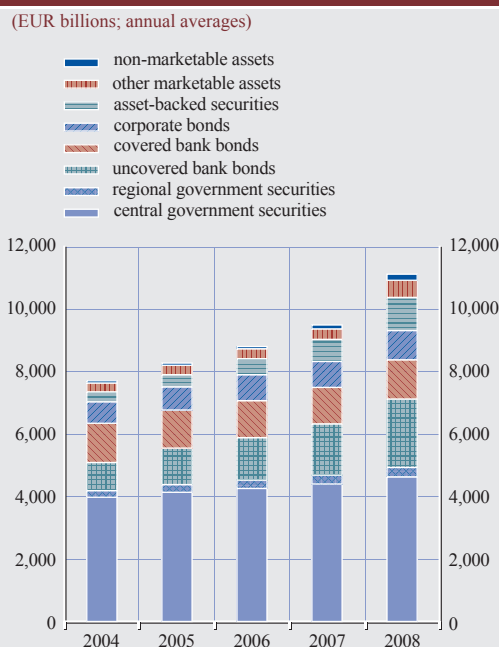
ELIGIBLE ASSETS FOR MONETARY POLICY OPERATIONS

In line with central bank practice worldwide, all credit operations of the Eurosystem are based on adequate collateral. The concept of adequacy implies, first, that the Eurosystem is to a large extent protected from incurring losses in its credit operations and, second, that sufficient collateral should be available to a wide set of counterparties, so that the Eurosystem can provide the amount of liquidity it deems necessary through its monetary policy and payment systems operations. To facilitate this, the Eurosystem accepts a broad range of assets as collateral in all its credit operations. This feature of the Eurosystem's collateral framework, together with the fact that access to Eurosystem open market operations is granted to a large pool of counterparties, has been key to supporting the implementation of monetary policy in times of stress. The inbuilt flexibility of its operational framework allowed the Eurosystem to provide the necessary liquidity to address the impaired functioning of the money market without

encountering widespread collateral constraints throughout much of 2008. It was only towards the end of the year that, in the light of the extension of refinancing for terms longer than overnight in euro and in US dollars as well as the recourse to fixed rate full allotment tender procedures, the Governing Council decided to expand the list of eligible collateral on a temporary basis until the end of 2009 (see Box 10).

In 2008 the average amount of eligible collateral increased by 17.2%, compared with 2007, to a total of €11.1 trillion (see Chart 43). General government debt, at €4.9 trillion, accounted for 44% of the total, while the remainder of marketable collateral was in the form of uncovered bank bonds (€2.2 trillion, or 20%), covered bank bonds (€1.2 trillion, or 11%), asset-backed securities (€1.1 trillion, or 9%), corporate bonds (€0.9 trillion, or 8%), and other bonds, such as those issued by supranational organisations, (€0.6 trillion, or 5%). The overall volume of marketable assets eligible as a result of the temporary measures to

Chart 43 Eligible collateral by asset type



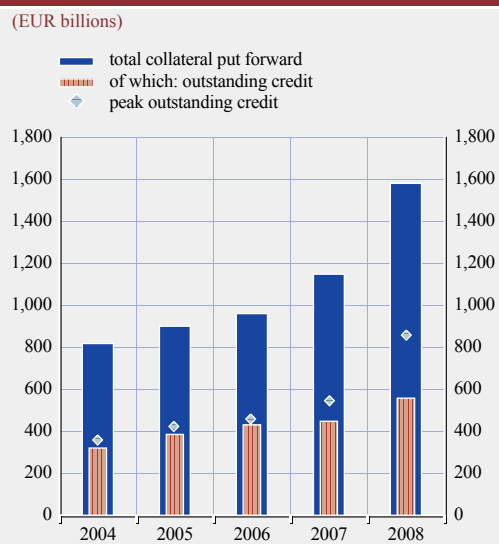
Source: ECB.

expand the list of eligible collateral amounted to around €870 billion at the end of 2008. The list of eligible collateral also includes non-marketable assets, mostly credit claims (also referred to as bank loans). In contrast to marketable assets, non-marketable assets are assessed for eligibility only at the time of their acceptance. For this reason, the volume of potentially eligible non-marketable assets cannot easily be measured. The amount of non-marketable assets put forward by counterparties as collateral in Eurosystem credit operations reached €0.2 trillion in 2008, representing 2% of total eligible collateral in the Eurosystem. The lower credit threshold temporarily introduced to expand the list of eligible collateral (see Box 10) was also applied to non-marketable assets.

The average value of marketable and non-marketable assets put forward by counterparties as collateral in Eurosystem credit operations rose significantly, from €1,148 billion in 2007 (revised upwards from €1,101 billion) to €1,579 billion in 2008. This increase was mainly due to the fact that counterparties put forward large additional amounts of collateral with the Eurosystem in response to the financial market turbulence (see Chart 44). As the comparison of collateral with outstanding credit to the Eurosystem's counterparties indicates, the share of deposited collateral that is not used to cover credit from monetary policy operations increased marginally on an aggregate basis. This suggests that sufficiency of collateral has not been a systemic constraint on the Eurosystem's counterparties despite the increasing volume of liquidity received in the refinancing operations.

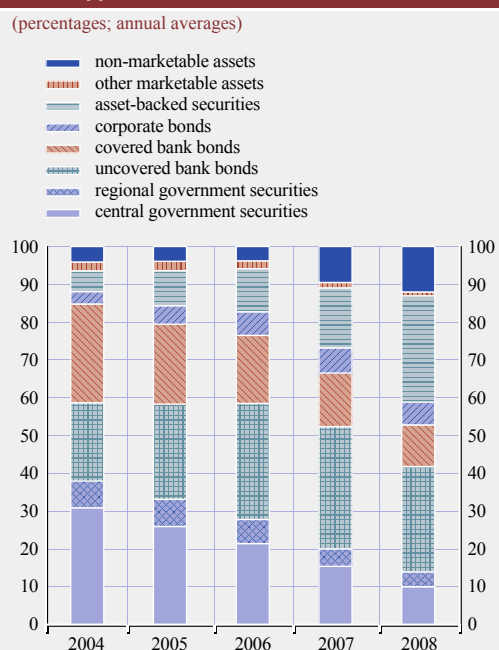
As regards the composition of collateral put forward, the average share of asset-backed securities increased from 16% in 2007 to 28% in 2008, overtaking uncovered bank bonds as the largest class of assets put forward as collateral with the Eurosystem. Uncovered bank bonds accounted on average for slightly less than 28% of the collateral put forward in 2008. The average share of non-marketable assets increased from 10% in 2007 to 12% in

Chart 44 Collateral put forward in Eurosystem credit operations versus outstanding credit in monetary policy operations



Source: ECB.
Note: "Collateral put forward" refers to assets deposited as collateral in countries operating a pooling system and assets used as collateral in countries operating an earmarking system.

Chart 45 Breakdown of assets (including credit claims) put forward as collateral by asset type



Source: ECB.

2008. By contrast, the average share of central government bonds dropped from 15% in 2007 to 10% in 2008. The new asset classes which were temporarily eligible accounted for around 3% of the total marketable collateral put forward.

RISK MANAGEMENT ISSUES

The Eurosystem mitigates the risk of a counterparty default in a Eurosystem credit operation by requiring counterparties to submit adequate collateral. However, the Eurosystem is still exposed to a number of financial risks if a counterparty defaults, including credit, market and liquidity risk. In addition, the Eurosystem is exposed to currency risk in the context of liquidity-providing operations in foreign currencies against euro-denominated collateral, such as those conducted in 2008. In order to reduce these risks to acceptable levels, the Eurosystem maintains high credit standards for assets accepted as collateral, values collateral on a daily basis and applies appropriate risk control measures. As a matter of prudence, the Eurosystem has established a buffer against potential shortfalls resulting from the eventual resolution of collateral received from five specific counterparties that defaulted in 2008, the level of which will be reviewed annually, pending the eventual disposal of the collateral and in line with the prospect of recovery.¹ More generally, financial risks in credit operations are quantified and regularly reported to the ECB's decision-making bodies.

Every two years a review of the risk control measures for Eurosystem credit operations is conducted. These risk control measures are applied to the assets put forward by the Eurosystem's counterparties as collateral for the credit the Eurosystem provides through its open market operations and the marginal lending facility, as well as in the form of intraday credit for payment systems purposes. While fully preserving the principle of accepting a wide range of collateral, the biennial review in 2008 led to some technical refinements of the risk control framework for Eurosystem credit operations. These refinements reflect, among other things, improvements in the

methodological framework, the assessment of market and liquidity risk characteristics of eligible assets, the actual use of eligible assets by counterparties and new developments in financial instruments. They were announced on 4 September 2008 and entered into force on 1 February 2009.

In the context of these refinements, valuation haircuts for asset-backed securities and uncovered bank bonds have been revised. In addition, the prohibition to submit collateral that is issued or guaranteed by entities closely linked to the submitting counterparty has been extended to include special forms of close links that may arise when asset-backed securities are used as collateral. As of 1 February 2009, enhanced transparency is required for credit assessments of asset-backed securities issued by an eligible external credit assessment institution.

Finally, the Eurosystem has the possibility to limit or exclude the use of certain assets as collateral for its credit operations if required, also at the level of individual counterparties, to ensure adequate risk protection of the Eurosystem in line with Article 18.1 of the Statute of the ESCB.

1.2 FOREIGN EXCHANGE OPERATIONS

In 2008 the Eurosystem did not undertake any interventions in the foreign exchange market for policy reasons. The ECB's foreign exchange transactions were exclusively related to investment activity. Furthermore, the ECB did not undertake any foreign exchange operations in the currencies that participate in ERM II. The standing agreement between the ECB and the IMF to facilitate the initiation of special drawing right (SDR) transactions by the IMF on behalf of the ECB with other SDR holders was activated on 17 occasions in 2008.

In the context of the continuing financial market volatility in 2008, the Eurosystem also

¹ For further details, see the press release of 5 March 2009.

conducted 73 operations in connection with the US dollar Term Auction Facility of the Federal Reserve System (57 reverse transactions against eligible collateral and 16 through EUR/USD foreign exchange swaps), providing US dollar liquidity to the Eurosystem's counterparties, and 15 Swiss franc-providing operations in cooperation with the Swiss National Bank (for more details, see Box 10).

1.3 INVESTMENT ACTIVITIES

The ECB's investment activities are organised in such a way as to ensure that no insider information about central bank policy actions may be used when making investment decisions. A set of rules and procedures, known as the Chinese wall, separates the business units involved in operational investment activities from other business units.

FOREIGN RESERVE MANAGEMENT

The ECB's foreign reserve portfolio was originally set up through transfers of foreign reserve assets from the euro area NCBs. Over time, the composition of the portfolio reflects changes in the market value of the invested assets, as well as foreign exchange and gold operations of the ECB. The main purpose of the ECB's foreign reserves is to ensure that, whenever needed, the Eurosystem has a sufficient amount of liquid resources for its foreign exchange policy operations involving non-EU currencies. The objectives for the management of the ECB's foreign reserves are, in order of importance, liquidity, security and return.

The ECB's foreign reserve portfolio consists of US dollars, Japanese yen, gold and SDRs. The US dollar and Japanese yen reserves are actively managed by the ECB and the euro area NCBs, as agents for the ECB. Since January 2006 a "currency specialisation model" has been in operation to increase the efficiency of the Eurosystem's investment operations. Under this scheme, each NCB is as a rule allocated a share in either the US dollar or the Japanese yen portfolio, with two NCBs currently managing

two.² During 2008 two arrangements were put in place which enable certain NCBs to pool operational activities for the management of their shares of the ECB's foreign reserves: the Central Bank of Cyprus has pooled with the Bank of Greece and the Central Bank of Malta has pooled with the Central Bank and Financial Services Authority of Ireland since January 2008. As of January 2009 Národná banka Slovenska manages a US dollar portfolio as an agent for the ECB.

During 2008 the ECB sold 30 tonnes of gold in total. These sales were in full conformity with the Central Bank Gold Agreement of 27 September 2004, to which the ECB is a signatory. The proceeds of the gold sales were added to the US dollar portfolio.

The value of the ECB's net foreign reserve assets³ at current exchange rates and market prices increased from €42.8 billion at end-2007 to €49.5 billion at end-2008, of which €38.5 billion was in foreign currencies – the Japanese yen and the US dollar – and €11 billion was in gold and SDRs. Applying the exchange rates of end-2008, US dollar-denominated assets represented 77.5% of the foreign currency reserves, while those denominated in Japanese yen accounted for 22.5%. The increase in value of the foreign currency portfolio, of 19.9%, mainly reflected capital gains and interest income generated by portfolio management activities, particularly with regard to US dollar-denominated assets. The appreciation of the Japanese yen (by 30.8%) and the US dollar (by 5.8%) versus the euro also contributed to the increase in value of the currency portfolio. Finally, the ECB's foreign currency reserves also rose as a result of the investment of the proceeds of the gold sales mentioned above. The value of both the gold

2 For more details, see the article entitled "Portfolio management at the ECB" in the April 2006 issue of the ECB's Monthly Bulletin.

3 Net foreign reserve assets are calculated as official reserve assets excluding the net, marked-to-market value of foreign currency swaps, plus deposits in foreign currency with residents, minus future predetermined net drains on foreign currency holdings owing to repurchase and forward transactions. For detailed information on the data sources, see <http://www.ecb.europa.eu/stats/external/reserves/templates/html/index.en.html>

and SDR holdings increased by around 2.6% in 2008, despite the sale of 30 tonnes of gold during the year. This increase was mostly due to the appreciation of gold by around 9.4% in 2008, as measured in euro terms. No losses in the ECB's foreign reserves were experienced as a result of defaulting investment counterparties.

In 2008 the list of eligible instruments in which the ECB's foreign reserves can be invested was kept unchanged. Interest rate swaps, which were introduced in late 2007, were used regularly in 2008. The preparatory work to establish an automatic securities lending programme for the ECB's US dollar-denominated assets was completed in 2008. It is envisaged that the programme will start in 2009, although this will depend on prevailing market conditions.

OWN FUNDS MANAGEMENT

The ECB's own funds portfolio consists of the invested counterpart of the ECB's paid-up capital, as well as amounts held from time to time in its general reserve fund and its provision against foreign exchange rate, interest rate and gold price risks. The purpose of this portfolio is to provide the ECB with income to help to cover its operating expenses. The objective of its management is to maximise expected returns, subject to a no-loss constraint at a certain confidence level. The portfolio is invested in euro-denominated fixed income assets.

The value of the portfolio at current market prices grew from €9.3 billion at end-2007 to €10.2 billion at end-2008. The increase in market value was due to the investment in the own funds portfolio of the provision against foreign exchange rate, interest rate and gold price risks established by the ECB in 2005, as well as to investment returns and the contributions by the Central Bank of Cyprus and the Central Bank of Malta to the capital and reserves of the ECB following the adoption of the euro by Cyprus and Malta.

The list of eligible issuers of covered bonds and senior uncovered bonds was extended slightly in 2008. No losses were experienced as a result of defaulting investment counterparties.

RISK MANAGEMENT ISSUES

The financial risks to which the ECB is exposed in its investment activities are closely monitored and measured in order to keep them within the levels specified by the ECB's decision-making bodies. For this purpose, a detailed limit structure is in place and limits are monitored daily. Regular reporting ensures that all stakeholders are adequately informed of the level of such risks.

In 2008 the ECB further enhanced the risk management framework for its investment operations by upgrading IT systems and fine-tuning its credit risk methodology. The overall framework proved resilient in the wake of the financial crisis and no losses occurred as a result of a counterparty or issuer default. Moreover, as part of its efforts to support the development of state-of-the-art strategic asset allocation methodologies in central banks, the ECB, in cooperation with the World Bank and the BIS, organised the first conference on strategic asset allocation for central banks and sovereign wealth managers in Frankfurt on 24 and 25 November 2008.

One of the indicators used to monitor market risk is Value-at-Risk (VaR), which defines the loss for a portfolio of assets that will not be exceeded at the end of a specified period of time with a given probability. The value of this indicator depends on a series of parameters used for the calculation, in particular the confidence level, the length of the time horizon and the sample used to estimate asset price volatility. As an illustration, computing this indicator for the ECB's investment portfolio on 31 December 2008, using as parameters a 95% confidence level, a time horizon of one year and a sample of one year for asset price volatility, would result in a VaR of €9,185 million. Computing the same indicator with a five-year instead of a one-year sample would result in a VaR of €5,823 million. Most of this market risk is due to currency and gold price risk. The low levels of interest rate risk reflect the fact that the modified duration of the ECB's investment portfolios remained relatively low in 2008.

2 PAYMENT AND SECURITIES SETTLEMENT SYSTEMS

The Eurosystem has the statutory task of promoting the smooth operation of payment systems. Its main instrument for carrying out this task – aside from the oversight function (see Section 4 of Chapter 4) – is the provision of payment and securities settlement facilities. To this end, the Eurosystem created the Trans-European Automated Real-time Gross settlement Express Transfer system, known as TARGET, for large-value and urgent payments in euro. The technically decentralised first-generation system was progressively replaced by a second-generation system (TARGET2), which is based on a single technical infrastructure, the Single Shared Platform (SSP). Three Eurosystem central banks – the Banca d’Italia, the Banque de France and the Deutsche Bundesbank – jointly provide the SSP and operate it on behalf of the Eurosystem. The migration to TARGET2 started in November 2007 and was completed in May 2008.

With regard to collateral mobilisation, the Eurosystem and the market offer a number of channels to facilitate the use of collateral across national borders. In 2008 the Eurosystem, together with market participants, continued to work on the development of TARGET2-Securities (T2S), with the objective of providing securities settlement services in central bank money through a single European technical platform with harmonised processes and procedures. The project was approved by the Governing Council in July 2008, and the technical details of the project are now in the process of being defined. T2S will harmonise domestic and cross-border settlements of securities transactions in central bank money within the euro area.

2.1 THE TARGET SYSTEM

TARGET plays an important role in the execution of the single monetary policy and the functioning of the euro money market. TARGET offers a real-time settlement service in central bank money and broad market coverage. It processes large-value and urgent

transactions and has also attracted a variety of other payments. TARGET is available for payments in euro between participating banks, without any upper or lower value limit. Such transfers are made both between banks in the same Member State (intra-Member State traffic) and between those in different Member States (inter-Member State traffic).

THE MIGRATION TO TARGET2

The TARGET system began operations on 4 January 1999, following the introduction of the euro. It was originally made up of 15 national real-time gross settlement (RTGS) systems and the ECB payment mechanism (EPM). Despite its success, TARGET had a number of shortcomings that stemmed from its heterogeneous technical design and decentralised structure. To address these issues and to cater for developments such as the further enlargement of the euro area, the Eurosystem launched the TARGET2 project in October 2002.

The Eurosystem’s aim in developing TARGET2 was to create a streamlined version of the original TARGET system which would better meet user needs, providing a harmonised service level with a harmonised pricing scheme and ensuring cost-efficiency. TARGET2 was also designed to be able to respond flexibly and in a timely manner to future developments, such as euro area and EU enlargement.

The TARGET2 system started operations on 19 November 2007, when the first group of countries (Germany, Cyprus, Latvia, Lithuania, Luxembourg, Malta, Austria and Slovenia) migrated to the SSP. This first step was very successful and confirmed the reliability of the TARGET2 platform, which, following this initial migration, was already settling around 50% of the overall TARGET traffic in terms of volume and 30% in terms of value.

On 18 February 2008 the second migration group (Belgium, Ireland, Spain, France, the Netherlands, Portugal and Finland) successfully joined the SSP, followed on 19 May by the final group (Denmark, Estonia, Greece, Italy, Poland

and the ECB). As a result of careful monitoring by the central banks, all related testing activities were completed successfully and on time for all user communities. Between November 2007 and May 2008, procedures were in place to ensure that those user communities which had a later migration date (and were therefore still operating in the first-generation TARGET system) could interact effectively with the user communities already connected to the SSP of TARGET2. The six-month migration process was very smooth and did not cause any operational disruptions.

TARGET OPERATIONS

The TARGET system functioned smoothly in 2008 and continued to settle an increasing number of euro payments. The system's market share was stable, with 90% of the total value of payments in euro large-value payment systems being executed via TARGET. The average number of payments processed by the TARGET system each day increased by 1%, to 369,966, while the average value rose by 10%, to €2,667. On 22 December 2008 TARGET reached a peak of 576,324 transactions, which is an all-time high for the system. Table 11 provides an overview of the payment traffic in the TARGET system in 2008, comparing it with the traffic in the previous year.

The overall availability of TARGET, i.e. the extent to which participants were able to use the TARGET system during their business hours without incident, reached 99.79% in 2008. It is noteworthy that this is the highest figure since the start of TARGET operations in 1999 and that the migration to TARGET2 did not have any negative effects on the system's availability. More than 99.76% of the payments on the SSP of TARGET2 were processed within five minutes. The feedback from TARGET2 users on the system's performance has been very positive.

By December 2008 900 direct participants maintained an RTGS account on the SSP of TARGET2. This figure is lower than the 1,072 direct participants which had accounts in the first-generation TARGET system at the start of the migration. There are two main reasons for this.

Table 11 Payment traffic in TARGET¹

Volume (number of transactions)	2007	2008	Change (%)
Overall			
Total	93,375,701	94,711,380	
Daily average	366,179	369,966	1.03
Intra-Member State²			
Total	72,574,446	69,212,880	
Daily average	284,606	270,363	-5.00
Inter-Member State			
Total	20,801,255	25,498,500	
Daily average	81,574	99,604	22.10

Value (EUR billions)	2007	2008	Change (%)
Overall			
Total	616,731	682,780	
Daily average	2,419	2,667	10.28
Intra-Member State²			
Total	395,412	466,572	
Daily average	1,551	1,823	17.54
Inter-Member State			
Total	221,319	216,208	
Daily average	868	845	-2.69

Source: ECB.

1) There were 255 operating days in 2007 and 256 operating days in 2008.

2) Includes the traffic of remote participants.

First, a number of credit institutions reconsidered their direct participation at the time of their migration and opted instead to connect indirectly via a direct participant. Second, TARGET2 created strong incentives for banks to rationalise their euro liquidity management and to centralise it in fewer RTGS accounts. The overall number of banks (including branches and subsidiaries) that can be addressed worldwide through TARGET has remained stable at some 52,000.

RELATIONS WITH TARGET2 USERS

During its development, TARGET2 benefited greatly from the active cooperation between the Eurosystem and the future users of the system. This considerably improved the understanding of market requirements and was instrumental in ensuring a smooth migration process and high levels of acceptance of the system by the users.

This cooperation continued beyond the migration phase. The Eurosystem maintains close relations with TARGET2 users and regular meetings were held between the euro

area NCBs and national TARGET2 user groups in 2008. In addition, joint meetings of the Eurosystem Working Group on TARGET2 and the TARGET Working Group of the European banking industry took place regularly, at which TARGET2 operational issues were discussed. Strategic issues were addressed in the Contact Group on Euro Payments Strategy, a forum composed of senior representatives of commercial and central banks.

THE CONNECTION TO TARGET OF NON-EURO AREA COUNTRIES

All euro area countries participate in TARGET, as its use is mandatory for the settlement of any euro operations with the Eurosystem. TARGET is also available, on a voluntary basis, to non-euro area Member States to facilitate the settlement of euro-denominated transactions in these countries.⁴ When Cyprus and Malta adopted the euro on 1 January 2008, the Central Bank of Cyprus, the Central Bank of Malta and their respective national user communities were already using the TARGET system. In the context of Slovakia's entry into the euro area on 1 January 2009, Národná banka Slovenska also joined the system.

FORTHCOMING DEVELOPMENTS

It is foreseen that a new release of the SSP will be made available each year, offering a range of enhancements and new features to TARGET2 users. The content of these annual releases will be defined following a broad consultation of the user community. The first annual release of the SSP went live on 17 November 2008. Its content was mainly driven by the new SWIFT standard release, which went live on the same day. As an exception, two releases are scheduled for 2009. The first one, in May, will enhance the interface with ancillary systems, in particular allowing settlement across central securities depositories (CSDs). The second release, in November, will incorporate various other enhancements requested by users.

2.2 TARGET2-SECURITIES

The European securities settlement market is still highly fragmented, although some positive developments in the form of increased consolidation and cooperation have been observed. The existence of a large number of settlement systems, among other things, means that settlement costs are much higher for EU cross-border transactions than they are for domestic transactions or for transactions in the United States. At the same time, demand for an integrated European securities settlement infrastructure is increasing.

T2S was proposed by the Eurosystem in 2006 as a solution to the existing fragmentation of the settlement infrastructure. It will be a multi-currency settlement platform, owned and operated by the Eurosystem, which will enable European CSDs to settle securities transactions in central bank money. The participating CSDs will maintain legal relations with their customers and will continue to perform custody and notary functions. T2S will provide a single technical platform where all EU securities can be exchanged for euro and other participating currencies through standardised processes and means of communication. Furthermore, T2S will significantly reduce participants' liquidity needs and financial risk exposure by providing facilities such as auto-collateralisation (i.e. automated generation of an intraday credit in central bank money against collateral when the buyer has insufficient funds to settle securities transactions), continuous optimisation, recycling mechanisms and a night-time settlement window. Moreover, being able to settle all EU securities transactions in central bank money on one single platform will eliminate the financial risk exposure that participants may currently encounter in

⁴ Throughout 2008 the non-euro area countries connected to TARGET were Denmark, Estonia, Latvia, Lithuania and Poland.

cross-CSD settlement. T2S will thus increase the efficiency of collateral management, enable users to optimise their financing across all EU assets and contribute to the stability of the financial system.

In December 2007 the T2S Advisory Group⁵ completed the first draft version of the T2S user requirements, which describe the features that CSDs and financial market participants require from T2S. The ECB coordinated the process and took a major role in the drafting. On 18 December 2007 the Eurosystem published these draft user requirements, together with the methodology for an economic impact analysis, for public consultation.

The Advisory Group finalised the user requirements on the basis of the comments received in the public consultation. On 23 May 2008 the Governing Council invited all European CSDs to join the T2S initiative, providing them with detailed information about the work undertaken thus far.

All euro area CSDs expressed their willingness, subject to certain conditions, to use the T2S platform once it starts operations. In addition, the Danish CSD and Danmarks Nationalbank indicated that they wanted to use T2S for the settlement of securities transactions denominated in both Danish krone and euro. In addition, the CSDs of Sweden, Switzerland and the United Kingdom indicated their intention to participate for euro settlement. In view of this widespread support from European CSDs, the Governing Council on 17 July 2008 officially launched the T2S project, with the T2S platform expected to be in place by 2013 at the latest. The Governing Council also approved the final version of the user requirements and assigned the technical development and operation of T2S to the Deutsche Bundesbank, the Banco de España, the Banque de France and the Banca d'Italia.

As foreseen in the governance framework for the specification phase, a new Advisory Group was subsequently established, consisting of an equal number of central bank, CSD and

user representatives. It met for the first time in October 2008, when it created six sub-groups to organise the T2S workstreams. Two of these sub-groups focus on harmonisation efforts, one on "process efficiency" and another on "corporate actions". Coordination with existing harmonisation initiatives, in particular the work undertaken by the European Commission (e.g. within the Clearing and Settlement Advisory Monitoring Expert Group II and the Legal Certainty Group) is also ensured.

Furthermore, in 2008 a change management process for the T2S user requirements was established, and the process of defining the T2S general functional specifications on the basis of the user requirements began. The ECB provided advice to the non-euro area central banks to help them to decide, together with local CSDs and market participants, whether or not to include their currencies in T2S. By the end of 2008 the Lithuanian CSD and Lietuvos bankas had confirmed that they intended to settle securities transactions in litas as well as euro via T2S. Furthermore, the CSDs of Bulgaria, Estonia and Romania indicated that they intended to use T2S for the settlement of their euro transactions. The legal and contractual arrangements between the participating CSDs and the Eurosystem are being prepared.

2.3 SETTLEMENT PROCEDURES FOR COLLATERAL

Eligible assets may be used to collateralise all types of Eurosystem credit operation, not only at the domestic level but also across national borders. Since the introduction of the euro, the use of cross-border collateral has grown continuously. In December 2008 the amount of cross-border collateral held by the Eurosystem increased to €861 billion, from €683 billion in the same month of the previous year. Overall, at the end of 2008 cross-border collateral represented 45.0% of the total collateral provided to the Eurosystem.

⁵ The T2S Advisory Group is composed of NCB and CSD representatives as well as market participants.

Two main channels are available for the cross-border mobilisation of collateral. These are the correspondent central banking model (CCBM) provided by the Eurosystem and eligible links between euro area securities settlement systems (SSSs).

EUROSYSTEM COLLATERAL MANAGEMENT SERVICES

The CCBM has remained the main channel for transferring cross-border collateral in Eurosystem monetary policy and intraday credit operations. It accounted for 36.7% of the total collateral provided to the Eurosystem in 2008. Assets held in custody through the CCBM increased from €558 billion at the end of 2007 to €713 billion at the end of 2008.

The CCBM framework has been revised in order to allow for the integration of new euro area countries. In this connection, the CCBM Agreement with Národná banka Slovenska was signed in the context of Slovakia joining the euro area.

Despite its success and considerable contribution to the process of financial integration, the CCBM arrangement has some drawbacks, mainly linked to the fact that it was designed as an interim solution that relies on the principle of minimum harmonisation. These drawbacks, in combination with the growing importance of cross-border collateral, led to the Governing Council's decision of 8 March 2007 to review the existing Eurosystem collateral management handling procedures and to create a new single-platform collateral management system for the Eurosystem, called Collateral Central Bank Management, or CCBM2. Market participants were involved by means of public consultations and ad hoc meetings in the definition of the principles and user requirements for CCBM2.

Given the positive feedback on the Eurosystem initiative, the Governing Council decided on 17 July 2008 to launch the CCBM2 project. The development and operation of CCBM2, on behalf of the Eurosystem, was assigned to the

Nationale Bank van België/Banque Nationale de Belgique and De Nederlandsche Bank, with a view to implementing the system before or, at the latest, at the same time as T2S.

The objective of CCBM2 is to consolidate the Eurosystem's internal systems for collateral management, thereby rendering them more efficient. In particular, it aims, where possible, to address the drawbacks of the current set-up by optimising the cost of mobilising collateral and by enhancing liquidity management. The scope of CCBM2 goes beyond that of the current CCBM, as it will provide for a single set of procedures with a harmonised level of service for the delivery and acceptance of all eligible collateral (securities and non-marketable assets) used on both a domestic and a cross-border basis.

The participation of the euro area NCBs in CCBM2 will be voluntary, and a modular approach will be adopted. CCBM2 will consist of several modules, only one of which – the message router – will be compulsory for the NCBs participating in CCBM2. Through this mandatory module, standardised interaction between the Eurosystem and counterparties will be ensured. The other modules, which deal with the actual handling of marketable and non-marketable assets, will remain optional. This modular approach gives NCBs the flexibility to choose the CCBM2 modules that suit their own needs and those of their market. CCBM2 will be able to adjust to changes in the Eurosystem's collateral and operational framework, as well as to adapt to market developments in a smooth and timely manner.

In the current project phase, detailed specifications for users are being developed by the Eurosystem on the basis of the approved user requirements⁶. The Eurosystem will maintain an open dialogue with market participants throughout the subsequent phases of the CCBM2 project.

⁶ See http://www.ecb.europa.eu/press/pr/date/2008/html/pr080717_1_en.html

ELIGIBLE LINKS BETWEEN NATIONAL SECURITIES SETTLEMENT SYSTEMS

National SSSs can be linked by means of contractual and operational arrangements to allow the cross-border transfer of eligible securities between systems. Once eligible securities have been transferred via such links to another SSS, they can be used through local procedures in the same way as any domestic collateral. 60 direct and 6 relayed links are currently available to counterparties, but only a limited number of them are actively used. Furthermore, these links only cover part of the euro area. Links become eligible for Eurosystem credit operations if they fulfil the Eurosystem's user standards (see Section 4 of Chapter 4).

The amount of collateral held through links increased from €125 billion in December 2007 to €148 billion in December 2008, but accounted for only 8.3% of the total collateral (both cross-border and domestic) held by the Eurosystem in 2008, compared with 8.9% in 2007.

3 BANKNOTES AND COINS

3.1 THE CIRCULATION OF BANKNOTES AND COINS AND THE HANDLING OF CURRENCY

DEMAND FOR EURO BANKNOTES AND COINS

At the end of 2008 the number of euro banknotes in circulation stood at 13.1 billion, with a value of €762.8 billion. This represented an increase of 8.3% in terms of volume and 12.7% in terms of value compared with the levels at the end of 2007 (12.1 billion banknotes with a value of €676.6 billion).

Following the intensification of the financial market turmoil, a strong increase in the number of euro banknotes in circulation was recorded in the first half of October 2008, equivalent to a value of €35 to €40 billion.

In the last quarter of 2008 demand was particularly high for the denominations €100 and €500 and was to a large extent driven by demand from outside the euro area. As a result, by the end of the year the average value of a banknote in circulation had increased to €58.15 (compared with €55.85 at the end of the previous year).

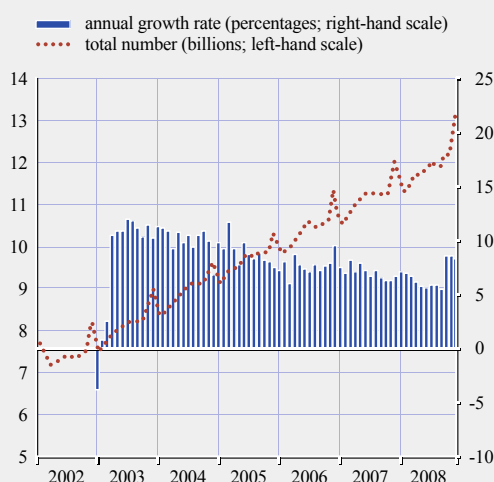
Statistics indicate that net shipments of euro banknotes by euro area credit institutions to

destinations outside the euro area reached a total value of around €96 billion by the end of December 2008, which represents a share of 13% of the total value of euro banknotes in circulation. These shipments were due to an increase in demand from foreign residents. Given that there are additional reasons for euro banknotes to travel beyond the euro area (such as tourism or guest worker remittances), it is estimated that, in value terms, close to 20% of the euro banknotes in circulation are held by non-euro area residents.

Charts 46 and 47 illustrate the steady increase in the total number and value of euro banknotes in circulation, together with the annual growth rates.

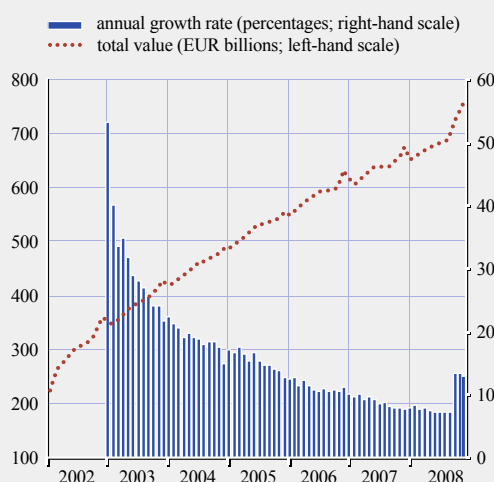
Looking at the breakdown of the denominations, the €500 banknote, which is to a large extent used for hoarding, showed the strongest growth in circulation, rising by 17.1% at the end of 2008 compared with one year earlier. It was followed by the €100, €50 and €200 banknotes, which rose by 14.2%, 10.6% and 9.3% respectively. The number of the lower denominations in circulation rose at rates of between around 3% and 6% (see Chart 48).

Chart 46 Number of euro banknotes in circulation between 2002 and 2008



Source: ECB.

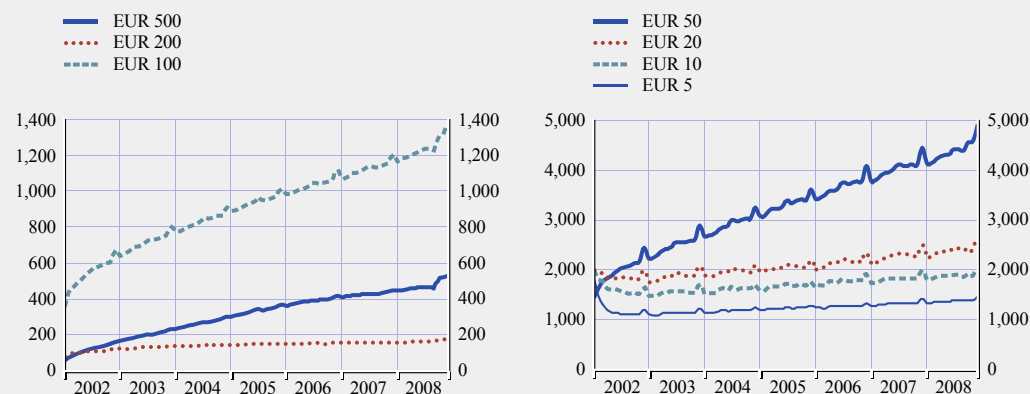
Chart 47 Value of euro banknotes in circulation between 2002 and 2008



Source: ECB.

Chart 48 Number of euro banknotes in circulation between 2002 and 2008

(millions)



Source: ECB.

In 2008 the total number of euro coins in circulation (i.e. net circulation excluding stocks held by the NCBs) grew by 7.9% to 82.3 billion, while their value rose by 5.7% to €20.4 billion. The 1 and 2 cent coins accounted for most of this increase. The share of the low-value coins, the 1, 2 and 5 cent coins, in the total number of coins in circulation remained stable at 59%.

BANKNOTE HANDLING BY THE EUROSISTEM

In 2008 the euro area NCBs issued 34.1 billion banknotes, while 33.2 billion banknotes were returned to them. The return frequency⁷ of banknotes in circulation remained almost unchanged at 2.79, meaning that, on average, a banknote was checked for authenticity and circulation fitness by the fully automated banknote processing machines of the euro area NCBs around once every four months.

Since 2004 the Eurosystem has conducted annual surveys with the aim of monitoring the condition of euro banknotes in circulation at the euro area level. In 2008 a trend towards an improvement in the condition of the banknotes in circulation was observed. The condition of the banknotes also became more homogeneous within the euro area, reflecting the Eurosystem's coordinated sorting/issuing policies. The NCBs identified some 5.6 billion banknotes as unfit for circulation and replaced them accordingly. The

unfit rate,⁸ at around 17.0%, remained close to the rate recorded in the previous year.

3.2 BANKNOTE COUNTERFEITING AND COUNTERFEIT DETERRENCE

COUNTERFEIT EURO BANKNOTES

The total number of counterfeit euro banknotes received by National Analysis Centres⁹ in 2008 was around 666,000¹⁰, which represented an increase from the relatively stable levels observed in previous years. However, the number of genuine banknotes in circulation also increased significantly in 2008. Compared with the number of genuine euro banknotes in circulation, which reached 13.1 billion by the end of 2008, the quantity of counterfeits is very small indeed. Therefore, the probability of randomly receiving a counterfeit banknote from circulation remains very low. Chart 49 shows the trend in counterfeits removed from circulation, with figures taken at half-yearly

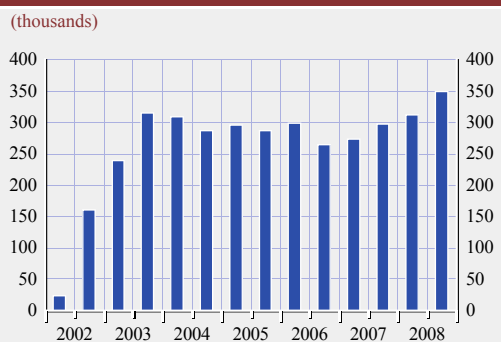
7 Defined as the total number of banknotes returned to NCBs in a given period divided by the average number of banknotes in circulation during that period.

8 Defined as the number of banknotes identified as unfit in a given period divided by the total number of banknotes sorted during that period.

9 Centres established in each EU Member State for the initial analysis of counterfeit euro banknotes at the national level.

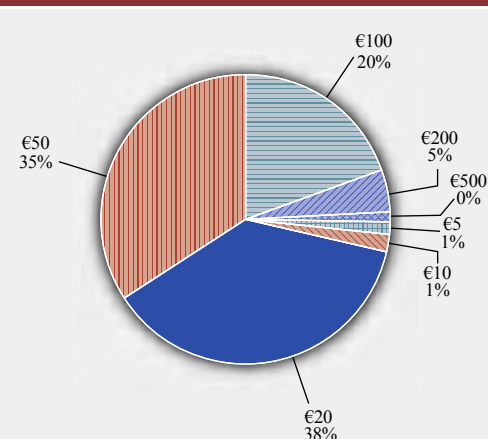
10 This figure is subject to a very slight correction on account of late reports, particularly from outside the EU.

Chart 49 Number of counterfeit euro banknotes recovered from circulation between 2002 and 2008



Source: ECB.

Chart 50 Distribution of euro banknote counterfeits by denomination in 2008



Source: ECB.

Note: The figures have been rounded to the nearest percentage point.

intervals since the euro banknotes were launched. In 2008 the €20 and €50 banknotes were the counterfeiters' biggest targets, between them accounting for about three-quarters of the number of counterfeits. Chart 50 gives a detailed breakdown of the distribution of counterfeits in terms of volume.

The public can remain confident in the security of the euro: it has proven to be a well-protected currency, in terms of both the sophistication of its security features and the effectiveness of European and national law enforcement authorities. However, this confidence should never give rise to complacency, and the ECB's advice to the public remains to be alert to the possibility of fraud and to remember the "feel-look-tilt" test.¹¹ The Eurosystem continues to invest considerable effort in ensuring that both the public and professional cash handlers are well-informed with regard to the recognition of counterfeit banknotes.

COUNTERFEIT DETERRENCE

The Eurosystem continued in 2008 to work closely with Europol and the European Commission (in particular the European Anti-Fraud Office, OLAF) in the fight against counterfeiting of the euro. The Eurosystem is

active, both in the EU and beyond, in training professional cash handlers in the recognition and handling of counterfeit banknotes.

The Eurosystem participates actively in the work of the Central Bank Counterfeit Deterrence Group (CBCDG) (a working group of 31 central banks and note-printing authorities cooperating under the auspices of the G10). The group sponsors research into techniques designed to prevent the illicit reproduction of banknotes. The ECB hosts the International Counterfeit Deterrence Centre (ICDC), which acts as the technical centre for all CBCDG members. Its main role is to provide technical support and to operate a centralised communication system serving all parties involved in the field of counterfeit deterrence systems. The ICDC also maintains a public website¹² which provides information and guidance concerning the reproduction of banknote images as well as links to country-specific websites.

¹¹ For details, see <http://www.ecb.europa.eu/euro/banknotes/security/html/index.en.html>

¹² For details, see <http://www.rulesforuse.org>

3.3 BANKNOTE PRODUCTION AND ISSUANCE

PRODUCTION ARRANGEMENTS

A total of 6.4 billion euro banknotes were produced in 2008, compared with 6.3 billion in 2007.

The allocation of euro banknote production continued to be based on the decentralised production scenario with pooling, adopted in 2002. Under this arrangement, each euro area NCB is responsible for the procurement of an allocated share of the total requirement for certain denominations. Table 12 summarises the 2008 production allocation.

THE EXTENDED CUSTODIAL INVENTORY PILOT PROGRAMME

In 2008 the Extended Custodial Inventory (ECI) pilot programme for euro banknotes in Asia, which had been established in 2007, was successfully operated by two large commercial banks active in the wholesale market for banknotes. An ECI is a cash depot maintained by a commercial bank that holds currency on a custodial basis. ECIs facilitate the international distribution of euro banknotes and provide statistical data on euro banknote circulation outside the euro area, as well as information on counterfeits found in their region. In view of the success of the pilot programme, the Governing Council decided in March 2008 to launch a three-year ECI programme based on the experience with the pilot. Following a negotiated tender

procedure, three wholesale banknote banks applied for the three-year ECI programme. One started operations in Hong Kong and another in Singapore in February 2009, and it is foreseen that the third will start ECI operations in Hong Kong in mid-2009. These are the main logistical hubs for trading euro banknotes in the East Asian region, which has the highest turnover of euro banknotes outside Europe. The Deutsche Bundesbank is the logistical and administrative counterpart for the ECI banks. Before the end of the three-year term, the Eurosystem will assess whether and where the ECI programme should be continued.

ROADMAP FOR GREATER CONVERGENCE OF NCB CASH SERVICES

Following the Governing Council's adoption in 2007 of a roadmap which aimed to achieve, in the medium term, greater convergence of the cash services offered by euro area NCBs, the Eurosystem continued its work in this area in 2008. Greater convergence is important because it will allow stakeholders – in particular those with significant cross-border cash activities – to fully reap the benefits of the single currency, and will ensure fair competitive treatment. In view of the different national economic and geographical environments, the Eurosystem does not envisage a “one-size-fits-all” cash supply system. The process of convergence will require some flexibility regarding customer requirements, the cash infrastructure and transitional periods for implementation.

The Eurosystem has also been working on a number of further steps, including an electronic data exchange with credit institutions for cash lodgements and withdrawals and banknote packaging standards for the free-of-charge NCB cash services. Consultations with stakeholders have been conducted at both the national and the European level, in particular with regard to the issue of common banknote packaging, in view of the possible operational and cost implications.

Technological developments with regard to banknote processing machines now allow

Table 12 Allocation of euro banknote production in 2008

Denomination	Number (millions of banknotes)	NCB commissioning production
€5	1,370.0	DE, ES, FR, PT
€10	2,130.0	DE, GR, FR, AT
€20	1,755.0	ES, FR, IE, IT, LU, NL, SI, FI
€50	1,060.0	BE, DE, ES, IT, NL
€100	130.0	IT
€200	-	-
€500	-	-
Total	6,445.0	

Source: ECB.

banknotes to be read and processed irrespective of the way in which they are fed into the machine. In time NCBs will introduce these improvements free of charge, as foreseen in the roadmap.

THE SECOND SERIES OF EURO BANKNOTES

In 2005 the ECB started work on the development of a new series of euro banknotes. The functional and technical requirements were established and the security features to be included in the new series of banknotes were developed. In 2008 work focused on the further development of the design and security features of the banknotes and the integration of the security features into the design. The development of the origination materials, the master materials used for banknote production, also started in 2008.

The design of the second series of euro banknotes will be based on the “ages and styles of Europe” theme and will include the most important design elements from the first series of banknotes. As the design and development of the origination materials is an iterative process, this work will continue in 2009. All major stakeholders involved in the cash cycle are being consulted and kept informed of the progress made during the development process. The new series will be launched over a period of several years, with the first denomination expected to be issued in a few years’ time. The exact launch date will be determined at a later stage. The ECB will inform the public well in advance about the modalities of the introduction of the new banknotes. The NCBs will redeem euro banknotes from the first series for an unlimited period of time.

4 STATISTICS

The ECB, assisted by the NCBs, develops, collects, compiles and disseminates a wide range of statistics which support the monetary policy of the euro area and various tasks of the ESCB. They are also used increasingly by the financial markets, the media and the general public. The regular provision of euro area statistics in 2008 proceeded in a smooth and timely manner. A major achievement was the adoption by the Governing Council of an improved legal framework that will significantly enrich euro area monetary and financial statistics, in particular through the increased availability of data on loan sales and loan securitisations. Another key development was the adoption of the medium-term work programme for the ECB's statistical function, which will guide the production of ESCB statistics for the period 2009-12. Finally, the ECB, in close collaboration with the NCBs, continued to contribute to the further harmonisation of statistical concepts in Europe and to the review of global and European statistical standards.

4.1 NEW OR ENHANCED EURO AREA STATISTICS

The legal framework for the collection of monetary and financial statistics was enhanced with a new ECB Regulation concerning statistics on the assets and liabilities of financial vehicle corporations engaged in securitisation transactions¹³. In addition, the ECB's legal acts on the collection of statistics from MFIs were amended to address new requirements (owing to financial innovation, for example) for balance sheet statistics¹⁴, statistics on interest rates on deposits and loans vis-à-vis households and non-financial corporations¹⁵ and statistics on securitisations¹⁶. These regulations also address additional statistical requirements that have resulted from the financial turmoil, in particular with regard to the measurement of synthetic securitisation as a means of credit risk transfer. The reporting of these additional statistics is scheduled to begin in mid-2010 (in order to provide NCBs and reporting agents with the necessary time to implement the new reporting schemes), with the exception of MFI

securitisation and financial vehicle corporation statistics, for which data will be reported from December 2009. The development of these regulations involved a comprehensive assessment of the merits of the new statistics and their estimated costs, for both reporting agents and NCBs, in order to ensure that the highest-priority user requirements can be met at a reasonable cost.

The Governing Council also adopted a recast Guideline on monetary, financial institution and market statistics, which consolidates previous amendments and now includes further provisions for these statistics. Further refinements to the ECB's legal framework comprised amendments to the ECB Guidelines on the statistical reporting requirements in the field of government finance statistics (abolishing the remaining derogations) and of quarterly financial accounts (to improve the efficiency of the data flows).

With regard to statistics on the assets and liabilities of investment funds, the NCBs began providing the ECB with new harmonised data as of February 2009, using December 2008 as the reference period.¹⁷

Since June 2008 further statistics on the circulation of euro banknotes and coins have been released in the statistics section of the ECB's website (for example, monthly data on outstanding amounts and flows of euro banknotes and coins in circulation and data on the number and value of banknotes checked for

13 A preliminary list of financial vehicle corporations had already been compiled, which made it possible to start work on cross-checking with other datasets and making a limited preliminary analysis of the recent developments in this field.

14 Regulation ECB/2008/32 of 19 December 2008 concerning the balance sheet of the monetary financial institutions sector (recast).

15 A regulation amending Regulation ECB/2001/18 concerning statistics on interest rates applied by monetary financial institutions to deposits and loans vis-à-vis households and non-financial corporations will soon be published.

16 Regulation ECB/2008/30 of 19 December 2008 concerning statistics on the assets and liabilities of financial vehicle corporations engaged in securitisation transactions.

17 As set out in Regulation ECB/2007/8 concerning statistics on the assets and liabilities of investment funds (other than money market funds).

authenticity and fitness). Enhanced harmonised competitiveness indicators for the euro area countries based on consumer price indices, GDP deflators and unit labour costs are now also published regularly within the Eurosystem joint dissemination framework. Their purpose is to provide comparable measures of price and cost competitiveness developments in the euro area countries that are also consistent with changes in the real effective exchange rates of the euro.

The ECB continued to improve its Short-Term European Paper (STEP) statistics. These show primary market volumes and yields for short-term debt securities that have been issued in the context of programmes which have received the STEP label (see also Section 3 of Chapter 4). Detailed flow and stock data, including the outstanding amounts of the individual STEP programmes, are expected to be published in the first half of 2009.

New MFI balance sheet statistics to underpin the monetary analysis have also been released. For instance, following the improvements in the availability of financial accounts data, the ECB has started publishing sectoral statistics on holdings of M3 instruments by non-financial corporations, households (including non-profit institutions serving households), other financial intermediaries (including investment funds), and insurance corporations and pension funds. Time series are also available from the first quarter of 1999.

In September 2008 the Governing Council approved the conduct of a Eurosystem survey on euro area household finance and consumption. This project aims to fill a significant gap in the availability of data on the financial situation of segments of the household sector, thereby supplementing the macroeconomic statistics (for instance by providing information on the assets and liabilities of households throughout the euro area). A survey on access to finance by small and medium-sized enterprises is also in preparation. It is planned that this survey will be undertaken in cooperation with the European Commission. The ESCB also continued its work on enhancing

the Centralised Securities Database (CSDB). The CSDB contains benchmark information on individual securities that are relevant for ESCB statistical purposes and plays a pivotal role in the move towards security-by-security reporting. Systems which collect data on an item-by-item basis have the potential to significantly alleviate the reporting burden for respondents while improving the quality and flexibility of euro area statistics. The database is already used by several NCBs to compile national financial statistics, and further developments are under way.

4.2 OTHER STATISTICAL DEVELOPMENTS

The two framework regulations on the collection, compilation and dissemination of statistics in Europe, issued by the European Statistical System (the ESS, a partnership between Eurostat and the national statistical institutes) and by the ESCB respectively, are being updated. Close cooperation between the ESCB and the ESS has resulted in various mirroring provisions in the two draft legal acts, in particular concerning the exchange of confidential statistical information between the ESCB and the ESS. The ECB issued a recommendation for a Council regulation amending Regulation (EC) No 2533/98 on the collection of statistical information by the ECB in September 2008.¹⁸

Since 2007 the ECB and Eurostat have regularly published quarterly, integrated, non-financial and financial euro area sector accounts. In 2008 work began on enhancing the timeliness, completeness and consistency of this comprehensive macroeconomic accounting framework.

The dissemination of statistics was improved through the publication of additional tables on euro area statistics and all corresponding national data on the websites of both the ECB and the NCBs. The extensions covered: i) lists of MFIs, ii) MFI interest rate statistics,

¹⁸ http://www.ecb.europa.eu/ecb/legal/pdf/c_25120081003en00010005.pdf

iii) payments statistics and iv) detailed data on the HICP and GDP. The ECB's Statistical Data Warehouse (SDW) is an increasingly popular tool for accessing euro area statistics on the internet. In 2008 more financial market statistics were incorporated into the SDW and the number of SDW users doubled to around 40,000 per month. The launch of a new interactive visualisation tool for monitoring inflation on the ECB's website is also part of a better communication strategy with regard to euro area statistics. Finally, a wider range of statistics and indicators was presented in various regular ECB publications, such as the "Euro money market survey", the report entitled "Financial integration in Europe" and the Financial Stability Review.

Several documents published in 2008 served to raise awareness about ECB and ESCB statistics, their governance and their quality. The ECB Statistical Quality Framework and quality assurance procedures,¹⁹ the updated publication "ECB statistics – an overview"²⁰ and the publication of the proceedings of the fourth ECB conference on statistics²¹ are examples of the ECB's transparency in this field.

The ECB continued to cooperate closely with Eurostat and other international organisations (for example, in the preparation of the joint 2008 "Status report on information requirements in EMU" and in the revision of Eurostat's "ESA95 manual on government deficit and debt") and played an important role in the update of global statistical standards (with the work on the System of National Accounts 93, the IMF's Balance of Payments Manual and the OECD Benchmark Definition of Foreign Direct Investment). The ECB supports Eurostat in the revision of the ESA 95. The ESA 95 guides a series of policy decisions at the European level. The ECB also supports and implements global technical standards for data exchange. Together with the NCBs, the IMF and the BIS, it also developed a handbook on securities statistics. Finally, the ECB released an update of its "Government finance statistics guide".²²

Statistics for the euro area were adapted to account for the entry of Cyprus and Malta on 1 January 2008. No problems were encountered thanks to the long-term preparation undertaken by these countries, even before they joined the EU, in close cooperation with the ECB and other Member States. In addition, as in previous years, statistics played an important role in monitoring the convergence of EU Member States that do not yet belong to the euro area. The ECB, together with the central banks of these Member States, also assisted Eurostat with the provision of long-term interest rate and exchange rate statistics, and collected and compiled additional statistics supplementing the four primary convergence indicators in the ECB's 2008 Convergence Report (see Section 1 of Chapter 3).

4.3 THE MEDIUM-TERM WORK PROGRAMME FOR THE ECB'S STATISTICAL FUNCTION (2009-12)

The medium-term work programme for the ECB's statistical function (2009-12) was published on the ECB's website in July 2008.²³ It is the result of a detailed analysis and aims to further increase the efficiency and effectiveness of the collection and compilation of euro area statistics, with a view to using the resulting efficiency gains to close some remaining gaps. Improvements are expected to be made in the form of, among other things: i) more detailed securities holdings statistics, ii) better data on credit derivatives, iii) the compilation of timely quarterly statistics on insurance corporations and pension funds and iv) the enhanced re-use of available micro-data for statistical purposes. The latter include data derived from corporate financial statements held in national central balance sheet offices and information available

19 <http://www.ecb.europa.eu/stats/html/sqf.en.html>

20 <http://www.ecb.europa.eu/pub/pdf/other/ecbstatisticsanoverview2008en.pdf>

21 <http://www.ecb.europa.eu/pub/pdf/other/strategicvisionstatistics2008en.pdf>

22 <http://www.ecb.europa.eu/pub/pdf/other/governmentfinancestatisticsguide200812en.pdf>

23 <http://www.ecb.europa.eu/stats/html/workprogramme.en.html>

from central credit registers. Furthermore, work is being undertaken, together with the Committee of European Banking Supervisors, to achieve, where possible, some reconciliation between supervisory and statistical requirements for credit institutions. The ESCB also continues to assess the statistical needs resulting from the financial turmoil. This strategy for the medium term will require intensified cooperation among all involved parties, i.e. the statistics departments of the NCBs and the ECB, as well as external partners such as statistical institutes, supervisors and representatives of the financial industry.

5 ECONOMIC RESEARCH

The main functions of research at the ECB, as well as in the Eurosystem as a whole, are: to provide research results that are relevant for the formulation of policy advice on monetary policy and other Eurosystem tasks, and to design and implement the respective models and analytical tools; to maintain and use econometric models for economic forecasts and the comparison of the effects of alternative policies; and to communicate with the academic community, for example through the publication of research results in peer-reviewed scientific journals and the organisation of research conferences.

5.1 RESEARCH PRIORITIES AND ACHIEVEMENTS

Economic research at the ECB is performed in a decentralised way: all business areas can conduct research projects according to their needs and expertise. The Directorate General Research, as well as producing high-quality research itself, plays a central role in coordinating research. The Directorate chairs the Research Coordination Committee, which aligns research activities at the ECB with the requirements of the institution. The Committee sets broad priority areas for each year.

The following fields were identified as the main research priorities for 2008: forecasting and model development; improving the monetary analysis; understanding the transmission mechanism of monetary policy; financial stability; the efficiency of the European financial system; and international and fiscal issues.

In the area of forecasting and model development, a number of existing projects were continued in 2008 and some new ones were launched. The New Area-Wide Model (NAWM) was introduced into the projection exercises and was used both in the construction of the central projections and for scenario analysis. The Christiano-Motto-Rostagno model was further developed and was used in a number of policy exercises focusing on the behaviour of financial markets. Both are examples of the dynamic stochastic general equilibrium (DSGE)

models that are becoming increasingly common in policy work at central banks. Other DSGE models were developed in house to tackle specific policy issues. Work initiated in 2006-07 on short-term forecasting tools was brought to fruition in 2008, with the introduction of these tools into the regular economic assessment and policy preparation work. Research work on existing and new forecasting tools will continue in 2009.

A new method for the construction of projection ranges was introduced in the course of 2008 and used in the ECB/Eurosystem staff macroeconomic projections published in September and December. Forecast uncertainty will be a topic of interest also in 2009.

Research on monetary analysis concentrated on the development and use of quantitative methods for monetary analysis, with an emphasis on providing high-quality analytical tools for the preparation of policy decisions. Work focused on developing money-based indicator models for inflation and on analysing money demand, as well as on designing monetary scenarios from a structural perspective. In this context, the Christiano-Motto-Rostagno model was used extensively. Particular attention was paid to the use of different structural models and other tools as cross-checking devices.

With regard to the monetary policy transmission mechanism, the Wage Dynamics Network (WDN), which consists of ESCB researchers, presented the results of its work at a conference in June 2008. The WDN investigates the features and sources of wage dynamics in the euro area and their relationship with prices, at both the aggregate and the micro level. One important achievement of the network in 2008 was a survey it conducted, covering 17 countries, on wages, labour costs and price-setting behaviour at the firm level.

The euro area-wide household finance and consumption survey (see Section 4 of this chapter), prepared by a Eurosystem network, will cover micro-level information on a wide

range of household decisions related to the holding of real and financial assets, the taking of debt, risk attitudes, employment, income, pensions, intergenerational transfers, gifts, consumption and savings. Data collection is expected to start in early 2009 in a number of euro area countries. It is expected that anonymised euro area micro-data on household finance and consumption will also be made available to the research community in the future. Related research on household finance and consumption was presented at a conference organised by the Center for Financial Studies and the ECB in September 2008. Other topics analysed within this area of research were central bank communication policies, the monitoring of financial markets, housing markets, the role of banks and credit in the monetary transmission mechanism, and heterogeneity in the euro area from various perspectives.

Financial stability issues and their impact on monetary policy were also explored, particularly in the context of work carried out for the ECB's Financial Stability Review. The financial system was analysed along two dimensions: its degree of integration and the evolution of capital markets. The interaction of credit and market risks was also covered.

Regarding research on payment and settlement systems, the ECB joined forces with several interested central bankers (from the Bank of England, the Reserve Bank of Australia, the Federal Reserve Bank of New York, the Federal Reserve Bank of Chicago, the Bank of Canada and De Nederlandsche Bank) and academics to establish an informal Payment Economics Network. This network promotes awareness of the research undertaken on payment and securities settlement systems and reinforces the link between research and practice in this field. The network's website²⁴ provides links to working papers, relevant policy documents, details on upcoming and past conferences, and information on research projects in this area.

Under the research priority related to international issues, the main areas of interest

were global imbalances, on which a high-level seminar was organised in 2008, and the international role of the euro. With regard to the latter, work focused on the relationship between currency invoicing and exchange rate pass-through. The results of this work will be integrated into the report entitled "Review of the international role of the euro". In the context of this research priority, an international extension of the NAWM was developed.

5.2 RESEARCH DISSEMINATION: PUBLICATIONS AND CONFERENCES

As in previous years, ECB staff research was published in the ECB's Working Paper Series and Occasional Paper Series. 141 Working Papers and 22 Occasional Papers were published in 2008. A total of 116 Working Papers were written or co-written by ECB staff, many with Eurosystem economists, while the remainder were written by external visitors attending conferences and workshops, working in the context of research networks or following a prolonged stay at the ECB for the completion of a research project. As is now the established norm, most of the papers are eventually expected to be published in leading, peer-reviewed academic journals. In 2008 ECB staff published more than 30 articles in academic journals.

The Research Bulletin is a regular ECB publication which is used to disseminate research work of general interest to a wide audience. In 2008 it focused on the credit market turmoil, the features of the euro area business cycle, housing wealth and consumption, and regional inflation dynamics.

The ECB organised or co-organised around 15 conferences or workshops on research topics. Co-organised conferences involved the Centre for Economic Policy Research (CEPR) and other central banks, both from the Eurosystem and from outside the Eurosystem. Furthermore, a large number of workshops and seminars

²⁴ <http://www.paymenteconomics.org>

were organised to disseminate research within the ECB. As in previous years, most of the conferences and workshops were related to specific research priority areas; the programmes for these events and the papers presented are available on the ECB's website.

The conferences and workshops covered a wide range of subjects. Financial topics were the focus of seven of them: two tackled the impact of the financial turmoil, one of them co-sponsored by the Federal Reserve Bank of Chicago, and another dealt with financial integration. The remainder addressed different aspects of the workings of the money and retail transfer markets. The fifth conference of the International Research Forum on Monetary Policy (co-sponsored with the Federal Reserve Board, Georgetown University and the University of Frankfurt) in June 2008 analysed monetary policy topics. Other conferences examined data issues (co-sponsored with the CEPR through the Euro Area Business Cycle Network), labour markets and the first ten years of the euro.

An additional mechanism for the dissemination of research was the organisation of seminar series, of which two were of particular relevance: the Joint Lunchtime Seminars, co-organised with the Deutsche Bundesbank and the Center for Financial Studies, and the Invited Speaker Seminars. The two series comprise weekly seminars at which external researchers are invited to present their recent work at the ECB. The ECB also organises research seminars outside the scope of these two series on a more ad hoc basis.

6 OTHER TASKS AND ACTIVITIES

6.1 COMPLIANCE WITH THE PROHIBITION OF MONETARY FINANCING AND PRIVILEGED ACCESS

Pursuant to Article 237(d) of the Treaty, the ECB is entrusted with the task of monitoring the compliance of the 27 EU NCBs and the ECB with the prohibitions implied by Articles 101 and 102 of the Treaty and Council Regulations (EC) Nos 3603/93 and 3604/93. Article 101 prohibits the ECB and the NCBs from providing overdraft facilities or any other type of credit facility to governments and Community institutions or bodies, as well as from purchasing debt instruments directly from them. Article 102 prohibits any measure, not based on prudential considerations, which establishes privileged access by governments and Community institutions or bodies to financial institutions. In parallel with the Governing Council, the European Commission monitors Member States' compliance with the above provisions.

The ECB also monitors the EU central banks' secondary market purchases of debt instruments issued by the domestic public sector, the public sector of other Member States and Community institutions and bodies. According to the recitals of Council Regulation (EC) No 3603/93, the acquisition of public sector debt instruments in the secondary market must not be used to circumvent the objective of Article 101 of the Treaty. Such purchases should not become a form of indirect monetary financing of the public sector.

The monitoring exercise conducted for 2008, based on information provided by the 27 NCBs of the ESCB and the ECB, confirms that, with one exception, the provisions of Articles 101 and 102 of the Treaty and the related Council Regulations were in general respected during the period under review.

De Nederlandsche Bank reported an interday overdraft facility, leading to a situation of non-compliance limited to one day as regards the Treaty's monetary financing prohibition, which was immediately corrected.

6.2 ADVISORY FUNCTIONS

Article 105(4) of the Treaty requires that the ECB be consulted on any proposed Community or national legislation falling within its fields of competence.²⁵ The obligation to consult the ECB is not prejudiced in a scenario where a draft legislative provision is to be adopted under a fast-track procedure. In addition, the adoption of legislative provisions within a very short period of time following a consultation request should be permitted only in exceptional cases, such as the current period of market turmoil. All ECB opinions are published on the ECB's website.

The ECB adopted 92 opinions in 2008: 11 were in response to consultations by the EU institutions and 81 were in response to consultations by national authorities. This compares with 43 consultations in 2007. A list of the opinions adopted in 2008 and early 2009 is annexed to this Annual Report.

The following ECB opinions issued at the request of the EU Council are particularly noteworthy.

The ECB issued an opinion²⁶ on a proposal to amend the Settlement Finality Directive²⁷ and the Financial Collateral Directive²⁸. The changes concern the protection under the Settlement Finality Directive of night-time settlement and interconnected systems owing to the expected increase in system interoperation resulting from the Markets in Financial Instruments Directive and the European Code of Conduct for Clearing and Settlement. Among the categories of financial collateral that may be provided under

25 The United Kingdom is exempt from the consultation obligation, pursuant to the Protocol on certain provisions relating to the United Kingdom of Great Britain and Northern Ireland, annexed to the Treaty, OJ C 191, 29.7.1992, p. 87.

26 CON/2008/37.

27 Directive 98/26/EC of the European Parliament and of the Council of 19 May 1998 on settlement finality in payment and securities settlement systems, OJ L 166, 11.6.1998, p. 45.

28 Directive 2002/47/EC of the European Parliament and of the Council of 6 June 2002 on financial collateral arrangements, OJ L 168, 27.6.2002, p. 43.

the Financial Collateral Directive, the proposal also includes credit claims eligible for the collateralisation of central bank credit operations in order to facilitate their use throughout the EU. In its opinion, the ECB welcomed the proposal and suggested in particular that the definition of “system” should be extended i) to expressly include systems established by an ECB legal act and ii) to allow the ECB to designate such ECB systems itself. The ECB also proposed that credit claims be included in the scope of the Financial Collateral Directive according to a single general definition that is not linked to central bank eligibility, and recommended harmonising some elements of the conflict of law rules on credit claims in the EU.

The ECB was also consulted on a proposal for a directive amending the Capital Requirements Directive²⁹ with respect to banks affiliated to central institutions and certain own funds items.

The ECB issued an opinion³⁰ on a proposal for a directive amending the E-money Directive³¹ which aims to open up the market for the issuance of electronic money, through electronic money institutions (ELMIs). The ECB supported the review but expressed serious concerns about changing the nature of ELMIs to “financial institutions”, as defined in the recast Directive 2006/48/EC,³² since this would have far-reaching consequences for the conduct of monetary policy. The proposed directive also causes concern from a supervisory perspective, as it lightens the supervisory regime of ELMIs while simultaneously broadening the scope of the activities ELMIs may undertake.

With regard to the Lamfalussy framework,³³ as part of the process of clarifying and expanding the scope of the tasks of the Level 3 Committees (the Committee of European Banking Supervisors (CEBS), the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS) and the Committee of European Securities Regulators (CESR)), the ECB was consulted on a draft Commission decision establishing CEBS, replacing Commission Decision 2004/10³⁴. The ECB

opinion³⁵ welcomed the proposed amendments and emphasised that its specific comments were without prejudice to possible future contributions to the broader debate, for instance in relation to the high-level group chaired by Jacques de Larosière. The ECB suggested a few amendments to the draft decision, in particular regarding the involvement of the ECB and the Banking Supervision Committee in certain CEBS tasks. The ECB recommended ensuring consistency between the provisions of the draft decision and those of the CEBS charter regarding voting procedures and suggested that the Commission take into account these comments, wherever applicable, for the draft decisions on the other two Level 3 Committees, on which the ECB is not being consulted.

The ECB also issued an opinion³⁶ on a proposal for a regulation on cross-border payments replacing Regulation (EC) No 2560/2001³⁷. While welcoming the inclusion of cross-border direct debits in the proposed regulation, the ECB warned that balance of payments (b.o.p.) reporting issues would require careful consideration. In this context, it is essential that the user needs for euro area and national b.o.p. statistics be met and that the timely emergence of SEPA be safeguarded. The development of SEPA implies that b.o.p. reporting systems based mainly on payments data cannot be maintained, as these are for payments in euro within the

29 The Capital Requirements Directive consists of Directive 2006/48/EC of the European Parliament and of the Council of 14 June 2006 relating to the taking up and pursuit of the business of credit institutions (recast), OJ L 177, 30.6.2006, p. 1 and Directive 2006/49/EC of the European Parliament and of the Council of 14 June 2006 on the capital adequacy of investment firms and credit institutions (recast), OJ L 177, 30.6.2006, p. 201.

30 CON/2008/84.

31 Directive 2000/46/EC of the European Parliament and of the Council of 18 September 2000 on the taking up, pursuit of and prudential supervision of the business of electronic money institutions, OJ L 275, 27.10.2000, p. 39.

32 See Articles 4(1) and (5) of Directive 2006/48/EC, as cited in footnote 30.

33 For more details, see Section 2 of Chapter 4.

34 Commission Decision 2004/10 of 5 November 2003 establishing the European Banking Committee, OJ L 3, 7.1.2004, p. 36.

35 CON/2008/63.

36 CON/2009/1.

37 Regulation (EC) No 2560/2001 of the European Parliament and of the Council of 19 December 2001 on cross-border payments in euro, OJ L 344, 28.12.2001, p. 13.

EU. The reform of such systems may imply reduced reporting obligations for banks but also an increased reporting burden for non-banks, which should be kept to a minimum. It should also be ensured that b.o.p. statistics continue to be compiled with the high reliability, frequency and timeliness required for the ECB's conduct of monetary policy.

The ECB issued an opinion³⁸ on amendments to the Deposit-Guarantee Schemes Directive³⁹ aimed at improving depositor confidence by increasing the minimum coverage amount of deposit-guarantee schemes and reducing the maximum delays in payouts of guaranteed deposits. The ECB supported these aims, while stressing that the credibility of deposit-guarantee schemes should be preserved by establishing efficient operational processes for verifying claims and paying depositors, ensuring that sufficient funding is available, and enhancing depositors' awareness of the terms and conditions of deposit protection. Any arrangements must respect the monetary financing prohibition of Article 101 of the Treaty.⁴⁰ The ECB expects to contribute to further work in this field in 2009.

The ECB continued to be consulted by national authorities on issues pertaining to the NCBs, in particular on amendments to the statutes of the Belgian, Bulgarian, Czech, German, Estonian, Spanish, Luxembourg, Hungarian, Romanian and Swedish NCBs.⁴¹ With regard to a proposed amendment to the Law of the Deutsche Bundesbank, the ECB noted that a Member State may not impair an NCB's ability to employ and retain the qualified staff necessary for the NCB to perform independently the tasks conferred on it by the Treaty and the Statute of the ESCB, and that an NCB may not be put in a position where the government may influence its policy on staff matters.⁴² The ECB indicated that it would welcome a revision of the proposed amendments, extending the powers of the Executive Board of the Deutsche Bundesbank to adopt staff regulations. In connection with the proposed amendments to the Statute of Banca Națională a României, the ECB was of the opinion that they would

considerably limit central bank independence, in particular owing to the requirement for parliamentary approval of Banca Națională a României's annual report and the possibility of central bank staff being held personally liable for losses.⁴³ In its opinion on the financial independence of Sveriges Riksbank in the context of capital structure and profit distribution, the ECB emphasised that Sweden was obliged to have brought into force the necessary adaptations to comply with the relevant provisions of the Treaty and the Statute of the ESCB concerning central bank independence by the time of the establishment of the ESCB on 1 June 1998.⁴⁴ Moreover, the ECB underlined that any legislative reform should aim to gradually achieve consistency with Eurosystem standards. In addition, the ECB submitted an own-initiative opinion on the reform of the Greek social security system, since the ECB considered that the proposed provisions could affect the status of the Bank of Greece as an independent authority.⁴⁵ The Bank of Greece's pension fund was integrated into a state-run pension fund and the Bank was required to contribute an amount of €23 million annually for a period of 15 years. The relevant provisions of the law would have warranted consideration with regard to the possible implications for central bank independence, including financial independence, and the prohibition of monetary financing.

The ECB was consulted twice by Luxembourg on a draft law improving the legislative framework for Luxembourg as a financial centre and amending the Law on monetary status and

38 CON/2008/70.

39 Directive 94/19/EC of the European Parliament and of the Council of 30 May 1994 on deposit-guarantee schemes, OJ L 135, 31.5.1994, p. 5.

40 Interpreted in line with Council Regulation (EC) No 3603/93 of 13 December 1993 specifying definitions for the application of the prohibitions referred to in Articles 104 and 104b(1) of the Treaty, OJ L 332, 31.12.1993, p. 1.

41 CON/2008/33, CON/2008/73, CON/2008/2, CON/2008/21, CON/2008/9, CON/2008/14, CON/2008/82, CON/2008/17, CON/2008/83, CON/2008/31, CON/2008/4 and CON/2008/34.

42 CON/2008/9.

43 CON/2008/31.

44 CON/2008/34.

45 CON/2008/13.

on the Banque centrale du Luxembourg.⁴⁶ The opinions welcomed the strengthening of the Banque centrale du Luxembourg's financial stability role and the establishment of a legal basis for the possible extension of emergency liquidity assistance by the Bank.

In the area of payment and settlement systems, the ECB was consulted by Poland on a draft law amending the Law on trading in financial instruments and other legislation.⁴⁷ In line with earlier opinions, the ECB recommended express provisions concerning the NCB's competence in the field of oversight of payment and settlement systems.

With regard to financial supervision, Finland consulted the ECB on a draft legislative proposal on the integration of financial and insurance supervision.⁴⁸ The ECB supported a strengthening of the supervisory structure, but emphasised the need for safeguards for budgetary arrangements, the reimbursement mechanism, and auditing and reporting. In line with previous opinions, the ECB stated that cooperation and information-sharing between supervisory authorities and central banks was essential for the conduct of macro-prudential monitoring and the oversight of payment systems. In the area of financial stability, the ECB was consulted by Poland on a draft law amending the Law on the Bank Guarantee Fund.⁴⁹ The ECB restated the criteria allowing the NCBs to extend credit to national deposit protection schemes and emphasised the importance of the effective coordination of such schemes.

In the context of the global financial crisis, the ECB issued a large number of opinions⁵⁰ on national rescue measures concerning state guarantees, the recapitalisation of distressed banks, the purchase of banks' assets and deposit-guarantee schemes. In this connection, the ECB emphasised the importance of a coordinated approach in compliance with the concerted action plan adopted on 12 October 2008 by the euro area Heads of State or Government and with Community law (in particular with regard

to state aid provisions), and stressed that the state's role as shareholder should be limited in time.⁵¹

With regard to the introduction of the euro in Slovakia, the ECB was consulted by Slovakia on draft national legislation on the dual display of prices and rounding rules.⁵² The ECB recalled the importance of the principles of price neutrality and continuity of legal instruments and recommended adopting an approach that was consistent with comparable cases related to methodologies and practices of rounding.

As of 2008, information regarding clear and important cases of non-compliance with the obligation to consult the ECB on draft national and Community legislation is also included in the Annual Report. In addition to the reform of the Greek social security system, on which the ECB issued an own-initiative opinion as described above, there were six such cases of non-consultation of the ECB on proposed national legislation in 2008.

In two cases, the Bulgarian and Cypriot authorities failed to consult the ECB on legal provisions providing grounds for dismissal of the central bank governor in addition to those of the Statute of the ESCB. The Bulgarian Law on prevention and disclosure of conflicts of interests of 16 October 2008 provides that non-compliance with its provisions and the existence of a conflict of interests are grounds for dismissal of public officials, including the Governor, the Deputy Governors and the members of the Governing Council of Българска народна банка (Bulgarian National Bank). The

⁴⁶ CON/2008/17 and CON/2008/42.

⁴⁷ CON/2008/20.

⁴⁸ CON/2008/16.

⁴⁹ CON/2008/32.

⁵⁰ CON/2008/44, CON/2008/46, CON/2008/48, CON/2008/50, CON/2008/51, CON/2008/52, CON/2008/54, CON/2008/55, CON/2008/56, CON/2008/57, CON/2008/58, CON/2008/59, CON/2008/60, CON/2008/61, CON/2008/62, CON/2008/65, CON/2008/66, CON/2008/67, CON/2008/68, CON/2008/69, CON/2008/74, CON/2008/75, CON/2008/76, CON/2008/79, CON/2008/80, CON/2008/81, CON/2008/88, CON/2008/89 and CON/2008/92.

⁵¹ For more details, see Chapter 5.

⁵² CON/2008/23, CON/2008/25 and CON/2008/27.

Cypriot Law imposes restrictions with respect to certain economic activities and benefits, non-compliance with which provides a ground for dismissal of the Governor of the Central Bank of Cyprus. Had the ECB been consulted, it would have made significant critical comments as to the compliance of these provisions with Article 14.2 of the Statute of the ESCB.

The ECB was not consulted by the French authorities on two amendments to the draft law on the modernisation of the economy which further simplified the statute of the Banque de France by, *inter alia*, abolishing the monetary committee of its General Council and transferring to the Governor responsibility for transposing ECB guidelines. Although the ECB would not have objected to these institutional changes, it should have been consulted since the provisions relate to the Banque de France.

The Dutch authorities failed to consult the ECB on the Law amending the law on financial supervision. The Law states that in exceptional circumstances, De Nederlandsche Bank and the Autoriteit Financiële Markten may adopt temporary rules to foster the stability of the financial sector. In a letter to the Dutch Minister of Finance, the ECB noted that the draft legislation related to an NCB and rules applicable to financial institutions that materially influence the stability of financial institutions and markets, and that the ECB should therefore have been consulted.

The ECB was not consulted by the Portuguese authorities on three legal acts adopted in the context of the financial turmoil. One assigned to the Banco de Portugal tasks such as assessing credit institutions' requests for an increase of own funds and overseeing compliance with recapitalisation plans. The other two legal acts provided for the Portuguese state to stand as guarantor to the financing of credit institutions registered in Portugal, with the Banco de Portugal being one of the authorities responsible for reviewing financing requests and monitoring the enforcement of such state guarantees. Since the adopted legislation relates to an NCB

and lays down rules applicable to financial institutions that materially influence the stability of financial institutions and markets, the ECB should have been consulted.

The ECB was not consulted by the Romanian authorities on draft legislative provisions transposing Directive 2006/43/EC on statutory audits of annual accounts and consolidated accounts into Romanian law. Although this concerned the transposition of an EC Directive, the ECB should have been consulted since the provisions concerned Banca Națională a României.

6.3 ADMINISTRATION OF THE BORROWING AND LENDING OPERATIONS OF THE EUROPEAN COMMUNITY

In accordance with Article 123(2) of the Treaty and Article 9 of Council Regulation (EC) No 332/2002 of 18 February 2002, the ECB continues to have responsibility for the administration of the borrowing and lending operations of the European Community under the medium-term financial assistance mechanism. In 2008 the ECB received a principal sum from creditors *vis-à-vis* the Community and paid the loan amount to the borrower country (Hungary). The total amount of outstanding Community lending operations with Hungary as at 31 December 2008 was €2 billion (by comparison, there were no outstanding balances at the end of 2007).

6.4 EUROSISTEM RESERVE MANAGEMENT SERVICES

In 2008 a comprehensive set of services continued to be offered under the framework established in 2005 for the management of Eurosystem customers' euro-denominated reserve assets. The complete set of services – which is available to central banks, monetary authorities and government agencies located outside the euro area, as well as to international organisations – is offered under harmonised terms and conditions in line with general market

standards by individual Eurosystem central banks (the Eurosystem service providers). The ECB performs an overall coordination role, ensuring the smooth functioning of the framework. The number of customers maintaining a business relationship with the Eurosystem remained stable over 2008. With respect to the services themselves, there was a sizeable increase in customers' total cash balances and securities holdings, particularly in the second part of the year. Following a customer satisfaction survey carried out in 2007, which confirmed customers' overall satisfaction, the Eurosystem commenced work in 2008 to further enhance the range of services available under the framework and the quality of service offered.



Cashiers being trained at Suomen Pankki – Finlands Bank in Helsinki in September 2001

CHAPTER 3

ENTRY OF SLOVAKIA INTO THE EURO AREA

I ECONOMIC AND MONETARY DEVELOPMENTS IN SLOVAKIA

On 8 July 2008 the ECOFIN Council adopted a decision allowing Slovakia to join the euro area as from 1 January 2009, increasing the number of euro area countries from 15 to 16. The Council's decision was based on the convergence reports prepared by the ECB and the European Commission in May 2008, and followed discussions by the EU Council in the composition of the Heads of State or Government, an opinion of the European Parliament and a proposal from the European Commission. On the same day, the ECOFIN Council adopted a regulation irrevocably fixing the conversion rate between the Slovak koruna and the euro at SKK 30.1260, the ERM II central rate at the time of the decision. On the day that the conversion rate was set, the Slovak koruna was trading close to that rate. During the Slovak koruna's participation in ERM II, from 28 November 2005, its central parity was revalued twice against the euro, by 8.5% in March 2007 and by 17.6472% in May 2008.

Slovakia's economy has grown at very robust rates in recent years, following a period of sluggish economic growth below 2% in the late 1990s. The improvement in the growth performance over the past ten years has been supported by deep structural reforms and the ensuing significant inflow of foreign capital. Real GDP growth peaked above 10% in 2007, followed by a more moderate rate of 6.4% in 2008 (see Table 13). Slovakia's economic performance over the past few years has been closely related to significant improvements in its production capacity, in particular in the industrial sector. The majority of new plants, which are concentrated in the car and electronic industries, are export-oriented. Looking at the external environment, Slovakia has recorded significant deficits in its combined current and capital account for most of the past decade. These deficits, however, have to a large extent been financed by inflows of foreign direct investment, with debt-creating flows playing only a secondary role. In the first half of the decade, large investment projects initially caused some deterioration in the current and capital account balances, reflecting in particular imports of new technologies. This effect was, however,

temporary, as significant improvements in the export capacity of industry contributed to a reduction of these deficits. The average current and capital account deficit has stood at 5.5% of GDP over the past five years.

The inflation performance of the Slovak economy over the past decade has been relatively volatile. Changes in administered prices and indirect taxes contributed significantly to this volatility. Following a period of high inflation, annual HICP inflation decreased gradually from 2004, reaching a trough of 1.9% in 2007, notwithstanding a temporary increase in 2006. This decline followed the adoption of an inflation-targeting framework by Národná banka Slovenska. The moderation in inflation was supported by the gradual appreciation of the Slovak koruna against the euro. Subsequently, Slovak HICP inflation increased again, peaking in September 2008 at 4.5%, reflecting to a significant extent developments in global energy and food prices. Against the background of the significant easing of global commodity prices, inflation rates started to moderate again in the last few months of 2008 and in early 2009. For 2008 as a whole, HICP inflation stood at 3.9%.

Notwithstanding significant improvements, the labour market continues to be characterised by considerable structural rigidities. At the beginning of this decade, the situation in the labour market did not improve in spite of relatively robust economic growth. This changed in 2004, when substantial tax, social benefit and labour market reforms were implemented, which, together with the ensuing sizeable inflow of foreign capital, contributed to robust job creation. The unemployment rate also declined because of the outward migration of workers following Slovakia's accession to the EU in May 2004. Despite these improvements, the unemployment rate has remained close to 10%, reflecting the existing rigidities in the labour market. These rigidities contribute, in particular, to the high rate of long-term unemployment, an unfavourable skill mix among the unemployed and substantial disparities between regional labour markets.

Table 13 Main economic indicators for Slovakia

(annual percentage changes, unless otherwise indicated)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Real GDP growth	0.0	1.4	3.4	4.8	4.7	5.2	6.5	8.5	10.4	6.4
<i>Contribution to real GDP growth (in percentage points)</i>										
Domestic demand excluding stocks	-6.7	-0.6	7.5	4.0	1.1	3.3	8.7	7.6	6.0	5.8
Net exports	6.9	0.3	-5.0	0.4	5.7	-0.8	-2.2	2.2	4.6	0.0
HICP inflation ¹⁾	10.5	12.3	7.2	3.5	8.4	7.5	2.8	4.3	1.9	3.9
Compensation per employee	6.9	13.3	5.8	8.7	8.2	8.4	9.7	7.7	8.8	9.0
Nominal unit labour costs (whole economy)	4.1	9.6	2.9	3.9	4.4	2.9	4.3	1.5	0.6	5.2
Import deflator (goods and services)	0.3	14.1	6.0	1.0	1.9	2.1	1.7	3.6	1.6	3.0
Current and capital account balance (% of GDP)	-1.8	-5.3	-4.1	-5.7	-6.7	-6.3	-4.2	-4.8
Total employment	-2.5	-2.0	0.6	0.1	1.1	-0.2	1.4	2.3	2.1	2.8
Unemployment rate (% of labour force)	16.4	18.8	19.3	18.7	17.6	18.2	16.3	13.4	11.1	9.6
General government surplus (+)/deficit (-)	-7.4	-12.3	-6.5	-8.2	-2.7	-2.3	-2.8	-3.5	-1.9	-2.3
General government gross debt	47.8	50.3	48.9	43.4	42.4	41.4	34.2	30.4	29.4	28.8
Three-month interest rate (% per annum) ¹⁾	15.7	8.6	7.8	7.8	6.2	4.7	2.9	4.3	4.3	4.2
Long-term ten-year government bond yield (% per annum) ¹⁾	8.0	6.9	5.0	5.0	3.5	4.4	4.5	4.7
Exchange rate against the euro ^{1,2)}	44.1	42.6	43.3	42.7	41.5	40.0	38.6	37.2	33.8	31.3

Sources: ECB and Eurostat.

1) Average of period values.

2) Slovak koruna per euro.

Fiscal policy has become more supportive of the achievement of price stability over recent years in Slovakia. Starting from very high levels, the general government deficit-to-GDP ratio fell from 12.3% of GDP in 2000 to 2.3% of GDP in 2008. The excessive deficit procedure that had been initiated upon Slovakia's entry into the EU in 2004 was abrogated in June 2008. The general government debt-to-GDP ratio has also declined in recent years, falling from 50.3% of GDP in 2000 to 28.8% of GDP in 2008. However, fiscal deficits in Slovakia are high considering the very strong economic growth recorded in recent years. Looking ahead, Slovakia must ensure that its budget deficit is kept below 3% of GDP in a sustainable manner by implementing credible and sustainable consolidation measures, which would also allow the country to reach its medium-term budgetary objective.

Monetary policy played an important role in stabilising the Slovak economy. In autumn 1998 the exchange rate regime of the Slovak koruna was set to managed floating with the euro as

the reference currency from January 1999, and Národná banka Slovenska adopted an implicit inflation-targeting monetary policy strategy. On 1 January 2005 the monetary policy strategy of Národná banka Slovenska was modified to become an "inflation-targeting regime under the conditions of ERM II". The Slovak koruna entered ERM II on 28 November 2005 and its central rate against the euro was initially set at SKK 38.4550. The standard fluctuation band of $\pm 15\%$ was applied. Reflecting improving macroeconomic fundamentals, the Slovak koruna appreciated significantly and its central parity was revalued twice against the euro during its participation in ERM II.

In the context of the inflation-targeting framework in effect between 2005 and 2008, the monetary policy of Národná banka Slovenska was geared towards maintaining price stability. As a consequence, the mounting inflationary pressures that started to emerge towards the end of 2005 initiated a period of monetary tightening. Národná banka Slovenska increased

its policy rate in several steps by a total of 175 basis points, so that it stood at 4.75% in September 2006. The subsequent stabilisation of inflation and the strong commitment of the newly elected government to the original euro adoption timetable helped to overcome this brief episode of economic instability. Moreover, renewed confidence in the euro adoption plans and solid macroeconomic developments provided support for the exchange rate of the Slovak koruna, which started to appreciate gradually against the euro. In 2007 Národná banka Slovenska started to ease its monetary policy stance, reducing its policy rate in two steps by a total of 50 basis points to 4.25%. In the light of the expected euro adoption, Národná banka Slovenska followed the ECB's interest rate decisions from October 2008, reducing its repo rate in three steps by a total of 175 basis points to 2.5%. Money market interest rates in Slovakia moved broadly in line with the central bank's policy rate. Owing to excess liquidity in the Slovak banking sector, money market rates were below those in the euro area in the last few months of 2008. Long-term government bond yields have declined over recent years, reflecting strong market confidence in economic developments in Slovakia.

Now that it has adopted the euro, Slovakia can no longer benefit from its currency appreciating against the euro, which helped to contain inflation in the past. Following the adoption of the euro, the authorities should pursue ambitious economic policies on all fronts. Priority must be given to the achievement of further sustainable economic convergence. The preservation of a low-inflation environment is crucial in that respect. In particular, the rigorous and credible implementation of fiscal policy in line with the Stability and Growth Pact commitments is essential to contain inflationary pressures in the economy. Despite the recent economic slowdown, the authorities should continue to avoid excessive fiscal deficits and proceed with fiscal consolidation so as to reach their medium-term budgetary objective as soon as possible. Further efforts should be made in Slovakia to underpin external competitiveness and strengthen economic resilience. The functioning of Slovakia's labour market must be further improved and efforts need to be made to tackle the high level of structural unemployment. There is also a need to improve the business environment in order to enhance productivity growth and preserve the country's attractiveness for foreign capital.

Box 11

STATISTICAL IMPLICATIONS OF THE ENLARGEMENT OF THE EURO AREA TO INCLUDE SLOVAKIA

Slovakia's entry into the euro area on 1 January 2009 is the fourth occasion on which statistical series for the euro area have had to be amended to include additional member countries. The preparation of statistics for the enlarged euro area has been coordinated, where necessary, with the European Commission.

The entry of Slovakia into the euro area means that Slovak residents have become residents of the euro area. This affects statistics for which euro area aggregates are not a simple sum of national data, such as monetary, balance of payments and international investment position statistics, as well as financial accounts, because transactions between residents of Slovakia and other euro area residents must now be consolidated.

As of January 2009 Slovakia is thus obliged to meet all the statistical requirements of the ECB, i.e. to provide fully harmonised and comparable national data.¹ Since the preparatory work for new statistics requires a long lead time, Národná banka Slovenska and the ECB started the statistical preparations well before Slovakia joined the EU. After becoming a member of the ESCB, Národná banka Slovenska intensified its preparations to fulfil the requirements of the ECB in the field of monetary, banking, balance of payments, government finance, financial accounts and other financial statistics. In addition, it had to carry out the necessary preparations for the integration of Slovak credit institutions into the ECB's minimum reserve system and to fulfil the relevant statistical requirements.

For the data reporters and NCBs of the other euro area countries, the enlargement of the euro area means that since January 2009 they have had to report transactions (or flows) and positions with residents of Slovakia as part of the euro area data, rather than as transactions and positions with non-euro area residents.

In addition, Slovakia and the other euro area countries all had to provide backdata with sufficient geographical and sector detail, dating back as far as 2004, the year Slovakia joined the EU.

Regarding the publication of euro area statistics, the ECB has granted users online access to two sets of time series, one containing data for the current euro area (i.e. including Slovakia) as far back as available, and one linking the various compositions of the euro area, starting with the 11 countries in 1999.

¹ The statistical requirements of the ECB are summarised in the document "ECB statistics: an overview", April 2008.

2 LEGAL ASPECTS OF THE INTEGRATION OF NÁRODNÁ BANKA SLOVENSKA INTO THE EUROSISTEM

Pursuant to Article 122(2) of the Treaty, the ECB reviewed the statute of Národná banka Slovenska and other relevant Slovak legislation for compliance with Article 109 of the Treaty. The ECB made a favourable assessment of the compatibility of Slovak legislation with the Treaty and with the Statute of the ESCB, as stated in its Convergence Report published in May 2008.

The ECB and Národná banka Slovenska put in place a number of legal instruments with a view to ensuring the integration of Národná banka Slovenska into the Eurosystem on 1 January 2009. The Eurosystem's legal framework was adapted as a consequence of the decision taken by the ECOFIN Council on 8 July 2008 to abrogate the derogation of Slovakia¹. The introduction of the euro in Slovakia and the integration of the central bank into the Eurosystem also required changes to some Slovak legal instruments.

By the end of 2007 Národná banka Slovenska's statute had been brought into line with recommendations in the ECB's 2004 and 2006 Convergence Reports. Slovakia consulted the ECB on the draft amendments to the statute of Národná banka Slovenska on 20 July 2007 and the ECB adopted an opinion proposing certain changes, which were reflected in the final version of the statute.²

The ECOFIN Council's decision of 8 July 2008 entailed amendments to Council Regulation (EC) No 974/98 to enable the introduction of the euro in Slovakia³, and the adoption of Council Regulation (EC) No 694/2008⁴ amending Regulation (EC) No 2866/98, which determined the irrevocably fixed exchange rate of the euro vis-à-vis the Slovak koruna. The Council consulted the ECB on its proposals for both these regulations, on which the ECB adopted an opinion⁵. The ECB was also consulted on national legislation governing the euro changeover, payment and settlement systems, rounding rules and currency circulation in Slovakia.⁶

As regards legal preparations for the integration of Národná banka Slovenska into the Eurosystem, the ECB adopted the necessary legal instruments to provide for the paying-up of the remaining capital and the transfer of foreign reserves to the ECB.⁷ The ECB also reviewed its legal framework and introduced, where necessary, amendments resulting from Národná banka Slovenska's membership of the Eurosystem. This included a review of Slovak legislation implementing the Eurosystem's legal framework for monetary policy and TARGET2, which enabled Slovak counterparties to participate in the Eurosystem's open market operations from 2 January 2009. The ECB also adopted a decision on transitional provisions for the application of minimum reserves by the ECB following the introduction of the euro in Slovakia.⁸ Finally, the ERM II agreement⁹ was terminated for Národná banka Slovenska.

1 Council Decision 2008/608/EC of 8 July 2008 in accordance with Article 122(2) of the Treaty on the adoption by Slovakia of the single currency on 1 January 2009, OJ L 195, 24.7.2008, p. 24.

2 CON/2007/43.

3 Council Regulation (EC) No 693/2008 of 8 July 2008 amending Regulation (EC) No 974/98 as regards the introduction of the euro in Slovakia, OJ L 195, 24.7.2008, p. 1.

4 Council Regulation (EC) No 694/2008 of 8 July 2008 amending Regulation (EC) No 2866/98 as regards the conversion rate to the euro for Slovakia, OJ L 195, 24.7.2008, p. 3.

5 CON/2008/28.

6 CON/2008/18, CON/2008/23, CON/2008/25, CON/2008/27, CON/2008/40 and CON/2008/86.

7 Decision ECB/2008/33 of 31 December 2008 on the paying-up of capital, transfer of foreign reserve assets and contributions by Národná banka Slovenska to the European Central Bank's reserves and provisions, OJ L 21, 24.1.2009, p. 83.

8 Decision ECB/2008/14 of 28 October 2008 on transitional provisions for the application of minimum reserves by the ECB following the introduction of the euro in Slovakia, OJ L 319, 29.11.2008, p. 73.

9 Agreement of 8 December 2008 between the ECB and the national central banks of the Member States outside the euro area amending the Agreement of 16 March 2006 between the ECB and the national central banks of the Member States outside the euro area laying down the operating procedures for an exchange rate mechanism in stage three of economic and monetary union, OJ C 16, 22.1.2009, p. 10.

3 OPERATIONAL ASPECTS OF THE INTEGRATION OF NÁRODNÁ BANKA SLOVENSKA INTO THE EUROSISTEM

Following the ECOFIN Council's decision of 8 July 2008 on the adoption of the euro by Slovakia on 1 January 2009, the ECB conducted technical preparations with a view to fully integrating Národná banka Slovenska into the Eurosystem. In line with the provisions of the Treaty, Národná banka Slovenska joined the Eurosystem with exactly the same rights and obligations as the NCBs of the EU Member States that had already adopted the euro.

The technical preparations for the integration of Národná banka Slovenska into the Eurosystem covered a wide range of areas, notably financial reporting and accounting, monetary policy operations, foreign reserve management and foreign exchange operations, payment systems, statistics and banknote production. In the field of operations, preparations involved extensive testing of the instruments, procedures and technical systems for the implementation of monetary policy and foreign exchange operations.

3.1 MONETARY POLICY OPERATIONS

Following the adoption of the euro by Slovakia on 1 January 2009, 26 Slovak credit institutions, a list of which is published on the ECB's website, became subject to the Eurosystem's reserve requirements as from that date. The entry of Slovakia into the euro area changed the liquidity conditions in the Eurosystem only slightly. The aggregate reserve requirements of euro area credit institutions increased by less than 0.5% (€740 million). Net autonomous liquidity factors in Slovakia for the period from 1 to 20 January 2009 were liquidity-providing, reducing the liquidity needs of the entire euro area banking sector by €7.21 billion on average. This liquidity-providing effect occurred despite the fact that the liquidity-absorbing monetary policy operations launched by Národná banka Slovenska before entering the euro area, which matured between 6 and 13 January 2009, were also treated as autonomous factors, as were debt certificates issued by the central bank which matured on 20 January. Taking

all of these factors into account, the entry of Slovakia into the euro area reduced the total liquidity needs of the euro area banking sector by €11 billion, roughly equal to 1% of aggregate liquidity needs.

Given the liquidity surplus, counterparties from Slovakia submitted bids for relatively small amounts in the open market operations conducted at the beginning of 2009: €1 million in the main refinancing operation which settled on 14 January, and €15 million in both the three-month and the six-month longer-term refinancing operations which settled on 8 January.

On entering the euro area, Národná banka Slovenska also adopted the collateral framework of the Eurosystem and reported €17.6 billion in assets located in Slovakia which were eligible for Eurosystem credit operations as of 1 January 2009.

3.2 CONTRIBUTION TO THE ECB'S CAPITAL, RESERVES AND FOREIGN RESERVE ASSETS

Upon joining the ESCB on 1 May 2004, Národná banka Slovenska paid up 7% of its share of the subscribed capital of the ECB as a contribution to the ECB's operational costs. In accordance with Article 49.1 of the Statute of the ESCB and the legal acts adopted by the Governing Council on 31 December 2008, Národná banka Slovenska paid up the remaining part of its subscription on 1 January 2009. Its total subscribed share amounts to €39.9 million, equivalent to 0.6934% of the ECB's subscribed capital of €5.761 billion as at 1 January 2009.

At the beginning of 2009, in accordance with Articles 30 and 49.1 of the Statute of the ESCB, Národná banka Slovenska, on the basis of its share of the ECB's subscribed capital, transferred to the ECB foreign reserve assets equivalent to a total of €443.1 million (85% of which was in US dollar-denominated assets and 15% in gold). Národná banka Slovenska has opted to conduct the operational activities related to the management of its share of the

ECB's US dollar reserve assets on an individual basis via a separate US dollar-denominated reserve management portfolio. As a result of the transfer of foreign reserve assets to the ECB, Národná banka Slovenska was credited with a euro-denominated claim on the ECB in accordance with Article 30.3 of the Statute of the ESCB.

4 THE CASH CHANGEOVER IN SLOVAKIA

THE LOGISTICS OF THE CASH CHANGEOVER

On 1 January 2009 Slovakia adopted the euro as its currency. After a dual circulation period of two weeks, the euro had fully replaced the Slovak koruna.

To ensure the smooth introduction of the euro banknotes and coins, all relevant market players, in particular the banking sector, were involved in the changeover preparations. The national changeover plan provided all businesses and the general public with a timetable, well before €-Day. Building on the experience gained with the cash changeovers in Slovenia in 2007 and in Malta and Cyprus in 2008, the Governing Council adopted a new ECB Guideline on certain preparations for the euro cash changeover and on frontloading and sub-frontloading of euro banknotes and coins outside the euro area.¹⁰ The Guideline provides, for example, for the possibility of euro cash to be pre-distributed to micro-enterprises in accordance with very simple procedures in addition to the normal procedure applied in the previous changeovers. Each NCB joining the Eurosystem may decide whether or not to make use of the provisions contained in the Guideline.

Following the ECOFIN Council's decision of 8 July 2008 on the adoption of the euro in Slovakia on 1 January 2009, Národná banka Slovenska became eligible to borrow banknotes from the Eurosystem in preparation for the cash changeover and for the banknote requirements in 2009. For geographical and logistical reasons, the required 196.2 million banknotes, with a face value of €8.3 billion, were delivered on behalf of the Eurosystem by the Oesterreichische Nationalbank.

The initial supply of 499 million euro coins, with a face value of €165.22 million, was minted by the Slovak Mint in Kremnica.

The frontloading of euro coins and banknotes to financial institutions started in September and October 2008 respectively. Sub-frontloading to businesses began in November 2008. Národná banka Slovenska, banks and post offices also

made available coin starter kits (each containing coins with a face value of €16.60) to the general public as of 1 December 2008. These made exact payments in retail transactions possible, thus reducing the amount of small change required immediately after the changeover date.

The frontloading and sub-frontloading operations allowed the delivery of the euro banknotes and coins to be spread over a longer period of time, thus avoiding supply bottlenecks. The frontloaded amounts were largely used for the timely adaptation of automated teller machines (ATMs) to the euro. Virtually all ATMs dispensed euro banknotes as of 1 January 2009.

In connection with the introduction of the euro in Slovakia, euro area NCBs exchanged Slovak koruna banknotes against euro at par value from the first working day of 2009 until 28 February 2009 as a free-of-charge service.¹¹ The amount exchanged was limited to €1,000 for any given party and transaction on any one day. Národná banka Slovenska will continue to redeem Slovak koruna banknotes for an unlimited period of time and coins until the end of 2013.

THE INFORMATION CAMPAIGN ON THE INTRODUCTION OF THE EURO

The ECB worked closely with Národná banka Slovenska to prepare a comprehensive information campaign in preparation for the introduction of the euro in Slovakia on 1 January 2009.

The logo “€ Our money”, which was based on the logo used successfully by the Eurosystem since the euro information campaign in 2002,

¹⁰ Guideline ECB/2008/4 amending Guideline ECB/2006/9 on certain preparations for the euro cash changeover and on frontloading and sub-frontloading of euro banknotes and coins outside the euro area.

¹¹ Article 52 of the Statute of the ESCB requires that the Governing Council of the ECB take the necessary measures to ensure that banknotes denominated in currencies with irrevocably fixed exchange rates to the euro are exchanged by the euro area NCBs at par value. Against this background, the Governing Council adopted a guideline on the exchange of such banknotes on 24 July 2006.

was employed by Národná banka Slovenska in its communication activities relating to the introduction of the euro in Slovakia.

The euro information campaign organised by the ECB and Národná banka Slovenska aimed to familiarise cash handlers and the general public with the visual appearance and security features of the euro banknotes and coins, as well as with the cash changeover arrangements.

The combination of communication tools used in the campaign took into account the experience gained in past changeovers and comprised 17 different publications, including training materials for professional cash handlers. Národná banka Slovenska distributed over 7 million copies of the various publications (including a public information leaflet, euro conversion cards and other publications in four language versions) in the course of the fourth quarter of 2008. In December 2008 each Slovak household received a copy of the public information leaflet and two euro conversion cards. The euro conversion cards showed different images depending on the angle at which they were viewed. On the front, a series of 28 prices were shown both in euro and in Slovak koruna, while the reverse displayed the main security features of the €20 banknote.

Several press and public relations events were held, including an ECB media seminar on 4 September 2008, an exhibition on the euro banknotes and coins, which was launched on 21 September 2008 at Národná banka Slovenska, a euro conference in Bratislava on 22 September 2008 and state celebrations on 8 January 2009.

The ECB co-financed the largest banner ever produced in Slovakia, which was displayed on the facade of Národná banka Slovenska's building in Bratislava, while smaller copies of the banner appeared on the buildings of all the central bank's branches throughout the country. Over 100 partners, mainly banks and public authorities, were given access to the high-quality print files of the relevant ECB

publications, which they were able to adapt and use in their own communication activities.

Following contact with associations for the blind, the ECB developed a "talking card" for the visually impaired, in which an embedded MP3 file played a recording containing basic information about the euro banknotes and coins.



Willem F. Duisenberg accepting the Charlemagne Prize on behalf of the euro in Aachen on 9 May 2002

CHAPTER 4

FINANCIAL STABILITY AND INTEGRATION

I FINANCIAL STABILITY

The Eurosystem contributes to the smooth conduct of policies pursued by the competent national authorities relating to the prudential supervision of credit institutions and the stability of the financial system. It also offers advice to these authorities and the European Commission on the scope and implementation of Community legislation in these fields.

1.1 FINANCIAL STABILITY MONITORING

The ECB, in collaboration with the ESCB's Banking Supervision Committee (BSC), aims to safeguard the stability of the financial system.¹ Key activities are monitoring risks to financial stability and assessing the financial system's shock-absorbing capacity. The principal focus is on banks, as they are still the primary intermediaries of funds. At the same time, the increasing importance of financial markets and other financial institutions and their linkages with banks means that vulnerabilities in these components of the financial system are also monitored by the ESCB.

CYCLICAL DEVELOPMENTS

In 2008 the stresses on the euro area financial system, which had been sparked in 2007 by losses incurred by financial institutions around the world on securities backed by US sub-prime mortgages, intensified further. As the year progressed, euro area banks experienced further asset valuation write-downs, higher loan impairments and credit costs, as well as large falls in trading revenues. The main developments and the lessons that may be learned from this episode are treated elsewhere in this report (see Section 2 of Chapter 1), as well as in a number of other ECB publications, notably the Financial Stability Review.

As uncertainty grew about the global economic outlook, with the balance of risks increasingly skewed to the downside, risk aversion among financial market participants rose, with most financial asset prices falling as a result. Credit market liquidity and funding conditions deteriorated markedly during the course of the

year and securitisation markets became more or less inactive. Persistent liquidity stresses eventually gave way to deeper concerns about the creditworthiness and sufficiency of capital buffers. In this environment, investors and creditors began to lose confidence in the ability of some financial companies to meet their obligations. This left many key financial firms facing mounting challenges in accessing short-term funding and capital markets. Some of the world's largest financial institutions suffered both rating downgrades and sharp drops in their share prices. This development ultimately forced several euro area and international financial institutions to consolidate or to seek additional support from shareholders or the government. However, for a number of international financial institutions, bankruptcy could not be avoided.

Euro area banks initially faced the financial turmoil with their solvency positions generally well above regulatory minimum requirements following several years of strong profitability performances. Although some large euro area banks were badly affected by valuation write-downs on structured credit securities and related market stresses, which had persisted for more than a year, they seemed to be broadly resilient to adverse disturbances until the situation deteriorated considerably in September 2008.

Euro area banks' return on equity generally fell during the first half of 2008, burdened by mark-to-market losses. In addition, impairment charges on loans and securities rose significantly while fee and commission income as well as trading revenues fell, given the challenging conditions in capital markets. Despite the fall in profitability, regulatory capital ratios increased during the first half of 2008. This improvement

¹ Since the end of 2004 the ECB has published its Financial Stability Review, a semi-annual report on the stability of the euro area financial system. In 2008 it also published the seventh edition of its report on "EU banking structures", as well as ad hoc reports on "Commercial property markets", "The incentive structure of the 'originate and distribute' model", "Covered bonds in the EU financial system" and "EU banks' liquidity stress testing and contingency funding plans". These publications present the main findings of the monitoring by the BSC of the structure and stability of the banking sector, and are available on the ECB's website.

reflected discretionary deleveraging of risk-weighted assets by individual banks, a widespread raising of capital despite challenging business conditions and, to some degree, the impact of both the implementation of the Basel II Framework and prudential filters.

The prospects for profitability to return to pre-turmoil levels do not look very promising in the short term. Significant further declines in the values of other structured finance products – including US consumer asset-backed securities and euro area residential mortgage-backed securities – cannot be ruled out. Lower growth rates for loans to households and firms, a virtual standstill in securitisation activities, and reduced income from fees and commissions as well as trading are likely to pose challenges to the financial performance of banks in 2009. In response, banks have tightened their lending standards and cut costs. Against this background, significant policy actions were taken by the Eurosystem and by euro area governments to bolster market liquidity, confidence and capital buffers.

The financial performance of large euro area insurers deteriorated in the first half of 2008, with most insurers witnessing reductions in premiums compared with the same period of 2007. A significant reason for this was a fall in demand for life insurance products following the equity and credit market turmoil. The financial market turbulence and knock-on effects for the real economy will continue to pose further challenges for many insurance firms. In addition, insurers which offer banking services or are part of a financial conglomerate continue to be affected by the challenges facing the banking sector.

Global hedge fund returns were strongly negative across almost all investment strategies by the end of September 2008. Volatile asset price reversals, forced deleveraging and margin calls, sudden bans on short sales by public authorities and investor redemptions contributed to this weak performance. While the hedge fund sector is known to have deleveraged considerably since the start of the market turmoil, thereby reducing

its vulnerability to further margin calls or unexpected cuts in bank credit lines, hedge funds' vulnerability to the risk of investor redemptions appears to have grown during 2008 as investor redemptions tend to be sensitive to hedge funds' performance. Looking ahead, if hedge funds increasingly fail to retain their investors, the possibility of further sizeable asset sales by the sector may represent a non-negligible threat to the stability of the financial markets.

STRUCTURAL DEVELOPMENTS

The major structural trends in the EU banking system are in line with those observed in previous years.² Consolidation continued, despite showing signs of a moderate slowdown. Trends varied across the 15 older EU Member States, while the number of credit institutions in the countries that have joined the EU since 2004 remained broadly unchanged, with Cyprus being a notable exception owing to the ongoing consolidation in the cooperative banking sector. Altogether, the number of credit institutions in the EU declined by 166 in 2007 (from 8,514 to 8,348), while the corresponding figure in the previous year was 175.

At the same time, the EU banking landscape continued to be dominated by domestic credit institutions (which had a 71.3% market share), with the remainder equally divided between branches and subsidiaries of foreign institutions. It should be highlighted, however, that there are significant differences among countries, with the newer Member States characterised by the prominence of foreign entities, especially those with a parent company in one of the older EU countries. It is noteworthy that, in contrast to the situation in 2006, branches of foreign institutions in the EU showed an increase in terms of market share of total assets. This was particularly true in the countries that have joined the EU since 2004, where the market share of foreign branches increased by approximately 1 percentage point, while that of foreign subsidiaries saw a decline of approximately 4 percentage points.

² The data in this section are taken from the ECB's report entitled "EU banking structures", which only contains data up to 2007.

With regard to merger and acquisition (M&A) activity, the total number of transactions declined in 2007. However, a significant increase was recorded in the number of acquisitions by EU credit institutions of banks located in countries outside the EU, which have exceeded the figures for domestic deals over the past three years. The value of M&As has been growing since 2003, with 2007 being the second consecutive year in which the total value of M&A transactions exceeded the peak recorded in 2000. Concentration increased, reflecting, on the one hand, continuing market consolidation and, on the other hand, the dynamic growth of certain banking groups, partly as a result of their M&A activity. It should be noted that smaller countries tend to have more concentrated banking sectors, with the notable exceptions of Austria and Luxembourg, the former having a strong savings and cooperative banking sector, and the latter hosting a large number of foreign credit institutions.

Finally, banking intermediation was strengthened, as evidenced by the fact that the total assets of credit institutions grew at a higher rate than GDP. However, the growth of total assets (10.7%) in 2007 at the EU level decelerated in comparison with previous years (2005: 13.7%; 2006: 11.9%).³ It should be noted that this aggregate figure conceals strong fluctuations: the newer Member States experienced above average growth of nearly 25% in nominal terms, while the United Kingdom, whose financial sector accounts for approximately a quarter of the EU banking sector's assets, reported only a 2.3% increase in total assets. With the structural changes in the financial system and the decline in investment funds and hedge funds, core commercial banks will become more central to credit intermediation.

1.2 FINANCIAL STABILITY ARRANGEMENTS

Initiatives were launched both internationally and in the EU to address the weaknesses of the overall financial stability framework revealed by the financial turmoil.

In April 2008 the Financial Stability Forum (FSF) proposed recommendations to enhance market and institutional resilience. In this context, authorities are expected to clarify and strengthen national and cross-border arrangements for dealing with weak banks, as well as to review and, where necessary, strengthen deposit insurance arrangements. In terms of bank resolution arrangements and cross-border crisis management, the Basel Committee on Banking Supervision (BCBS) carried out a review of national practices. Meanwhile, the FSF is developing a set of high-level principles for financial crisis management.

In May 2008 the ECOFIN Council updated the EU roadmap on strengthening financial stability arrangements adopted in October 2007. In accordance with this roadmap, the Memorandum of Understanding (MoU) on cross-border financial stability among EU supervisory authorities, finance ministries and central banks entered into force on 1 June 2008.⁴ The BSC – through a dedicated task force – has been assisting the relevant authorities in the implementation of this MoU, focusing on implementing the common analytical framework for assessing the systemic implications of a financial crisis. In addition, the BSC has reviewed the key crisis management functions currently in place in the Member States, providing input on initiatives to review the tools at the authorities' disposal.

In October 2008 EU Member States took a number of initiatives to ensure that the design of national stabilisation measures to resolve the financial turmoil does not lead to negative

³ It should be noted that this analysis is based on stock on-balance-sheet data. The analysis of trends with regard to total assets would be improved by the availability of flow data on securitised assets (both publicly and privately placed). The lack of data on securitised assets has less of an impact on the analysis for the countries that have joined the EU since 2004, where asset securitisation is not so developed. In addition, for non-euro area countries, figures are not exchange rate-adjusted, so developments could be partially influenced by changes in the exchange rate between local currencies and the euro.

⁴ <http://www.ecb.europa.eu/pub/pdf/other/mou-financialstability2008en.pdf>

spillover effects and that a level playing-field is maintained across countries.

First, the ECOFIN Council decided on 7 October to increase the EU minimum protection for individual deposits to €50,000 for at least one year. As a result, the Commission adopted a proposal for the amendment of the Directive on deposit guarantee schemes on 15 October 2008. The Directive, with the amendments approved by the European Parliament and the EU Council, is expected to be published in the Official Journal around March 2009. In particular, the Directive will increase the level of mandatory protection for individual deposits to €50,000 by June 2009 and further to €100,000 by end-2010 unless the Commission reports that this would be inappropriate.

Second, a set of “EU common principles” were defined, which were complemented by more precise guidelines agreed at the summit of euro area countries in Paris on 12 October and subsequently endorsed by all 27 Member States at the European Council meeting of 15-16 October. They determined, among other things, the common features for Member States’ interventions, including the guarantees applied to the funding and recapitalisation of banks.

In the case of measures aimed at supporting “liquidity-constrained solvent banks”, it was agreed that government guarantees could be provided for new medium-term (up to five years) bank senior debt issuance. The criteria for determining which financial institutions are eligible to take part in the guarantee scheme must be non-discriminatory and include subsidiaries of foreign institutions with substantial operations in an EU Member State. The scheme should also be limited in amount and expire on 31 December 2009. Importantly, the Paris declaration states that governments must “work in cooperation with the European Central Bank so as to ensure consistency with the management of liquidity by the Eurosystem and compatibility with the operational framework of the Eurosystem”.

With regard to recapitalisation measures, Member States decided to make core capital available to relevant financial institutions, for instance by acquiring preferred shares. Although governments committed themselves to providing the appropriate amount of capital when needed, they will generally favour the raising of private capital.

The European Council at its meeting of 15-16 October underlined the importance of cooperation mechanisms and announced the establishment of a “financial crisis cell”. This cell, in which the President of the ECB participates, aims to improve crisis management among EU Member States through measures including informal warnings, information exchange and an evaluation mechanism. The European Council also stressed the importance of regular meetings of national supervisors.

Finally, the ECOFIN Council, at its meeting on 2 December 2008, specifically emphasised the need to establish, without delay, national schemes to support the banking sector in respect of guarantees and, in particular, recapitalisation plans. The European Commission was requested to work closely with the ECB on these issues.

With the aim of enhancing the stability of the financial system and maintaining a level playing-field, the Eurosystem issued recommendations on government guarantees for bank debt and on the pricing of bank recapitalisations. In December 2008 the European Commission adopted a communication on the recapitalisation of financial institutions, which also reflected the ECB’s recommendations on this matter.⁵

In February 2009 the ECOFIN Council agreed that, in order to safeguard banking sector stability, measures to deal with impaired assets could in specific cases complement government guarantees for bank debt and recapitalisations. These measures should remain consistent

⁵ The communication was published in January 2009 (OJ C 10, 15.1.2009, pp. 2-10).

with the principles set out in October 2008, in particular with regard to: i) safeguarding financial stability and restoring the provision of credit and lending to the economy; ii) ensuring a level playing-field within the Single Market; and iii) containing the impact on public finances. The Commission, in cooperation with the ECB, has provided elements of guidance in this respect at the EU level.

2 FINANCIAL REGULATION AND SUPERVISION

2.1 GENERAL ISSUES

Following the conclusion of the review of the Lamfalussy framework⁶ for financial regulation and supervision, conducted by the European Commission with contributions from the Eurosystem, the emphasis in 2008 was on the implementation of the recommendations adopted by the ECOFIN Council in December 2007.

First, the Level 3 Committees⁷ amended their respective charters to introduce the possibility of applying qualified majority voting. Although the committees' decisions are not legally binding for their members, those who do not comply should at least explain their decisions publicly.

Second, the Level 3 Committees enhanced their accountability by starting to transmit their yearly work programmes to the European Commission, the EU Council and the European Parliament to allow them to express their views on the key priorities and give policy advice on supervisory convergence and cooperation.

Third, the Member States were invited to introduce a European dimension into the mandates of their national supervisors. The ECB participated in the discussions in the various European committees on how to implement the ECOFIN Council's recommendations. On 14 May 2008 the ECOFIN Council asked the Commission to revise the Decisions establishing the Level 3 Committees to include specific tasks to foster supervisory convergence and cooperation. The Eurosystem on 7 November 2008 adopted an opinion on the revision of the Decision establishing the Committee of European Banking Supervisors (CEBS). Among other things, the ECB commented on the appropriate division of labour between CEBS and the BSC with regard to the risk assessment of the EU banking sector. While the BSC, in line with its mandate, focuses on identifying the main prudential risks for the financial system and the banking sector, CEBS concentrates on the proactive identification of specific risks, supervisory concerns and possible policy actions.

In addition to strengthening the Lamfalussy framework, authorities have launched a number of concrete initiatives at both the international and the European level to address systemic concerns and identify the possible long-term effects of policy proposals related to the revision of the current regulatory and supervisory framework. At the international level, the FSF undertook work to analyse the challenges that supervisors and regulators face with regard to the potential pro-cyclical effects of the capital adequacy regime, loan loss provisioning practices, compensation arrangements and the valuation methods applied by financial institutions.

At the EU level, the President of the European Commission established in October 2008 an independent High-Level Group on EU financial supervision that made recommendations in February 2009 on strengthening European supervisory arrangements covering all financial sectors.⁸ The informal ECOFIN Council meeting on 12-13 September set up a working group, in which the ECB was represented, with a mandate to assess the range of policy responses that could help to reduce the cyclical swings inherent in the activities of the financial system. In addition, the ECB was asked to produce a regular report on the potential pro-cyclicality of capital requirements under the Capital Requirements Directive. To this end, the ECB works closely with the BSC and CEBS, and a preliminary report, which is based on qualitative information from competent authorities pending the availability of supervisory data series, was produced at the end of 2008.

6 The Lamfalussy approach is a four-level process for approving securities, banking and insurance legislation. For more details, see the report entitled "Final report of the Committee of Wise Men on the regulation of European securities markets", 15 February 2001, which is available on the European Commission's website. See also the ECB's Annual Report 2003, p. 111.

7 Level 3 of the Lamfalussy framework focuses on strengthening supervisory convergence and cooperation. Three committees carry out this work: the Committee of European Banking Supervisors (CEBS), the Committee of European Securities Regulators (CESR) and the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS).

8 http://ec.europa.eu/commission_barroso/president/pdf/statement_20090225_en.pdf

2.2 BANKING

CAPITAL REQUIREMENTS DIRECTIVE

The Capital Requirements Directive (CRD) aims to safeguard the financial soundness of banks and investment firms by closely aligning regulatory capital requirements with the underlying risks that these institutions face. In October 2008 the European Commission adopted a proposal to amend certain provisions of the CRD, to take into account, among other things, the lessons learned from the financial crisis. With regard to the large exposures regime, banks' exposures to any single party will be restricted, resulting also in limitations in the interbank market. Furthermore, clear EU-wide criteria will be introduced for assessing the eligibility of hybrid capital, with the aim of improving the quality of banks' own funds. In the area of risk management, revisions apply to liquidity risk management and the treatment of securitised products. With regard to the former, a number of provisions have been introduced, in line with the ongoing work of the BCBS and CEBS. With regard to the latter, provisions aim to improve transparency, strengthen the risk management processes of originators and investors alike, and better align incentives along the securitisation chain. Finally, the Commission's proposal foresees the establishment of "colleges of supervisors" for all cross-border banks and a clarification of the role of competent authorities with the aim of strengthening the supervision of cross-border banking groups. The ECB was consulted on the draft proposal of the Commission. In providing its input, the ECB benefited from work carried out by the BSC in the context of two reports it published in the fourth quarter of 2008.

In November the BSC published a report on EU banks' liquidity stress-testing and contingency funding plans. The report contains a detailed description of liquidity stress-testing techniques and liquidity contingency funding plans, which are highly diverse across EU banks. It also analyses the adequacy of liquidity stress-testing techniques and liquidity contingency funding plans with regard to the absorption of liquidity shocks, in particular during the market turmoil,

reaching the conclusion that there is room for improvement in both areas.

In December the BSC produced a report on the "originate and distribute model", examining the development of the model both during the time of its growth in popularity and in the context of the turmoil in the financial markets. The report presents the incentive structure and the various conflicts of interest between the actors in the model. It proposes a number of market solutions and policy measures that could play an important role in reducing the effects of the conflicts of interest.

ACCOUNTING

The financial market turmoil has confirmed the importance of accounting standards from a financial stability perspective. In particular, issues related to the enhanced disclosure of exposure to structured products, the treatment of off-balance-sheet vehicles and fair-value accounting when markets become inactive or illiquid have been identified by both the ECOFIN Council's roadmap and the FSF as areas requiring attention.

In response to a request by the FSF, the International Accounting Standards Board (IASB) set up an Expert Advisory Panel, in which the ECB participates, which issued guidance on the application of fair-value accounting when markets became inactive at the end of October 2008.

Another issue relates to the importance of ensuring a level playing-field globally with regard to accounting standards, in particular on both sides of the Atlantic. In this context, the IASB adopted decisions aimed at reaching consistency between the International Financial Reporting Standards (IFRS) and the US Generally Accepted Accounting Principles (US-GAAP) on the reclassification of items across accounts. In addition, the IASB set up a High-Level Advisory Group to help to ensure that reporting issues arising from the global economic crisis are considered in an internationally coordinated manner. Furthermore, the European

Commission identified key areas of divergence between the IFRS and US-GAAP and urged the accounting standard-setters to address these as a matter of priority. Following the positive opinions of the ECOFIN Council, the European Parliament and the European Securities Committee, the European Commission decided on 12 December 2008 that the generally accepted accounting principles of the United States, Japan, China, Canada, South Korea and India would be considered equivalent to the IFRS as of January 2009. The Commission also announced that it would keep the situation under review and would report on its findings by 2011 at the latest for the last four countries. The ECB is closely monitoring these developments.

2.3 SECURITIES

Since the outbreak of the financial market turmoil, credit rating agencies have been widely criticised for their initial ratings of structured finance securities, owing to the perception that their ratings did not fully reflect the risks inherent in those securities. The FSF report on enhancing market and institutional resilience of 7 April 2008⁹ highlighted some weaknesses in rating models and methodologies and made a number of recommendations for further measures to enhance the quality of the rating process. In order to address such issues, on 31 July 2008 the European Commission published for consultation a draft regulation on credit rating agencies. This draft regulation addresses the conditions for the authorisation, operation and supervision of credit rating agencies and aims to ensure that such agencies meet high standards of independence, integrity and quality in the performance of their tasks. The Eurosystem responded to the public consultation on 25 September 2008,¹⁰ broadly welcoming the draft proposal. It emphasised that an EU regulation on credit rating agencies should aim to increase the level of transparency related to the issuance of ratings and the ongoing surveillance of those ratings, ensure that the regulatory framework does not interfere with the content of ratings, and safeguard the integrity

and independence of agencies by dealing with conflicts of interest. The Eurosystem suggested an EU regulatory and supervisory structure according to which credit rating agencies would still be formally authorised and supervised by the national supervisors, but this authorisation and supervision would follow a joint assessment process and be accompanied by a joint supervisory process. CESR could play a role in the coordination of the competent national authorities as regards both the authorisation and the implementation of enforcement action.

Finally, the Eurosystem stressed that any coordination arrangements for the regulation and supervision of credit rating agencies should allow for an appropriate level of involvement by the Eurosystem, given that it has already established a Eurosystem credit assessment framework which monitors the performance and activities of agencies in the context of the implementation of monetary policy operations.

Following a public consultation, the Commission published a proposal for a regulation on credit rating agencies in November 2008.

⁹ http://www.fsforum.org/publications/r_0804.pdf

¹⁰ <http://www.ecb.europa.eu/pub/pdf/other/regulationcreditratingagencies2008en.pdf>

3 FINANCIAL INTEGRATION

The Eurosystem has a keen interest in financial integration in Europe, as a well-integrated financial system enhances the smooth and effective transmission of monetary policy impulses in the euro area and has implications for the Eurosystem's task of safeguarding financial stability. Financial integration also supports the smooth functioning of payment and securities settlement systems. Furthermore, financial integration, a priority objective of the EU, can help to promote the development of the financial system, thereby raising the potential for economic growth.

The Eurosystem distinguishes between four types of activity through which it contributes to enhancing European financial integration: i) raising awareness of and monitoring financial integration, ii) acting as a catalyst for private sector activities by facilitating collective action, iii) giving advice on the legislative and regulatory framework for the financial system and direct rule-making, and iv) providing central banking services that also foster financial integration. The ECB continued its activities in all four areas throughout 2008.

RAISING AWARENESS OF AND MONITORING FINANCIAL INTEGRATION

In April 2008 the ECB published its second annual report on "Financial integration in Europe".¹¹ The main purpose of this report is to contribute to the advancement of European financial integration and to raise public awareness of the Eurosystem's role in supporting the financial integration process. The report first sets out the ECB's assessment of the state of financial integration in the euro area, based on a set of quantitative indicators that are also published semi-annually on the ECB's website. In 2008 the range of indicators was extended to cover the European market infrastructure. The report also contains in-depth analyses of selected issues, chosen on the basis of their importance to the EU's financial integration agenda and their relevance to the ECB's tasks. These special analyses covered four topics in 2008: concepts and measures of financial development, the Short-Term European Paper (STEP) initiative,

the integration and development of mortgage markets in Europe, and the integration of large-value payment and securities transactions. Finally, the report provides an overview of the Eurosystem's contribution over the past calendar year towards achieving more integrated and developed financial markets in Europe.

Given that financial integration is expected to have implications for the development of the financial system and for economic growth, the ECB's work on financial integration is closely linked to its wider analysis of factors supporting the functioning of financial systems. Work in this area continued in 2008,¹² with the aim of setting out a conceptual framework for monitoring and assessing potential frictions in the financial systems on a regular basis.

In 2008 the ECB also continued its involvement in the Research Network on Capital Markets and Financial Integration in Europe, run in cooperation with the Center for Financial Studies at the University of Frankfurt am Main. The network continued its series of conferences with academics, market participants and policy-makers, with the active participation of NCBs. The network completed its second phase in 2008, culminating in its second symposium on "Capital markets and financial integration in Europe" held in Frankfurt on 13-14 February. The third phase started with the network's 11th conference, hosted by Česká národní banka in Prague on 20-21 October 2008, which focused on "The market for retail financial services: development, integration, and economic effects". As in previous years, in 2008 the ECB awarded five "Lamfalussy Fellowships" to young researchers in the context of the network. The network's current priorities are: i) financial systems as risk managers, risk distributors and risk creators, ii) the integration and development of retail financial services and the promotion of

11 <http://www.ecb.europa.eu/pub/pdf/other/financialintegrationineurope200804en.pdf>

12 For more details, see the section entitled "Financial development: concepts and measures" in Chapter 2 of "Financial integration in Europe", April 2008.

innovative firms, and iii) financial modernisation and governance and the integration of the European financial system into global capital markets.

ACTING AS A CATALYST FOR PRIVATE SECTOR ACTIVITIES

Progress in European financial integration depends to a large extent on private sector initiatives aiming to make use of the existing opportunities for cross-border business. Public authorities support such private efforts.

In 2008 the Eurosystem continued to strongly support the Single Euro Payments Area (SEPA) initiative, which allows individuals, corporations and public administrations to make cashless payments in euro throughout the euro area and the other SEPA countries from a single account anywhere in SEPA, using a single set of payment instruments, as easily, efficiently and safely as they can make them today at the national level. SEPA is a move towards an integrated payments market in Europe which will bring substantial economic benefits to society. SEPA is the logical consequence of the introduction of the euro in, currently, 16 countries in Europe.

The successful launch of the SEPA credit transfer in January 2008 marked the initiative's first major milestone. Since then, the first benefits of SEPA have materialised for banks and, more importantly, have started to reach the end-users of payment services. The Eurosystem has invited the operators of infrastructures to assess their SEPA compliance on a regular basis. Most automated clearing houses which process credit transfers in euro are now compliant with the credit transfer scheme, and several of them have made the step from offering purely domestic operations towards providing services on a pan-European basis. However, as set out in the sixth progress report on SEPA issued by the Eurosystem in November 2008, the migration process is still too slow and measures should be taken to accelerate it.

The SEPA framework for card payments was also put in place in January 2008, but more effort

is still needed in this field. The SEPA framework for cards should bring about greater choice and efficiency through the gradual elimination of legal, technical and scheme-imposed obstacles, as well as through increased competition in the fields of issuing, acquiring, acceptance and processing. The migration to chip cards with a personal identification number (PIN), an important SEPA building block, advanced well in 2008. Several card schemes adapted their rules to the SEPA requirements. However, doubts remain about whether all card schemes have effectively separated their processing activities from their scheme management functions. The Eurosystem expects at least one additional European card scheme to emerge in the coming years which meets its requirements and those of cardholders, banks, merchants and competition authorities. The Eurosystem has been discussing this topic with major European banks and other stakeholders since April 2008, and has observed increasing support. Several market initiatives are under way to create such a European card scheme, which the Eurosystem considers to be a clear sign that the market recognises the need for a scheme of this nature.

Preparations continued to be made for the launch of the SEPA direct debit scheme on 1 November 2009, resulting in the adoption of two rulebooks on the core and business-to-business services. However, uncertainties still surround the launch of the scheme, and these must be resolved urgently, in particular those related to the application of a multilateral interchange fee. To support the timely launch of the scheme, in September 2008 the ECB, in close consultation with the European Commission, suggested an interim arrangement whereby existing multilateral interchange fees would be applied to SEPA direct debits. During a transition period, which would only last a few years, banks would have to change their business models and inform their customers in an adequate manner. The Eurosystem continued its efforts to ensure the timely launch of these new payment services at the European level. In this context, the sixth progress report on SEPA suggests priorities and encourages further work on the project.

The market for short-term paper in Europe is of a largely domestic nature. The STEP initiative, pursued by market participants under the auspices of the European Banking Federation and ACI – The Financial Markets Association, and steered by the STEP Market Committee, has addressed this gap in financial integration through the development of a core set of commonly agreed market standards and practices, with which market participants comply on a voluntary basis.

The Eurosystem has supported the STEP initiative since its inception in 2001 by facilitating interaction among market participants, contributing to the development of the STEP Market Convention and raising public awareness regarding the initiative. Following the successful launch of the STEP market in June 2006, the Eurosystem has continued to contribute to the initiative in two ways. First, the ECB provides statistics on the STEP market. Second, the Eurosystem assists the STEP Secretariat in the labelling of STEP paper. This second measure is a temporary arrangement which will expire in June 2010.

The STEP Market Committee has launched a review of the STEP Market Convention, with the aim of making its application easier for a larger number of markets from a technical point of view, while maintaining or even enhancing the standards of the Market Convention. The ECB welcomes such a review. First, as markets evolve, the Market Convention must be adjusted accordingly. Second, it is a good opportunity to take stock of the processes and procedures applied since the start of the STEP market in June 2006 and to make any necessary improvements to the Market Convention.

The ECB produces daily statistics on yields on new issues of euro-denominated STEP securities, as well as monthly volumes of STEP debt securities. Despite the distressed market conditions, the total outstanding amount of STEP debt securities increased by 24% (year on year) in the fourth quarter of 2008.

ADVICE ON THE LEGISLATIVE AND REGULATORY FRAMEWORK FOR THE FINANCIAL SYSTEM AND DIRECT RULE-MAKING

The Eurosystem regularly contributes to the development of the EU legislative and regulatory framework by providing advice on the main policy initiatives under way.

Activity with regard to financial supervision in the EU focused in 2008 on the follow-up of the review of the Lamfalussy framework, to which the Eurosystem contributed (see Section 2 of this chapter). Furthermore, as part of its advisory role in accordance with Article 105(4) of the Treaty, the ECB regularly provides advice on the legislative proposals of the European Commission (see also Section 2).

The ECB provided advisory input on issues related to the integration of securities settlement systems and of payment systems. In particular, the ECB was closely involved in the work relating to the “Code of Conduct for Clearing and Settlement”. The code aims to foster competition on the basis of price transparency, access and interoperability, and service unbundling and accounting separation. Given that the code is a self-regulatory tool, a strict monitoring mechanism has been set up to ensure that all the measures are implemented properly and on time. The mechanism relies on external auditors and an ad hoc Monitoring Group composed of the European Commission, CESR and the ECB. The Monitoring Group met four times in the course of 2008. The ECB and the European Central Securities Depositories Association conducted an analysis on price transparency and provided suggestions on how to improve price comparability.

As the code of conduct ultimately aims to establish freedom of choice, it needs to be complemented by the full removal of the “Giovannini barriers” to efficient clearing and settlement (named after the group that identified them in 2001), which result from differences in technical standards and business practices, legal uncertainty, and differences in tax procedures. The ECB continued to participate in the Clearing

and Settlement Advisory Monitoring Expert Group (CESAME) which addresses the removal of the first set of barriers. The ECB also continued to take part in the Legal Certainty Group, which in August 2008 presented 15 recommendations on the removal of legal barriers related to post-trading.

Since harmonisation of the European legal framework forms the basis for SEPA, the Eurosystem has taken an active interest in Community legislation in this area. The Payment Services Directive¹³ was formally adopted in November 2007. According to the European Commission, the Member States are well on track with their work on transposing the Directive into national law before the deadline of 1 November 2009. The ECB participates in the Commission's transposition working group. The review of Regulation (EC) No 2560/2001 on cross-border payments in euro¹⁴ also has major consequences for SEPA and especially for SEPA direct debits. It is widely recognised that this Regulation was the trigger for the banking industry's decision to start developing SEPA in 2002. The Commission's proposal¹⁵ aims at adapting the Regulation to the current payments landscape, for example by extending it to direct debit transactions. This will mean that the prices for cross-border SEPA direct debit transactions cannot be higher than those for corresponding national direct debit transactions. The ECB has been involved in the Commission's work on the draft regulation and has published an opinion in this context.¹⁶

The ECB has also been involved in the Commission's preparations for a review of the E-Money Directive, which establishes the legal framework for e-money institutions' activities.¹⁷ The Commission states that the provision and use of e-money is not growing as expected and therefore suggests amending the Directive. From the ECB's point of view, the review is welcome; however, some parts of the Commission's proposal cause concern, particularly with regard to the prudential framework and institutional status of e-money institutions.¹⁸

PROVIDING CENTRAL BANKING SERVICES WHICH FOSTER FINANCIAL INTEGRATION

TARGET2, the second generation of the Eurosystem's large-value payment system, successfully went live on 19 November 2007, and fully replaced the first-generation TARGET system on 19 May 2008. The new system is designed to give euro money and financial markets an effective and secure execution mechanism for the real-time settlement in central bank money of euro payments. TARGET2 represents a decisive contribution by the Eurosystem to European financial integration. It is the first market infrastructure to be completely integrated and harmonised at the European level, and has remedied the previous fragmentation in the management of central bank liquidity and the execution of large-value payments. The new system's features have both enabled and driven organisational changes among credit institutions that operate in several European countries, by allowing these entities to rationalise their back office functions and to consolidate their management of euro liquidity (see Section 2.1 of Chapter 2).

Furthermore, the Eurosystem and market participants have continued their work on the TARGET2-Securities (T2S) project. T2S will be a multi-currency platform used by European central securities depositories for the settlement of securities transactions in central bank money. The Governing Council decided on 17 July 2008 to build T2S and to assign its development and operation to the Deutsche Bundesbank, the Banco de España, the Banque

13 Directive 2007/64/EC of the European Parliament and of the Council of 13 November 2007 on payment services in the internal market amending Directives 97/7/EC, 2002/65/EC, 2005/60/EC and 2006/48/EC and repealing Directive 97/5/EC.

14 Regulation (EC) No 2560/2001 of the European Parliament and of the Council of 19 December 2001 on cross-border payments in euro.

15 See http://ec.europa.eu/internal_market/payments/crossborder/index_en.htm

16 Opinion on a new regulation on cross-border payments in the Community (CON/2009/1).

17 See http://ec.europa.eu/internal_market/payments/emoney/index_en.htm

18 Opinion on a directive on the taking up, pursuit and prudential supervision of the business of electronic money institutions (CON/2008/84).

de France and the Banca d'Italia. By offering harmonised, borderless and neutral settlement services in euro and other currencies, T2S will be a major step forward in the delivery of an integrated securities market and an important contribution to financial integration in Europe (see Section 2.2 of Chapter 2).

Finally, in the area of collateral management, the Governing Council decided in July 2008 to establish a single shareable platform (CCBM2) for euro area NCBs with a view to consolidating and increasing the efficiency of the Eurosystem's internal systems and enhancing counterparties' liquidity and collateral management. The Governing Council assigned the Nationale Bank van België/Banque Nationale de Belgique and De Nederlandsche Bank to develop and operate the platform on behalf of the Eurosystem. It is being developed in close cooperation with market participants (see Section 2.3 of Chapter 2).

4 PAYMENT SYSTEMS AND MARKET INFRASTRUCTURE OVERSIGHT

Payment and securities clearing and settlement systems are basic infrastructures which are necessary for the proper functioning of market economies. They are indispensable for the efficient flow of payments for goods, services and financial assets, and their smooth functioning is crucial for the implementation of the central bank's monetary policy and for maintaining the stability of and confidence in the currency, the financial system and the economy in general.

Through its oversight function, the Eurosystem aims to ensure the safety and efficiency of payment and securities settlement systems and of central counterparties operating in euro, by applying, among other things, minimum standards and requirements. In particular, the oversight function aims to maintain systemic stability in the payment system by containing the exposure to systemic risk. In this context, overseers are generally concerned with both individual payment and securities settlement systems and – given the interdependencies between these systems – the market infrastructure as a whole. Payment instruments also fall within the scope of the Eurosystem's oversight, which focuses in particular on their safety and efficiency.

The Treaty assigns oversight responsibilities to the Eurosystem. For the purpose of effective and efficient oversight, the ECB and the NCBs of the Eurosystem carry out these responsibilities in a way that allows the Eurosystem to benefit from its decentralised structure, while ensuring coordination of its oversight activities and equal application of its policies. The Eurosystem's oversight policies and requirements reflect internationally recognised standards, the details of which are adjusted to the specific conditions and needs of the Eurosystem.

4.1 LARGE-VALUE PAYMENT SYSTEMS AND INFRASTRUCTURE SERVICE PROVIDERS

The Eurosystem oversees all large-value payment systems which settle euro transactions, including those managed by the Eurosystem

itself. The Eurosystem applies the same oversight standards to both its own systems and those that are privately operated. These standards are the Core Principles for Systemically Important Payment Systems, defined by the G10 Committee on Payment and Settlement Systems (CPSS) and adopted by the Governing Council in 2001. They are complemented by the Eurosystem's business continuity oversight expectations for systemically important payment systems which were adopted by the Governing Council in 2006 and are to be implemented by all systemically important payment systems in the euro area by June 2009.

Key payment infrastructures settling euro-denominated transactions (TARGET2, EURO1 and CLS), infrastructure service providers (such as SWIFT) and euro securities clearing and settlement infrastructures coped successfully with the challenges arising from the market turmoil that continued in 2008. From an oversight perspective, a number of lessons could be learned from these events, not least with regard to the importance of adequate capacity management by system operators and well-established frameworks for crisis communication between overseers, other relevant authorities and market infrastructure providers.

TARGET2

The gradual transition from TARGET to TARGET2, which started in November 2007, was completed smoothly and on schedule when the third and last group of national banking communities successfully connected to TARGET2 on 19 May 2008. All TARGET2 oversight activities are led and coordinated by the ECB, which acts in close cooperation with the participating NCBs. The latter conduct the oversight of the local features of TARGET2 and contribute to the oversight of the central features of TARGET2 on a voluntary basis.

In early 2007, when TARGET2 was still under development, the TARGET2 overseers started to conduct a comprehensive assessment of the TARGET2 design against the Core Principles for Systemically Important Payment Systems

and the Eurosystem's business continuity oversight expectations for systemically important payment systems. The first results of the assessment were encouraging and, at the end of 2007, the TARGET2 overseers concluded that TARGET2 was likely to fully comply with all relevant Core Principles, provided that a number of oversight findings were addressed by the system operator in the course of 2008 on the basis of an agreed action plan. In November 2008 the system operator provided a report to the overseers, detailing how the points included in the action plan had been addressed. The TARGET2 overseers reviewed the report and the actions taken by the TARGET2 operator and provided a final report on the oversight assessment of the TARGET2 design to the decision-making bodies of the ECB in March 2009. A public version of the assessment report will be made available.

The TARGET2 overseers consider that the operation of the system has been in line with expectations. Only one major incident, which occurred on 30 June 2008, required special attention and action on the part of the TARGET2 overseers. Some oversight recommendations related to this incident have been discussed with the system operator and mitigation measures have been implemented.

EURO1

EURO1 is a large-value payment system for cross-border and domestic transactions in euro between banks operating in the EU. It is operated by the clearing company of the Euro Banking Association, EBA CLEARING. EURO1 works on a multilateral net basis. The end-of-day positions of EURO1 participants are ultimately settled in central bank money via the TARGET2 system, with the ECB acting as settlement agent. Oversight activities in 2008 focused on, among other things, the migration of the settlement of EURO1 end-of-day positions to TARGET2 in May 2008, when the previous TARGET system ceased to exist. The migration of settlement to TARGET2 was completed without any problems.

On 7 July 2008 EBA CLEARING implemented two additional liquidity distribution windows in EURO1 under the Flexible Settlement Capability (also referred to as the liquidity bridge), one at 1 p.m. and the other at 3.30 p.m. The liquidity bridge arrangement facilitates the processing of payments that would otherwise be placed on hold as a result of banks having reached their debit or credit caps in EURO1. The two additional liquidity distribution windows aim to reduce the balance kept on the EURO1 pre-settlement account in TARGET2 and to maximise the recycling of pre-funded liquidity. Their implementation received a positive assessment from the overseers from both a EURO1 and a TARGET2 perspective.

CONTINUOUS LINKED SETTLEMENT SYSTEM

The Continuous Linked Settlement (CLS) system provides a multi-currency service for the simultaneous, i.e. payment-versus-payment (PvP), settlement with finality of payment instructions relating to foreign exchange transactions. Through its PvP mechanism, CLS virtually eliminates foreign exchange settlement risk, i.e. the risk that one party to a foreign exchange transaction will pay the currency it has sold, but not receive the currency it has bought.

CLS was launched in 2002 and initially settled foreign exchange transactions in seven major currencies, including the euro. Following the approval by CLS overseers of the Mexican peso and the Israeli shekel for settlement by CLS in 2008, CLS now settles in 17 currencies. In addition, CLS settles single-currency payment transactions that are linked to a limited set of financial instruments, i.e. over-the-counter (OTC) transactions in credit derivatives and non-deliverable forward¹⁹ transactions.

CLS is managed by CLS Bank International (CLS Bank), New York. CLS Bank is owned by private sector banks and other financial

¹⁹ Defined as "net cash settled" forward foreign exchange transactions, whereby two parties agree to enter into two notional foreign exchange transactions and settle the difference between the two notional transactions in cash in an agreed currency. The currencies specified in the two notional foreign exchange transactions are not physically exchanged by the parties to the non-deliverable forward.

institutions. The Federal Reserve System accepts primary oversight responsibility for CLS under a cooperative oversight arrangement involving the G10 central banks and the central banks of CLS-settled currencies. Within this cooperative oversight arrangement, the ECB (in close cooperation with the euro area NCBs) has primary oversight responsibility for the settlement of the euro by CLS.

In terms of value, CLS is the largest payment system settling euro transactions outside the euro area. Accordingly, the safety and efficiency of CLS and its compliance with the Eurosystem policy principles²⁰ is of primary importance to the Eurosystem. In December 2008 CLS settled an average of 473,000 foreign exchange transactions per day with an average daily settlement value equivalent to €3.3 trillion.²¹ This is a substantial increase in terms of volume compared with December 2007, when CLS settled an average daily volume of 381,436 transactions with an average daily settlement value equivalent to €2.9 trillion. With a share of around 21% of all transactions settled in CLS, the euro has continued to be the second most important currency for settlement, after the US dollar (around 44%). In 2008 the average daily value of CLS transactions settled in euro was €560 billion.

In 2008 the BIS published a report entitled “Progress in reducing foreign exchange settlement risk”.²² The report, which includes contributions from the Eurosystem, indicates that the comprehensive long-term strategy endorsed by the G10 central banks in 1996 has significantly reduced the systemic risk arising from the way in which foreign exchange transactions are settled. However, it also points out that more can and should be done by individual institutions, industry groups and central banks to tackle remaining exposure and to guard against the risk of reversing the progress that has already been made.

SWIFT

The ECB participates with the other G10 central banks in the cooperative oversight of SWIFT,

with the Nationale Bank van België/Banque Nationale de Belgique being the overseer with primary responsibility. The G10 cooperative oversight of SWIFT concentrates on the objectives of security, operational reliability, business continuity and resilience of the SWIFT infrastructure. During 2008 the oversight group reviewed whether SWIFT was pursuing these objectives by ensuring the existence of governance arrangements, structures, processes, risk management procedures and controls that enable it to effectively manage the potential risks to the proper functioning of market infrastructures using SWIFT and to financial stability in general.

In 2008 the SWIFT overseers paid particular attention to SWIFT’s project to move to a multi-zone messaging architecture. SWIFT’s processing will be divided into two zones, namely the transatlantic and the European zone, with the aim of increasing the processing capacity of its infrastructure, enhancing its resilience and meeting European data protection requirements. As part of the project, which will be implemented in two phases by 2010 and 2013 respectively, a new global operating centre will be established in Europe to serve both the transatlantic and European zones. European-based customers of SWIFT will be automatically assigned to the European zone, with all their intra-European traffic being processed and stored in Europe. The overseers are reviewing SWIFT’s processes for the design and roll-out of this architecture, while at the same time monitoring whether due attention is being paid to the continued resilience and availability of the SWIFT services which are crucial for maintaining global financial stability.

20 “The Eurosystem policy principles on the location and operation of infrastructures settling euro-denominated payment transactions”, ECB, July 2007.

21 The cash settlement of each foreign exchange trade consists of two payment transactions, one in each currency involved. Thus, in December 2008 CLS settled 236,396 trades with an average daily value equivalent to around €1.65 trillion.

22 <http://www.bis.org/publ/cpss83.htm>

4.2 RETAIL PAYMENT SYSTEMS AND INSTRUMENTS

The Eurosystem's oversight also covers retail payment systems and payment instruments. In 2008 the ECB continued to monitor the smooth functioning of STEP2, which is a payment system for cross-border, and increasingly also for domestic, retail payments in euro, operated by EBA CLEARING. In 2008 a number of changes in the system had to be assessed against the applicable oversight standards.

On 28 January 2008 EBA CLEARING launched a SEPA credit transfer service in STEP2 for the processing of credit transfers in compliance with the SEPA credit transfer scheme rulebook of the European Payments Council (EPC). In May 2008 an additional intraday cycle was introduced for the SEPA credit transfer service to cater for the demands arising from the migration of euro area countries' domestic traffic to this new service. A major change in the system occurred on 8 December 2008, when the settlement of the SEPA credit transfer service was moved to TARGET2. Prior to that date, the credit transfer service settled in EURO1, as the other STEP2 services continue to do. These changes did not alter the level of compliance of STEP2 with the applicable oversight standards.

In January 2008 the Governing Council approved the oversight framework for card payment schemes operating in the euro area, taking into account the comments received in the public consultation held in 2007. In May 2008 the Eurosystem started its oversight assessment of card payment schemes operating in the euro area against the newly established oversight standards. The assessment includes 26 schemes, four of which are international. International card schemes are being assessed by cooperative assessment groups consisting of a lead overseeing central bank and other volunteering central banks.²³ The assessments of all individual national and international card schemes will be subject to peer reviews in order to ensure equal application of the oversight

standards. It is envisaged that an overall assessment report describing the main results at the aggregate level will be published.

In 2008 the Eurosystem started to develop oversight frameworks for the new SEPA payment instruments developed by the EPC, namely the credit transfer scheme that was put in place as from 28 January 2008 and the direct debit scheme planned for 2009. Once the oversight frameworks have been set out, it is envisaged that they will be published for public consultation.

4.3 SECURITIES AND DERIVATIVES CLEARING AND SETTLEMENT

The Eurosystem has a strong interest in the smooth functioning of securities clearing and settlement systems because failures in the clearing, settlement and custody of collateral could jeopardise the implementation of monetary policy, the smooth functioning of payment systems and the maintenance of financial stability.

In its capacity as a user of securities settlement systems (SSSs), the Eurosystem assesses the compliance of SSSs in the euro area, as well as links between those SSSs, against the Eurosystem user standards.²⁴ SSSs and links are eligible for Eurosystem credit operations if they fulfil these user standards, which also provide the basis against which the Eurosystem assesses any new SSSs and links or significant updates of those systems already eligible.

In 2008 a new system (VP Lux) and one new relayed link were assessed and found to be compliant with the Eurosystem user standards. The Governing Council also assessed the Slovakian SSS in preparation for the entry of

²³ The ECB is the Eurosystem's lead overseer for VISA, American Express and Diners/Discover. It participates as an assessment group member in the cooperative oversight of MasterCard, while the Nationale Bank van België/Banque Nationale de Belgique acts as lead overseeing central bank.

²⁴ "Standards for the use of EU securities settlement systems in ESCB credit operations", January 1998.

Slovakia into the euro area on 1 January 2009. It found the SSS to be compliant with the user standards and thus eligible for use in Eurosystem monetary policy and intraday credit operations. In addition, the Eurosystem also undertook its first comprehensive assessment of all SSSs, links and relayed links already in use, the results of which are expected to become available in spring 2009.

In 2008 the Eurosystem assessed a new holding arrangement for international debt securities in global registered form issued jointly by the two international central securities depositories (ICSDs), Euroclear Bank (Belgium) and Clearstream Banking Luxembourg. This new arrangement – to be introduced by mid-2010 – will replicate the main principles of the New Global Note arrangement introduced in 2006 for international debt securities in global bearer form. In view of the decreasing issuance of international debt securities in individual note form, a revision of their holding structure was not justified. It was therefore decided to withdraw these securities from the list of eligible assets for Eurosystem credit operations. A transitional period ending on 30 September 2010 has been defined, in which securities of this type issued before or on that date will continue to be eligible for use as collateral until their maturity.

ESCB-CESR RECOMMENDATIONS FOR SECURITIES CLEARING AND SETTLEMENT IN THE EUROPEAN UNION

In 2001 the Governing Council approved a framework for cooperation between the ESCB and CESR on issues related to securities clearing and settlement systems. A joint working group was created in the same year to adapt the recommendations for SSSs drawn up by the CPSS and the International Organization of Securities Commissions (the CPSS-IOSCO recommendations) to the EU landscape, and from 2004 also the recommendations for central counterparties. The work was frozen in 2005 owing to three open issues regarding the scope, content and legal basis of the ESCB-CESR recommendations.

On 3 June 2008 the ECOFIN Council formally invited the ESCB and CESR to adapt and finalise their draft “Standards for securities clearing and settlement in the EU” by autumn 2008, respecting a number of principles, namely that: i) the adopted text should take the form of non-binding recommendations addressed solely to public authorities and not to market participants, ii) its scope should include ICSDs and exclude custodian banks, and iii) on credit and liquidity risk controls, the benchmark accepted by the G10 – namely CPSS-IOSCO Recommendation 9 for SSSs – should be adopted.

In accordance with the ECOFIN Council’s request, the ESCB-CESR working group resumed its work and prepared a set of draft recommendations which were subject to a public consultation from 23 October 2008 until 23 January 2009. During the consultation period, a public hearing for interested parties was held.

The European Parliament, the European Commission, CEBS, market participants and associations were closely involved in this work at various stages. The final approval of the revised recommendations by CESR, the Governing Council and the non-euro area NCBs is expected to take place at the end of the first quarter of 2009. In parallel, CEBS is carrying out an analysis to identify areas where further measures may be needed to bridge the gap between the ESCB-CESR recommendations and the banking regulation applicable to banks which have internalised clearing and settlement activities.

The recommendations, once finalised, will be used by central bank overseers and securities regulators with a view to safeguarding both the soundness and efficiency of securities clearing and settlement in the EU as well as ensuring a level playing-field for the various infrastructures. The ESCB-CESR recommendations complement the work of other EU fora and are regarded as one of the pillars of the EU policy on the post-trading sector, together with TARGET2-Securities, the Code of Conduct

for Clearing and Settlement, and the dismantling of the Giovannini barriers.

REDUCING COUNTERPARTY RISK IN CREDIT DEFAULT SWAPS

According to BIS figures, the outstanding notional amount of credit default swaps stood at USD 57 trillion in June 2008, accounting for around 8% of all OTC derivatives. The need for a more resilient operational framework to support the orderly processing of OTC derivatives trades, which had been identified in the CPSS's March 2007 report entitled "New developments in clearing and settlement arrangements for OTC derivatives", became more urgent as a result of the financial market turmoil in 2008. The ECB hosted a meeting on 3 November 2008 with European stakeholders concerning the establishment of central counterparties (CCPs) for credit default swaps. Participants included the potential providers of such CCPs, dealers, users and regulators. The meeting complemented initiatives by the Federal Reserve Bank of New York and the European Commission in this field. The ECB also participated in a working group set up by the European Commission addressing both short-term and long-term supervisory, regulatory and competition issues in the derivatives market with the aim of promoting financial stability. Stakeholders have underlined the merits of having multiple solutions, and at least one European solution. On 18 December 2008 the Governing Council recalled the importance of strengthening the infrastructure for OTC derivatives, and the need for at least one European CCP for credit derivatives. Given its potentially systemic importance, this European CCP should be located within the euro area.

The Eurosystem shares the views of the Financial Stability Forum and the European Commission on the importance of reducing counterparty risk and of enhancing transparency in OTC derivatives markets, in particular in areas of systemic importance (e.g. credit derivatives). The introduction of CCPs for OTC derivatives is considered an appropriate solution because CCPs, by virtue of concentrating outstanding

positions in one place, i) reduce the counterparty risk to which market participants are exposed and render risk management more efficient, ii) increase market integrity, transparency and the availability of information, iii) standardise the criteria for evaluating exposure, and iv) free up collateral. The Eurosystem announced its intention to cooperate with other authorities to facilitate effective collective action by the private sector in this regard. In December 2008 the ECOFIN Council invited the ESCB and CESR to adapt their draft recommendations on CCPs to explicitly address the risk of OTC derivatives.

4.4 OTHER ACTIVITIES

In order to inform public authorities, market infrastructure providers and their participants, as well as the general public, about developments related to its oversight framework, and about its oversight activities related to specific payment systems, the ECB published its "Payment systems and market infrastructure oversight report 2007" on 11 July 2008. This report was the first publication dedicated to the ECB's oversight activities. The scope of the report will be widened, with subsequent issues taking the form of a Eurosystem oversight report.

Given that payment and securities infrastructures are crucial for the proper functioning of market economies, it is important that these infrastructures, including their participants and third-party service providers, implement effective and efficient risk management and business continuity procedures and are compliant with the relevant national and international standards. In view of the many interdependencies between the various market infrastructures and the need to ensure a high level of information exchange and mutual understanding, the ECB and the EU NCBs have agreed to promote information-sharing on international and national standards relevant to operational resilience, and in particular those relevant to business continuity. In February 2008 the ECB established on its website a dedicated webpage

on market infrastructure business continuity.²⁵ The webpage provides interested parties with information on the latest business continuity standards applicable to infrastructures operating in Europe, a glossary of terms related to business continuity and up-to-date information on the latest European developments in this field. The webpage also provides links to central banks and other regulators that have issued relevant standards and market practices applicable in their countries (including non-European countries such as the United States, Hong Kong and Japan).

To ensure the consistent use of terms in all of the ESCB's publications that relate to payments, clearing and settlement, on 30 September 2008 the ECB published for public consultation a glossary of terms relating to the technical aspects of payment, clearing and settlement systems in the EU. The terms included in the glossary have been defined in a user-friendly and non-legalistic style in order to promote their acceptance. The final version of the glossary will be published on the ECB's website.

Finally, the ECB publishes statistical data on payments and securities trading, clearing and settlement on an annual basis. Data are broken down by country and, as of 2007, are made available solely in electronic form via the Statistical Data Warehouse on the ECB's website. The data for 2007 were published on 26 November 2008.

²⁵ The webpage can be found under <http://www.ecb.europa.eu/paym/pol/bc/html/index.en.html>



Willem F. Duisenberg at his farewell event on 22 October 2003 handing over the bell used at the Governing Council meetings to Jean-Claude Trichet

CHAPTER 5

EUROPEAN AND INTERNATIONAL RELATIONS

I EUROPEAN ISSUES

In 2008 the ECB continued to have regular contacts with European institutions and fora, particularly with the European Parliament (see Chapter 6), the ECOFIN Council, the Eurogroup and the European Commission. The President of the ECB participated in meetings of the ECOFIN Council when matters relating to the objectives and tasks of the ESCB were discussed, as well as in the meetings of the Eurogroup. The President of the Eurogroup and the Commissioner for Economic and Monetary Affairs attended meetings of the Governing Council when they deemed it appropriate.

1.1 POLICY ISSUES

THE STABILITY AND GROWTH PACT

In 2008 the initially favourable macroeconomic environment supported the improvement of budget balances in most countries and hence the abrogation of excessive deficit procedures for five out of the six Member States with an excessive deficit at the end of 2007. In June 2008 the ECOFIN Council brought to an end the excessive deficit procedures for the Czech Republic, Italy, Portugal and Slovakia, and took the same step for Poland in July 2008. For Slovakia, this removed a major obstacle to its adoption of the euro in 2009. The revision of the Greek deficit for 2007 from 2.8% to 3.5% of GDP did not lead to procedural steps under the excessive deficit procedure.

However, the deterioration of the macroeconomic environment in the course of the year and the impact of the financial crisis on tax revenues put pressure on public finances and led to the re-emergence of high deficits, especially in countries which were vulnerable owing to insufficient consolidation in good times. In July 2008 the ECOFIN Council launched an excessive deficit procedure against the United Kingdom, recommending under Article 104(7) of the Treaty that the United Kingdom should bring the deficit below 3% of GDP by the financial year 2009/10. Hungary remained subject to an ongoing excessive deficit procedure during 2008, with a deadline to correct the

deficit by 2009 at the latest. In addition, in May 2008 the Commission issued “economic and budgetary policy advice” to France, inviting the country to carry out the necessary consolidation of public finances and to pursue structural reforms. Reflecting on the need for a binding medium-term fiscal framework and the risk of the deficit exceeding 3% of GDP, the Commission also gave advice to Romania in June 2008.

In May the Eurogroup endorsed the policy framework set by the Stability and Growth Pact. Ministers noted that in several countries more ambitious policies would be needed to comply with the provisions of the preventive arm of the Pact and achieve the budgetary objectives of the 2007 Berlin agreement, namely that Member States would achieve their medium-term objectives in 2008 or 2009 and that all of them should aim for 2010 at the latest.

As the financial turbulence increased over the year, leading to diminishing confidence in the financial sector, the ECOFIN Council called in October for fiscal prudence to support confidence. Ministers reiterated that the Pact remained the adequate framework and should be fully applied. In particular, automatic stabilisers should help to cushion the expected slowdown. With regard to the long-term sustainability of public finances, the Council discussed proposals on how to include the ageing-induced fiscal burden in the definition of the medium-term objectives.

THE LISBON STRATEGY

The Lisbon strategy – the EU’s wide-ranging programme of economic, social and environmental reform – entered a new three-year policy cycle in 2008, the second cycle since the review of the strategy in 2005.

In spring 2008 the European Council confirmed the Integrated Guidelines adopted for the 2005-08 cycle and stressed that the focus during the present cycle should be on the implementation of agreed objectives. It also complemented these guidelines with

country-specific recommendations for each Member State and a horizontal guideline addressed to the euro area countries. The European Commission was invited to continue working with Member States on a clear and transparent methodology for the monitoring and evaluation of Lisbon reforms. Furthermore, to ensure continued commitment to structural reforms, the European Council invited the Commission, the EU Council and the national Lisbon coordinators to start reflecting on the future of the Lisbon strategy after 2010.

In the autumn of 2008 Member States submitted their national reform programmes. These programmes set out the progress Member States have made so far in implementing their structural reform strategies. These strategies aim to ensure the sustainability and quality of public finances, improve the regulatory environment of businesses, increase investment in research and development as well as innovation, and introduce measures to boost labour participation and enhance labour market flexibility. At the end of 2008 the European Commission published its first assessment of the implementation of the 2008-10 Community Lisbon Programme, which was adopted at the end of 2007 and complements the national reform programmes by detailing actions to be taken at the EU level. The Commission also suggested additional measures to reinforce the Lisbon strategy as part of the European Economic Recovery Plan.¹

The ECB has repeatedly stressed the importance of implementing structural reforms aimed at enhancing growth and employment. Euro area countries in particular should implement comprehensive reform measures to foster the smooth functioning of EMU.

FINANCIAL MARKET DEVELOPMENTS AND FINANCIAL INTEGRATION

The policies pursued by the EU during 2008 in the financial market area were to a large extent driven by the financial crisis. In the second half of 2007 the EU Council had adopted three roadmaps in response to the financial market turbulence which emerged in August of that

year. These three roadmaps specified the measures to be taken regarding i) the response to the financial turbulence, ii) the strengthening of EU arrangements for financial stability and iii) the review of the Lamfalussy process on financial regulation and supervision.

In the course of 2008 substantial progress was made on all three roadmaps. Regarding the response to the financial turbulence, the European Commission in July published its suggestions concerning the conditions for the authorisation, operation and supervision of credit rating agencies. In October it presented a proposal for an amendment of the Capital Requirements Directive (for more details, see Section 2 of Chapter 4). To strengthen the EU arrangements for financial stability, the supervisory authorities, central banks and finance ministries of the EU adopted a Memorandum of Understanding on cooperation on cross-border financial stability, which entered into force in June. Substantial progress was also made on the review of the Lamfalussy process, leading to the agreement that the mandates of national supervisors should include an EU dimension by mid-2009 and that “colleges of supervisors” should be established for the largest cross-border financial groups.

When the financial crisis intensified in autumn 2008, EU institutions and Member States stepped up their coordination of measures to address the renewed challenges. On 12 October the euro area Heads of State or Government adopted a concerted action plan. On 15 October the European Council endorsed the principles agreed by the euro area countries and called on EU countries to adopt national measures in conformity with the action plan. The President of the ECB participated in both meetings.

The main objectives of the concerted action plan were to ensure appropriate liquidity conditions

¹ These measures include: i) speeding up the implementation of measures to enhance the business environment, ii) improving the functioning of labour markets, iii) reducing skills shortages and iv) bringing forward public infrastructure investments. The European Economic Recovery Plan also stresses the importance of improving international market access and intensifying international regulatory cooperation.

for financial institutions, to facilitate the funding of banks, to provide financial institutions with additional capital resources, to allow for the efficient recapitalisation of distressed banks and to ensure sufficient flexibility in the implementation of accounting rules. In addition, a financial crisis cell was established to facilitate rapid and effective action in a crisis situation. This cell brings together representatives of the country holding the EU presidency, the President of the European Commission, the President of the ECB (in conjunction with other EU central banks), the President of the Eurogroup and the governments of the Member States.

OTHER EU POLICIES

The ECB monitored developments in the field of EU climate change and energy policies, in view of their potential impact on macroeconomic developments, price stability and fiscal positions. As regards energy policies, improving the functioning of the EU's internal market for energy can be expected to have a positive impact on energy price developments and to enhance

the predictability of energy supply. In both policy fields, the focus during 2008 was on turning the EU's ambitious commitments into legislation.² The ECB also monitored developments in the Common Agricultural Policy (CAP), in particular as regards their impact on food prices. In response to the surge in food prices, the EU Council agreed on several measures to improve food supply, such as the sale of public stocks, the suspension of the obligation for farmers to leave some of their arable land uncultivated, an increase in milk quotas and the suspension of import duties for cereals. Following the launch of the "CAP Health Check" by the Commission, the EU Council reached an agreement in November 2008 to modernise and streamline the CAP and to remove remaining restrictions on farmers in response to the growing demand for food.

² According to the climate and energy legislative package, the EU should, by 2020, reduce greenhouse gas emissions by 20% compared with 1990 and increase the use of renewable energy sources to 20% of overall EU energy consumption. Moreover, it should increase energy efficiency by 20%.

Box 12

TEN YEARS OF EMU

2008 marked the tenth anniversary of the ECB and of the Eurosystem and the ESCB. This anniversary provided an opportunity to review the first decade of EMU and to draw lessons from the experience gained during this period.

In May 2008 the ECB published a special edition of the Monthly Bulletin, which gave an account of the Eurosystem's work and achievements and looked at the challenges that the Eurosystem and the euro area face as they enter their second decade. The first ten years of EMU have demonstrated the ECB's ability to fully live up to its Treaty mandate. In spite of a difficult external environment, characterised by a significant increase in commodity prices, price stability has been broadly achieved. In the euro area, consumer prices rose, on average, at an annual rate of 2.1% between 1999 and 2007, well below average annual consumer price inflation in the period from 1990 to 1998, which amounted to 3%. Moreover, the ECB has succeeded in anchoring longer-term inflation expectations at levels consistent with price stability. EMU has also fostered employment creation. Employment in the euro area rose by around 16 million persons between 1999 and 2007, as compared with around 6 million persons in the period 1990-98.

The European Commission published a communication in May, together with a report entitled "EMU@10: successes and challenges after 10 years of Economic and Monetary Union", in

which it emphasised that ten years after the introduction of the euro, the currency is a success. The Commission also put forward several proposals to improve coordination and surveillance within EMU, to enhance the euro area's international role and to promote effective governance of EMU.

The ECOFIN Council discussed the first ten years of EMU at its meeting of 7 October 2008. Ministers concluded that EMU had contributed to macroeconomic stability over the past ten years and that, following the reform processes within EMU, the EU was now better equipped to cope with economic shocks. In order to reap further benefits from EMU and to improve the economic performance of Member States, the ECOFIN Council agreed on several proposals, including i) better monitoring of competitiveness developments (particularly in countries participating in the euro area and ERM II), ii) a prioritisation of structural reform recommendations in order to take account of the economic situation and iii) measures to better account for the effects of economic cycles, and related cycles in asset prices, on tax revenues.

The European Parliament also adopted a resolution on the first ten years of EMU (see Chapter 6).

The general conclusion emerging from the reflections on the first ten years of EMU was that EMU's institutional set-up works well. However, to make EMU a continued success, policy-makers need to be firmly committed to the objectives agreed at the European level and vigorously implement the necessary policies.

1.2 INSTITUTIONAL ISSUES

THE TREATY OF LISBON

Following the signing of the Treaty of Lisbon by the Heads of State or Government on 13 December 2007, Member States started the ratification procedure in accordance with their respective constitutional requirements. So far, 23 Member States have ratified the Lisbon Treaty. Germany and Poland are very close to formal completion of the ratification procedure. In the Czech Republic, parliamentary ratification is still pending.

In Ireland, the Lisbon Treaty was submitted to a binding referendum and failed to achieve majority support. Against this background, the European Council at its meeting on 19-20 June 2008 reiterated that the Lisbon Treaty, with its aim "to help an enlarged Union act more effectively and more democratically", should still be pursued. At the European Council meeting on 11-12 December 2008, the Heads of State or Government agreed to give "legal

guarantees" to Ireland following the rejection of the Lisbon Treaty. The Irish government made a commitment to seek ratification of the Lisbon Treaty by the end of the term of the current European Commission.

CONVERGENCE REPORTS

In line with Article 122 of the Treaty, the ECB and the European Commission prepared convergence reports on the progress made by Bulgaria, the Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Romania, Slovakia and Sweden in meeting the conditions to join the euro area. In these reports, which were published on 7 May 2008, Slovakia was assessed in somewhat more depth than the other countries because the Slovak authorities had submitted a request for an examination in view of Slovakia's intention to adopt the euro as of 1 January 2009. On the basis of a proposal from the Commission, the ECOFIN Council decided on 8 July 2008 that Slovakia fulfilled the conditions to join the euro area on 1 January 2009 (see Chapter 3).

I.3 DEVELOPMENTS IN AND RELATIONS WITH EU CANDIDATE COUNTRIES

The ECB continued its policy dialogue with the central banks of the EU candidate countries through bilateral meetings and within the overall institutional framework for the enlargement process set up by the EU.

Accession negotiations with Croatia began in October 2005. Negotiations on the individual chapters of the *acquis communautaire* were opened in June 2006 and advanced significantly in the course of 2008. By the end of the year, negotiations had been opened on 21 chapters and provisionally closed on 4. The ECB continued its fruitful bilateral relations with the Croatian National Bank, for example in the context of the high-level policy dialogue.

After opening accession negotiations with Turkey in October 2005, the European Commission started negotiations on the individual chapters of the *acquis communautaire* in June 2006. In December 2006 the European Council decided to suspend talks for 8 out of the 35 chapters in the EU accession process, owing to the lack of progress in the extension of the customs union to the EU Member States. The EU institutions are continuing to evaluate the compatibility of Turkish legislation with the *acquis communautaire* and are making progress with the opening of the other chapters. The ECB continued its long-standing high-level policy dialogue with the Central Bank of the Republic of Turkey.

Although the former Yugoslav Republic of Macedonia was granted candidate status in 2005, it still needs to fulfil a number of institutional criteria before EU membership negotiations can start, including some related to crucial areas of political reform. Staff level contacts between the ECB and the National Bank of the Republic of Macedonia remained strong.

2 INTERNATIONAL ISSUES

2.1 KEY DEVELOPMENTS IN THE INTERNATIONAL MONETARY AND FINANCIAL SYSTEM

SURVEILLANCE OF MACROECONOMIC POLICIES IN THE GLOBAL ECONOMY

Given the high level of economic and financial integration, the global economic environment is extremely relevant for the conduct of economic policy in the euro area. As a result, the Eurosystem closely monitors and analyses macroeconomic policies and underlying developments in countries outside the euro area. The ECB also plays an important role in the process of international multilateral surveillance of macroeconomic policies, which takes place mainly at the meetings of international organisations such as the BIS, the IMF and the OECD, as well as in fora such as the G7 and G20 groups of finance ministers and central bank governors. The assessment of international developments with a view to contributing to a stable macroeconomic environment and sound macroeconomic and financial policies was especially important in 2008.

The international economic environment in 2008 was largely dominated by the global financial turmoil, reflecting the disorderly unwinding of domestic and external imbalances that had built up in preceding years and the materialisation of surrounding risks.

The problems resulting from the realisation of these risks were rapidly transmitted around the world, given the global nature of regulatory, accounting and business models which contributed to practices that subsequently proved to be opaque and unsustainable, as well as the strength of cross-border financial and trade linkages. The original shock, which had started in the US sub-prime housing market, was considerably amplified by, among other things, financial institutions' high debt leverage and the underpricing of risks at the global level. While episodes of market turbulence between August 2007 and September 2008 were comparatively short-lived and limited to a relatively small number of financial institutions, the occurrence of difficulties in a number of very large and

globally active institutions caused major shockwaves from September 2008 onwards. These triggered high tensions in the interbank markets and in other key financing markets, severe episodes of stress in the banking sectors of several countries, significant changes in global exchange rates and oil prices, a pronounced fall in asset prices worldwide, and a marked slowdown in real activity (see also Chapter 1). Although this financial crisis originated in the United States, an increasing number of countries have been affected, including both advanced and, more recently, emerging market economies. Several countries requested assistance from the IMF (see the section below on the international financial architecture). Liquidity assistance to central banks of other countries was also provided by the major central banks, including the ECB and the Federal Reserve System. For example, the latter set up liquidity swap facilities with the central banks of four large systemically important economies (Brazil, Mexico, South Korea and Singapore) at the end of October 2008, in an effort to unfreeze money markets among emerging nations.³

Largely as a result of these developments, current account balances changed markedly in 2008. First, the US current account deficit fell by 0.7 percentage point, to 4.6% of GDP, mostly as a result of lower domestic demand.⁴ Second, some countries registering current account surpluses saw these surpluses decline significantly: China recorded a decline of 1.9 percentage points of GDP and Japan a fall of 0.8 percentage point. Meanwhile, oil-exporting countries as a whole recorded a rise in their current account surpluses in 2008; although oil prices declined strongly towards the end of the year, they remained above their 2007 level for most of the year. The euro area's current account position moved from a surplus in 2007 to a deficit of 0.5% of GDP in 2008.

³ For information on swap lines provided by the ECB, see Section 1 of Chapter 2.

⁴ The figures in this paragraph are taken from the IMF's "World Economic Outlook", October 2008.

On a number of occasions in 2008, the Eurosystem stressed the risks and distortions related to the persistence of global imbalances. It also confirmed its full support for a cooperative approach to ensure an orderly adjustment of global imbalances. In particular, the Eurosystem repeatedly called for policies aimed at increasing private and public savings in countries with current account deficits, the implementation of further structural reforms in mature economies with relatively low potential growth, measures to increase domestic demand in emerging market economies with large current account surpluses, improved capital allocation in these countries, and a better appreciation of risks more generally. In the context of the ongoing reflections on how to improve the international financial architecture (see below), in which the ECB and other Eurosystem central banks are participating, the Eurosystem has underscored the importance of ensuring that such an improvement also enhances macroeconomic policy discipline, in addition to fostering financial market discipline. A strengthened multilateral economic surveillance framework should help to ensure that economic policies, especially in systemically important countries, are stability-oriented and sustainable.

Finally, the euro area itself is subject to international policy surveillance exercises. In 2008 both the IMF and the OECD conducted regular reviews of the monetary, financial and economic policies of the euro area, as a complement to their reviews of the individual euro area countries. The Article IV consultations of the IMF and the review by the OECD's Economic and Development Review Committee provided an opportunity for useful discussions between these international organisations and the ECB, the Eurogroup presidency and the European Commission. Following these discussions, both the IMF and the OECD produced individual reports assessing the euro area policies.⁵

INTERNATIONAL FINANCIAL ARCHITECTURE

The financial turmoil led to a wide-ranging debate on the set-up and functioning of the

international monetary and financial system. The EU Heads of State or Government agreed at their informal meeting in Brussels on 7 November 2008 to coordinate their responses to the financial crisis and to implement common principles upon which to build a new international financial system. On 15 November the leaders of the G20 countries convened in Washington, D.C. for their first ever summit on financial markets and the world economy. They called for action in the areas of financial regulation and macroeconomic policies and underlined their commitment to free trade. The follow-up work to this summit has been organised through four working groups reporting to the G20 finance and central bank deputies, who prepared the meeting of the G20 finance ministers and central bank governors in spring 2009.

In response to calls from the IMF's members, concrete changes were made to the Fund's facilities for financial support. In October a new financing instrument was created, the short-term liquidity facility. The purpose of this instrument is to provide quick-disbursing financing for countries with strong policies and a good track record that are facing temporary liquidity problems arising from developments in external capital markets. As well as establishing this new instrument, the Fund embarked on a review of the various aspects of its lending role. Furthermore, it provided financing to some of its member countries, including Belarus, Hungary, Iceland, Latvia, Pakistan and Ukraine, through its regular standby arrangements.

Various efforts to reform the IMF continued in 2008. Key areas for reform which were discussed included IMF surveillance, the Fund's lending role, the governance of the Fund (including quotas and voice), and its income and expenditure framework. Agreement on these issues has been pursued through discussions both inside the IMF and in other fora, such as the G7 and G20, with the ESCB and the Eurosystem playing their part by monitoring and

⁵ "Euro area policies: 2008 Article IV consultation – staff report", IMF, August 2008 and "Economic survey of the euro area", OECD, January 2009.

contributing to the discussions on these issues as appropriate.

Following the introduction of a new decision on bilateral surveillance over members' policies in mid-2007, the Fund focused on its implementation in the regular Article IV consultations with its member countries. This new decision aims to ensure that greater attention is paid to cross-country spillovers by employing the concept of external stability as the organising principle for surveillance. External stability is defined with reference to the exchange rate, the analysis of which consequently becomes a key component of the surveillance process. In October the Fund adopted its first "Statement of surveillance priorities", which is to guide IMF surveillance until 2011. This statement identifies four key priorities for Fund surveillance: to resolve financial market stress, to strengthen the global financial system, to adjust to sharp changes in commodity prices and to promote the orderly reduction of global imbalances. In support of these priorities, the Fund intends to improve its early warnings of risks and vulnerabilities, among other things through the analysis of macro-financial linkages, and to extend its vulnerability exercise to advanced economies. The Fund also continued to focus on financial sector issues and related policy lessons and to improve its collaboration with the Financial Stability Forum.

In addition, the Board of Governors of the IMF agreed on a comprehensive quota and voice reform package, which mainly provides for a new quota formula; a second round of ad hoc quota increases based on the new formula; a tripling of basic votes to increase the voice of low-income countries; and an additional Alternate Executive Director for the two African chairs on the Executive Board. The two key objectives of the reform were to realign quota shares with members' relative weight and role in the global economy and to enhance the voice and participation of low-income countries in the IMF. Work on the Fund's governance will continue on the basis of, among other things, the 2008 report of the IMF's Independent Evaluation

Office and the report of the committee of eminent persons on IMF governance reform, to be released by spring 2009.

The Board of Governors of the IMF also agreed on measures to put the institution on a sounder financial footing. On the income side, the Fund will rely in the future on broader and more sustainable income sources. This includes a broadening of the Fund's investment authority and the establishment of an endowment funded by the profits from a strictly limited sale of gold consistent with the Central Bank Gold Agreement. On the expenditure side, consideration of the Fund's core mandate and careful priority-setting guide a new expenditure framework, entailing substantial budget reductions. Moreover, in the context of the financial turmoil, discussions are ongoing with regard to the adequacy of IMF resources.

An important contribution to strengthening the resilience of the global financial system was made by the Financial Stability Forum, which facilitated the coordination of various national and international initiatives and oversaw their timely implementation. It also issued, and reviewed the implementation of, recommendations in five key areas, namely prudential oversight, transparency and valuation, credit ratings, the authorities' responsiveness to risks and arrangements for dealing with stress in the financial system.

The agenda of the international financial community also continued to feature the promotion of mechanisms for crisis prevention and orderly crisis resolution. In this context, further progress was made in the implementation of the principles for stable capital flows and fair debt restructuring in emerging markets, which were endorsed by G20 finance ministers and central bank governors in 2004. The aim of these principles, which are market-based and voluntary, is to provide guidelines for the behaviour of sovereign issuers and their private creditors regarding information-sharing, dialogue and close cooperation. An increasing number of financial institutions and issuing

countries have voiced support for the principles and expressed particular interest in advancing their implementation. At its last meeting in Washington, D.C. in October 2008, the Group of Trustees, a body comprising senior leaders in global finance established to guide the implementation of the principles, reviewed the progress being made within the framework of the international financial architecture and gave guidance for future work.

Another financial market initiative taken in 2008 was the development of the Santiago Principles by the International Working Group of Sovereign Wealth Funds. Jointly agreed by sovereign wealth funds from advanced, emerging and developing economies, the principles represent a collaborative effort to set out a comprehensive framework to improve the understanding of the operations of sovereign wealth funds. The aim of these principles, which are voluntary in nature, is to enhance the stabilising role played by sovereign wealth funds in financial markets and to help to maintain the free flow of cross-border investment. The OECD is providing guidance on the policies of recipient countries with regard to investments by sovereign wealth funds.

2.2 COOPERATION WITH COUNTRIES OUTSIDE THE EU

The Eurosystem continued to foster its international activities with the central banking community outside the EU through the organisation of seminars and workshops. In addition, the technical assistance provided by the Eurosystem remained an important tool for strengthening the administrative capacity of central banks, especially in the EU's neighbouring regions, and enhancing compliance with European and international standards. The ECB also actively participated alongside the European Commission in the EU's macroeconomic dialogue with China, India and Russia.

The ECB continued to deepen its relations with countries in the western Balkans. On 1 September 2008 the ECB and 17 EU NCBs⁶

began a nine-month programme of technical assistance with the National Bank of Serbia. The programme, funded by the European Agency for Reconstruction, will provide the National Bank of Serbia with a needs analysis report on progress to be made in selected central banking areas in preparation for EU accession. The areas to be covered are the supervision of banks; the harmonisation of legislation in line with the *acquis communautaire* under the competence of the National Bank of Serbia; the liberalisation of capital movements; the conduct of monetary policy and the foreign exchange rate regime; monetary, financial and balance of payments statistics; and financial services consumer protection.

Technical cooperation with the Bank of Russia intensified with the start on 1 April 2008 of a new central bank cooperation programme, funded by the European Commission. This programme involves the ECB in partnership with the Deutsche Bundesbank, the Bank of Greece, the Banco de España, the Banque de France, the Banca d'Italia, De Nederlandsche Bank, the Oesterreichische Nationalbank, and Suomen Pankki – Finlands Bank in cooperation with Rahoitustarkastus (the financial supervision authority of Finland). It will end in December 2010. The aim of the programme is to share EU knowledge and experience with the Bank of Russia in the area of internal audit and to support it in the gradual implementation of the Basel II principles in the banking supervisory framework.

The fifth high-level Eurosystem seminar with governors of central banks of the EU's southern and eastern Mediterranean partners – co-organised by the ECB and the Central Bank of Egypt – took place on 26 and 27 November 2008 in Alexandria. Governors reviewed recent economic and financial developments in the region and discussed monetary policy strategies and exchange rate regimes as well as banking sector issues in Mediterranean countries. ECB

⁶ The NCBs of Belgium, Bulgaria, the Czech Republic, Denmark, Germany, Estonia, Greece, France, Italy, Cyprus, Latvia, Hungary, the Netherlands, Austria, Poland, Romania and the United Kingdom.

representatives also participated in a number of meetings that focused on economic and financial issues within the framework of the Barcelona Process: Union for the Mediterranean.

Continued cooperation with the Central Bank of Egypt led to the launch of a new three-year programme on 1 January 2009, funded by the European Commission. The programme will involve experts from Българска народна банка (Bulgarian National Bank), Česká národní banka, the Deutsche Bundesbank, the Bank of Greece, the Banque de France, the Banca d'Italia and Banca Națională a României. The programme has three main objectives: to prepare guidelines that help the Central Bank of Egypt to establish new regulations in line with the basic Basel II regime, to finalise the regulations and the organisation of their implementation, and to design a new scheme for data reporting from banks to the Central Bank of Egypt in order that the new regulations can be implemented.

For the first time, a high-level Eurosystem seminar, co-organised by the ECB and the Deutsche Bundesbank, was held with governors of central banks and monetary agencies of the member states of the Gulf Cooperation Council (GCC)⁷. It was held in Mainz on 11 and 12 March 2008. Discussions focused on economic developments and structures in GCC countries and the GCC's role in the global economy, in particular as regards money and finance as well as energy and trade.

The ECB, the People's Bank of China and the Banca d'Italia jointly organised the fourth high-level seminar of central banks in the East Asia-Pacific region and the euro area at the Banca d'Italia in Rome on 26 and 27 June. The purpose of the seminar was to exchange views on issues confronting policy-makers in both regions, such as the financial turmoil, global imbalances and the growth outlook.

During 2008 the ECB further strengthened its relations with the People's Bank of China. A Memorandum of Understanding signed by the two institutions in 2002 was renewed in 2008.

Cooperation has greatly intensified over the past few years, comprising both high-level meetings and enhanced cooperation at the staff level. The President of the ECB and the Governor of the People's Bank of China met at the ECB on 5 September for policy discussions.

⁷ Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.



Former Italian President Carlo Azeglio Ciampi (right) and Jean-Claude Trichet on their way to the ceremony to mark the tenth anniversary of the ECB at the Alte Oper Frankfurt on 2 June 2008

CHAPTER 6

ACCOUNTABILITY

I ACCOUNTABILITY VIS-À-VIS THE GENERAL PUBLIC AND THE EUROPEAN PARLIAMENT

Central bank independence has established itself over the past decades as an indispensable element of the monetary policy regimes of mature and emerging economies. The decision to grant central banks independence is firmly grounded in economic theory and empirical evidence, both of which show that such a set-up is conducive to maintaining price stability. At the same time, it is a founding principle of democratic societies that any independent institution bestowed with a public function should be accountable to citizens and their elected representatives. In the case of an independent central bank, accountability can thus be understood as the obligation to explain and justify its decisions to citizens and their political representatives. Accountability is therefore an important counterpart to central bank independence.

Since its establishment, the ECB has always recognised the fundamental importance of being accountable for its policy decisions. As required by the Treaty, it has maintained a regular dialogue with EU citizens and the European Parliament. The ECB's commitment in this respect is also illustrated by the many publications it released in 2008 and the numerous speeches delivered by the members of the Governing Council during the year.

The Treaty lays down precise reporting requirements for the ECB, which include the publication of a quarterly report, a weekly financial statement and an annual report. The ECB in fact exceeds these statutory obligations, for instance by publishing a Monthly Bulletin (rather than the required quarterly report) and by holding monthly press conferences following the first Governing Council meeting of each month.

The European Parliament – as the body which derives its legitimacy directly from the citizens of the EU – has continued to play a key role in holding the ECB to account. In accordance with the Treaty, the President of the ECB presented the ECB's Annual Report 2007 to the plenary session of the European Parliament in 2008. In addition, the President continued to report

regularly on the ECB's monetary policy and its other tasks during his quarterly hearings before the European Parliament's Committee on Economic and Monetary Affairs. The President also appeared before a joint meeting of the European Parliament and the national parliaments to discuss the EU's framework for safeguarding financial stability.

Other members of the Executive Board also appeared before the European Parliament on a number of occasions. The Vice-President presented the ECB's Annual Report 2007 to the Committee on Economic and Monetary Affairs. Gertrude Tumpel-Gugerell appeared twice before the Committee to inform its members about recent developments in the field of securities clearing and settlement and the Eurosystem's TARGET2-Securities project. Jürgen Stark presented the ECB's Convergence Report 2008 to the Committee and participated in a discussion on the entry of Slovakia into the euro area. Lorenzo Bini Smaghi participated in a panel discussion organised by the Committee on the first ten years of EMU and the future challenges.

In addition, discussions took place between ECB staff and members of the European Parliament on matters in which the ECB has specific expertise (e.g. euro counterfeiting, capital requirements and statistics). In line with established practice, a delegation of the Committee on Economic and Monetary Affairs visited the ECB to exchange views with the members of the Executive Board on a variety of issues. The ECB also continued its voluntary practice of replying to written questions from members of the European Parliament on issues related to the ECB's fields of competence.

2 SELECTED TOPICS RAISED AT MEETINGS WITH THE EUROPEAN PARLIAMENT

During the various exchanges of views between the European Parliament and the ECB, a wide range of issues were addressed. The key issues raised during these discussions are outlined below.

EUROPEAN PARLIAMENT RESOLUTION ON THE ECB'S ANNUAL REPORT 2007

In line with established practice, the European Parliament adopted on 9 July 2008 an own-initiative resolution on the ECB's Annual Report 2007. In its resolution, the European Parliament acknowledged the full independence of the ECB and recognised that publishing the minutes of Governing Council meetings could lead to political pressure on Governing Council members. The resolution also recognised the excellent work of the ECB in managing the financial turmoil and highlighted the fact that the major central banks – including the ECB – had warned against underestimating risks prior to the onset of the financial crisis. In addition, the resolution underscored the benefits of the Eurosystem's two-pillar monetary strategy.

FINANCIAL REGULATION

The European Parliament and the ECB continued their close dialogue on matters concerning financial regulation. In its resolutions on this issue, the European Parliament called for appropriate counter-cyclical capital requirements for all entities operating in financial markets. The European Parliament also saw a need for appropriate disclosure and accounting treatment of off-balance-sheet items, and called for more and better information on complex products and the securitisation process. As regards rating agencies, the Parliament advocated the establishment of an EU review mechanism, and pressed for measures to improve both the transparency of rating methodologies and quality assurance systems.

During his appearance before the joint meeting of the European Parliament and the national parliaments on 23 January 2008, the President warned that the growing complexity of financial instruments and the lack of clarity regarding the exposure of financial institutions could give

rise to increased uncertainty about the degree of risk involved and the ultimate bearer of these risks, which could prompt a more generalised contagion. The President emphasised the need to increase transparency and to render the regulatory framework more counter-cyclical. He also called upon financial institutions to improve their risk management practices. On several occasions, the President underlined the need for a swift implementation of the strategic roadmap of the ECOFIN Council setting out the necessary policy responses to the financial turmoil.

THE EU FRAMEWORK FOR FINANCIAL SUPERVISION AND STABILITY

The EU framework for financial supervision and stability also featured prominently during the discussions between the ECB and the European Parliament. In its various resolutions on this topic, the European Parliament noted that financial supervision in Europe had not kept pace with the integration of EU financial markets. Accordingly, the European Parliament saw a need for the creation of "colleges of supervisors" for the largest cross-border financial groups, and for the strengthening and clarification of the status and accountability of the three Level 3 Committees of the Lamfalussy framework (see Section 2 of Chapter 4 for further information on the Lamfalussy framework). The European Parliament also urged the ECB and the ESCB to play an active role in the elaboration and implementation of EU policies on macro-prudential supervision and financial stability, and called upon supervisors and central banks to provide the ECB – via the Banking Supervision Committee – with relevant micro-prudential information. Finally, the Parliament advocated legislative action with a view to enhancing crisis prevention and management arrangements.

During his appearances before the Parliament, the President emphasised that the potential of the Lamfalussy framework should be further exploited and that the decisions foreseen in the roadmap on the review of the Lamfalussy framework should be implemented swiftly. The President also called for the rapid

implementation of the steps foreseen in the roadmap for strengthening EU arrangements for financial stability. In particular, he stressed the need for smooth interplay and an appropriate exchange of information between supervisors and central banks.

TEN YEARS OF EMU

The European Parliament also contributed to the discussion on the first ten years of EMU (see Box 12). On 18 November 2008 it adopted a resolution setting out its views that the first ten years of EMU had been a success, with the single currency enhancing economic stability and integration in the euro area countries. At the same time, the Parliament considered that more needed to be done to reap the full benefits of EMU, in particular as regards the pursuit of structural reforms and sound fiscal policies.

The President of the ECB concurred that structural reforms and prudent fiscal policies were crucial to ensure the smooth functioning of EMU. He also expressed his concerns about the slowdown in the implementation of structural reforms and fiscal consolidation efforts.



Jean-Claude Trichet cutting the birthday cake at the ceremony to mark the tenth anniversary of the ECB at the Alte Oper Frankfurt on 2 June 2008. Left to right: José Manuel Barroso, Jean-Claude Juncker, Jean-Claude Trichet, Aline Trichet, Hans-Gert Pöttering, Gretta Duisenberg, Janez Janša

CHAPTER 7

EXTERNAL COMMUNICATION

I COMMUNICATION POLICY

External communication at the ECB aims to enhance the public's understanding of the ECB's policies and decisions. It is an integral part of the ECB's monetary policy and of its other tasks. Two key elements – openness and transparency – guide the ECB's communication activities. Both contribute to the effectiveness, efficiency and credibility of the ECB's monetary policy. They also support the ECB's efforts to give full account of its actions, as explained in more detail in Chapter 6.

The concept of real-time, regular and comprehensive explanations of the monetary policy assessment and decisions, which was introduced in 1999, represents a uniquely open and transparent approach to central bank communication. Monetary policy decisions are explained at a press conference immediately after the Governing Council has taken them. The President delivers a detailed introductory statement at the press conference, explaining the Governing Council's decisions. The President and the Vice-President are then at the media's disposal to answer questions. Since December 2004 decisions taken by the Governing Council other than those setting interest rates have also been published every month on the websites of the Eurosystem central banks.

The ECB's legal acts are made available in all the official languages of the EU, as are the consolidated financial statements of the Eurosystem.¹ The ECB's Annual Report and the quarterly issues of its Monthly Bulletin are also made available in full in the official EU languages.² The Convergence Report is made available either in full or in summary form in all official EU languages.³ For the purposes of public accountability and transparency, the ECB publishes other documentation in addition to the statutory publications in some or all official languages, in particular press releases announcing monetary policy decisions, staff macroeconomic projections,⁴ policy positions and information material of relevance to the general public. The preparation, publication and distribution of the national language versions of

the ECB's key publications are undertaken in close collaboration with the NCBs.

1 With the exception of Irish, for which a derogation at the EU level is in effect.

2 With the exception of Irish (by EU derogation) and Maltese (by agreement with the Central Bank of Malta, following the lifting of the temporary EU derogation in May 2007).

3 See footnote 2.

4 ECB staff projections since September 2004 and Eurosystem staff projections since December 2000.

2 COMMUNICATION ACTIVITIES

The ECB addresses a variety of audiences, such as financial experts, the media, governments, parliaments and the general public, with varying levels of knowledge of finance and economics. Its mandate and decisions are therefore explained through a range of communication tools and activities which are constantly being refined in order to make them as effective as possible, taking into account the different audiences and the communication environment and needs.

The ECB publishes a number of studies and reports, such as the Annual Report, which presents a review of the ECB's activities in the previous year and thus contributes to the ECB's accountability. The Monthly Bulletin provides regular updates of the ECB's assessment of economic and monetary developments and the detailed information underlying its decisions, while the Financial Stability Review assesses the stability of the euro area financial system with regard to its ability to absorb adverse shocks.

All members of the Governing Council directly contribute to enhancing public knowledge and understanding of the Eurosystem's tasks and policies by giving testimonies before the European Parliament and national parliaments, delivering public speeches and granting interviews to the media. In 2008 the President of the ECB appeared five times before the European Parliament. The members of the Executive Board of the ECB delivered around 300 speeches to a variety of audiences in the course of 2008 and granted some 200 interviews to the media, as well as having articles published in journals, magazines and newspapers.

The euro area NCBs play an important role in ensuring the dissemination at the national level of Eurosystem information and messages to the general public and interested parties. They address a variety of national and regional audiences in their own languages and environments.

In 2008 the ECB organised 12 seminars aimed at enhancing the knowledge and understanding of international and national media representatives,

either on its own or in cooperation with the EU NCBs and the European Journalism Centre. For the first time, one of these seminars was organised on the occasion of an external Governing Council meeting, on 4 December in Brussels.

The ECB welcomed approximately 14,000 visitors to its premises in Frankfurt in 2008. The visitors received first-hand information in the form of presentations given by ECB experts and managers. Secondary school and university students, together with professionals from the financial sector, made up the majority of visitors.

All documents published by the ECB and its various activities are presented on the ECB's website. In 2008 the website received 18 million visits (20% more than in the previous year), with 126 million pages viewed and 25 million documents downloaded. In 2008 the ECB replied to around 60,000 enquiries from the public requesting information on a number of issues related to the ECB's activities, policies and decisions.

The ECB's communication activities in 2008 focused in particular on explaining the events and consequences of the global financial turmoil and the measures adopted by the ECB and the Eurosystem. A quarter of all public speeches delivered by the members of the Executive Board and a third of the ECB's press releases were related to this issue and were concentrated in the second half of 2008. An increase was witnessed in the number of opinions issued by the ECB on fiscal and regulatory measures taken by individual EU Member States. There was also a significant rise in the number of requests received from the press, the public and visitors to the ECB for information on the financial turmoil and the measures taken by the Eurosystem. The open market operations section of the ECB's website was enhanced to meet the increased demand for information: a news feed with information on monetary policy tender operations was introduced, and data on all market operations since 1999 were published.

On the occasion of its tenth anniversary, the ECB opened its doors to the general public on 1 June 2008. Guided tours of the building, workshops, exhibitions and games were organised for 1,400 registered visitors.

The Cultural Days of the ECB, organised in 2008 in cooperation with all central banks of the ESCB, were dedicated to the EU and featured artistic contributions from all 27 EU Member States. The Cultural Days programme was timed to coincide with the ECB's anniversary celebrations, which were attended by EU Heads of State and Government and a number of figures who had made a major contribution to the realisation of EMU. An anniversary edition of the Monthly Bulletin was published, providing an overview of the first ten years of EMU and examining the challenges ahead. The Fifth ECB Central Banking Conference held in Frankfurt on 13 and 14 November 2008 on "The euro at ten: lessons and challenges" brought together central bankers, academics, market participants and the media from all over the world.

In 2008 the ECB, in conjunction with Národná banka Slovenska, organised an information campaign in preparation for the introduction of the euro in Slovakia on 1 January 2009. The logo "€ Our money", developed by the Eurosystem, was used in all communication activities related to the introduction of the euro in Slovakia. The Slovakian campaign followed the pattern of the communication concept developed for Slovenia, Cyprus and Malta. It aimed to familiarise professional cash handlers and the general public with the visual appearance and security features of the euro banknotes and coins, as well as with the cash changeover procedures (see Chapter 3). In preparation for the launch of the second series of euro banknotes in the coming years, a communication concept is being developed by the Eurosystem central banks.



Panel at the Fifth ECB Central Banking Conference on 13 and 14 November 2008

CHAPTER 8

INSTITUTIONAL FRAMEWORK, ORGANISATION AND ANNUAL ACCOUNTS

I DECISION-MAKING BODIES AND CORPORATE GOVERNANCE OF THE ECB

I.1 THE EUROSISTEM AND THE EUROPEAN SYSTEM OF CENTRAL BANKS



The Eurosystem is the central banking system of the euro area. It comprises the ECB and the NCBs of the EU Member States whose currency is the euro (16 since 1 January 2009). The Governing Council adopted the term “Eurosystem” in order to facilitate understanding of the structure of central banking in the euro area. The term underlines the shared identity, teamwork and cooperation of all of its members. The Treaty of Lisbon incorporates the term “Eurosystem”.¹

The ESCB is composed of the ECB and the NCBs of all EU Member States (27 since 1 January 2007), i.e. it includes the NCBs of the Member States which have not yet adopted the euro.

The ECB is the core of the Eurosystem and the ESCB and ensures that their respective tasks are carried out either through its own activities or via the NCBs. It has legal personality under public international law.

Each NCB has legal personality according to the law of its respective country. The euro area NCBs, which form an integral part of the Eurosystem, carry out the tasks conferred upon the Eurosystem in accordance with the rules established by the ECB’s decision-making bodies. The NCBs also contribute to the work of the Eurosystem and the ESCB through

¹ For more information on the Treaty of Lisbon, see Section 1.2 of Chapter 5.

their participation in the Eurosystem/ESCB committees (see Section 1.5 of this chapter). They may perform non-Eurosystem functions on their own responsibility, unless the Governing Council finds that such functions interfere with the objectives and tasks of the Eurosystem.

The Eurosystem and the ESCB are governed by the decision-making bodies of the ECB: the Governing Council and the Executive Board. The General Council is constituted as a third decision-making body of the ECB, for as long as there are EU Member States which have not yet adopted the euro. The functioning of the decision-making bodies is governed by the Treaty, the Statute of the ESCB and the relevant Rules of Procedure.² Decision-making within the Eurosystem and the ESCB is centralised. However, the ECB and the euro area NCBs jointly contribute, strategically and operationally, to attaining the common goals of the Eurosystem, with due respect to the principle of decentralisation in accordance with the Statute of the ESCB.

1.2 THE GOVERNING COUNCIL

The Governing Council comprises the members of the Executive Board of the ECB and the governors of the NCBs of the Member States which have adopted the euro. Its main responsibilities, as laid down in the Treaty, are:

- to adopt the guidelines and take the decisions necessary to ensure the performance of the tasks entrusted to the Eurosystem;
- to formulate the monetary policy of the euro area, including, as appropriate, decisions relating to intermediate monetary objectives, key interest rates and the supply of reserves in the Eurosystem, and to establish the necessary guidelines for their implementation.

The Governing Council meets, as a rule, twice a month at the ECB's premises in Frankfurt am Main, Germany. It conducts, *inter alia*, an in-depth assessment of monetary and economic developments and takes related decisions specifically at its first meeting of the month, while the second meeting usually focuses on issues related to other tasks and responsibilities of the ECB and the Eurosystem. In 2008 two meetings were held outside Frankfurt: one was hosted by the Bank of Greece in Athens and the other by the Nationale Bank van België/Banque Nationale de Belgique in Brussels.

When taking decisions on monetary policy and on other tasks of the ECB and the Eurosystem, the members of the Governing Council do not act as national representatives, but in a fully independent personal capacity. This is reflected by the principle of “one member, one vote” applied within the Governing Council. On 18 December 2008 the Governing Council decided to continue its current voting regime³ and to introduce the rotation system only when the number of governors of the euro area NCBs exceeds 18.⁴ This decision was triggered by the increase in the number of governors in the Governing Council to 16 as a result of the adoption of the euro by Slovakia on 1 January 2009. At the same time, the Governing

² For the ECB's Rules of Procedure, see Decision ECB/2004/2 of 19 February 2004 adopting the Rules of Procedure of the European Central Bank, OJ L 80, 18.3.2004, p. 33; Decision ECB/2004/12 of 17 June 2004 adopting the Rules of Procedure of the General Council of the ECB, OJ L 230, 30.6.2004, p. 61; and Decision ECB/1999/7 of 12 October 1999 concerning the Rules of Procedure of the Executive Board of the ECB, OJ L 314, 8.12.1999, p. 34. These rules are also available on the ECB's website.

³ As provided for by Article 10.2 of the Statute of the ESCB, which limits the number of governors with a voting right to 15 but also foresees the possibility for the Governing Council to postpone the implementation of the rotation system until the number of governors exceeds 18.

⁴ See the press release of 18 December 2008 and Decision ECB/2008/29 to postpone the start of the rotation system in the Governing Council of the European Central Bank.

Council decided on the main aspects of the implementation of the rotation system⁵ once the number of governors exceeds 18. Having analysed a number of models, the Governing Council opted for the following rotation model: governors will rotate in and out of the voting right after one month. The number of governors rotating at any one time will be determined by the difference between the number of governors and the number of votes allocated to each group minus two, taking the absolute value in the event of a negative number. This rotation model achieves short periods without vote for individual governors and ensures the relative stability of the composition of the voting college.⁶

5 On 19 December 2002 the Governing Council decided on a rotation system according to which the NCB governors will exercise a voting right with different frequencies depending on an indicator of the relative size of the economies of their countries within the euro area. Based on this indicator, NCB governors will be allocated to different groups. This allocation determines how often the governors can exercise a voting right. Initially, there will be two groups and, once there are 22 euro area countries, there will be three groups. For a description of the rotation system, see also the press release of 20 December 2002 at <http://www.ecb.europa.eu/press/pr/date/2002/html/index.en.html>

6 The rotation model will be formally implemented via an ECB Decision amending Decision ECB/2004/2 of 19 February 2004 adopting the Rules of Procedure of the European Central Bank; further details can be found in a forthcoming ECB Monthly Bulletin article.

THE GOVERNING COUNCIL



Jean-Claude Trichet

President of the ECB

Lucas D. Papademos

Vice-President of the ECB

Lorenzo Bini Smaghi

Member of the Executive Board of the ECB

Michael C. Bonello

Governor of the Central Bank of Malta

Vítor Constâncio

Governor of the Banco de Portugal

Mario Draghi

Governor of the Banca d'Italia

Miguel Fernández Ordóñez

Governor of the Banco de España

Nicholas C. Garganas

Governor of the Bank of Greece (until 13 June 2008)

José Manuel González-Páramo

Member of the Executive Board of the ECB

Tony Grimes

Acting Governor of the Central Bank and Financial Services Authority of Ireland (from 19 July until 19 September 2008)

John Hurley

Governor of the Central Bank and Financial Services Authority of Ireland (from 1 January until 18 July 2008 and from 20 September 2008)

Marko Kranjec

Governor of Banka Slovenije

Klaus Liebscher

Governor of the Oesterreichische Nationalbank (until 31 August 2008)

Erkki Liikanen

Governor of Suomen Pankki – Finlands Bank

Yves Mersch

Governor of the Banque centrale du Luxembourg

Ewald Nowotny

Governor of the Oesterreichische Nationalbank (from 1 September 2008)

Christian Noyer

Governor of the Banque de France

Athanasios Orphanides

Governor of the Central Bank of Cyprus

George A. Provopoulos

Governor of the Bank of Greece (from 20 June 2008)

Guy Quaden

Governor of the Nationale Bank van België/Banque Nationale de Belgique

Ivan Šramko⁷

Governor of Národná banka Slovenska (from 1 January 2009)

Jürgen Stark

Member of the Executive Board of the ECB

Gertrude Tumpel-Gugerell

Member of the Executive Board of the ECB

Panayotis-Aristidis Thomopoulos

Acting Governor of the Bank of Greece (from 14 June until 19 June 2008)

Axel A. Weber

President of the Deutsche Bundesbank

Nout Wellink

President of De Nederlandsche Bank

Front row (left to right):

John Hurley,
Michael C. Bonello,
Gertrude Tumpel-Gugerell,
Jean-Claude Trichet,
Lucas D. Papademos,
Miguel Fernández Ordóñez,
Yves Mersch

Middle row (left to right):

Christian Noyer,
Marko Kranjec,
Vítor Manuel Ribeiro Constâncio,
George A. Provopoulos,
Erkki Liikanen, Ewald Nowotny

Back row (left to right):

Ivan Šramko,
José Manuel González-Páramo,
Axel A. Weber, Nout Wellink,
Guy Quaden, Lorenzo Bini Smaghi,
Jürgen Stark

Note: Mario Draghi and Athanasios Orphanides were not available when the photograph was taken.

⁷ The Governor of Národná banka Slovenska attended the meetings of the Governing Council in 2008 as a "special invitee" following the decision taken by the ECOFIN Council on 8 July 2008 to abrogate Slovakia's derogation with effect from 1 January 2009.

1.3 THE EXECUTIVE BOARD

The Executive Board comprises the President and the Vice-President of the ECB and four other members appointed by common accord by the Heads of State or Government of the Member States which have adopted the euro. The main responsibilities of the Executive Board, which as a rule meets once a week, are:

- to prepare the meetings of the Governing Council;
- to implement the monetary policy of the euro area in accordance with the guidelines and decisions laid down by the Governing

Council and, in doing so, to give the necessary instructions to the euro area NCBs;

- to manage the current business of the ECB;
- to exercise certain powers delegated to it by the Governing Council, including some of a regulatory nature.

The Executive Board is assisted by a Management Committee in matters relating to the ECB's management, business planning and annual budget process. The Management Committee is composed of one Executive Board member, who acts as Chairman, and a number of senior managers.

Back row (left to right):

Jürgen Stark,
José Manuel González-Páramo,
Lorenzo Bini Smaghi

Front row (left to right):

Gertrude Tumpel-Gugerell,
Jean-Claude Trichet,
Lucas D. Papademos



Jean-Claude Trichet

President of the ECB

Lucas D. Papademos

Vice-President of the ECB

Lorenzo Bini Smaghi

Member of the Executive Board of the ECB

José Manuel González-Páramo

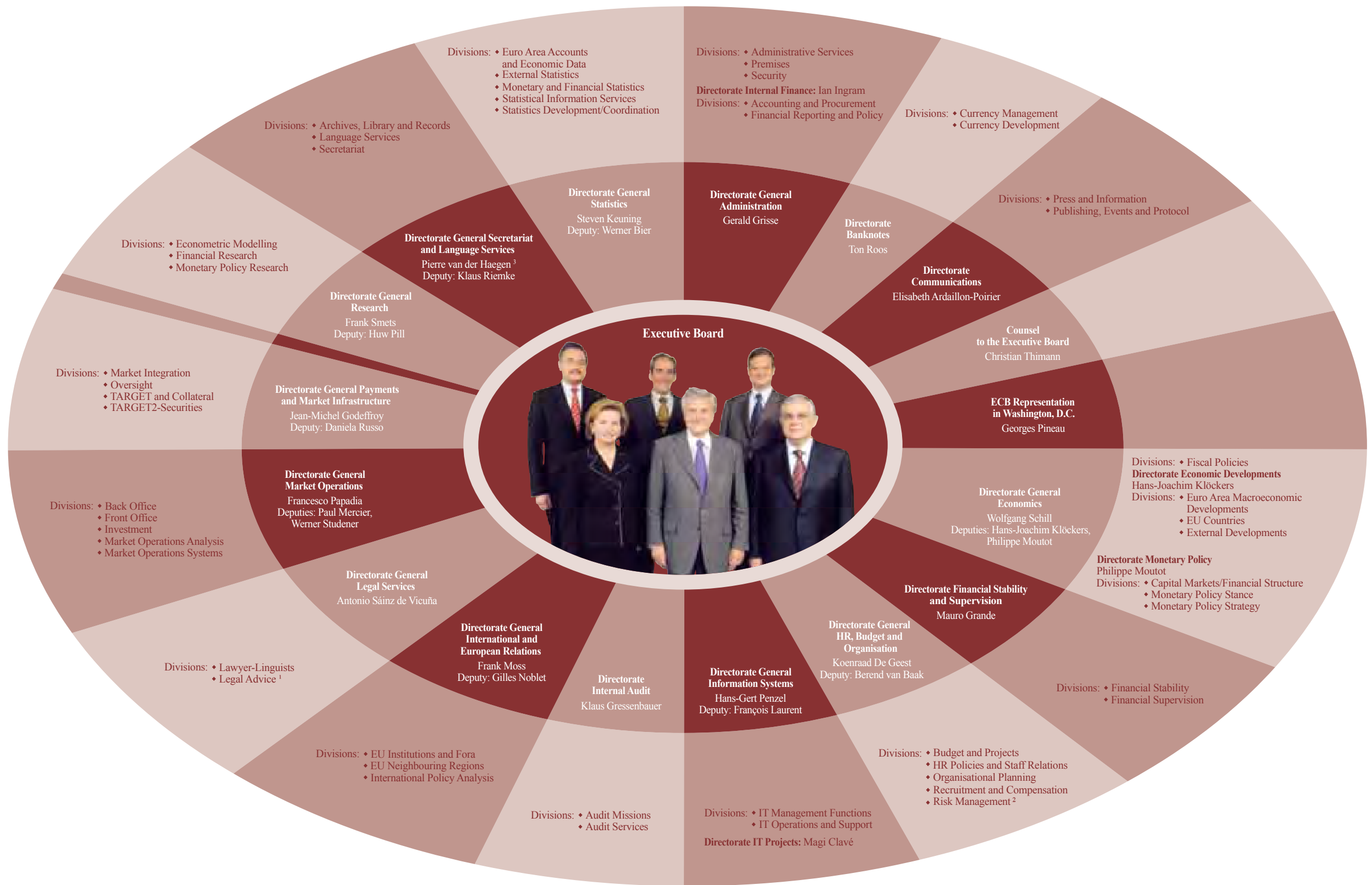
Member of the Executive Board of the ECB

Jürgen Stark

Member of the Executive Board of the ECB

Gertrude Tumpel-Gugerell

Member of the Executive Board of the ECB



Executive Board

Back row (left to right): Jürgen Stark, José Manuel González-Páramo, Lorenzo Bini Smaghi
 Front row (left to right): Gertrude Tumpel-Gugerell, Jean-Claude Trichet (President), Lucas D. Papademos (Vice-President)

¹ Includes the data protection function.
² Reports directly to the Executive Board.
³ Secretary to the Executive Board, the Governing Council and the General Council.

1.4 THE GENERAL COUNCIL

The General Council is composed of the President and the Vice-President of the ECB and the governors of the NCBs of all 27 EU

Member States. It mainly carries out those tasks taken over from the EMI which still have to be performed by the ECB on account of the fact that not all the Member States have adopted the euro. In 2008 the General Council met five times.

Front row (left to right):

Marko Kranjec,
John Hurley,
Michael C. Bonello,
Jean-Claude Trichet,
Lucas D. Papademos,
Miguel Fernández Ordóñez,
Yves Mersch, Christian Noyer

Middle row (left to right):

Ivan Šramko,
George A. Provopoulos,
Vitor Manuel Ribeiro Constâncio,
Erkki Liikanen, Ewald Nowotny,
Reinoldijus Šarkinas, Stefan Ingves

Back row (left to right):

Axel A. Weber, Zdeněk Tůma,
Ilmārs Rimšēvičs, Nout Wellink,
Guy Quaden, Ivan Iskrov,
Nils Bernstein, Andres Lipstok,
Slawomir Skrzypek, András Simor



Jean-Claude Trichet

President of the ECB

Lucas D. Papademos

Vice-President of the ECB

Nils Bernstein

Governor of Danmarks Nationalbank

Michael C. Bonello

Governor of the Central Bank of Malta

Vitor Constâncio

Governor of the Banco de Portugal

Mario Draghi

Governor of the Banca d'Italia

Miguel Fernández Ordóñez

Governor of the Banco de España

Nicholas C. Garganas

Governor of the Bank of Greece

(until 13 June 2008)

Tony Grimes

Acting Governor of the Central Bank and

Financial Services Authority of Ireland

(from 19 July until 19 September 2008)

John Hurley

Governor of the Central Bank and Financial
Services Authority of Ireland

(from 1 January until 18 July 2008 and from
20 September 2008)

Stefan Ingves

Governor of Sveriges Riksbank

Mugur Constantin Isărescu

Governor of Banca Națională a României

Ivan Iskrov

Governor of Българска народна банка
(Bulgarian National Bank)

Mervyn King

Governor of the Bank of England

Marko Kranjec

Governor of Banka Slovenije

Klaus Liebscher

Governor of the Oesterreichische Nationalbank
(until 31 August 2008)

Erkki Liikanen

Governor of Suomen Pankki – Finlands Bank

Andres Lipstok

Governor of Eesti Pank

Yves Mersch

Governor of the Banque centrale du Luxembourg

Ewald Nowotny

Governor of the Oesterreichische Nationalbank
(from 1 September 2008)

Christian Noyer

Governor of the Banque de France

Note: Mario Draghi, Mervyn King,
Athanasios Orphanides and Mugur
Constantin Isărescu were not available
when the photograph was taken.

Athanasios Orphanides

Governor of the Central Bank of Cyprus

George A. ProvopoulosGovernor of the Bank of Greece
(from 20 June 2008)**Guy Quaden**Governor of the Nationale Bank van België/
Banque Nationale de Belgique**Ilmārs Rimševičs**

Governor of Latvijas Banka

Reinoldijus Šarkinas

Chairman of the Board of Lietuvos bankas

András Simor

Governor of the Magyar Nemzeti Bank

Sławomir Skrzypek

President of Narodowy Bank Polski

Ivan Šramko

Governor of Národná banka Slovenska

Panayotis-Aristidis ThomopoulosActing Governor of the Bank of Greece
(from 14 June until 19 June 2008)**Zdeněk Tůma**

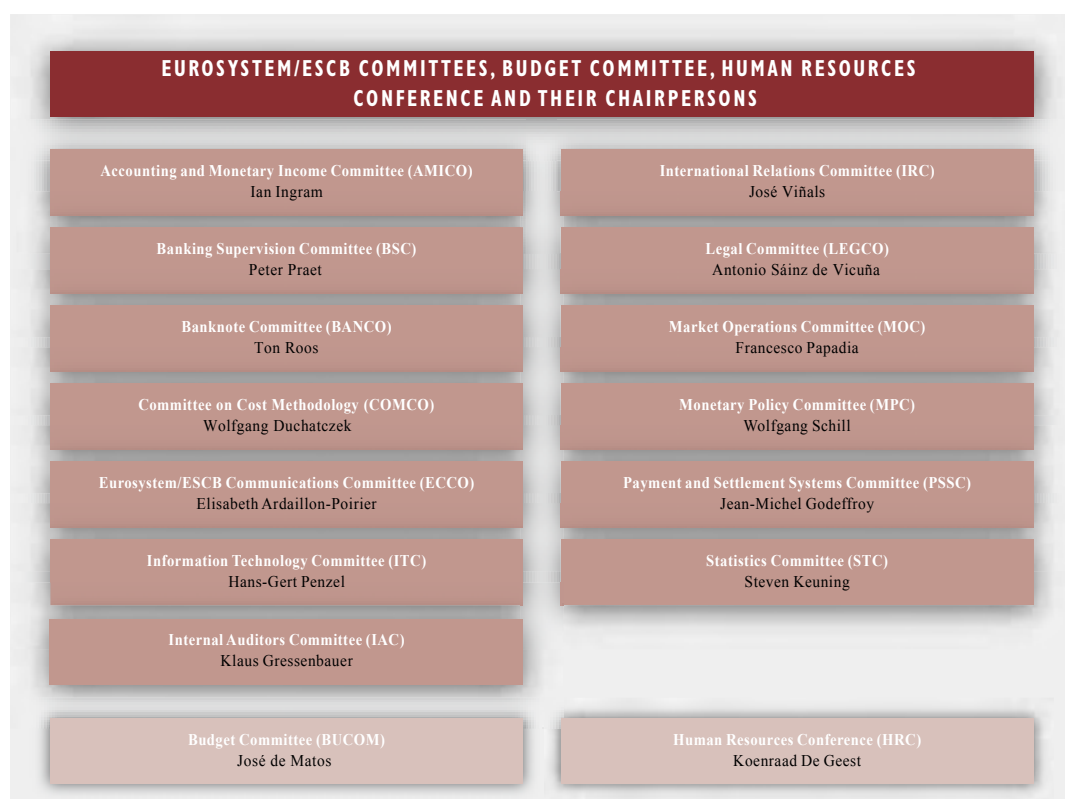
Governor of Česká národní banka

Axel A. Weber

President of the Deutsche Bundesbank

Nout Wellink

President of De Nederlandsche Bank

1.5 EUROSISTEM/ESCB COMMITTEES, THE BUDGET COMMITTEE, THE HUMAN RESOURCES CONFERENCE AND THE EUROSISTEM IT STEERING COMMITTEE

The Eurosystem/ESCB committees have continued to play an important role in assisting the ECB's decision-making bodies in the performance of their tasks. At the request of both the Governing Council and the Executive Board, the committees have provided expertise in their fields of competence and have facilitated the decision-making process. Membership of the committees is usually restricted to staff of the Eurosystem central banks. However, the NCBs of the Member States which have not yet adopted the euro take part in the meetings of a committee whenever it deals with matters that fall within the field of competence of the General Council. Where appropriate, other competent bodies, such as national supervisory authorities in the case of the Banking Supervision Committee, may also be invited. As at 31 December 2008, 13 Eurosystem/ESCB committees had been established under Article 9.1 of the Rules of Procedure of the ECB.

The Budget Committee, which was established under Article 15 of the Rules of Procedure, assists the Governing Council in matters related to the ECB's budget.

The Human Resources Conference was established in 2005 under Article 9a of the Rules of Procedure as a forum for the exchange of experience, expertise and information among Eurosystem/ESCB central banks in the field of human resources management.

In line with the Eurosystem mission statement and the organisational principles, which state the aim of exploiting synergies within the Eurosystem and achieving cost-efficiency gains through economies of scale, the Governing Council established the Eurosystem IT Steering Committee (EISC) in August 2007, with a mandate to steer continuous improvement in the use of IT within the Eurosystem. The EISC's responsibilities relate in particular to Eurosystem IT governance, and it aims to increase the efficiency and effectiveness of the Governing Council's decision-making on Eurosystem/ESCB IT projects and operations. The EISC, composed

of one member per Eurosystem central bank, reports to the Governing Council via the Executive Board.

1.6 CORPORATE GOVERNANCE

In addition to the decision-making bodies, the corporate governance of the ECB encompasses a number of external and internal control layers, three codes of conduct as well as rules concerning public access to ECB documents.

EXTERNAL CONTROL LAYERS

The Statute of the ESCB provides for two layers, namely the external auditor, which is appointed to audit the annual accounts of the ECB (Article 27.1 of the Statute of the ESCB), and the European Court of Auditors, which examines the operational efficiency of the management of the ECB (Article 27.2). The annual report of the European Court of Auditors, together with the ECB's reply, is published on the ECB's website and in the Official Journal of the European Union. In order to reinforce public assurance as to the independence of the ECB's external auditor, the principle of audit firm rotation is applied.⁸ In 2008, in the context of the Governing Council's statutory task of making recommendations to the EU Council on the appointment of external auditors for the central banks of the ESCB, as provided for under Article 27.1 of the Statute of the ESCB, the Governing Council approved "Good practices for the selection and mandate of External Auditors", which were published on the ECB's website. These good practices, which provide high-level guidance for each Eurosystem central bank when selecting external auditors and determining their mandate thereafter, enable the Governing Council to formulate its recommendations to the EU Council on the basis of harmonised, consistent and transparent selection criteria.

⁸ KPMG Deutsche Treuhand-Gesellschaft AG Wirtschaftsprüfungsgesellschaft was the ECB's external auditor for the financial years 2003-07. Following the conclusion of a tender procedure and in line with the agreed practice of rotating audit firms, PricewaterhouseCoopers Aktiengesellschaft Wirtschaftsprüfungsgesellschaft was appointed as the ECB's external auditor for the financial years 2008-12.

INTERNAL CONTROL LAYERS

The internal control structure of the ECB is based on an approach in which each organisational unit (section, division, directorate or directorate general) is responsible for managing its own risks and controls, as well as the effectiveness and efficiency of its operations. Each organisational unit implements operational control procedures within its area of responsibility in accordance with the risk tolerance set ex ante by the Executive Board. For example, a set of rules and procedures – known as a Chinese wall – is in place to prevent inside information originating in the areas responsible for monetary policy from reaching the areas responsible for the management of the ECB's foreign reserves and own funds portfolio. In 2008 the ECB continued to make progress in its approach to operational risk management. First, a central unit in the Directorate General Human Resources, Budget and Organisation coordinated a comprehensive top-down exercise in which business areas identified operational risks which, if they were to materialise, could have significant negative business, reputational or financial consequences for the ECB. On the basis of this exercise, action plans were established for the treatment of such risks. Second, the ECB and the euro area NCBs developed a framework for operational risk management for Eurosystem tasks and processes, which will be implemented as of 2009.

Independently from the internal control structure and risk monitoring of the ECB, audit missions are performed by the Directorate Internal Audit under the direct responsibility of the Executive Board. In accordance with the mandate defined in the ECB Audit Charter,⁹ the ECB's internal auditors provide independent and objective assurance and consulting services, bringing a systematic approach to evaluating and improving the effectiveness of risk management, control and governance processes. The Directorate Internal Audit abides by the International Standards for the Professional Practice of Internal Auditing of the Institute of Internal Auditors.

A Eurosystem/ESCB committee, the Internal Auditors Committee, which is composed of

the heads of internal audit at the ECB and the NCBs, is responsible for coordinating the auditing of Eurosystem/ESCB joint projects and operational systems.

In order to enhance corporate governance, the Governing Council created an ECB Audit Committee in April 2007, composed of three of its members, with John Hurley (Governor of the Central Bank and Financial Services Authority of Ireland) as Chairman.

CODES OF CONDUCT

There are three codes of conduct in place at the ECB. The first is for the members of the Governing Council and reflects their responsibility to safeguard the integrity and reputation of the Eurosystem and to maintain the effectiveness of its operations.¹⁰ It gives guidance to, and sets ethical standards for, the members of the Governing Council and their alternates when exercising their functions as members of the Governing Council. An adviser has also been appointed by the Governing Council to provide guidance to its members on some aspects of professional conduct. The second code is the Code of Conduct of the ECB, which gives guidance to, and sets benchmarks for, the staff of the ECB and the members of the Executive Board, all of whom are expected to maintain high standards of professional ethics in the performance of their duties.¹¹ In accordance with the Code of Conduct's rules against insider trading, the ECB's staff and the members of the Executive Board are prohibited from taking advantage of inside information when conducting private financial activities at their own risk and for their own account, or at the risk and for the account of a third party.¹² The third code is a Supplementary Code of Ethical Criteria for the

9 This charter is published on the ECB's website to foster the transparency of audit arrangements in place at the ECB.

10 See the Code of Conduct for the members of the Governing Council, OJ C 123, 24.5.2002, p. 9, its amendment, OJ C 10, 16.1.2007, p. 6 and the ECB's website.

11 See the Code of Conduct of the European Central Bank in accordance with Article 11.3 of the Rules of Procedure of the European Central Bank, OJ C 76, 8.3.2001, p. 12 and the ECB's website.

12 See Part 1.2 of the ECB Staff Rules containing the rules on professional conduct and professional secrecy, OJ C 92, 16.4.2004, p. 31 and the ECB's website.

members of the Executive Board.¹³ It complements the other two codes by further detailing the ethical regime applicable to members of the Executive Board. An Ethics Adviser appointed by the Executive Board ensures a consistent interpretation of these rules.

ANTI-FRAUD MEASURES

In 1999 the European Parliament and the EU Council adopted a regulation¹⁴ to step up the fight against fraud, corruption and any other illegal activity detrimental to the Communities' financial interests. The regulation provides inter alia for the internal investigation of suspected fraud by the European Anti-Fraud Office (OLAF) within the Community institutions, bodies, offices and agencies.

The OLAF Regulation foresees that each of the latter adopt decisions in order for OLAF to be able to carry out its investigations within each of them. In June 2004 the Governing Council adopted a decision¹⁵ concerning the terms and conditions for investigations by OLAF of the ECB, which entered into force on 1 July 2004.

PUBLIC ACCESS TO ECB DOCUMENTS

The ECB's Decision on public access to ECB documents¹⁶ adopted in March 2004 is in line with the objectives and standards applied by other Community institutions and bodies with regard to public access to their documents. It enhances transparency, while at the same time taking into account the independence of the ECB and of the NCBs and ensuring the confidentiality of certain matters specific to the performance of the ECB's tasks.¹⁷

In 2008 the number of public access requests remained limited.

13 See the Supplementary Code of Ethical Criteria for the members of the Executive Board, OJ C 230, 23.9.2006, p. 46 and the ECB's website.

14 Regulation (EC) No 1073/1999 of the European Parliament and of the Council of 25 May 1999 concerning investigations conducted by the European Anti-Fraud Office (OLAF), OJ L 136, 31.5.1999, p. 1.

15 Decision ECB/2004/11 concerning the terms and conditions for European Anti-Fraud Office investigations of the European Central Bank, in relation to the prevention of fraud, corruption and any other illegal activities detrimental to the European Communities' financial interests and amending the Conditions of Employment for Staff of the European Central Bank, OJ L 230, 30.6.2004, p. 56. This Decision was adopted in response to the judgement of the European Court of Justice on 10 July 2003 in Case-11/00 *Commission v European Central Bank*, ECR I-7147.

16 Decision ECB/2004/3 on public access to European Central Bank documents, OJ L 80, 18.3.2004, p. 42.

17 In line with the ECB's commitment to openness and transparency, an "Archives" section of the ECB's website provides access to historical documentation.

2 ORGANISATIONAL DEVELOPMENTS

2.1 HUMAN RESOURCES

In 2008 the ECB continued to implement its human resources (HR) policy framework, which incorporates the ECB's values and the basic HR principles.¹⁸ The HR policy framework explains why specific HR policies have been chosen and how they relate to one another. Under the framework, policies relating to HR management fall into four main areas:

CORPORATE CULTURE

With staff from the 27 EU Member States, the ECB has integrated diversity management into its HR practices to ensure that the individual competencies of staff are recognised and fully utilised for the purpose of achieving the ECB's objectives. The management of diversity at the ECB is based on the diversity strategy launched in 2006. It seeks to ensure that all members of staff are treated with respect and that their performance is assessed on the basis of merit. In 2008 the ECB organised its first diversity forum for managers with the aim of increasing awareness of diversity issues and sharing views and experiences on various topics linked to gender, nationality and age.

The six ECB common values (competence, effectiveness and efficiency, integrity, team spirit, transparency and accountability, and working for Europe) were further embedded in the HR policies with a view to shaping day-to-day behaviour and improving performance.

STAFF DEVELOPMENT

The general principles for internal mobility at the ECB, which encourage members of staff to change positions after five years of service, continued to receive considerable support. Mobility is seen as an opportunity for staff to widen their expertise and develop their skills and as a means for the ECB to broaden awareness among its staff and increase synergies across business areas. The internal recruitment policy, which places emphasis on broad competencies, thus aims to further facilitate internal staff mobility. In 2008 165 members of staff, including 17 managers and advisers,

moved internally to other positions, either on a temporary or on a long-term basis.

The ECB's external work experience scheme facilitates the secondment of staff to the 27 NCBs in the EU or to relevant international organisations (e.g. the IMF and the BIS) for periods of two to twelve months. 23 members of staff were seconded under this scheme in 2008. In addition, the ECB granted unpaid leave, for up to three years, to 30 members of staff. Many of them (19) took up employment at NCBs, international organisations or private companies. Others used these periods of unpaid leave for study purposes. The total number of staff members on unpaid leave at the end of December 2008 was 54 (compared with 56 in 2007), while the number of staff on parental leave was 26 (compared with 23 in 2007).

In addition to promoting mobility, including managerial rotation, the HR strategy continued to focus on the development of ECB staff and, in particular, on strengthening managerial skills through training and individual coaching. Training for managers concentrated on the enhancement of team performance, leadership and recruitment skills, and various aspects of performance management.

Managers also participated in the multi-source feedback exercise in which directly reporting staff, peers and external contacts identify areas for managers' personal development. Based on the results of the multi-source feedback, individual coaching was provided.

The continuous acquisition and development of skills and competencies by all members of staff remains a cornerstone of the ECB's HR strategy. As a basic principle, learning and development are a shared responsibility between staff and institution. On the one hand, the ECB provides the budgetary means and training framework and managers define the training needs of staff

¹⁸ The basic HR principles are: organisational need, decentralised staff management, merit, diversity, attractive employment conditions and reciprocal commitment.

for their current position. On the other hand, staff have to take the necessary steps for learning and development and ensure that their expertise is maintained at the highest level. In addition to numerous in-house training opportunities, staff continued to take up external training opportunities to address individual training needs of a more “technical” nature. They also benefited from training opportunities organised as part of ESCB programmes or offered by the NCBs.

In the context of its secondary training policy, the ECB provided 12 members of staff with support to acquire a qualification that would increase their professional competence beyond the requirements of their current position.

RECRUITMENT

At the end of 2008 the actual full-time equivalent number of staff holding contracts with the ECB was 1,536¹⁹ (compared with 1,478 at the end of 2007).

External recruitment to fill permanent positions was carried out on the basis of fixed-term contracts of five years for managerial positions and three years for other positions, which may be converted into unlimited contracts, subject to organisational considerations and individual performance. Fixed-term contracts may also be issued to replace permanent staff who are temporarily absent for periods of more than 12 months, for instance in cases of parental or unpaid leave. In 2008 the ECB offered a total of 108 fixed-term contracts. By contrast, 45 members of staff with fixed-term or permanent contracts left the ECB in 2008. Furthermore, 113 short-term contracts were issued during 2008 (in addition to some contract extensions from 2007) to cover for absences of less than one year, while 83 short-term contracts expired in the course of the year.

The ECB also offers short-term contracts to staff from NCBs and international organisations, thus allowing the ECB and these organisations to gain from each other’s experience. Employing NCB staff on a

short-term basis also helps to foster an ESCB-wide team spirit. On 31 December 2008 122 employees from NCBs and international organisations were working at the ECB on various assignments (compared with 91 on 31 December 2007).

In September 2008 the third intake of participants in the ECB’s Graduate Programme, which is aimed at recent graduates with a broad educational background, joined the Bank on the basis of two-year non-convertible contracts. The first generation of participants completed the Graduate Programme in 2008, and a large number of them successfully applied for convertible fixed-term positions at the ECB.

The internship opportunities offered by the ECB focused on students and graduates with backgrounds in economics, statistics, business administration, law and translation. On 31 December 2008 84 interns were being hosted by the ECB.

The ECB also offered two fellowships as part of the Wim Duisenberg Research Fellowship Programme, which is open to leading economists, and five fellowships to young researchers in the context of its Lamfalussy Fellowship Programme.

EMPLOYMENT CONDITIONS

Taking into account the most recent developments regarding life expectancy and long-term financing, the ECB has been conducting a review of the retirement plan it offers to its staff. The results of this review are expected to be implemented in early 2009.

In 2008 the ECB also started a review of its disciplinary and appeals procedures. The changes introduced were aimed at increasing the effectiveness and efficiency of both procedures while preserving the rights granted to members of staff.

¹⁹ Staff on unpaid leave of absence are excluded. This number includes staff with permanent, fixed or short-term contracts and the participants in the ECB’s Graduate Programme. Staff on maternity or long-term sick leave are also included.

In order to improve the balance between professional and private life, and to further develop the resilience of the ECB, the Executive Board decided in 2008 to launch a pilot project with a view to progressively introducing teleworking. After completion of the project in 2009, the benefits and drawbacks will be carefully assessed before a decision is taken on whether to extend the scheme.

2.2 THE HUMAN RESOURCES CONFERENCE

The activities of the Human Resources Conference (HRC) and its substructures covered multiple aspects of staff training and development in 2008. Based on a needs analysis, new ESCB training activities have been developed and will be introduced in 2009. The HRC also took measures to increase intra-ESCB mobility with a view to extending opportunities for staff from Eurosystem/ESCB central banks to learn from one another and promoting cooperation and team spirit.

Furthermore, with the aim of exchanging experiences and moving towards the establishment of best practices, the HRC and the Eurosystem/ESCB Communications Committee organised a conference on communication in HR, at which all ESCB central banks were represented. At its meetings, the HRC covered other topics, such as demographics, assessment centres, and the future of HR in Europe and the key challenges up until 2015.

2.3 NEW ECB PREMISES

Further progress was made in 2008 with regard to the ECB's new premises in the Ostend part of Frankfurt.

In April 2008 preparatory works commenced on the new site in advance of the building works. The two four-storey annex buildings at the end of the Grossmarkthalle were demolished manually, with most of the clinker bricks being reserved for the renovation of the facade of the

Grossmarkthalle in order to retain the colouring and texture of the original bricks. In late spring initial excavation works began for the two basement floors of the office towers and the underground staff car park in the southern part of the site. The foundation piles were subsequently inserted into the ground. These preliminary works were completed by September 2008, on schedule and within budget.

On 6 May 2008 the Lord Mayor of the City of Frankfurt, Petra Roth, presented the building permit for the ECB's new premises to the President of the ECB. The building permit constitutes formal legal approval for the new premises on the site of the former Grossmarkthalle.

On 25 June 2008 the ECB decided to formally close the international public tender procedure for a general contractor to construct the new ECB premises, since it had not produced a satisfactory economic result, with the received bid considerably exceeding the ECB's estimated budget. During the summer and autumn of 2008, the architects and planners conducted an in-depth analysis of the situation in the construction market. On the basis of this analysis, the Governing Council decided in November 2008 to change the tender strategy, dividing up the construction works into separate trades and lots, and to re-launch the tender process for the construction works accordingly. In the course of 2009 around 15 distinct invitations to tender will be issued for the structural works, the facade and other parts of the building. The aim of this tender strategy is to attract more competitive bids, including from medium-sized companies, and to find specialised companies for each trade. The tender strategy will be based on balanced contractual terms which are frequently used in the construction market.

The ECB remains fully committed to adhering to the estimated building costs of around €500 million (at 2005 constant prices). These costs are revaluated in line with the relevant official price indices compiled by the German

statistical office (Statistisches Bundesamt). The construction of new premises designed to meet the ECB's specific needs is considered to represent the best option in terms of value for money.

At the end of 2009, following the evaluation of the tenders, the Governing Council will take the necessary follow-up decisions.

2.4 THE EUROSISTEM PROCUREMENT COORDINATION OFFICE

In July 2007 the Governing Council decided to establish the Eurosystem Procurement Coordination Office (EPCO) in order to enhance cooperation within the Eurosystem in the field of procurement. A total of 20 central banks from the ESCB participate on a voluntary basis. In December 2007 the Banque centrale du Luxembourg was designated to host EPCO from 1 January 2008 to 31 December 2012. In 2008 all four EPCO staff members were recruited and seven meetings of procurement experts from the participating central banks were held. Work focused on establishing best practices. In November 2008 the Governing Council adopted a decision laying down the framework for joint Eurosystem procurement. Based on this decision, which aims to ensure a level playing-field for central banks participating in joint procurements, the Governing Council also approved a procurement plan for 2009. EPCO is guided by the EPCO Steering Committee, which reports to the Governing Council via the Executive Board.

3 ESCB SOCIAL DIALOGUE

The ESCB Social Dialogue is a consultative forum involving the ECB and employee representatives from the central banks of the ESCB and from European trade union federations²⁰. Its purpose is to provide information and foster exchanges of views on issues that may have a major impact on employment conditions at the central banks of the ESCB.

This information is provided in a biannual newsletter and at meetings held in April and October. The meetings held in 2008 focused on the issues of cooperation and specialisation in the Eurosystem, the Treaty of Lisbon and its impact on the ESCB, and the role of market operations and financial supervision in times of turbulence. Issues relating to banknote production and circulation, as well as payment systems (TARGET2, TARGET2-Securities and CCBM2), were also discussed. The employee representatives were also informed of the work being carried out by the HRC.

An ad hoc working group on banknote production and circulation was set up. It involved a very limited number of participants and aimed to address technical questions relating to banknotes prior to the plenary meeting of the ESCB Social Dialogue.

²⁰ The Standing Committee of European Central Bank Unions (SCECBU), Union Network International – Europa (UNI-Europa Finance) and the European Federation of Public Service Unions (EPSU).

4 ANNUAL ACCOUNTS OF THE ECB

MANAGEMENT REPORT FOR THE YEAR ENDING 31 DECEMBER 2008

1 NATURE OF THE BUSINESS

The ECB's activities in 2008 are described in detail in the relevant chapters of the Annual Report.

2 OBJECTIVES AND TASKS

The ECB's objectives and tasks are described in the Statute of the ESCB (Articles 2 and 3). An overview of performance against these objectives is included in the President's foreword to the Annual Report.

3 KEY RESOURCES, RISKS AND PROCESSES

GOVERNANCE OF THE ECB

Information relating to the governance of the ECB is given in Chapter 8.

MEMBERS OF THE EXECUTIVE BOARD

The members of the Executive Board are appointed from among persons of recognised standing and professional experience in monetary or banking matters by common accord of the governments of the Member States at the level of the Heads of State or Government, upon a recommendation from the EU Council after it has consulted the European Parliament and the Governing Council.

The terms and conditions of members' employment are determined by the Governing Council, based on a proposal from a Committee comprising three members appointed by the Governing Council and three members appointed by the EU Council.

The emoluments of the members of the Executive Board are set out in note 29 "Staff costs" of the Annual Accounts.

EMPLOYEES

The average number of staff (full-time equivalent) holding contracts with the ECB¹ rose from 1,448

in 2007 to 1,499 in 2008. At the end of that year 1,536 staff were employed. For further details, see note 29 "Staff costs" of the Annual Accounts and Chapter 8, Section 2, which also describes the ECB's human resources strategy.

INVESTMENT ACTIVITIES AND RISK MANAGEMENT

The ECB's foreign reserves portfolio consists of foreign reserve assets transferred to it by the euro area NCBs in accordance with the provisions of Article 30 of the Statute of the ESCB, and the income thereon. It serves to fund the ECB's operations in the foreign exchange market for the purposes set out in the Treaty.

The ECB's own funds portfolio reflects the investment of its paid-up capital, the counterpart of the provision against foreign exchange, interest rate and gold price risks, the general reserve fund and income accumulated on the portfolio in the past. Its purpose is to provide the ECB with income to contribute to the coverage of its operating expenses.

The ECB's investment activities and its management of the associated risks are described in greater detail in Chapter 2.

THE BUDGET PROCESS

The Budget Committee (BUCOM), composed of ECB and euro area NCB experts, is a key contributor to the ECB's financial governance process. In accordance with Article 15 of the Rules of Procedure, BUCOM supports the Governing Council by providing a detailed evaluation of annual ECB budget proposals and requests for supplementary budget funding by the Executive Board, prior to their submission to the Governing Council for approval. Spending against agreed budgets is monitored regularly by the Executive Board, taking into account the advice of the ECB's internal controlling

¹ Staff on unpaid leave of absence are excluded. This number includes staff with permanent, fixed or short-term contracts and the participants in the ECB's Graduate Programme. Staff on maternity or long-term sick leave are also included.

function, and by the Governing Council with the assistance of BUCOM.

4 FINANCIAL RESULT

FINANCIAL ACCOUNTS

Under Article 26.2 of the Statute of the ESCB, the Annual Accounts of the ECB are drawn up by the Executive Board, in accordance with the principles established by the Governing Council. The accounts are then approved by the Governing Council and subsequently published.

PROVISION FOR FOREIGN EXCHANGE RATE, INTEREST RATE AND GOLD PRICE RISKS

Since most of the ECB's assets and liabilities are periodically revalued at current market exchange rates and security prices, the ECB's profitability is strongly affected by exchange rate exposures and, to a lesser extent, interest rate exposures. These exposures stem mainly from its holdings of foreign reserve assets held in US dollars, Japanese yen and gold, which are predominantly invested in interest-bearing instruments.

In 2005, taking into account the ECB's large exposure to these risks and the size of its revaluation accounts, the Governing Council decided to establish a provision against foreign exchange rate, interest rate and gold price risks. As at 31 December 2007, this provision amounted to €2,668,758,313. In accordance with Article 49.2 of the Statute of the ESCB, the Central Bank of Cyprus and the Central Bank of Malta also contributed the amounts of €4,795,450 and €2,388,127 respectively to the provision with effect from 1 January 2008. Taking the results of its assessment into account, the Governing Council decided to transfer as at 31 December 2008 an additional amount of €1,339,019,690 to the provision. This transfer increased the size of the provision to its permitted maximum of €4,014,961,580. The Governing Council has decided that the provision, together with any amounts held in the ECB's general reserve fund, may not exceed the

value of the capital shares paid up by the euro area NCBs.

This provision will be used to cover realised and unrealised losses, in particular valuation losses not covered by the revaluation accounts. Its size and continuing requirement is reviewed annually, taking a range of factors into account, including in particular the level of holdings of risk-bearing assets, the extent of materialised risk exposures in the current financial year, projected results for the coming year, and a risk assessment involving calculations of Values at Risk (VaR) on risk-bearing assets, which is applied consistently over time.

FINANCIAL RESULT FOR 2008

The net income of the ECB prior to the transfer to the provision against risks was €2,661 million, compared with €286 million in 2007. The net profit of €1,322 million after the transfer was made was distributed to the NCBs.

In 2007, the appreciation of the euro vis-à-vis the US dollar and, to a lesser extent, the Japanese yen resulted in write-downs in the euro value of the ECB's holdings of assets denominated in these currencies. These write-downs amounted to some €2.5 billion and were expensed in the Profit and Loss Account. In 2008, the depreciation of the euro vis-à-vis the Japanese yen and the US dollar resulted in unrealised gains of some €3.6 billion. These gains were recorded in revaluation accounts, in line with the common accounting policies that have been established by the Governing Council for the Eurosystem.

In 2008, net interest income decreased to €2,381 million from €2,421 million in 2007, owing mainly to (a) lower net interest income denominated in US dollars, and (b) higher remuneration of NCBs' claims in respect of foreign reserves transferred. The resulting decrease in net interest income was only partially offset by the increase in interest income arising from the allocation of euro banknotes within the Eurosystem, mainly reflecting the general increase in euro banknotes in circulation.

Net realised gains arising from financial operations decreased from €779 million in 2007 to €662 million in 2008, due mainly to the lower volume of gold sold in accordance with the Central Bank Gold Agreement, which came into effect on 27 September 2004 and of which the ECB is a signatory. The resulting lower realised gains from these operations were only partially offset by higher net realised gains from security sales in 2008, following the drop in US interest rates in that year.

Total administrative expenses of the ECB, including depreciation, increased from €385 million in 2007 to €388 million in 2008.

CHANGE TO THE CAPITAL OF THE ECB

Pursuant to Council Decisions 2007/503/EC and 2007/504/EC of 10 July 2007, Cyprus and Malta adopted the single currency on 1 January 2008. Consequently, in accordance with Article 49.1 of the Statute of the ESCB, the Central Bank of Cyprus and the Central Bank of Malta paid up the remainder of their capital subscription to the ECB as of that date. As a result of these payments, the ECB's paid-up capital increased from €4,127 million on 31 December 2007 to €4,137 million on 1 January 2008.

5 OTHER ISSUES

ENVIRONMENTAL ISSUES

On the basis of the ECB's "Environmental Policy Framework", adopted at the end of 2007, an inventory of environmental aspects of the ECB's administration and a first estimate of its ecological impact were prepared in 2008. The ECB has also decided to establish an environmental management system that is compliant with the internationally recognised standards ISO 14001 and EMAS. A project has been launched to obtain certification of the bank's environmental management system in 2010, and some measures were successfully implemented in 2008.

INFORMATION TECHNOLOGY SERVICE MANAGEMENT

In 2008, the ECB was the first central bank to receive certification of compliance with international standard ISO/IEC 20000 for excellence in IT service management (ITSM). ISO/IEC 20000 describes an integrated set of management processes for the effective delivery of IT services to the business and its customers. Its application was a major contribution to the delivery of IT services at the ECB and it has already resulted in measurable benefits and higher end-user satisfaction.

BALANCE SHEET AS AT 31 DECEMBER 2008

ASSETS	NOTE NUMBER	2008 €	2007 €
Gold and gold receivables	1	10,663,514,154	10,280,374,109
Claims on non-euro area residents denominated in foreign currency	2		
Receivables from the IMF		346,651,334	449,565,998
Balances with banks and security investments, external loans and other external assets		41,264,100,632	28,721,418,912
		41,610,751,966	29,170,984,910
Claims on euro area residents denominated in foreign currency	2	22,225,882,711	3,868,163,459
Claims on non-euro area residents denominated in euro	3		
Balances with banks, security investments and loans		629,326,381	0
Other claims on euro area credit institutions denominated in euro	4	25,006	13,774
Intra-Eurosystem claims	5		
Claims related to the allocation of euro banknotes within the Eurosystem		61,021,794,350	54,130,517,580
Other claims within the Eurosystem (net)		234,095,515,333	17,241,183,222
		295,117,309,683	71,371,700,802
Other assets	6		
Tangible fixed assets		202,690,344	188,209,963
Other financial assets		10,351,859,696	9,678,817,294
Off-balance-sheet instruments revaluation differences		23,493,348	34,986,651
Accruals and prepaid expenses		1,806,184,794	1,365,938,582
Sundry		1,272,185,672	69,064,934
		13,656,413,854	11,337,017,424
Total assets		383,903,223,755	126,028,254,478

LIABILITIES	NOTE NUMBER	2008 €	2007 €
Banknotes in circulation	7	61,021,794,350	54,130,517,580
Liabilities to other euro area residents denominated in euro	8	1,020,000,000	1,050,000,000
Liabilities to non-euro area residents denominated in euro	9	253,930,530,070	14,571,253,753
Liabilities to euro area residents denominated in foreign currency	10	272,822,807	0
Liabilities to non-euro area residents denominated in foreign currency	10		
Deposits, balances and other liabilities		1,444,797,283	667,076,397
Intra-Eurosystem liabilities	11		
Liabilities equivalent to the transfer of foreign reserves		40,149,615,805	40,041,833,998
Other liabilities	12		
Off-balance-sheet instruments revaluation differences		1,130,580,103	69,589,536
Accruals and income collected in advance		2,284,795,433	1,848,257,491
Sundry		1,797,414,878	659,763,920
		5,212,790,414	2,577,610,947
Provisions	13	4,038,858,227	2,693,816,002
Revaluation accounts	14	11,352,601,325	6,169,009,571
Capital and reserves	15		
Capital		4,137,159,938	4,127,136,230
Profit for the year		1,322,253,536	0
Total liabilities		383,903,223,755	126,028,254,478

PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDING 31 DECEMBER 2008

	NOTE NUMBER	2008 €	2007 €
Interest income on foreign reserve assets		997,075,442	1,354,887,368
Interest income arising from the allocation of euro banknotes within the Eurosystem		2,230,477,327	2,004,355,782
Other interest income		8,430,894,437	4,380,066,479
<i>Interest income</i>		<i>11,658,447,206</i>	<i>7,739,309,629</i>
Remuneration of NCBs' claims in respect of foreign reserves transferred		(1,400,368,012)	(1,356,536,045)
Other interest expense		(7,876,884,520)	(3,962,006,944)
<i>Interest expense</i>		<i>(9,277,252,532)</i>	<i>(5,318,542,989)</i>
Net interest income	23	2,381,194,674	2,420,766,640
Realised gains/losses arising from financial operations	24	662,342,084	778,547,213
Write-downs on financial assets and positions	25	(2,662,102)	(2,534,252,814)
Transfer to/from provisions for foreign exchange rate and price risks		(1,339,019,690)	(286,416,109)
Net result of financial operations, write-downs and risk provisions		(679,339,708)	(2,042,121,710)
Net expense from fees and commissions	26	(149,007)	(621,691)
Income from equity shares and participating interests	27	882,152	920,730
Other income	28	7,245,593	6,345,668
Total net income		1,709,833,704	385,289,637
Staff costs	29	(174,200,469)	(168,870,244)
Administrative expenses	30	(183,224,063)	(184,589,229)
Depreciation of tangible fixed assets		(23,284,586)	(26,478,405)
Banknote production services	31	(6,871,050)	(5,351,759)
Profit for the year		1,322,253,536	0

Frankfurt am Main, 24 February 2009

EUROPEAN CENTRAL BANK

Jean-Claude Trichet
President

ACCOUNTING POLICIES¹

FORM AND PRESENTATION OF THE FINANCIAL STATEMENTS

The financial statements of the ECB have been designed to present fairly the financial position of the ECB and the results of its operations. They have been drawn up in accordance with the following accounting policies,² which the Governing Council of the ECB considers to be appropriate to the nature of central bank activity.

ACCOUNTING PRINCIPLES

The following accounting principles have been applied: economic reality and transparency, prudence, recognition of post-balance-sheet events, materiality, the accruals principle, going concern, consistency and comparability.

RECOGNITION OF ASSETS AND LIABILITIES

An asset or liability is only recognised in the Balance Sheet when it is probable that any associated future economic benefit will flow to or from the ECB, substantially all of the associated risks and rewards have been transferred to the ECB, and the cost or value of the asset or the amount of the obligation can be measured reliably.

BASIS OF ACCOUNTING

The accounts have been prepared on a historical cost basis, modified to include market valuation of marketable securities, gold and all other on-balance-sheet and off-balance-sheet assets and liabilities denominated in foreign currency. Transactions in financial assets and liabilities are reflected in the accounts on the basis of the date on which they were settled.

With the exception of securities, transactions in financial instruments denominated in foreign currency are recorded in off-balance-sheet accounts on the trade date. At the settlement date the off-balance-sheet entries are reversed and transactions are booked on-balance-sheet. Purchases and sales of foreign currency affect

the net foreign currency position on the trade date and realised results arising from sales are also calculated on that date. Accrued interest, premiums and discounts related to financial instruments denominated in foreign currency are calculated and recorded daily, and the foreign currency position is also affected daily by these accruals.

GOLD AND FOREIGN CURRENCY ASSETS AND LIABILITIES

Assets and liabilities denominated in foreign currency are converted into euro at the exchange rate prevailing on the Balance Sheet date. Income and expenses are converted at the exchange rate prevailing on the recording date. The revaluation of foreign exchange assets and liabilities, including on-balance-sheet and off-balance-sheet instruments, is performed on a currency-by-currency basis.

Revaluation to the market price for assets and liabilities denominated in foreign currency is treated separately from the exchange rate revaluation.

Gold is valued at the market price prevailing at the year-end. No distinction is made between the price and currency revaluation differences for gold. Instead, a single gold valuation is accounted for on the basis of the price in euro per fine ounce of gold, which, for the year ending 31 December 2008, was derived from the exchange rate of the euro against the US dollar on 31 December 2008.

SECURITIES

All marketable securities and similar assets are valued either at the mid-market prices or on the basis of the relevant yield curve prevailing at the Balance Sheet date, on a security-by-security basis. For the year ending 31 December 2008,

¹ The detailed accounting policies of the ECB are laid down in Decision ECB/2006/17, OJ L 348, 11.12.2006, p. 38, as amended.

² These policies are consistent with the provisions of Article 26.4 of the Statute of the ESCB, which require a harmonised approach to the rules governing the accounting and financial reporting of Eurosystem operations.

mid-market prices on 30 December 2008 were used. Non-marketable securities are valued at cost, while illiquid equity shares are valued at cost subject to impairment.

INCOME RECOGNITION

Income and expenses are recognised in the period in which they are earned or incurred. Realised gains and losses arising from the sale of foreign exchange, gold and securities are taken to the Profit and Loss Account. Such realised gains and losses are calculated by reference to the average cost of the respective asset.

Unrealised gains are not recognised as income but are transferred directly to a revaluation account.

Unrealised losses are taken to the Profit and Loss Account if they exceed previous revaluation gains registered in the corresponding revaluation account. Unrealised losses in any one security or currency or in gold are not netted against unrealised gains in other securities or currencies or gold. In the event of an unrealised loss on any item at the year-end, the average cost of that item is reduced to the year-end exchange rate or market price.

Premiums or discounts arising on purchased securities are calculated and presented as part of interest income and are amortised over the remaining life of the assets.

REVERSE TRANSACTIONS

Reverse transactions are operations whereby the ECB buys or sells assets under a repurchase agreement or conducts credit operations against collateral.

Under a repurchase agreement, securities are sold for cash with a simultaneous agreement to repurchase them from the counterparty at an agreed price on a set future date. Repurchase agreements are recorded as collateralised inward deposits on the liability side of the Balance Sheet and also lead to an interest expense in the

Profit and Loss Account. Securities sold under such an agreement remain on the Balance Sheet of the ECB.

Under a reverse repurchase agreement, securities are bought for cash with a simultaneous agreement to sell them back to the counterparty at an agreed price on a set future date. Reverse repurchase agreements are recorded as collateralised loans on the asset side of the Balance Sheet but are not included in the ECB's security holdings. They give rise to interest income in the Profit and Loss Account.

Reverse transactions (including security lending transactions) conducted under an automated security lending programme are recorded on the Balance Sheet only where collateral is provided in the form of cash placed on an account of the ECB. In 2008 the ECB did not receive any collateral in the form of cash in connection with such transactions.

OFF-BALANCE-SHEET INSTRUMENTS

Currency instruments, namely foreign exchange forward transactions, forward legs of foreign exchange swaps and other currency instruments involving an exchange of one currency for another at a future date, are included in the net foreign currency position for the purpose of calculating foreign exchange gains and losses.

Interest rate instruments are revalued on an item-by-item basis. Daily changes in the variation margin of open interest rate futures contracts are recorded in the Profit and Loss Account. The valuation of forward transactions in securities and of interest rate swaps is based on generally accepted valuation methods using observable market prices and rates and the discount factors from the settlement dates to the valuation date.

POST-BALANCE-SHEET EVENTS

Assets and liabilities are adjusted for events that occur between the annual Balance Sheet date and the date on which the Governing Council approves the financial statements, if such events

materially affect the condition of assets and liabilities at the Balance Sheet date.

Important post-balance-sheet events that do not affect the condition of assets and liabilities at the Balance Sheet date are disclosed in the notes.

INTRA-ESCB BALANCES/INTRA-EUROSYSTEM BALANCES

Intra-ESCB transactions are cross-border transactions that occur between two EU central banks. These transactions are processed primarily via TARGET2³ – the Trans-European Automated Real-time Gross settlement Express Transfer system (see Chapter 2) – and give rise to bilateral balances in accounts held between those EU central banks connected to TARGET2. These bilateral balances are then assigned to the ECB on a daily basis, leaving each NCB with a single net bilateral position vis-à-vis the ECB only. This position in the books of the ECB represents the net claim or liability of each NCB against the rest of the ESCB.

Euro-denominated intra-ESCB balances of the euro area NCBs with the ECB (except for the capital of the ECB and positions resulting from the transfer of foreign reserve assets to the ECB) are described as intra-Eurosystem claims or liabilities and are presented in the Balance Sheet of the ECB as a single net asset or liability position.

Intra-Eurosystem balances arising from the allocation of euro banknotes within the Eurosystem are included as a single net asset under “Claims related to the allocation of euro banknotes within the Eurosystem” (see “Banknotes in circulation” in the notes on accounting policies).

Intra-ESCB balances of non-euro area NCBs with the ECB, arising from their participation in TARGET2,⁴ are disclosed under “Liabilities to non-euro area residents denominated in euro”.

TREATMENT OF FIXED ASSETS

Fixed assets, with the exception of land, are valued at cost less depreciation. Land is valued at cost. Depreciation is calculated on a straight-line basis, beginning in the quarter after acquisition and continuing over the period for which the asset is expected to be available for use, as follows:

Computers, related hardware and software, and motor vehicles	4 years
Equipment, furniture and plant in building	10 years
Fixed assets costing less than €10,000	Written off in the year of acquisition

The depreciation period for capitalised building and refurbishment expenditure relating to the ECB’s existing premises has been reduced in order to ensure that these assets are completely written off before the ECB moves to its new premises.

THE ECB’S RETIREMENT PLAN AND OTHER POST-EMPLOYMENT BENEFITS

The ECB operates a defined benefit scheme for its staff. This is funded by assets held in a long-term employee-benefit fund.

BALANCE SHEET

The liability recognised in the Balance Sheet in respect of the defined benefit plans is the present value of the defined benefit obligation at the Balance Sheet date, less the fair value of plan assets used to fund the obligation, adjusted for unrecognised actuarial gains or losses.

³ The technically decentralised first-generation system was progressively replaced by a second-generation system (TARGET2) system, which is based on a single technical infrastructure, the Single Shared Platform (SSP). The migration to TARGET2 started in November 2007 and was completed in May 2008.

⁴ As at 31 December 2008, the non-euro area NCBs participating in TARGET2 were: Danmarks Nationalbank, Latvijas Banka, Lietuvos bankas, Narodowy Bank Polski and Eesti Pank.

The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash flows, using interest rates of high quality corporate bonds that are denominated in euro and have similar terms of maturity to the term of the related pension liability.

Actuarial gains and losses can arise from experience adjustments (where actual outcomes are different from the actuarial assumptions previously made) and changes in actuarial assumptions.

PROFIT AND LOSS ACCOUNT

The net amount charged to the Profit and Loss Account comprises:

- (a) the current service cost of the benefits accruing for the year;
- (b) interest at the discount rate on the defined benefit obligation;
- (c) the expected return on the plan assets; and
- (d) any actuarial gains and losses recognised in the Profit and Loss Account, using a “10% corridor” approach.

“10% CORRIDOR” APPROACH

Net cumulative unrecognised actuarial gains and losses which exceed the greater of (a) 10% of the present value of the defined benefit obligation and (b) 10% of the fair value of plan assets, are to be amortised over the expected average remaining working lives of the participating employees.

PENSIONS OF EXECUTIVE BOARD MEMBERS AND OTHER POST-RETIREMENT OBLIGATIONS

Unfunded arrangements are in place for the pensions of members of the Executive Board of the ECB and disability benefit provisions for

the staff. The expected costs of these benefits are accrued over the Executive Board/staff members’ terms of office/employment using an accounting approach similar to that of defined benefit pension plans. Actuarial gains and losses are recognised in the same manner as outlined above.

These obligations are valued annually by independent actuaries to establish the appropriate liability in the financial statements.

BANKNOTES IN CIRCULATION

The ECB and the euro area NCBs, which together comprise the Eurosystem, issue euro banknotes.⁵ The total value of euro banknotes in circulation is allocated to the Eurosystem central banks on the last working day of each month in accordance with the banknote allocation key.⁶

The ECB has been allocated a share of 8% of the total value of euro banknotes in circulation, which is disclosed under the Balance Sheet liability item “Banknotes in circulation”. The ECB’s share of the total euro banknote issue is backed by claims on the NCBs. These claims, which bear interest,⁷ are disclosed under the sub-item “Intra-Eurosystem claims: claims related to the allocation of euro banknotes within the Eurosystem” (see “Intra-ESCB balances/intra-Eurosystem balances” in the notes on accounting policies). Interest income on these claims is included within the item “Net interest income”. This income is due to the NCBs in the financial year in which it accrues, but is distributed on the second working day of the following year.⁸ It is distributed in full unless

5 Decision ECB/2001/15 of 6 December 2001 on the issue of euro banknotes, OJ L 337, 20.12.2001, p. 52, as amended.

6 “Banknote allocation key” means the percentages that result from taking into account the ECB’s share in the total euro banknote issue and applying the subscribed capital key to the NCBs’ share in that total.

7 Decision ECB/2001/16 of 6 December 2001 on the allocation of monetary income of the national central banks of participating Member States from the financial year 2002, OJ L 337, 20.12.2001, p. 55, as amended.

8 Decision ECB/2005/11 of 17 November 2005 on the distribution of the income of the European Central Bank on euro banknotes in circulation to the national central banks of the participating Member States, OJ L 311, 26.11.2005, p. 41.

the ECB's net profit for the year is less than its income earned on euro banknotes in circulation, and subject to any decisions by the Governing Council to make transfers to a provision for foreign exchange rate, interest rate and gold price risks and/or to charge costs incurred by the ECB in connection with the issue and handling of euro banknotes against this income.

RECLASSIFICATIONS

A number of items were reclassified in 2008 for presentational reasons and the comparable balances as at 31 December 2007 have been adjusted accordingly. These reclassifications are described in the Notes on the Balance Sheet.⁹

OTHER ISSUES

Taking account of the ECB's role as a central bank, the Executive Board considers that the publication of a cash flow statement would not provide the readers of the financial statements with any additional relevant information.

In accordance with Article 27 of the Statute of the ESCB, and on the basis of a recommendation of the Governing Council, the EU Council has approved the appointment of PricewaterhouseCoopers Aktiengesellschaft Wirtschaftsprüfungsgesellschaft as the external auditors of the ECB for a five-year period up to the end of the financial year 2012.

⁹ The reclassifications comply with the accounting policies of the ECB laid down in Decision ECB/2006/17, OJ L 348, 11.12.2006, p. 38, as amended.

NOTES ON THE BALANCE SHEET

1 GOLD AND GOLD RECEIVABLES

As at 31 December 2008 the ECB held 17,156,546 ounces of fine gold (2007: 18,091,733 ounces). The reduction was due to (a) sales of 963,987 ounces of fine gold in accordance with the Central Bank Gold Agreement, which came into effect on 27 September 2004 and of which the ECB is a signatory, and (b) the transfer by the Central Bank of Cyprus and the Central Bank of Malta to the ECB of 19,151 and 9,649 ounces of fine gold¹⁰ respectively upon the adoption of the single currency by Cyprus and Malta, in accordance with Article 30.1 of the Statute of the ESCB. The decrease in the euro equivalent value of this holding, resulting from these transactions, was more than offset by a significant rise in the price of gold during 2008 (see “Gold and foreign currency assets and liabilities” in the notes on accounting policies).

2 CLAIMS ON NON-EURO AREA AND EURO AREA RESIDENTS DENOMINATED IN FOREIGN CURRENCY

RECEIVABLES FROM THE IMF

This asset represents the ECB’s holdings of special drawing rights (SDRs) as at 31 December 2008. It arises as the result of a two-way SDR buying and selling arrangement with the International Monetary Fund (IMF), whereby the IMF is authorised to arrange sales or purchases of SDRs against euro, on behalf of the ECB, within minimum and maximum holding levels. The SDR is defined in terms of a basket of currencies. Its value is determined as the weighted sum of the exchange rates of four major currencies (euro, Japanese yen, pound sterling and US dollar). For accounting purposes, SDRs are treated as a foreign currency (see “Gold and foreign currency assets and liabilities” in the notes on accounting policies).

BALANCES WITH BANKS AND SECURITY INVESTMENTS, EXTERNAL LOANS AND OTHER EXTERNAL ASSETS; AND CLAIMS ON EURO AREA RESIDENTS DENOMINATED IN FOREIGN CURRENCY

These two items consist of balances with banks and loans denominated in foreign currency, and investments in securities denominated in US dollars and Japanese yen. The amortisation of discounts and premiums on securities denominated in foreign currency was previously included under the headings “Accruals and prepaid expenses” and “Accruals and income collected in advance” respectively. The ECB has decided, for presentational reasons, to reclassify these items under the heading “Balances with banks and security investments, external loans and other external assets”. The comparable balances as at 31 December 2007 have been adjusted accordingly.

<i>Claims on non-euro area residents</i>	2008 €	2007 €	Change €
Current accounts	5,808,582,148	761,073,851	5,047,508,297
Money market deposits	573,557,686	688,783,688	(115,226,002)
Reverse repurchase agreements	379,961,453	543,247,188	(163,285,735)
Security investments	34,501,999,345	26,728,314,185	7,773,685,160
Total	41,264,100,632	28,721,418,912	12,542,681,720

<i>Claims on euro area residents</i>	2008 €	2007 €	Change €
Current accounts	619,534	574,945	44,589
Money market deposits	22,225,263,177	3,867,588,514	18,357,674,663
Total	22,225,882,711	3,868,163,459	18,357,719,252

The increase in current accounts held with non-euro area residents is due mainly to (a) the settlement of the Danish krone leg of swap transactions with Danmarks Nationalbank that were outstanding on 31 December 2008 amounting

¹⁰ The transfers, with an aggregate value equivalent to €16.5 million, were made with effect from 1 January 2008.

to €3.9 billion (see note 20, “Foreign exchange swap and forward transactions”), and (b) balances in Swiss francs with a value of €1.2 billion which arose in connection with the swap arrangement established with the Swiss National Bank¹¹ (see note 9, “Liabilities to non-euro area residents denominated in euro”). The appreciation of the Japanese yen and the US dollar against the euro, unrealised gains on securities (see note 14, “Revaluation accounts”), the investment of the proceeds of gold sales (see note 1, “Gold and gold receivables”), and the income received primarily on the US dollar portfolio have also contributed to the increase in the total value of these items.

Deposits related to operations conducted by Eurosystem central banks in order to provide US dollar liquidity to credit institutions in the euro area are included under the component money market deposits with euro area residents.

Additionally, upon the adoption of the single currency by Cyprus and Malta with effect from 1 January 2008, the Central Bank of Cyprus and the Central Bank of Malta transferred US dollars with an aggregate value of €93.5 million to the ECB, in accordance with Article 30.1 of the Statute of the ESCB.

The ECB’s net foreign currency holdings¹² of US dollars and Japanese yen, as at 31 December 2008, were as follows:

	million currency units
US dollars	40,062
Japanese yen	1,084,548

3 CLAIMS ON NON-EURO AREA RESIDENTS DENOMINATED IN EURO

In 2007 money market deposits and current accounts held with non-euro area residents as a direct counterpart to the capital and reserves of the ECB were included under this heading. The ECB has decided to reclassify these holdings as a dedicated portfolio, which is now included under the heading “Other financial assets”. The comparable balance as at 31 December 2007 has been adjusted accordingly.

As at 31 December 2008 this item consisted mainly of a claim of €460.0 million on the Magyar Nemzeti Bank in connection with an agreement established with the ECB on repurchase transactions. This agreement provides the Magyar Nemzeti Bank with a facility to borrow up to €5 billion in order to support its domestic operations for the provision of euro liquidity.

4 OTHER CLAIMS ON EURO AREA CREDIT INSTITUTIONS DENOMINATED IN EURO

In 2007 money market deposits and current accounts held with euro area residents as a direct counterpart to the capital and reserves of the ECB were included under this heading. The ECB has decided to reclassify these holdings as a dedicated portfolio, which is now included under the heading “Other financial assets”. The comparable balance as at 31 December 2007 has been adjusted accordingly.

As at 31 December 2008 this claim consisted of a current account with a euro area resident.

5 INTRA-EUROSYSTEM CLAIMS

CLAIMS RELATED TO THE ALLOCATION OF EURO BANKNOTES WITHIN THE EUROSYSTEM

This item consists of the claims of the ECB vis-à-vis the euro area NCBs relating to the allocation of euro banknotes within the

¹¹ The balances in Swiss francs reflect the risk control measures applied by the ECB in its EUR/CHF foreign exchange swap tender operations, which take the form of initial margins of 5% for one-week operations and 15% for 84-day operations.

¹² Assets minus liabilities denominated in the respective foreign currency that are subject to foreign currency revaluation. These are included under the headings “Claims on non-euro area residents denominated in foreign currency”, “Claims on euro area residents denominated in foreign currency”, “Accruals and prepaid expenses”, “Liabilities to euro area residents denominated in foreign currency”, “Liabilities to non-euro area residents denominated in foreign currency”, “Off-balance-sheet instruments revaluation differences” (Liabilities side) and “Accruals and income collected in advance”, also taking into account foreign exchange forward and swap transactions under off-balance-sheet items. The effects of the price revaluation gains on financial instruments denominated in foreign currency are not included.

Eurosystem (see “Banknotes in circulation” in the notes on accounting policies).

OTHER CLAIMS WITHIN THE EUROSISTEM (NET)

In 2008 this item consisted mainly of the TARGET2 balances of the euro area NCBs vis-à-vis the ECB (see “Intra-ESCB balances/intra-Eurosystem balances” in the notes on accounting policies). The increase in this position was due mainly to back-to-back swap transactions conducted with NCBs in connection with US dollar liquidity-providing operations (see note 9, “Liabilities to non-euro area residents denominated in euro”).

This item also includes the amount due to euro area NCBs in respect of the interim distribution of the ECB’s income derived from banknotes (see “Banknotes in circulation” in the notes on accounting policies).

	2008 €	2007 €
Due from euro area NCBs in respect of TARGET2	420,833,781,929	145,320,642,526
Due to euro area NCBs in respect of TARGET2	(185,532,591,178)	(128,079,459,304)
Due to euro area NCBs in respect of the interim distribution of the ECB’s income derived from banknotes	(1,205,675,418)	0
Other claims within the Eurosystem (net)	234,095,515,333	17,241,183,222

6 OTHER ASSETS

TANGIBLE FIXED ASSETS

These assets comprised the following items on 31 December 2008:

	2008 €	2007 €	Change €
Cost			
Land and buildings	159,972,149	156,964,236	3,007,913
Computer hardware and software	174,191,055	168,730,634	5,460,421

	2008 €	2007 €	Change €
Equipment, furniture, plant in building and motor vehicles	28,862,720	27,105,564	1,757,156
Assets under construction	83,407,619	59,791,855	23,615,764
Other fixed assets	3,577,485	1,195,290	2,382,195
Total cost	450,011,028	413,787,579	36,223,449
Accumulated depreciation			
Land and buildings	(59,885,983)	(49,672,589)	(10,213,394)
Computer hardware and software	(160,665,542)	(150,195,777)	(10,469,765)
Equipment, furniture, plant in building and motor vehicles	(26,618,732)	(25,562,068)	(1,056,664)
Other fixed assets	(150,427)	(147,182)	(3,245)
Total accumulated depreciation	(247,320,684)	(225,577,616)	(21,743,068)
Net book value	202,690,344	188,209,963	14,480,381

The increase in the category “Assets under construction” is due mainly to initial works related to the ECB’s new premises. Transfers from this category to the relevant fixed asset headings will occur once the assets are in use.

OTHER FINANCIAL ASSETS

The amortisation of discounts and premiums on securities denominated in euro was previously included under the headings “Accruals and prepaid expenses” and “Accruals and income collected in advance”, respectively. The ECB has decided, for presentational reasons, to reclassify these items under this heading. In addition, money market deposits and current accounts in euro held as a direct counterpart to the capital and reserves of the ECB are now included under this heading (see note 3, “Claims on non-euro area residents denominated in euro”, and note 4, “Other claims on euro area credit institutions denominated in euro”). The comparable balances as at 31 December 2007 have been adjusted accordingly.

The main components of this item are as follows:

	2008 €	2007 €	Change €
Current accounts in euro	4,936,630	5,153,295	(216,665)
Money market deposits in euro	150,000,000	120,000,000	30,000,000
Securities denominated in euro	9,675,505,128	8,843,080,586	832,424,542
Reverse repurchase agreements in euro	479,293,075	668,392,837	(189,099,762)
Other financial assets	42,124,863	42,190,576	(65,713)
Total	10,351,859,696	9,678,817,294	673,042,402

(a) Current accounts, money market deposits, securities and reverse repurchase agreements in euro constitute the investment of the ECB's own funds (see note 12, "Other liabilities"). The net increase in the value of the ECB's own fund assets was due mainly to the investment in the own funds portfolio of the counterpart of the amount transferred to the ECB's provision against foreign exchange rate, interest rate and gold price risks in 2007, unrealised gains on securities (see note 14, "Revaluation accounts") and income received on the own funds portfolio.

(b) The ECB holds 3,211 shares in the Bank for International Settlements (BIS), which are included at the acquisition cost of €41.8 million.

OFF-BALANCE-SHEET INSTRUMENTS REVALUATION DIFFERENCES

In 2008 this item was composed mainly of valuation gains in outstanding interest rate swap transactions (see note 19, "Interest rate swaps").

ACCRUALS AND PREPAID EXPENSES

In 2008 this position included accrued interest receivable on the ECB's claims related to

the allocation of euro banknotes within the Eurosystem for the final quarter (see "Banknotes in circulation" in the notes on accounting policies), amounting to €500.4 million, and accrued interest receivable on the TARGET2 balances due from euro area NCBs for the final month of 2008, amounting to €648.9 million.

Also included under this item is accrued interest on securities (see also note 2, "Claims on non-euro area and euro area residents denominated in foreign currency", and note 6, "Other assets") and other financial assets.

SUNDRY

This item consists mainly of the accrued interim distribution of the ECB's income derived from banknotes (see "Banknotes in circulation" in the notes on accounting policies and note 5, "Intra-Eurosystem claims").

This item also includes positive balances related to swap and forward transactions in foreign currency that were outstanding on 31 December 2008 (see note 20, "Foreign exchange swap and forward transactions"). These balances arise from the conversion of such transactions into their euro equivalents at the respective currency's average cost on the Balance Sheet date, compared with the euro values at which the transactions were initially recorded (see "Off-balance-sheet instruments" in the notes on accounting policies).

A claim against the German Federal Ministry of Finance in respect of recoverable value added tax and other indirect taxes paid is also included under this heading. Such taxes are refundable under the terms of Article 3 of the Protocol on the privileges and immunities of the European Communities, which applies to the ECB by virtue of Article 40 of the Statute of the ESCB.

7 BANKNOTES IN CIRCULATION

This item consists of the ECB's share (8%) of the total euro banknotes in circulation

(see “Banknotes in circulation” in the notes on accounting policies).

8 LIABILITIES TO OTHER EURO AREA RESIDENTS DENOMINATED IN EURO

This item comprises deposits by members of the Euro Banking Association (EBA) which are used in order to provide the ECB with collateral in respect of the EBA’s payments settled through the TARGET2 system.

9 LIABILITIES TO NON-EURO AREA RESIDENTS DENOMINATED IN EURO

This item consists mainly of a liability to the Federal Reserve amounting to €219.7 billion in connection with the US dollar Term Auction Facility. Under this programme, US dollars were provided by the Federal Reserve to the ECB by means of a temporary reciprocal currency arrangement (swap line), with the aim of offering short-term US dollar funding to Eurosystem counterparties. The ECB simultaneously entered into back-to-back swap transactions with euro area NCBs, which used the resulting funds to conduct US dollar liquidity-providing operations with Eurosystem counterparties in the form of reverse and swap transactions. The back-to-back swap transactions between the ECB and the NCBs resulted in intra-Eurosystem balances between the ECB and the NCBs reported under “Other claims within the Eurosystem (net)”.

A liability to the Swiss National Bank amounting to €18.4 billion is also included under this heading. Swiss francs were provided by the Swiss National Bank by means of a swap arrangement with the aim of offering short-term Swiss franc funding to Eurosystem counterparties. The ECB simultaneously entered into swap transactions with euro area NCBs, which used the resulting funds to conduct Swiss franc liquidity-providing operations with

Eurosystem counterparties against euro cash in the form of swap transactions. The swap transactions between the ECB and the NCBs resulted in intra-Eurosystem balances reported under “Other claims within the Eurosystem (net)”. In addition, this item includes a liability to the Swiss National Bank amounting to €15.4 billion. This liability arose from the placement with the ECB of euro funds received by the Swiss National Bank from operations with other counterparties.

The remainder of this item reflects balances held with the ECB by non-euro area NCBs arising from transactions processed via the TARGET2 system (see “Intra-ESCB balances/intra-Eurosystem balances” in the notes on accounting policies).

10 LIABILITIES TO EURO AREA AND NON-EURO AREA RESIDENTS DENOMINATED IN FOREIGN CURRENCY

This position consists mainly of repurchase agreements conducted with euro area and non-euro area residents in connection with the management of the foreign currency reserves of the ECB.

11 INTRA-EUROSYSTEM LIABILITIES

These represent the liabilities to the euro area NCBs that arose from the transfer of foreign reserve assets to the ECB when they joined the Eurosystem. They are remunerated at the latest available marginal rate for the Eurosystem’s main refinancing operations, adjusted to reflect a zero return on the gold component (see note 23, “Net interest income”).

The transfer of foreign reserve assets by the Central Bank of Cyprus and the Central Bank of Malta upon the adoption of the single currency by Cyprus and Malta led to an increase in these liabilities of €107,781,807.

	To 31 December 2007 €	From 1 January 2008 ¹ €
Nationale Bank van België/Banque Nationale de Belgique	1,423,341,996	1,423,341,996
Deutsche Bundesbank	11,821,492,402	11,821,492,402
Central Bank and Financial Services Authority of Ireland	511,833,966	511,833,966
Bank of Greece	1,046,595,329	1,046,595,329
Banco de España	4,349,177,351	4,349,177,351
Banque de France	8,288,138,644	8,288,138,644
Banca d'Italia	7,217,924,641	7,217,924,641
Central Bank of Cyprus	-	71,950,549
Banque centrale du Luxembourg	90,730,275	90,730,275
Central Bank of Malta	-	35,831,258
De Nederlandsche Bank	2,243,025,226	2,243,025,226
Oesterreichische Nationalbank	1,161,289,918	1,161,289,918
Banco de Portugal	987,203,002	987,203,002
Banka Slovenije	183,995,238	183,995,238
Suomen Pankki – Finlands Bank	717,086,011	717,086,011
Total	40,041,833,998	40,149,615,805

1) Individual amounts are shown rounded to the nearest euro. The components may not add up to the total due to rounding.

The claims of the Central Bank of Cyprus and the Central Bank of Malta were set at €71,950,549 and €35,831,258 respectively in order to ensure that the ratio between these claims and the aggregate claim credited to the other NCBs that have adopted the euro will be equal to the ratio between the weightings of the Central Bank of Cyprus and the Central Bank of Malta in the ECB's capital key and the other participating NCBs' aggregate weighting in this key. The difference between the claim and the value of the assets transferred (see note 1, "Gold and gold receivables", and note 2, "Claims on non-euro area and euro area residents denominated in foreign currency") was treated as part of the contributions of the Central Bank of Cyprus and the Central Bank of Malta, due under Article 49.2 of the Statute of the ESCB, to the reserves and provisions equivalent to reserves of the ECB existing as at 31 December 2007 (see note 13, "Provisions", and note 14, "Revaluation accounts").

12 OTHER LIABILITIES

OFF-BALANCE-SHEET INSTRUMENTS REVALUATION DIFFERENCES

This item is composed mainly of valuation changes in swap and forward transactions in foreign currency that were outstanding on 31 December 2008 (see note 20, "Foreign exchange swap and forward transactions"). These valuation changes are the result of the conversion of such transactions into their euro equivalents at the exchange rates prevailing on the Balance Sheet date, compared with the euro values resulting from the conversion of the transactions at the average cost of the respective foreign currency (see "Gold and foreign currency assets and liabilities" in the notes on accounting policies and also note 6, "Other assets").

Valuation losses on interest rate swaps are also included in this item.

ACCRUALS AND INCOME COLLECTED IN ADVANCE

This item consists mainly of interest payable to the NCBs in respect of their claims relating to the foreign reserves transferred (see note 11, "Intra-Eurosystem liabilities"), amounting to €1.4 billion. It also includes accruals on balances due to NCBs in respect of TARGET2, accruals on financial instruments (see also note 2, "Claims on non-euro area and euro area residents denominated in foreign currency", and note 6, "Other assets") and other accruals.

SUNDRY

This item consists mainly of negative balances related to swap and forward transactions in foreign currency that were outstanding on 31 December 2008 (see note 20, "Foreign exchange swap and forward transactions"). These balances arise from the conversion of such transactions into their euro equivalents at the respective currency's average cost on the Balance Sheet date, compared with the euro

values at which the transactions were initially recorded (see “Off-balance-sheet instruments” in the notes on accounting policies).

This item also includes outstanding repurchase transactions of €337.6 million conducted in connection with the management of the ECB’s own funds (see note 6, “Other assets”) and the net liability in respect of the ECB’s pension obligations as described below.

THE ECB’S RETIREMENT PLAN AND OTHER POST-EMPLOYMENT BENEFITS

The amounts recognised in the Balance Sheet in respect of the ECB’s pension obligations (see “The ECB’s retirement plan and other post-employment benefits” in the notes on accounting policies) are as follows:

	2008 € millions	2007 € millions
Present value of obligations	317.0	285.8
Fair value of plan assets	(226.7)	(229.8)
Unrecognised actuarial gains/(losses)	7.6	35.4
Liability recognised in the Balance Sheet	97.9	91.4

The present value of the obligations includes unfunded obligations of €42.3 million (2007: €36.8 million) relating to the pensions of Executive Board members and to staff disability provisions.

The amounts recognised in the Profit and Loss Account in 2008 and 2007 in respect of “Current service cost”, “Interest on obligation”, “Expected return on plan assets” and “Net actuarial (gains)/losses recognised in the year” are as follows:

	2008 € millions	2007 € millions
Current service cost	24.7	26.5
Interest on obligation	10.7	8.6
Expected return on plan assets	(10.0)	(7.9)
Net actuarial (gains)/losses recognised in the year	(1.1)	0
Total included in “Staff costs”	24.3	27.2

Under the “10% corridor” approach (see “The ECB’s retirement plan and other post-employment benefits” in the notes on accounting policies), net cumulative unrecognised actuarial gains exceeding the greater of (a) 10% of the present value of the defined benefit obligation and (b) 10% of the fair value of plan assets, are amortised over the expected average remaining working lives of the participating employees.

Changes in the present value of the defined benefit obligation are as follows:

	2008 € millions	2007 € millions
Opening defined benefit obligation	285.8	258.5
Service cost	24.7	26.5
Interest cost	10.7	8.6
Contributions paid by plan participants	17.9	14.2
Other net changes in liabilities representing plan participants’ contributions	(12.3)	2.5
Benefits paid	(3.8)	(2.5)
Actuarial (gains)/losses	(6.0)	(22.0)
Closing defined benefit obligation	317.0	285.8

Changes in the fair value of plan assets are as follows:

	2008 € millions	2007 € millions
Opening fair value of plan assets	229.8	195.3
Expected return	10.0	7.9
Actuarial gains/(losses)	(32.7)	(4.0)
Contributions paid by employer	17.5	16.2
Contributions paid by plan participants	17.8	14.1
Benefits paid	(3.4)	(2.2)
Other net changes in assets representing plan participants’ contributions	(12.3)	2.5
Closing fair value of plan assets	226.7	229.8

In preparing the valuations referred to in this note, the actuaries have used assumptions which the Executive Board has accepted for the purposes of accounting and disclosure.

The principal assumptions used for the purposes of calculating the staff scheme liability are as shown in the following table. The expected rate of return on plan assets is used by the actuaries for the purpose of calculating the annual charge to the Profit and Loss Account.

	2008 %	2007 %
Discount rate	5.75	5.30
Expected return on plan assets	6.50	6.50
Future salary increases	2.00	2.00
Future pension increases	2.00	2.00

13 PROVISIONS

This item consists of a provision against foreign exchange rate, interest rate and gold price risks and other miscellaneous provisions. The latter include an appropriate provision against the contractual obligation of the ECB to restore its current premises to their original condition when they are vacated and the ECB moves to its new site.

The Governing Council, taking into account the ECB's large exposure to foreign exchange rate, interest rate and gold price risks, and the size of its revaluation accounts, deemed it appropriate to establish a provision as at 31 December 2005 against these risks. This provision will be used to the extent deemed necessary by the Governing Council to offset future realised and unrealised losses, in particular valuation losses not covered by the revaluation accounts. The size and continuing requirement for this provision is reviewed annually, based on the ECB's assessment of its exposure to the above risks. This assessment takes a range of factors into account, including in particular the level of holdings of risk-bearing assets, the extent of materialised risk exposures in the current financial year, projected results for the coming year, and a risk assessment involving calculations of Values at Risk (VaR) on risk-bearing assets, which is applied consistently over time.¹³ The provision, together with any amount held in the general reserve fund, may not exceed the value of the ECB's capital paid up by the euro area NCBs.

As at 31 December 2007 the provision against foreign exchange rate, interest rate and gold price risks amounted to €2,668,758,313. In accordance with Article 49.2 of the Statute of the ESCB, the Central Bank of Cyprus and the Central Bank of Malta contributed the amounts of €4,795,450 and €2,388,127 respectively to the provision with effect from 1 January 2008. Taking the results of its assessment into account, the Governing Council decided to transfer, as at 31 December 2008, an additional amount of €1,339,019,690¹⁴ to the provision. This increased the size of the provision to €4,014,961,580, which is the value of the ECB's capital paid up by the euro area NCBs as at 31 December 2008, and reduced net profit to €1,322,253,536.

14 REVALUATION ACCOUNTS

These accounts represent revaluation balances arising from unrealised gains on assets and liabilities. In accordance with Article 49.2 of the Statute of the ESCB, the Central Bank of Cyprus and the Central Bank of Malta contributed the amounts of €11.1 million and €5.5 million respectively to these balances with effect from 1 January 2008.

	2008 €	2007 €	Change €
Gold	6,449,713,267	5,830,485,388	619,227,879
Foreign currency	3,616,514,710	0	3,616,514,710
Securities and other instruments	1,286,373,348	338,524,183	947,849,165
Total	11,352,601,325	6,169,009,571	5,183,591,754

The foreign exchange rates used for the year-end revaluation were as follows:

Exchange rates	2008	2007
US dollars per euro	1.3917	1.4721
Japanese yen per euro	126.14	164.93
Euro per SDR	1.1048	1.0740
Swiss francs per euro	1.4850	Not applicable
Danish kroner per euro	7.4506	Not applicable
Euro per fine ounce of gold	621.542	568.236

¹³ See also Chapter 2 of the ECB's Annual Report.

¹⁴ This transfer was funded from realised gains on gold sales of €0.3 billion and the ECB's income on euro banknotes in circulation amounting to €1.0 billion.

15 CAPITAL AND RESERVES

CAPITAL

Pursuant to Council Decisions 2007/503/EC and 2007/504/EC of 10 July 2007, taken in accordance with Article 122(2) of the Treaty, Cyprus and Malta adopted the single currency on 1 January 2008. In accordance with Article 49.1 of the Statute of the ESCB and the legal acts adopted by the Governing Council on 31 December 2007,¹⁵ the Central Bank of Cyprus and the Central Bank of Malta paid up amounts of €6,691,401 and €3,332,307 respectively as at 1 January 2008, representing the remainder of their capital subscriptions to the ECB. As a consequence, the ECB's paid-up capital increased

from €4,127,136,230 on 31 December 2007 to €4,137,159,938 on 1 January 2008, as shown in the table below:¹⁶

- ¹⁵ Decision ECB/2007/22 of 31 December 2007 on the paying-up of capital, transfer of foreign reserve assets and contributions by the Central Bank of Cyprus and the Central Bank of Malta to the European Central Bank's reserves and provisions, OJ L 28, 1.2.2008, p. 36; Agreement of 31 December 2007 between the European Central Bank and the Central Bank of Cyprus regarding the claim credited to the Central Bank of Cyprus by the European Central Bank under Article 30.3 of the Statute of the European System of Central Banks and of the European Central Bank, OJ C 29, 1.2.2008, p. 4; Agreement of 31 December 2007 between the European Central Bank and the Central Bank of Malta regarding the claim credited to the Central Bank of Malta by the European Central Bank under Article 30.3 of the Statute of the European System of Central Banks and of the European Central Bank, OJ C 29, 1.2.2008, p. 6.
- ¹⁶ Individual amounts are shown rounded to the nearest euro. Subtotals in the tables of this section may not add up to the total due to rounding.

	Capital key until 31 December 2007 %	Paid-up capital until 31 December 2007 €	Capital key from 1 January 2008 %	Paid-up capital from 1 January 2008 €
Nationale Bank van België/Banque Nationale de Belgique	2.4708	142,334,200	2.4708	142,334,200
Deutsche Bundesbank	20.5211	1,182,149,240	20.5211	1,182,149,240
Central Bank and Financial Services Authority of Ireland	0.8885	51,183,397	0.8885	51,183,397
Bank of Greece	1.8168	104,659,533	1.8168	104,659,533
Banco de España	7.5498	434,917,735	7.5498	434,917,735
Banque de France	14.3875	828,813,864	14.3875	828,813,864
Banca d'Italia	12.5297	721,792,464	12.5297	721,792,464
Central Bank of Cyprus	-	-	0.1249	7,195,055
Banque centrale du Luxembourg	0.1575	9,073,028	0.1575	9,073,028
Central Bank of Malta	-	-	0.0622	3,583,126
De Nederlandsche Bank	3.8937	224,302,523	3.8937	224,302,523
Oesterreichische Nationalbank	2.0159	116,128,992	2.0159	116,128,992
Banco de Portugal	1.7137	98,720,300	1.7137	98,720,300
Banka Slovenije	0.3194	18,399,524	0.3194	18,399,524
Suomen Pankki – Finlands Bank	1.2448	71,708,601	1.2448	71,708,601
Subtotal for euro area NCBS	69.5092	4,004,183,400	69.6963	4,014,961,580
Българска народна банка (Bulgarian National Bank)	0.8833	3,561,869	0.8833	3,561,869
Česká národní banka	1.3880	5,597,050	1.3880	5,597,050
Danmarks Nationalbank	1.5138	6,104,333	1.5138	6,104,333
Eesti Pank	0.1703	686,727	0.1703	686,727
Central Bank of Cyprus	0.1249	503,654	-	-
Latvijas Banka	0.2813	1,134,330	0.2813	1,134,330
Lietuvos bankas	0.4178	1,684,760	0.4178	1,684,760
Magyar Nemzeti Bank	1.3141	5,299,051	1.3141	5,299,051
Central Bank of Malta	0.0622	250,819	-	-
Narodowy Bank Polski	4.8748	19,657,420	4.8748	19,657,420
Banca Națională a României	2.5188	10,156,952	2.5188	10,156,952
Národná banka Slovenska	0.6765	2,727,957	0.6765	2,727,957
Sveriges Riksbank	2.3313	9,400,866	2.3313	9,400,866
Bank of England	13.9337	56,187,042	13.9337	56,187,042
Subtotal for non-euro area NCBS	30.4908	122,952,830	30.3037	122,198,358
Total	100.0000	4,127,136,230	100.0000	4,137,159,938

The non-euro area NCBs are required to pay up 7% of their subscribed capital as a contribution to the operational costs of the ECB. This contribution amounted to a total of €122,198,358 at end-2008. The non-euro area NCBs are not entitled to receive any share of the distributable profits of the ECB, including income arising from the allocation of euro banknotes within the Eurosystem, nor are they liable to fund any loss of the ECB.

16 POST-BALANCE-SHEET EVENTS

CHANGES TO THE ECB'S CAPITAL KEY

Pursuant to Article 29 of the Statute of the ESCB, the shares of the NCBs in the ECB's capital key are weighted according to the shares of the respective Member States in the EU's total population and GDP in equal measure, as notified to the ECB by the European Commission. These weights are adjusted every five years.¹⁷ The second such adjustment following the establishment of the ECB was made on 1 January 2009. Based on Council Decision 2003/517/EC of 15 July 2003 on the statistical data to be used for the adjustment of the key for subscription to the capital of the European Central Bank,¹⁸ the NCBs' capital key shares were adjusted on 1 January 2009 as follows:

	Capital key from 1 January 2008 to 31 December 2008 %	Capital key from 1 January 2009 %
Nationale Bank van België/ Banque Nationale de Belgique	2.4708	2.4256
Deutsche Bundesbank	20.5211	18.9373
Central Bank and Financial Services Authority of Ireland	0.8885	1.1107
Bank of Greece	1.8168	1.9649
Banco de España	7.5498	8.3040
Banque de France	14.3875	14.2212
Banca d'Italia	12.5297	12.4966
Central Bank of Cyprus	0.1249	0.1369
Banque centrale du Luxembourg	0.1575	0.1747
Central Bank of Malta	0.0622	0.0632

	Capital key from 1 January 2008 to 31 December 2008 %	Capital key from 1 January 2009 %
De Nederlandsche Bank	3.8937	3.9882
Oesterreichische Nationalbank	2.0159	1.9417
Banco de Portugal	1.7137	1.7504
Banka Slovenije	0.3194	0.3288
Národná banka Slovenska	-	0.6934
Suomen Pankki – Finlands Bank	1.2448	1.2539
Subtotal for euro area NCBs	69.6963	69.7915
Българска народна банка (Bulgarian National Bank)	0.8833	0.8686
Česká národní banka	1.3880	1.4472
Danmarks Nationalbank	1.5138	1.4835
Eesti Pank	0.1703	0.1790
Latvijas Banka	0.2813	0.2837
Lietuvos bankas	0.4178	0.4256
Magyar Nemzeti Bank	1.3141	1.3856
Narodowy Bank Polski	4.8748	4.8954
Banca Națională a României	2.5188	2.4645
Národná banka Slovenska	0.6765	-
Sveriges Riksbank	2.3313	2.2582
Bank of England	13.9337	14.5172
Subtotal for non-euro area NCBs	30.3037	30.2085
Total	100.0000	100.0000

ENTRY OF SLOVAKIA INTO THE EURO AREA

Pursuant to Council Decision 2008/608/EC of 8 July 2008, taken in accordance with Article 122(2) of the Treaty, Slovakia adopted the single currency on 1 January 2009. In accordance with Article 49.1 of the Statute of the ESCB and the legal acts adopted by the Governing Council on 31 December 2008,¹⁹ Národná banka Slovenska paid up an amount of €37,216,407 as at 1 January 2009,

¹⁷ These weights are also adjusted whenever new Member States join the EU.

¹⁸ OJ L 181, 19.7.2003, p. 43.

¹⁹ Decision ECB/2008/33 of 31 December 2008 on the paying-up of capital, transfer of foreign reserve assets and contributions by Národná banka Slovenska to the European Central Bank's reserves and provisions, OJ L 21, 24.1.2009, p. 83; Agreement of 31 December 2008 between Národná banka Slovenska and the European Central Bank regarding the claim credited to Národná banka Slovenska by the European Central Bank under Article 30.3 of the Statute of the European System of Central Banks and of the European Central Bank, OJ C 18, 24.1.2009, p. 3.

representing the remainder of its capital subscription to the ECB. In accordance with Article 30.1 of the Statute of the ESCB, Národná banka Slovenska transferred foreign reserve assets with a total value equivalent to €443,086,156 to the ECB with effect from 1 January 2009. The total amount transferred was determined by multiplying the euro value, at the exchange rates prevailing on 31 December 2008, of the foreign reserve assets already transferred to the ECB by the ratio between the number of shares subscribed by Národná banka Slovenska and the number of shares already paid up by the other NCBs without a derogation. These foreign reserve assets comprised amounts of US dollars in the form of securities and cash, and gold, in proportions of 85 to 15 respectively.

Národná banka Slovenska was credited with claims in respect of the paid-up capital and foreign reserve assets equivalent to the amounts transferred. The latter is to be treated in an identical manner to the existing claims of the other participating NCBs (see note 11, “Intra-Eurosystem liabilities”).

EFFECT ON THE ECB'S CAPITAL

The adjustment of the NCBs' capital key shares in conjunction with Slovakia joining the euro area resulted in an increase of €5,100,251 in the ECB's paid-up capital.

EFFECT ON THE NCBs' CLAIMS EQUIVALENT TO THE FOREIGN RESERVE ASSETS TRANSFERRED TO THE ECB

The net effect of the change in NCBs' weightings in the ECB's capital key and of the transfer by Národná banka Slovenska of foreign reserve assets on the NCBs' claims equivalent to the foreign reserve assets transferred to the ECB was an increase of €54,841,411.

OFF-BALANCE-SHEET INSTRUMENTS

17 AUTOMATIC SECURITY LENDING PROGRAMME

As part of the management of the ECB's own funds, the ECB has concluded an automatic security lending programme agreement, whereby an appointed agent enters into security lending transactions on behalf of the ECB with a number of counterparties, designated by the ECB as eligible counterparties. Under this agreement, reverse transactions with a value of €1.2 billion (2007: €3.0 billion) were outstanding as at 31 December 2008 (see “Reverse transactions” in the notes on accounting policies).

18 INTEREST RATE FUTURES

In 2008 interest rate futures were used as part of the management of the ECB's foreign reserves and own funds. As at 31 December 2008 the following transactions were outstanding:

Foreign currency interest rate futures	Contract value €
Purchases	2,041,082,857
Sales	1,209,470,518

Euro interest rate futures	Contract value €
Purchases	50,000,000
Sales	33,000,000

19 INTEREST RATE SWAPS

Interest rate swap transactions with a contract value of €459.3 million were outstanding as at 31 December 2008. These transactions were conducted in the context of the management of the ECB's foreign reserves.

20 FOREIGN EXCHANGE SWAP AND FORWARD TRANSACTIONS

MANAGEMENT OF THE FOREIGN RESERVES

In the context of the management of the ECB's foreign reserves, foreign exchange swap and forward transaction claims of €358.1 million and liabilities of €404.3 million remained outstanding as at 31 December 2008.

LIQUIDITY-PROVIDING OPERATIONS

Forward liabilities to Danmarks Nationalbank amounting to €3.9 billion remained outstanding as at 31 December 2008. These liabilities arose in connection with the reciprocal currency arrangement (swap line) established with the ECB. Under this arrangement, the ECB provides euro funds to Danmarks Nationalbank against Danish kroner for the duration of the transactions. The resulting funds are used in support of measures to improve liquidity in euro short-term markets.

In addition, forward claims on NCBs and liabilities to the Federal Reserve, which arose in connection with the provision of US dollar liquidity to Eurosystem counterparties (see note 9, "Liabilities to non-euro area residents denominated in euro"), were outstanding on 31 December 2008.

Forward claims on NCBs and liabilities to the Swiss National Bank, which arose in connection with the provision of Swiss franc liquidity to Eurosystem counterparties (see note 9, "Liabilities to non-euro area residents denominated in euro"), were also outstanding on 31 December 2008.

21 ADMINISTRATION OF BORROWING AND LENDING OPERATIONS

In accordance with Article 123(2) of the Treaty and Article 9 of Council Regulation (EC) No 332/2002 of 18 February 2002, the ECB is responsible for the administration of

the borrowing and lending operations of the European Community under the medium-term financial assistance mechanism. Under this scheme, a loan from the European Community to Hungary for an amount of €2.0 billion was outstanding as at 31 December 2008.

22 PENDING LAWSUITS

An action for damages was brought against the ECB before the Court of First Instance of the European Communities (CFI) by Document Security Systems Inc. (DSSI), alleging that the ECB had infringed a DSSI patent²⁰ in the production of euro banknotes. The CFI dismissed DSSI's action for damages against the ECB.²¹ The ECB is currently pursuing actions to revoke the patent in a number of national jurisdictions. Furthermore, the ECB firmly maintains that it has in no way infringed the patent, and will consequently also enter a defence against any infringement action that may be brought by DSSI before any competent national court.

As a result of the CFI's dismissal of DSSI's action for damages against the ECB, as well as the ECB's successful actions to date in certain national jurisdictions to revoke national portions of DSSI's patent, the ECB remains confident that the possibility of payments to DSSI is remote. The ECB is actively monitoring all developments in the continuing litigation.

²⁰ DSSI's European Patent No 0455 750 B1.

²¹ Order of the Court of First Instance of 5 September 2007, Case T-295/05. Available at www.curia.eu.

NOTES ON THE PROFIT AND LOSS ACCOUNT

23 NET INTEREST INCOME

INTEREST INCOME ON FOREIGN RESERVE ASSETS

This item includes interest income, net of interest expense, in respect of assets and liabilities denominated in foreign currency, as follows:

	2008 €	2007 €	Change €
Interest income on current accounts	11,202,181	24,052,321	(12,850,140)
Interest income on money market deposits	218,184,237	196,784,561	21,399,676
Interest income on reverse repurchase agreements	42,404,485	138,079,630	(95,675,145)
Interest income on securities	885,725,044	1,036,836,752	(151,111,708)
Net interest income on interest rate swaps	2,299,631	0	2,299,631
Net interest income on forward and swap transactions in foreign currencies	0	19,766,033	(19,766,033)
Total interest income on foreign reserve assets	1,159,815,578	1,415,519,297	(255,703,719)
Interest expense on current accounts	(45,896)	(154,041)	108,145
Interest expense on deposits taken	(1,574,337)	0	(1,574,337)
Net interest expense on repurchase agreements	(29,492,415)	(60,476,997)	30,984,582
Net interest expense on interest rate swaps	0	(891)	891
Net interest expense on forward and swap transactions in foreign currencies	(131,627,488)	0	(131,627,488)
Interest income on foreign reserve assets (net)	997,075,442	1,354,887,368	(357,811,926)

INTEREST INCOME ARISING FROM THE ALLOCATION OF EURO BANKNOTES WITHIN THE EUROSISTEM

This item consists of the interest income relating to the ECB's share of the total euro banknote issue. Interest on the claims of the ECB in respect

of its share of banknotes is earned at the latest available marginal rate for the Eurosystem's main refinancing operations. The increase in income in 2008 mainly reflected the general increase in euro banknotes in circulation.

This income is distributed to the NCBs as described in "Banknotes in circulation" in the notes on accounting policies. Based on the ECB's estimated financial result for 2008, and the decision to fund the transfer to the provision against foreign exchange rate, interest rate and gold price risks out of the ECB's income on euro banknotes in circulation (see note 13, "Provisions"), the Governing Council decided to distribute the remaining €1.2 billion of this income to the euro area NCBs, in accordance with their respective shares in the ECB's capital.

REMUNERATION OF NCBs' CLAIMS IN RESPECT OF FOREIGN RESERVES TRANSFERRED

Remuneration paid to euro area NCBs on their claims on the ECB in respect of the foreign reserve assets transferred under Article 30.1 of the Statute of the ESCB is disclosed under this item.

OTHER INTEREST INCOME AND OTHER INTEREST EXPENSE

These items include interest income of €8.0 billion (2007: €3.9 billion) and expenses of €7.6 billion (2007: €3.8 billion) on balances arising from TARGET2 (see "Intra-ESCB balances/intra-Eurosystem balances" in the notes on accounting policies). Interest income and expenses in respect of other assets and liabilities denominated in euro are also shown here.

24 REALISED GAINS/(LOSSES) ARISING FROM FINANCIAL OPERATIONS

Net realised gains/(losses) arising from financial operations in 2008 were as follows:

	2008 €	2007 €	Change €
Net realised price gains/(losses) on securities and interest rate futures	349,179,481	69,252,941	279,926,540
Net realised exchange rate and gold price gains	313,162,603	709,294,272	(396,131,669)
Realised gains arising from financial operations	662,342,084	778,547,213	(116,205,129)

The overall reduction in net realised exchange rate and gold price gains in 2008 was due mainly to the lower volume of gold sold in that year (see note 1, “Gold and gold receivables”).

25 WRITE-DOWNS ON FINANCIAL ASSETS AND POSITIONS

	2008 €	2007 €	Change €
Unrealised price losses on securities	(2,164,000)	(15,864,181)	13,700,181
Unrealised price losses on interest rate swaps	(476,831)	(18,899)	(457,932)
Unrealised exchange rate losses	(21,271)	(2,518,369,734)	2,518,348,463
Total write-downs	(2,662,102)	(2,534,252,814)	2,531,590,712

In 2008 this expense was due mainly to the write-down of the acquisition cost of individual securities shown on the Balance Sheet to their market value as at 30 December 2008.

26 NET EXPENSE FROM FEES AND COMMISSIONS

	2008 €	2007 €	Change €
Income from fees and commissions	588,052	263,440	324,612
Expenses relating to fees and commissions	(737,059)	(885,131)	148,072
Net expense from fees and commissions	(149,007)	(621,691)	472,684

Income under this heading includes penalties imposed on credit institutions for

non-compliance with the minimum reserve requirements. Expenses relate to fees payable on current accounts and in connection with the execution of foreign currency interest rate futures (see note 18, “Interest rate futures”).

27 INCOME FROM EQUITY SHARES AND PARTICIPATING INTERESTS

Dividends received on shares in the BIS (see note 6, “Other assets”) are shown under this heading.

28 OTHER INCOME

Other miscellaneous income during the year arose principally from the contributions of other central banks to the cost of a service contract held centrally by the ECB with an external provider of an IT network, and the transfers of unused administrative provisions to the Profit and Loss Account.

29 STAFF COSTS

Salaries, allowances, staff insurance and other miscellaneous costs of €149.9 million (2007: €141.7 million) are included under this heading. Staff costs of €1.1 million (2007: €1.1 million) incurred in connection with the construction of the new ECB premises have been capitalised and are excluded from this item. Salaries and allowances, including the emoluments of holders of senior management positions, are modelled in essence on, and are comparable with, the remuneration scheme of the European Communities.

Members of the Executive Board receive a basic salary and additional allowances for residence and representation. In the case of the President, an official residence owned by the ECB is provided in lieu of a residence allowance. Subject to the Conditions of Employment for Staff of the European Central Bank, members of the Executive Board are entitled to household, child and education allowances, depending on their

individual circumstances. Basic salaries are subject to a tax for the benefit of the European Communities as well as to deductions in respect of contributions to the pension, medical and accident insurance schemes. Allowances are non-taxable and non-pensionable.

Basic salaries paid to members of the Executive Board in 2008 and 2007 were as follows:

	2008 €	2007 €
Jean-Claude Trichet (President)	351,816	345,252
Lucas D. Papademos (Vice-President)	301,548	295,920
Gertrude Tumpel-Gugerell (Board Member)	251,280	246,588
José Manuel González-Páramo (Board Member)	251,280	246,588
Lorenzo Bini Smaghi (Board Member)	251,280	246,588
Jürgen Stark (Board Member)	251,280	246,588
Total	1,658,484	1,627,524

The total allowances paid to the members of the Executive Board and their benefits from the ECB's contributions to the medical and accident insurance schemes amounted to €600,523 (2007: €579,842), resulting in total emoluments of €2,259,007 (2007: €2,207,366).

Transitional payments are made to former members of the Executive Board for a period after the end of their terms of office. In 2008 these payments and the ECB's contributions to the medical and accident insurance schemes of former members amounted to €30,748 (2007: €52,020). Pension payments, including related allowances, to former members of the Executive Board or their dependents and contributions to the medical and accident insurance schemes amounted to €306,798 (2007: €249,902).

Also included under this item is an amount of €24.3 million (2007: €27.2 million) recognised in connection with the ECB's retirement plan and other post-employment benefits (see note 12, "Other liabilities").

At the end of 2008 the actual full-time equivalent number of staff holding contracts with the ECB was 1,536,²² including 144 with managerial

positions. The change in the number of staff during 2008 was as follows:²³

	2008	2007
As at 1 January	1,478	1,416
New staff	307	310
Resignations/end of contract	238	235
Net decrease due to changes in part-time working patterns	11	13
As at 31 December	1,536	1,478
Average number of staff employed	1,499	1,448

30 ADMINISTRATIVE EXPENSES

These cover all other current expenses relating to the renting and maintenance of premises, goods and equipment of a non-capital nature, professional fees and other services and supplies, together with staff-related expenses including recruitment, relocation, installation, training and resettlement expenses.

31 BANKNOTE PRODUCTION SERVICES

This expense relates to costs arising from the cross-border transportation of euro banknotes between NCBs to meet unexpected fluctuations in demand for banknotes. These costs are borne centrally by the ECB.

22 Staff on unpaid leave of absence are excluded. This number includes staff with permanent, fixed or short-term contracts and the participants in the ECB's Graduate Programme. Staff on maternity or long-term sick leave are also included.

23 In 2007, staff numbers in this table included staff on unpaid/parental leave, while staff with short-term contracts, as well as staff from other central banks of the ESCB with temporary assignments with the ECB and the participants in the ECB's Graduate Programme, were excluded. The change in the presentation of the figures for 2008 was considered to make them more useful for the users of the financial statements. The 2007 figures have been adjusted accordingly.

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25 February 2009

Independent auditor's report

We have audited the accompanying annual accounts of the European Central Bank, which comprise the balance sheet as at 31 December 2008, the profit and loss account for the year then ended, and a summary of significant accounting policies and other explanatory notes.

The responsibility of the European Central Bank's Executive Board for the annual accounts

The Executive Board is responsible for the preparation and fair presentation of these annual accounts in accordance with the principles established by the Governing Council, which are set out in Decision ECB/2006/17 on the annual accounts of the European Central Bank, as amended. This responsibility includes: designing, implementing and maintaining internal control relevant to the preparation and fair presentation of annual accounts that are free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

Auditor's responsibility

Our responsibility is to express an opinion on these annual accounts based on our audit. We conducted our audit in accordance with International Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance whether the annual accounts are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the annual accounts. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the annual accounts, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the annual accounts in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the annual accounts.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the annual accounts give a true and fair view of the financial position of the European Central Bank as of 31 December 2008, and of the results of its operations for the year then ended in accordance with the principles established by the Governing Council, which are set out in Decision ECB/2006/17 on the annual accounts of the European Central Bank, as amended.

Frankfurt am Main, 25 February 2009

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Jens Rohrbach
Wirtschaftsprüfer


ppa. Muriel Atton
Wirtschaftsprüfer

NOTE ON PROFIT DISTRIBUTION/ ALLOCATION OF LOSSES

This note is not part of the financial statements of the ECB for the year 2008.

€117 million to the euro area NCBs in proportion to their paid-up capital.

INCOME RELATED TO THE ECB'S SHARE OF TOTAL BANKNOTES IN CIRCULATION

In 2007, following a decision by the Governing Council, the full income of €2,004 million earned on the ECB's share of total banknotes in circulation was retained to ensure that the ECB's total profit distribution for the year did not exceed its net profit for the year. In respect of 2008, an amount of €1,206 million, comprising part of the income earned on the ECB's share of total euro banknotes in circulation, was distributed to the NCBs on 5 January 2009, in proportion to their paid-up shares in the subscribed capital of the ECB.

Non-euro area NCBs are not entitled to receive any share of the ECB's profit.

	2008	2007
	€	€
Profit for the year	1,322,253,536	0
Income on the ECB's banknote issue distributed to NCBs	(1,205,675,418)	0
Profit for the year after distribution of income on the ECB's banknote issue	116,578,118	0
Distribution of profit to NCBs	(116,578,118)	0
Total	0	0

PROFIT DISTRIBUTION/COVERAGE OF LOSSES

Pursuant to Article 33 of the Statute of the ESCB, the net profit of the ECB shall be transferred in the following order:

- (a) an amount to be determined by the Governing Council, which may not exceed 20% of the net profit, shall be transferred to the general reserve fund subject to a limit equal to 100% of the capital; and
- (b) the remaining net profit shall be distributed to the shareholders of the ECB in proportion to their paid-up shares.

In the event of a loss incurred by the ECB, the shortfall may be offset against the general reserve fund of the ECB and, if necessary, following a decision by the Governing Council, against the monetary income of the relevant financial year in proportion and up to the amounts allocated to the NCBs in accordance with Article 32.5 of the Statute of the ESCB.¹

The Governing Council decided on 5 March 2009 to make no transfer to the general reserve fund and to distribute the remaining balance of

¹ Under Article 32.5 of the Statute of the ESCB, the sum of the NCBs' monetary income shall be allocated to the NCBs in proportion to their paid-up shares in the capital of the ECB.

5 CONSOLIDATED BALANCE SHEET OF THE EUROSYSTEM AS AT 31 DECEMBER 2008

(EUR MILLIONS)

ASSETS	31 DECEMBER 2008 ¹	31 DECEMBER 2007 ²
1 Gold and gold receivables	217,722	201,584
2 Claims on non-euro area residents denominated in foreign currency	160,372	139,030
2.1 Receivables from the IMF	13,192	9,057
2.2 Balances with banks and security investments, external loans and other external assets	147,180	129,973
3 Claims on euro area residents denominated in foreign currency	234,293	41,975
4 Claims on non-euro area residents denominated in euro	18,651	18,822
4.1 Balances with banks, security investments and loans	18,651	18,822
4.2 Claims arising from the credit facility under ERM II	0	0
5 Lending to euro area credit institutions related to monetary policy operations denominated in euro	860,312	637,178
5.1 Main refinancing operations	239,527	368,607
5.2 Longer-term refinancing operations	616,662	268,477
5.3 Fine-tuning reverse operations	0	0
5.4 Structural reverse operations	0	0
5.5 Marginal lending facility	4,057	91
5.6 Credits related to margin calls	66	2
6 Other claims on euro area credit institutions denominated in euro	56,988	23,798
7 Securities of euro area residents denominated in euro	271,196	143,983
8 General government debt denominated in euro	37,438	37,062
9 Other assets	218,134	264,454
Total assets	2,075,107	1,507,887

Totals/subtotals may not add up due to rounding.

1 Consolidated figures as at 31.12.2008 also include the Central Bank of Cyprus and the Central Bank of Malta which have been members of the Eurosystem since 01.01.2008.

2 Comparative data as at 31.12.2007 has been restated to include reclassifications which took place on 31.12.2008.

LIABILITIES	31 DECEMBER 2008	31 DECEMBER 2007
1 Banknotes in circulation	762,921	676,678
2 Liabilities to euro area credit institutions related to monetary policy operations denominated in euro	492,310	379,183
2.1 Current accounts (covering the minimum reserve system)	291,710	267,337
2.2 Deposit facility	200,487	8,831
2.3 Fixed-term deposits	0	101,580
2.4 Fine-tuning reverse operations	0	0
2.5 Deposits related to margin calls	113	1,435
3 Other liabilities to euro area credit institutions denominated in euro	328	126
4 Debt certificates issued	0	0
5 Liabilities to other euro area residents denominated in euro	91,077	46,183
5.1 General government	83,282	38,115
5.2 Other liabilities	7,794	8,069
6 Liabilities to non-euro area residents denominated in euro	293,592	45,094
7 Liabilities to euro area residents denominated in foreign currency	5,723	2,490
8 Liabilities to non-euro area residents denominated in foreign currency	10,258	15,553
8.1 Deposits, balances and other liabilities	10,258	15,553
8.2 Liabilities arising from the credit facility under ERM II	0	0
9 Counterpart of special drawing rights allocated by the IMF	5,465	5,279
10 Other liabilities	166,500	123,076
11 Revaluation accounts	175,735	147,123
12 Capital and reserves	71,200	67,101
Total liabilities	2,075,107	1,507,887

ANNEXES

LEGAL INSTRUMENTS ADOPTED BY THE ECB

The following table lists the legal instruments that were adopted by the ECB in 2008 and early 2009 and published in the Official Journal of the European Union. Copies of the Official Journal can be obtained from the Office for Official

Publications of the European Communities. For a list of all the legal instruments adopted by the ECB since its establishment and published in the Official Journal, see the “Legal framework” section of the ECB’s website.

Number	Title	OJ reference
ECB/2008/1	Recommendation of the European Central Bank of 28 January 2008 to the Council of the European Union on the external auditors of Suomen Pankki	OJ C 29, 1.2.2008, p. 1
ECB/2008/2	Recommendation of the European Central Bank of 30 April 2008 to the Council of the European Union on the external auditors of the European Central Bank	OJ C 114, 9.5.2008, p. 1
ECB/2008/3	Decision of the European Central Bank of 15 May 2008 on security accreditation procedures for manufacturers of euro secure items for euro banknotes	OJ L 140, 30.5.2008, p. 26
ECB/2008/4	Guideline of the European Central Bank of 19 June 2008 amending Guideline ECB/2006/9 on certain preparations for the euro cash changeover and on frontloading and sub-frontloading of euro banknotes and coins outside the euro area	OJ L 176, 4.7.2008, p. 16
ECB/2008/5	Guideline of the European Central Bank of 20 June 2008 on the management of the foreign reserve assets of the European Central Bank by the national central banks and the legal documentation for operations involving such assets (recast)	OJ L 192, 19.7.2008, p. 63
ECB/2008/6	Guideline of the European Central Bank of 26 August 2008 amending Guideline ECB/2002/7 on the statistical reporting requirements of the European Central Bank in the field of quarterly financial accounts	OJ L 259, 27.9.2008, p. 12
ECB/2008/7	Guideline of the European Central Bank of 5 September 2008 amending Guideline ECB/2005/5 of 17 February 2005 on the statistical reporting requirements of the European Central Bank and the procedures for exchanging statistical information within the European System of Central Banks in the field of government finance statistics	OJ L 276, 17.10.2008, p. 32
ECB/2008/8	Guideline of the European Central Bank of 11 September 2008 on data collection regarding the euro and the operation of the Currency Information System 2	OJ L 346, 23.12.2008, p. 89
ECB/2008/9	Recommendation for a Council Regulation amending Regulation (EC) No 2533/98 concerning the collection of statistical information by the ECB	OJ C 251, 3.10.2008, p. 1

Number	Title	OJ reference
ECB/2008/10	Regulation of the European Central Bank of 22 October 2008 amending Regulation ECB/2003/9 on the application of minimum reserves	OJ L 282, 25.10.2008, p. 14
ECB/2008/11	Regulation of the European Central Bank of 23 October 2008 on temporary changes to the rules relating to eligibility of collateral	OJ L 282, 25.10.2008, p. 17
ECB/2008/13	Guideline of the European Central Bank of 23 October 2008 amending Guideline ECB/2000/7 on monetary policy instruments and procedures of the Eurosystem	OJ L 36, 5.2.2009, p. 31
ECB/2008/14	Decision of the European Central Bank of 28 October 2008 on transitional provisions for the application of minimum reserves by the European Central Bank following the introduction of the euro in Slovakia	OJ L 319, 29.11.2008, p. 73
ECB/2008/15	Decision of the European Central Bank of 14 November 2008 on the implementation of Regulation ECB/2008/11 of 23 October 2008 on temporary changes to the rules relating to eligibility of collateral	OJ L 309, 20.11.2008, p. 8
ECB/2008/16	Recommendation of the European Central Bank of 17 November 2008 to the Council of the European Union on the external auditors of the Banque centrale du Luxembourg	OJ C 299, 22.11.2008, p. 5
ECB/2008/17	Decision of the European Central Bank of 17 November 2008 laying down the framework for joint Eurosystem procurement	OJ L 319, 29.11.2008, p. 76
ECB/2008/18	Guideline of the European Central Bank of 21 November 2008 on temporary changes to the rules relating to eligibility of collateral	OJ L 314, 25.11.2008, p. 14
ECB/2008/19	Recommendation of the European Central Bank of 5 December 2008 to the Council of the European Union on the external auditors of the Central Bank of Malta	OJ C 322, 17.12.2008, p. 1
ECB/2008/20	Decision of the European Central Bank of 11 December 2008 on the approval of the volume of coin issuance in 2009	OJ L 352, 31.12.2008, p. 58
ECB/2008/21	Guideline of the European Central Bank of 11 December 2008 amending Guideline ECB/2006/16 on the legal framework for accounting and financial reporting in the European System of Central Banks	OJ L 36, 5.2.2009, p. 46
ECB/2008/22	Decision of the European Central Bank of 11 December 2008 amending Decision ECB/2006/17 on the annual accounts of the European Central Bank	OJ L 36, 5.2.2009, p. 22

Number	Title	OJ reference
ECB/2008/23	Decision of the European Central Bank of 12 December 2008 on the national central banks' percentage shares in the key for subscription to the European Central Bank's capital	OJ L 21, 24.1.2009, p. 66
ECB/2008/24	Decision of the European Central Bank of 12 December 2008 laying down the measures necessary for the paying-up of the European Central Bank's capital by the participating national central banks	OJ L 21, 24.1.2009, p. 69
ECB/2008/25	Decision of the European Central Bank of 12 December 2008 laying down the terms and conditions for transfers of the European Central Bank's capital shares between the national central banks and for the adjustment of the paid-up capital	OJ L 21, 24.1.2009, p. 71
ECB/2008/26	Decision of the European Central Bank of 12 December 2008 amending Decision ECB/2001/15 of 6 December 2001 on the issue of euro banknotes	OJ L 21, 24.1.2009, p. 75
ECB/2008/27	Decision of the European Central Bank of 12 December 2008 laying down the measures necessary for the contribution to the European Central Bank's accumulated equity value and for adjusting the national central banks' claims equivalent to the transferred foreign reserve assets	OJ L 21, 24.1.2009, p. 77
ECB/2008/28	Decision of the European Central Bank of 15 December 2008 laying down the measures necessary for the paying-up of the European Central Bank's capital by the non-participating national central banks	OJ L 21, 24.1.2009, p. 81
ECB/2008/29	Decision of the European Central Bank of 18 December 2008 to postpone the start of the rotation system in the Governing Council of the European Central Bank	OJ L 3, 7.1.2009, p. 4
ECB/2008/30	Regulation of the European Central Bank of 19 December 2008 concerning statistics on the assets and liabilities of financial vehicle corporations engaged in securitisation transactions	OJ L 15, 20.1.2009, p. 1
ECB/2008/31	Guideline of the European Central Bank of 19 December 2008 amending Guideline ECB/2007/9 on monetary, financial institutions and markets statistics (recast)	OJ L 53, 26.2.2009, p. 76
ECB/2008/32	Regulation of the European Central Bank of 19 December 2008 concerning the balance sheet of the monetary financial institutions sector (recast)	OJ L 15, 20.1.2009, p. 14
ECB/2008/33	Decision of the European Central Bank of 31 December 2008 on the paying-up of capital, transfer of foreign reserve assets and contributions by Národná banka Slovenska to the European Central Bank's reserves and provisions	OJ L 21, 24.1.2009, p. 83

Number	Title	OJ reference
ECB/2009/1	Guideline of the European Central Bank of 20 January 2009 amending Guideline ECB/2000/7 on monetary policy instruments and procedures of the Eurosystem	OJ L 36, 5.2.2009, p. 59
ECB/2009/2	Decision of the European Central Bank of 27 January 2009 amending Decision ECB/2007/5 laying down the Rules on Procurement	OJ L 51, 24.2.2009, p. 10
ECB/2009/3	Recommendation of the European Central Bank of 16 February 2009 to the Council of the European Union on the external auditors of the Deutsche Bundesbank	OJ C 43, 21.2.2009, p. 1

OPINIONS ADOPTED BY THE ECB

The following table lists the opinions adopted by the ECB in 2008 and early 2009 under Article 105(4) of the Treaty and Article 4 of the Statute of the ESCB, Article 112(2)(b) of the Treaty and Article 11.2 of the Statute. For a list of all the opinions adopted by the ECB since its establishment, see the ECB's website.

(a) ECB opinions following a consultation by a Member State¹

Number ²	Originator	Subject
CON/2008/1	Cyprus	Control of reproduction of euro banknotes and coins in Cyprus
CON/2008/2	Czech Republic	Distribution of powers between Česká národní banka and the Ministry of Finance to prepare and submit certain draft laws to the Government
CON/2008/3	Germany	German legislation on coins
CON/2008/4	Sweden	Amendments to Sveriges Riksbank's statutes regarding the terms of office of members of its Executive Board
CON/2008/5	Poland	Amendments relating to the governance, supervision and mode of financing of the deposit protection scheme, in particular as regards the participation of Narodowy Bank Polski
CON/2008/6	Portugal	Principles, rules and structure of the National Statistical System and the role of the Banco de Portugal
CON/2008/7	Romania	Amendments to the laws on cheques, bills of exchange and promissory notes
CON/2008/8	France	Consequences for their monetary regime of the change of status of Saint-Martin and Saint-Barthélemy under French law
CON/2008/9	Germany	The Deutsche Bundesbank's employment relationships with its staff
CON/2008/10	Italy	Remuneration at the Banca d'Italia and structural reform to the government account held with the Banca d'Italia
CON/2008/11	Portugal	Supervision of auditors and the role of the Banco de Portugal in this respect
CON/2008/13	Greece	Reform of the Greek social security system in relation to the Bank of Greece
CON/2008/14	Estonia	Administrative amendments to the Law on Eesti Pank

¹ In December 2004 the Governing Council decided that ECB opinions issued at the request of national authorities would, as a rule, be published immediately following their adoption and subsequent transmission to the consulting authority.

² Consultations are numbered in the order in which the Governing Council adopted them.

Number ²	Originator	Subject
CON/2008/16	Finland	Integration of financial and insurance supervision
CON/2008/17	Luxembourg	Powers of the Banque centrale du Luxembourg and its agents' pension scheme
CON/2008/18	Slovakia	Legislative regime regarding payment systems, its compatibility with the Treaty, and the facilitation of a smooth migration of the domestic payment system to TARGET2
CON/2008/20	Poland	Narodowy Bank Polski's role regarding securities clearing and settlement and the central securities depository system
CON/2008/21	Czech Republic	Draft law on Česká národní banka
CON/2008/23	Slovakia	Draft legislative provisions on dual display in the banking, capital market, insurance industry and pension saving sectors and on rounding rules for certain types of security
CON/2008/24	Greece	Derogation from the company law with regard to certain transactions by credit institutions
CON/2008/25	Slovakia	Dual display of amounts in the gambling sector
CON/2008/26	Poland	Rules for replacing damaged banknotes and coins
CON/2008/27	Slovakia	Dual display and rounding rules in the labour and social security sectors
CON/2008/29	Bulgaria	Amendments to the law relating to statistics
CON/2008/30	Austria	Introduction of investment-oriented life assurance and conduct of business rules for insurance companies
CON/2008/31	Romania	Amendments to the Statute of Banca Națională a României
CON/2008/32	Poland	Amendments relating to the governance, supervision and mode of financing of the deposit protection scheme, in particular as regards the participation of Narodowy Bank Polski
CON/2008/33	Belgium	Establishment of the audit committee of the Nationale Bank van België/Banque Nationale de Belgique
CON/2008/34	Sweden	Financial independence of Sveriges Riksbank
CON/2008/35	Denmark	Withdrawing the smallest denomination coin as legal tender
CON/2008/36	Latvia	Legislation on banknotes and coins

Number ²	Originator	Subject
CON/2008/38	Malta	Legal framework for the recycling of euro banknotes by credit institutions and other professional cash handlers
CON/2008/39	Poland	Financial stability committee
CON/2008/40	Slovakia	Further detailed technical rules on the euro changeover
CON/2008/41	Austria	Financing of an Austrian contribution to debt relief for Liberia
CON/2008/42	Luxembourg	Amendments enabling the Banque centrale du Luxembourg to contribute more effectively to financial stability and clarifying the minimum reserve requirements regime
CON/2008/43	Slovenia	Restrictions and prohibitions for public office holders
CON/2008/44	Ireland	Financial support measures for credit institutions
CON/2008/46	Belgium	State guarantee covering credit extended by the Nationale Bank van België/Banque Nationale de Belgique in the context of its contribution to financial stability
CON/2008/47	Sweden	Exchange and withdrawal of banknotes and coins
CON/2008/48	Ireland	Implementation of financial support measures for credit institutions
CON/2008/49	Germany	Replacement of euro coins and German euro commemorative coins
CON/2008/50	Belgium	State guarantee covering liabilities of credit institutions
CON/2008/51	Greece	Deposit guarantee and investor protection schemes
CON/2008/52	Spain	Creation of a financial asset acquisition fund and other government measures contributing to financial stability
CON/2008/53	Poland	Extending the legal framework for Narodowy Bank Polski's collection of statistical information
CON/2008/54	Denmark	Financial stability scheme guaranteeing full coverage of claims by depositors and ordinary creditors
CON/2008/55	Austria	Legal measures to restore the stability of the financial market
CON/2008/56	France	Provision of state guarantees in order to contribute to financial stability
CON/2008/57	Germany	Establishment of a Financial Market Stabilisation Fund and other financial stability measures
CON/2008/58	Italy	Measures to guarantee the stability of the banking system

Number ²	Originator	Subject
CON/2008/59	Sweden	Stabilising measures for the financial system
CON/2008/60	Spain	Operations of the fund for the acquisition of financial assets
CON/2008/61	Belgium	Protection of deposits and certain life insurance products
CON/2008/62	Sweden	Provision of state guarantees to banks and credit market companies
CON/2008/64	Belgium	Management of information about issuers in the context of the dematerialisation of their securities
CON/2008/65	Italy	Implementation of the measures to guarantee the stability of the banking system
CON/2008/66	Lithuania	Amendments to the minimum reserve requirements
CON/2008/67	Spain	Requirements for granting state guarantees
CON/2008/68	Finland	Financial stability measures related to the government guarantee fund
CON/2008/69	Ireland	Extension of the scope of the Deposit Guarantee Scheme
CON/2008/71	Bulgaria	Establishment of a register of financial institutions managed by Българска народна банка (Bulgarian National Bank)
CON/2008/72	Romania	Use of foreign reserves for tourism
CON/2008/73	Bulgaria	Amendments to the statutes of Българска народна банка (Bulgarian National Bank) in preparation for the introduction of the euro
CON/2008/74	Belgium	State guarantee aimed at avoiding liquidity outflows
CON/2008/75	Finland	State capital investment in deposit banks
CON/2008/76	Slovenia	State guarantees and other measures to maintain the stability of the financial system
CON/2008/78	Bulgaria	Role of Българска народна банка (Bulgarian National Bank) relating to payment institutions and payment system operators, and oversight of payment and settlement systems

Number ²	Originator	Subject
CON/2008/79	Greece	Measures to enhance liquidity in the economy
CON/2008/80	Poland	Provision of state Treasury support to financial institutions
CON/2008/81	Hungary	Measures to strengthen the financial intermediary system in order to maintain financial stability
CON/2008/82	Spain	Payment of the Banco de España's profits to the Treasury
CON/2008/83	Hungary	Aligning the Magyar Nemzeti Bank's statutes with Community law
CON/2008/85	France	Modernisation of the legal framework for financial instruments
CON/2008/86	Slovakia	Cash currency circulation
CON/2008/87	Spain	Amendments to the Law on payment and securities settlement systems
CON/2008/88	Slovenia	Criteria and conditions for granting a state guarantee
CON/2008/89	Latvia	Monetary policy instruments
CON/2008/90	Hungary	Processing and distribution of banknotes and coins and technical measures to prevent counterfeiting
CON/2008/91	Belgium	Application to the Nationale Bank van België/Banque Nationale de Belgique of the limitations related to severance payments of executive directors of listed companies
CON/2008/92	Slovenia	Criteria and conditions for granting state loans
CON/2009/2	Latvia	State guarantees for bank loans
CON/2009/3	Slovenia	Conditions for state capital investments and debt to equity swaps under the Law on public finance
CON/2009/4	Belgium	Amendments to the rules governing the distribution of the income of the Nationale Bank van België/Banque Nationale de Belgique and the allocation of its profits to the Belgian state

Number²	Originator	Subject
CON/2009/5	Austria	Payment by the Oesterreichische Nationalbank of the proposed increase in Austria's IMF quota
CON/2009/6	Denmark	Extension of the financial stability scheme guaranteeing full coverage of claims by depositors and ordinary creditors and a scheme for provision of state capital to credit institutions
CON/2009/7	Luxembourg	The Banque centrale du Luxembourg's role in the compilation of certain statistics
CON/2009/8	Sweden	The smallest denomination coin ceasing to be legal tender and amendments to the rounding rules
CON/2009/9	Hungary	Operating rules of the central securities depository, the clearing house and the central counterparty
CON/2009/10	Latvia	Deposit-guarantee scheme and the supervisory authority's role in insolvency proceedings
CON/2009/11	Latvia	Compensation paid by the state in the context of bank takeovers
CON/2009/12	Cyprus	Terms and conditions for granting state loans and guarantees in emergency situations
CON/2009/13	Bulgaria	Additional eligibility criteria for the Governing Council members of Българска народна банка (Bulgarian National Bank) and further rules for submitting information in this respect
CON/2009/15	Ireland	Financial support measures related to the remuneration of public servants
CON/2009/16	Ireland	Legislation to allow the Minister for Finance to direct the National Pensions Reserve Fund to invest in financial institutions as part of the recapitalisation of the banks

(b) ECB opinions following a consultation by a European institution³

Number⁴	Originator	Subject	OJ reference
CON/2008/12	EU Council	Community statistics relating to external trade with non-member countries	OJ C 70, 15.3.2008, p. 1
CON/2008/15	EU Council	Codification of the Council Regulation on the application of the Protocol on the excessive deficit procedure	OJ C 88, 9.4.2008, p. 1
CON/2008/19	EU Council	Introduction of the regulatory procedure with scrutiny regarding some statistical instruments	OJ C 117, 14.5.2008, p. 1
CON/2008/22	European Commission	Implementing the Regulation on statistics on Community job vacancies as regards seasonal adjustment procedures, quality reports, data collection, transmission specifications and feasibility studies	OJ C 134, 31.5.2008, p. 10
CON/2008/28	EU Council	Introduction of the euro in Slovakia and the conversion rate to the euro for the Slovak koruna	OJ C 180, 17.7.2008, p. 1
CON/2008/37	EU Council	Amendment to the Directive on settlement finality in payment and securities settlement systems and the Directive on financial collateral arrangements as regards linked systems and credit claims	OJ C 216, 23.8.2008, p. 1
CON/2008/45	EU Council	Medals and tokens similar to euro coins	OJ C 283, 7.11.2008, p. 1
CON/2008/63	European Commission	New decision on the Committee of European Banking Supervisors	OJ C 45, 24.2.2009, p. 1
CON/2008/70	EU Council	Amendments to the Directive on deposit-guarantee schemes as regards the coverage level and the payment delay	OJ C 314, 9.12.2008, p. 1
CON/2008/77	EU Council	Proposal for a Council Regulation establishing a facility providing medium-term financial assistance for Member States' balances of payments	OJ C 328, 23.12.2008, p. 1

³ Also published on the ECB's website.

⁴ Consultations are numbered in the order in which the Governing Council adopted them.

Number⁴	Originator	Subject	OJ reference
CON/2008/84	EU Council	Directive on the taking up, pursuit and prudential supervision of the business of electronic money institutions	OJ C 30, 6.2.2009, p. 1
CON/2009/1	EU Council	New Regulation on cross-border payments in the Community	OJ C 21, 28.1.2009, p.1
CON/2009/14	European Commission	Standards for the treatment of seasonal products in the Harmonised Indices of Consumer Prices	Not yet published

CHRONOLOGY OF MONETARY POLICY MEASURES OF THE EUROSISTEM¹

11 JANUARY AND 8 FEBRUARY 2007

The Governing Council of the ECB decides that the minimum bid rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will remain unchanged at 3.50%, 4.50% and 2.50% respectively.

8 MARCH 2007

The Governing Council of the ECB decides to increase the minimum bid rate on the main refinancing operations by 25 basis points to 3.75%, starting from the operation to be settled on 14 March 2007. In addition, it decides to increase the interest rates on both the marginal lending facility and the deposit facility by 25 basis points, to 4.75% and 2.75%, both with effect from 14 March 2007.

12 APRIL AND 10 MAY 2007

The Governing Council of the ECB decides that the minimum bid rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will remain unchanged at 3.75%, 4.75% and 2.75% respectively.

6 JUNE 2007

The Governing Council of the ECB decides to increase the minimum bid rate on the main refinancing operations by 25 basis points to 4%, starting from the operation to be settled on 13 June 2007. In addition, it decides to increase by 25 basis points the interest rates on both the marginal lending facility and the deposit facility, to 5% and 3% respectively, with effect from 13 June 2007.

5 JULY, 2 AUGUST, 6 SEPTEMBER, 4 OCTOBER, 8 NOVEMBER AND 6 DECEMBER 2007, AND 10 JANUARY, 7 FEBRUARY, 6 MARCH, 10 APRIL, 8 MAY AND 5 JUNE 2008

The Governing Council of the ECB decides that the minimum bid rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will remain unchanged at 4.00%, 5.00% and 3.00% respectively.

3 JULY 2008

The Governing Council of the ECB decides to increase the minimum bid rate on the main refinancing operations by 25 basis points to 4.25%, starting from the operation to be settled on 9 July 2008. In addition, it decides to increase by 25 basis points the interest rates on both the marginal lending facility and the deposit facility, to 5.25% and 3.25% respectively, with effect from 9 July 2008.

7 AUGUST, 4 SEPTEMBER AND 2 OCTOBER 2008

The Governing Council of the ECB decides that the minimum bid rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will remain unchanged at 4.25%, 5.25% and 3.25% respectively.

8 OCTOBER 2008

The Governing Council of the ECB decides to decrease the minimum bid rate on the main refinancing operations by 50 basis points to 3.75%, starting from the operations to be settled on 15 October 2008. In addition, it decides to decrease by 50 basis points the interest rates on

¹ The chronology of monetary policy measures taken by the Eurosystem between 1999 and 2006 can be found in the ECB's Annual Report for the respective years.

both the marginal lending facility and the deposit facility, to 4.75% and 2.75% respectively, with immediate effect. Moreover, the Governing Council decides that, as from the operation settled on 15 October, the weekly main refinancing operations will be carried out through a fixed-rate tender procedure with full allotment at the interest rate on the main refinancing operation. Furthermore, as of 9 October, the ECB will reduce the corridor of standing facilities from 200 basis points to 100 basis points around the interest rate on the main refinancing operation. The two measures will remain in place for as long as needed, and at least until the end of the first maintenance period of 2009, on 20 January.

15 OCTOBER 2008

The Governing Council of the ECB decides to further expand the collateral framework and enhance the provision of liquidity. To do so, the Governing Council decides: (i) to expand the list of assets eligible as collateral in Eurosystem credit operations, with this expansion remaining in force until the end of 2009, (ii) to enhance the provision of longer-term refinancing, with effect from 30 October 2008 and until the end of the first quarter of 2009, and (iii) to provide US dollar liquidity through foreign exchange swaps.

6 NOVEMBER 2008

The Governing Council of the ECB decides to decrease the interest rate on the main refinancing operations by 50 basis points to 3.25%, starting from the operations to be settled on 12 November 2008. In addition, it decides to decrease by 50 basis points the interest rates on both the marginal lending facility and the deposit facility, to 3.75% and 2.75% respectively, with effect from 12 November 2008.

4 DECEMBER 2008

The Governing Council of the ECB decides to decrease the interest rate on the main refinancing

operations of the Eurosystem by 75 basis points to 2.50%, starting from the operations to be settled on 10 December 2008. In addition, it decides to decrease by 75 basis points the interest rates on both the marginal lending and the deposit facility to 3.00% and 2.00% respectively, with effect from 10 December 2008.

18 DECEMBER 2008

The Governing Council of the ECB decides that the main refinancing operations will continue to be carried out through a fixed rate tender procedure with full allotment beyond the maintenance period ending on 20 January 2009. This measure will be in place for as long as needed, and at least until the last allotment of the third maintenance period in 2009 on 31 March. Moreover, as of 21 January 2009, the corridor of standing facility rates, which on 9 October 2008 was reduced to 100 basis points around the prevailing interest rate of the main refinancing operation, will be re-widened symmetrically to 200 basis points.

15 JANUARY 2009

The Governing Council of the ECB decides to decrease the fixed rate on the main refinancing operations by 50 basis points to 2.00%, starting from the operations to be settled on 21 January 2009. In addition, it decides that the interest rates on the marginal lending and the deposit facility will be 3.00% and 1.00% respectively, with effect from 21 January 2009, in line with the decision of 18 December 2008.

5 FEBRUARY 2009

The Governing Council of the ECB decided that the interest rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will remain unchanged at 2.00%, 3.00% and 1.00% respectively.

5 MARCH 2009

The Governing Council of the ECB decides to decrease the fixed rate on the main refinancing operations by 50 basis points to 1.50%, starting from the operations to be settled on 11 March 2009. In addition, it decides that the interest rates on the marginal lending and the deposit facility will be 2.50% and 0.50% respectively, with effect from 11 March 2009.

Moreover, the Governing Council decides to continue the fixed rate tender procedure with full allotment for all main refinancing operations, special-term refinancing operations and supplementary and regular longer-term refinancing operations for as long as needed, and in any case beyond the end of 2009. In addition, the Governing Council decides to continue with the current frequency and maturity profile of supplementary longer-term refinancing operations and special-term refinancing operations for as long as needed, and in any case beyond the end of 2009.

OVERVIEW OF THE ECB'S COMMUNICATION RELATED TO THE PROVISION OF EURO LIQUIDITY ¹

14 JANUARY 2008

MAIN REFINANCING OPERATIONS

The ECB continues to closely monitor liquidity conditions and aims at keeping very short-term rates close to the minimum bid rate on the main refinancing operations. The ECB will, for as long as needed, allocate more liquidity than the benchmark amount in main refinancing operations to accommodate the demand of counterparties to fulfil reserve requirements early in the maintenance period. The ECB aims at balanced liquidity conditions at the end of the maintenance period.

7 FEBRUARY 2008

SUPPLEMENTARY LONGER-TERM REFINANCING OPERATIONS

The Governing Council today decided to renew the two supplementary longer-term refinancing operations (LTROs) that were allotted on 23 November 2007 (€60 billion) and on 12 December 2007 (€60 billion) and that will mature on 21 February 2008 and on 13 March 2008 respectively. The renewal of these two supplementary LTROs is aimed at further consolidating the progress achieved so far in the normalisation of the euro money market. The renewal will be carried out as follows and will not affect the regular LTROs: The two supplementary LTROs will be carried out through variable rate tenders, each with a preset amount of €60 billion. The first operation will be settled on 21 February 2008 and will mature on 22 May 2008. The second operation will be settled on 13 March 2008 and will mature on 12 June 2008. The two supplementary LTROs will be carried out through a standard tender procedure, with announcement and allotment taking place two days and one day respectively before settlement.

28 MARCH 2008

SUPPLEMENTARY LONGER-TERM REFINANCING OPERATIONS

The Governing Council decided at its meeting on 27 March 2008 to conduct supplementary longer-term refinancing operations (LTROs) with a maturity of six months. In addition, the Governing Council decided to conduct further supplementary LTROs with a three-month maturity. The regular monthly LTROs remain unaffected. These supplementary three-month and six-month LTROs are aimed at supporting the normalisation of the functioning of the euro money market. The supplementary three-month and six-month operations will be carried out as follows: They will all be carried out through a variable rate standard tender procedure with preset amounts. As a rule, they will mature on the second Thursday of the given month. One supplementary six-month LTRO with a preset amount of €25 billion will be allotted on Wednesday, 2 April, settled on Thursday, 3 April, and will mature on Thursday, 9 October 2008. Another supplementary six-month LTRO, in the amount of €25 billion, will be allotted on Wednesday, 9 July, settled on Thursday, 10 July 2008, and will mature on Thursday, 8 January 2009. Two new supplementary three-month LTROs, with preset amounts of €50 billion each, will replace the two currently outstanding supplementary three-month LTROs of €60 billion each. The first will be allotted on Wednesday, 21 May, settled on Thursday, 22 May, and will mature on Thursday, 14 August 2008. The second will be allotted on Wednesday, 11 June, settled on Thursday, 12 June, and will mature on Thursday, 11 September 2008.

¹ An overview of the communication related to the provision of liquidity in currencies other than euro is available on the ECB's website.

31 JULY 2008

SUPPLEMENTARY LONGER-TERM REFINANCING OPERATIONS

The Governing Council decided today to renew the two outstanding three-month supplementary longer-term refinancing operations (LTROs) that were allotted on 21 May 2008 (€50 billion) and on 11 June 2008 (€50 billion) and that will mature on 14 August 2008 and on 11 September 2008 respectively. The renewal of these two supplementary three-month LTROs is aimed at further consolidating the progress achieved so far in the normalisation of the euro money market. The renewal will not affect the regular LTROs and will be carried out as follows: The two supplementary LTROs will be carried out through variable rate tenders, each with a preset amount of €50 billion. The first operation will be settled on 14 August 2008 and will mature on 13 November 2008. The second operation will be settled on 11 September 2008 and will mature on 11 December 2008. The two supplementary LTROs will be carried out through a standard tender procedure, with their announcement and allotment taking place two days and one day respectively before settlement.

4 SEPTEMBER 2008

SUPPLEMENTARY LONGER-TERM REFINANCING OPERATIONS

The Governing Council today decided to renew the outstanding six-month supplementary longer-term refinancing operation (LTRO) of €25 billion that was allotted on 2 April and that will mature on 9 October 2008. It also decided to renew the two three-month supplementary LTROs (€50 billion) that will mature on 13 November and 11 December 2008 respectively. The renewal of these supplementary LTROs is aimed at supporting the further normalisation of the euro money market. The renewal will not affect the regular LTROs. The supplementary LTROs will be carried out as follows: The two supplementary three-month LTROs will be carried out through variable rate tenders, each with a preset amount of €50 billion. The first operation will be settled

on 13 November 2008 and will mature on 12 February 2009. The second operation will be settled on 11 December 2008 and will mature on 12 March 2009. The supplementary six-month LTRO will be carried out through a variable rate tender, with a preset amount of €25 billion. The operation will be settled on 9 October 2008 and will mature on 9 April 2009. As in previous cases, a maximum bid amount of €2.5 billion will be applied in the six-month supplementary LTRO. The supplementary LTROs will be carried out through a standard tender procedure, with their announcement and allotment taking place two days and one day respectively before settlement.

29 SEPTEMBER 2008

SPECIAL-TERM REFINANCING OPERATION

The Governing Council of the ECB decided to conduct a special-term refinancing operation. The aim of this operation is to improve the overall liquidity position of the euro area banking system. The operation will be carried out as follows: It will be conducted today through a standard tender procedure, using a variable rate tender with no preset amount. It will be settled on Tuesday, 30 September 2008 and will mature on Friday, 7 November 2008. The ECB will continue to steer liquidity towards balanced conditions in a way which is consistent with the objective to keep very short-term rates close to the minimum bid rate. The special-term refinancing operation will be renewed until at least beyond the end of the year.

3 OCTOBER 2008²

GENERAL ANNOUNCEMENT ON LIQUIDITY POLICY

The Governing Council of the ECB has decided that, from 6 October 2008 until further notice, all institutions that are eligible to participate in Eurosystem open market operations based on standard tenders and that fulfil additional operational or other selection criteria specified

² General announcements on liquidity policy which were not directly related to the provision of liquidity are not included in this list. They are available on the ECB's website.

by the respective NCBs will also be eligible to participate in quick tenders, i.e. the tender procedure normally used for fine-tuning operations. The NCBs may announce further details applicable for institutions established in the respective Member States, where necessary.

7 OCTOBER 2008

SUPPLEMENTARY LONGER-TERM REFINANCING OPERATION

Today the Governing Council of the ECB decided to increase from €25 billion to €50 billion the allotment amount in the six-month supplementary longer-term refinancing operation that was pre-announced in the press release of 4 September 2008 and will be allotted on 8 October 2008. Accordingly, a maximum bid amount of €5 billion will be applied in this operation.

8 OCTOBER 2008

GENERAL ANNOUNCEMENT ON LIQUIDITY POLICY

The Governing Council of the ECB today decided, by means of a teleconference, on the following two measures: As from the operation settled on 15 October, the weekly main refinancing operations will be carried out through a fixed rate tender procedure with full allotment at the interest rate on the main refinancing operation, i.e. currently 3.75%. As of 9 October, the ECB will reduce the corridor of standing facility rates from 200 basis points to 100 basis points around the interest rate on the main refinancing operation. Therefore, as of 9 October, the rate of the marginal lending facility will be reduced from 100 to 50 basis points above the interest rate on the main refinancing operation, i.e. currently to 4.25%, and the rate of the deposit facility will be increased from 100 to 50 basis points below the interest rate on the main refinancing operation, i.e. currently to 3.25%. The two measures will remain in place for as long as needed, and at least until the end of the first maintenance period of 2009, on 20 January. The ECB will continue

to steer liquidity towards balanced conditions in a way which is consistent with the objective to keep short-term rates close to the interest rate on the main refinancing operation.

9 OCTOBER 2008

FINE-TUNING OPERATION

The operation implements the decision of yesterday (see press release of 8 October) to satisfy all demand of counterparties, i.e. full allotment, for refinancing at the main refinancing rate of 3.75% against eligible collateral, for as long as needed, and at least until the end of the first maintenance period of 2009, on 20 January.

15 OCTOBER 2008

SUPPLEMENTARY LONGER-TERM REFINANCING OPERATIONS/SPECIAL-TERM REFINANCING OPERATION³

The Governing Council of the ECB today decided, by means of a teleconference, that as from the operation settling on 30 October 2008 and until the end of the first quarter of 2009, the provision of longer-term refinancing by the Eurosystem will be enhanced as follows, consistent with the temporary expansion of the collateral pool:

All longer-term refinancing operations will, until March 2009, be carried out through a fixed rate tender procedure with full allotment. The two three-month supplementary longer-term refinancing operations (LTROs) maturing in February and in March 2009 will be rolled over and an additional three-month operation will be conducted in January 2009. The outstanding six-month supplementary LTRO maturing in January 2009 will be rolled over, and four additional six-month supplementary LTROs will be carried out in November 2008,

³ Announcements on the fixed rate applied in the LTROs, supplementary LTROs and special-term refinancing operations between 30 October and 31 December 2008 are not included in this list. They are available on the ECB's website.

December 2008, February 2009 and March 2009 in parallel with the respective three-month supplementary LTROs. As a result, two three-month LTROs/supplementary LTROs and one six-month LTRO will be carried out each month up to and including March 2009. Moreover, the special-term refinancing operation allotted on 29 September 2008 will be rolled over when it matures on 7 November 2008 and will have a maturity equal to the length of the reserve maintenance period.

The ECB will continue to steer liquidity towards balanced conditions in a way which is consistent with the objective to keep short-term rates close to the interest rate on the main refinancing operation. For that purpose it will also accept fixed-term deposits with a one-week maturity.

16 OCTOBER 2008

OTHER EURO LIQUIDITY PROVISION

On 10 October 2008 the Magyar Nemzeti Bank announced new open market operations to support liquidity in the domestic foreign exchange swap market. Today, the Magyar Nemzeti Bank and the ECB are jointly announcing an agreement to support the Magyar Nemzeti Bank's instruments of euro liquidity provision. They have established an agreement on repurchase transactions, which will provide the Magyar Nemzeti Bank with a facility to borrow up to €5 billion in order to provide additional support to its operations. Further information about the Magyar Nemzeti Bank's foreign exchange swap tenders is provided on the Magyar Nemzeti Bank's website: <http://www.mnb.hu>.

27 OCTOBER 2008

OTHER EURO LIQUIDITY PROVISION

Danmarks Nationalbank is today announcing measures to improve liquidity in euro short-term markets. In support of these measures, the ECB and Danmarks Nationalbank have today established a reciprocal currency arrangement

(swap line) amounting to €12 billion, which will remain in place as long as needed.

21 NOVEMBER 2008

OTHER EURO LIQUIDITY PROVISION

Narodowy Bank Polski and the ECB are jointly announcing an agreement to support Narodowy Bank Polski's instruments of euro liquidity provision. The agreement, which was concluded on 6 November 2008, relates to repurchase transactions and will provide Narodowy Bank Polski with a facility to borrow up to €10 billion in order to provide additional support to its operations. Further information about Narodowy Bank Polski's operations is provided on Narodowy Bank Polski's website: <http://www.nbp.pl>.

18 DECEMBER 2008

GENERAL ANNOUNCEMENT ON LIQUIDITY POLICY

Further to the press release on changes in tender procedures and in the standing facilities corridor of 8 October 2008, the Governing Council of the ECB today decided the following: The main refinancing operations will continue to be carried out through a fixed rate tender procedure with full allotment beyond the maintenance period ending on 20 January 2009. This measure will be in place for as long as needed, and at least until the last allotment of the third maintenance period in 2009 on 31 March. As of 21 January 2009, the corridor of standing facility rates, which on 9 October 2008 was reduced to 100 basis points around the prevailing interest rate on the main refinancing operation, will be restored to 200 basis points. Therefore, as of 21 January, the rate of the marginal lending facility will be increased from 50 to 100 basis points above the interest rate on the main refinancing operation, and the rate of the deposit facility will be reduced from 50 to 100 basis points below the rate on the main refinancing operation.

OPEN MARKET OPERATIONS BY CURRENCY

EUR operations

Type of operation ¹⁾	Duration (days)	Date of settlement	Allotted amount ²⁾ (€ billions)	Total bid amount ²⁾ (€ billions)	Marginal rate (%)	Weighted average rate (%)	Fixed rate (%)	Number of bidders	Bid-cover ratio
FTO	1	2 Jan. 2008	-168.6	-168.6	-	-	4.00	54	1.00
FTO	1	3 Jan. 2008	-200.0	-212.6	-	-	4.00	69	1.06
MRO	5	4 Jan. 2008	128.5	275.3	4.18	4.21	-	269	2.14
MRO	7	9 Jan. 2008	151.5	285.4	4.20	4.22	-	301	1.87
FTO	1	15 Jan. 2008	-20.0	-45.7	-	-	4.00	28	2.29
MRO	7	16 Jan. 2008	190.5	242.1	4.16	4.21	-	281	1.27
MRO	7	23 Jan. 2008	175.5	234.6	4.16	4.19	-	276	1.34
MRO	7	30 Jan. 2008	167.5	253.3	4.18	4.20	-	264	1.51
LTRO	92	31 Jan. 2008	50.0	98.2	4.21	4.33	-	151	1.96
MRO	7	6 Feb. 2008	161.5	223.8	4.17	4.20	-	226	1.39
FTO	1	12 Feb. 2008	-16.0	-29.2	-	-	4.00	22	1.82
MRO	7	13 Feb. 2008	187.5	223.7	4.10	4.18	-	229	1.19
MRO	7	20 Feb. 2008	178.0	226.7	4.10	4.15	-	262	1.27
SLTRO	91	21 Feb. 2008	60.0	110.5	4.15	4.26	-	105	1.84
MRO	7	27 Feb. 2008	183.0	233.2	4.10	4.15	-	260	1.27
LTRO	91	28 Feb. 2008	50.0	109.6	4.16	4.23	-	165	2.19
MRO	7	5 Mar. 2008	176.5	240.5	4.11	4.14	-	264	1.36
FTO	1	11 Mar. 2008	9.0	45.1	4.13	4.14	-	32	5.01
MRO	7	12 Mar. 2008	209.5	260.4	4.12	4.16	-	298	1.24
SLTRO	91	13 Mar. 2008	60.0	132.6	4.25	4.40	-	139	2.21
MRO	7	19 Mar. 2008	202.0	295.7	4.16	4.20	-	336	1.46
FTO	5	20 Mar. 2008	15.0	65.8	4.13	4.20	-	44	4.39
MRO	7	26 Mar. 2008	216.0	302.5	4.23	4.28	-	301	1.40
LTRO	91	27 Mar. 2008	50.0	131.3	4.44	4.53	-	190	2.63
FTO	1	31 Mar. 2008	15.0	30.7	4.06	4.13	-	25	2.05
MRO	7	2 Apr. 2008	150.0	283.7	4.21	4.25	-	306	1.89
SLTRO	189	3 Apr. 2008	25.0	103.1	4.55	4.61	-	177	4.12
MRO	7	9 Apr. 2008	130.0	247.6	4.23	4.24	-	295	1.90
FTO	1	15 Apr. 2008	-14.9	-14.9	-	-	4.00	7	0.71
MRO	7	16 Apr. 2008	204.5	249.7	4.21	4.26	-	310	1.22
MRO	7	23 Apr. 2008	173.0	218.4	4.21	4.25	-	302	1.26
MRO	7	30 Apr. 2008	170.0	247.5	4.26	4.29	-	316	1.46
LTRO	90	2 May 2008	50.0	101.2	4.67	4.75	-	177	2.02
MRO	7	7 May 2008	150.0	229.3	4.26	4.29	-	304	1.53
FTO	1	13 May 2008	-23.5	-32.5	-	-	4.00	29	1.38
MRO	7	14 May 2008	191.5	208.5	4.18	4.26	-	287	1.09
MRO	7	21 May 2008	176.5	203.1	4.15	4.22	-	326	1.15
SLTRO	84	22 May 2008	50.0	86.6	4.50	4.68	-	138	1.73
MRO	7	28 May 2008	170.0	224.1	4.19	4.23	-	330	1.32
LTRO	91	29 May 2008	50.0	97.7	4.51	4.62	-	171	1.95
MRO	7	4 June 2008	153.0	210.1	4.17	4.22	-	336	1.37
FTO	1	10 June 2008	-14.0	-18.5	-	-	4.00	15	1.32
MRO	7	11 June 2008	191.0	202.8	4.03	4.18	-	343	1.06
SLTRO	91	12 June 2008	50.0	99.8	4.60	4.72	-	128	2.00
MRO	7	18 June 2008	188.0	224.3	4.03	4.13	-	425	1.19
MRO	7	25 June 2008	208.0	243.3	4.07	4.25	-	439	1.17
LTRO	91	26 June 2008	50.0	89.8	4.50	4.67	-	174	1.80
MRO	7	2 July 2008	154.5	254.7	4.10	4.15	-	433	1.65
FTO	1	8 July 2008	-14.6	-14.6	-	-	4.00	12	0.69
MRO	7	9 July 2008	175.0	263.6	4.32	4.37	-	400	1.51
SLTRO	182	10 July 2008	25.0	74.6	4.93	5.03	-	141	2.98
MRO	7	16 July 2008	155.0	265.9	4.34	4.36	-	440	1.72
MRO	7	23 July 2008	175.5	268.2	4.35	4.38	-	461	1.53
MRO	7	30 July 2008	166.0	247.4	4.38	4.42	-	430	1.49
LTRO	91	31 July 2008	50.0	107.7	4.70	4.76	-	189	2.15
MRO	7	6 Aug. 2008	160.0	241.9	4.38	4.41	-	424	1.51
FTO	1	12 Aug. 2008	-21.0	-22.6	-	-	4.25	10	1.08
MRO	7	13 Aug. 2008	176.0	233.4	4.37	4.40	-	430	1.33

1) MRO = main refinancing operation; LTRO = longer-term refinancing operation; SLTRO = supplementary longer-term refinancing operation; STRO = special-term refinancing operation.

2) Positive amounts in the case of liquidity-providing operations; negative amounts in the case of liquidity-absorbing operations.

EUR operations

Type of operation ¹⁾	Duration (days)	Date of settlement	Allotted amount ²⁾ (€ billions)	Total bid amount ²⁾ (€ billions)	Marginal rate (%)	Weighted average rate (%)	Fixed rate (%)	Number of bidders	Bid-cover ratio
SLTRO	91	14 Aug. 2008	50.0	78.9	4.61	4.74	-	124	1.58
MRO	7	20 Aug. 2008	151.0	228.7	4.38	4.40	-	454	1.51
MRO	7	27 Aug. 2008	167.0	226.5	4.39	4.42	-	424	1.36
LTRO	91	28 Aug. 2008	50.0	77.2	4.60	4.74	-	191	1.54
MRO	7	3 Sep. 2008	160.0	226.3	4.39	4.41	-	411	1.41
FTO	1	9 Sep. 2008	-20.1	-20.1	-	-	4.25	17	0.63
MRO	7	10 Sep. 2008	176.5	223.3	4.39	4.41	-	422	1.27
SLTRO	91	11 Sep. 2008	50.0	69.5	4.45	4.66	-	114	1.39
FTO	1	15 Sep. 2008	30.0	90.3	4.30	4.39	-	51	3.01
FTO	1	16 Sep. 2008	70.0	102.5	4.32	4.40	-	56	1.46
MRO	7	17 Sep. 2008	150.0	328.7	4.53	4.58	-	533	2.19
FTO	1	18 Sep. 2008	25.0	49.3	4.30	4.39	-	43	1.97
MRO	7	24 Sep. 2008	180.0	334.0	4.73	4.78	-	506	1.86
FTO	1	24 Sep. 2008	40.0	50.3	4.25	4.35	-	36	1.26
LTRO	84	25 Sep. 2008	50.0	154.6	4.98	5.11	-	246	3.09
STRO	38	30 Sep. 2008	120.0	141.7	4.36	4.88	-	210	1.18
MRO	7	1 Oct. 2008	190.0	228.0	4.65	4.96	-	419	1.20
FTO	1	1 Oct. 2008	-173.0	-173.0	-	-	4.25	52	1.00
FTO	1	2 Oct. 2008	-200.0	-216.1	-	-	4.25	65	1.08
FTO	3	3 Oct. 2008	-193.8	-193.8	-	-	4.25	54	1.00
FTO	1	6 Oct. 2008	-171.9	-171.9	-	-	4.25	111	1.00
FTO	1	7 Oct. 2008	-147.5	-147.5	-	-	4.25	97	1.00
MRO	7	8 Oct. 2008	250.0	271.3	4.70	4.99	-	436	1.09
SLTRO	182	9 Oct. 2008	50.0	113.8	5.36	5.57	-	181	2.28
FTO	6	9 Oct. 2008	24.7	24.7	-	-	3.75	99	1.00
MRO	7	15 Oct. 2008	310.4	310.4	-	-	3.75	604	1.00
MRO	7	22 Oct. 2008	305.4	305.4	-	-	3.75	703	1.00
MRO	7	29 Oct. 2008	325.1	325.1	-	-	3.75	736	1.00
LTRO	91	30 Oct. 2008	103.1	103.1	-	-	3.75	223	1.00
MRO	7	5 Nov. 2008	312.0	312.0	-	-	3.75	756	1.00
STRO	33	7 Nov. 2008	20.4	20.4	-	-	3.75	55	1.00
FTO	1	11 Nov. 2008	-79.9	-149.7	3.60	3.51	-	117	1.87
MRO	7	12 Nov. 2008	334.4	334.4	-	-	3.25	848	1.00
SLTRO	91	13 Nov. 2008	66.8	66.8	-	-	3.25	139	1.00
SLTRO	182	13 Nov. 2008	41.6	41.6	-	-	3.25	127	1.00
MRO	7	19 Nov. 2008	338.0	338.0	-	-	3.25	851	1.00
MRO	7	26 Nov. 2008	334.5	334.5	-	-	3.25	836	1.00
LTRO	91	27 Nov. 2008	42.2	42.2	-	-	3.25	161	1.00
MRO	7	3 Dec. 2008	339.5	339.5	-	-	3.25	787	1.00
FTO	1	9 Dec. 2008	-137.5	-152.7	3.05	2.94	-	95	1.11
MRO	7	10 Dec. 2008	217.9	217.9	-	-	2.50	783	1.00
STRO	42	10 Dec. 2008	134.9	134.9	-	-	2.50	139	1.00
SLTRO	91	11 Dec. 2008	55.9	55.9	-	-	2.50	105	1.00
SLTRO	182	11 Dec. 2008	38.1	38.1	-	-	2.50	96	1.00
MRO	6	17 Dec. 2008	209.7	209.7	-	-	2.50	792	1.00
LTRO	98	18 Dec. 2008	50.8	50.8	-	-	2.50	169	1.00
MRO	7	23 Dec. 2008	223.7	223.7	-	-	2.50	640	1.00
MRO	7	30 Dec. 2008	238.9	238.9	-	-	2.50	629	1.00

1) MRO = main refinancing operation; LTRO = longer-term refinancing operation; SLTRO = supplementary longer-term refinancing operation; STRO = special-term refinancing operation.

2) Positive amounts in the case of liquidity-providing operations; negative amounts in the case of liquidity-absorbing operations.

USD operations

Type of transaction ¹⁾	Date of settlement	Duration (days)	Allotted amount (\$ billions)	Marginal rate (%)	Fixed rate (%) (RT) / Fixed swap points (FX)	Total bid amount (\$ billions)	Number of bidders	Bid-cover ratio
RT	17 Jan. 2008	28	10.0	-	3.95	14.8	22	1.48
RT	31 Jan. 2008	28	10.0	-	3.12	12.4	19	1.24
RT	27 Mar. 2008	28	15.0	-	2.62	31.2	34	2.08
RT	10 Apr. 2008	28	15.0	-	2.82	30.8	32	2.05
RT	24 Apr. 2008	28	15.0	-	2.87	30.1	33	2.01
RT	8 May 2008	28	25.0	-	2.22	39.5	31	1.58
RT	22 May 2008	28	25.0	-	2.10	58.9	54	2.36
RT	5 June 2008	28	25.0	-	2.26	64.9	50	2.59
RT	19 June 2008	28	25.0	-	2.36	78.5	56	3.14
RT	3 July 2008	28	25.0	-	2.34	84.8	57	3.39
RT	17 July 2008	28	25.0	-	2.30	90.1	59	3.60
RT	31 July 2008	28	25.0	-	2.35	101.7	63	4.07
RT	14 Aug. 2008	28	20.0	-	2.45	91.1	66	4.55
RT	14 Aug. 2008	84	10.0	-	2.75	38.5	57	3.85
RT	28 Aug. 2008	28	20.0	-	2.38	89.2	69	4.46
RT	11 Sep. 2008	28	10.0	-	2.53	43.3	53	4.33
RT	11 Sep. 2008	84	10.0	-	2.67	31.7	40	3.17
RT	18 Sep. 2008	1	40.0	4.00	-	101.7	61	2.54
RT	19 Sep. 2008	3	40.0	3.50	-	96.7	64	2.42
RT	22 Sep. 2008	1	40.0	3.25	-	82.1	48	2.05
RT	23 Sep. 2008	1	40.0	3.30	-	77.6	48	1.94
RT	24 Sep. 2008	1	40.0	2.50	-	61.7	40	1.54
RT	25 Sep. 2008	1	40.0	2.55	-	72.7	43	1.82
RT	25 Sep. 2008	28	25.0	-	3.75	110.1	71	4.40
RT	26 Sep. 2008	3	30.0	2.25	-	41.4	33	1.38
RT	26 Sep. 2008	7	35.0	4.50	-	82.5	52	2.36
RT	29 Sep. 2008	1	30.0	3.00	-	57.4	42	1.91
RT	30 Sep. 2008	1	30.7	0.50	-	30.7	32	1.00
RT	30 Sep. 2008	1	30.0	11.00	-	77.3	57	2.58
RT	1 Oct. 2008	1	50.0	3.25	-	70.9	61	1.42
RT	2 Oct. 2008	1	50.0	2.75	-	67.2	55	1.34
RT	3 Oct. 2008	3	50.0	2.51	-	82.9	59	1.66
RT	6 Oct. 2008	1	50.0	4.00	-	90.9	59	1.82
RT	7 Oct. 2008	1	50.0	6.75	-	109.2	67	2.18
RT	8 Oct. 2008	1	70.0	9.50	-	122.0	69	1.74
RT	9 Oct. 2008	1	100.0	5.00	-	116.2	66	1.16
RT	9 Oct. 2008	85	20.0	-	1.39	88.7	70	4.43
RT	10 Oct. 2008	4	93.9	0.50	-	93.9	62	1.00
RT	14 Oct. 2008	1	98.4	0.20	-	98.4	67	1.00
RT	15 Oct. 2008	1	100.0	0.50	-	120.2	70	1.20
RT	16 Oct. 2008	7	170.9	-	2.28	170.9	86	1.00
FX	23 Oct. 2008	7	3.9	-	-2.45	3.9	11	1.00
RT	23 Oct. 2008	7	68.0	-	2.03	68.0	61	1.00
FX	23 Oct. 2008	28	22.6	-	-8.60	22.6	16	1.00
RT	23 Oct. 2008	28	101.9	-	2.11	101.9	91	1.00
FX	30 Oct. 2008	7	14.5	-	-3.03	14.5	16	1.00
RT	30 Oct. 2008	7	92.1	-	1.91	92.1	70	1.00
FX	6 Nov. 2008	7	1.0	-	-3.61	1.0	5	1.00
RT	6 Nov. 2008	7	58.6	-	1.53	58.6	47	1.00
FX	6 Nov. 2008	84	0.7	-	-26.55	0.7	3	1.00
RT	6 Nov. 2008	84	70.8	-	1.60	70.8	67	1.00
FX	13 Nov. 2008	7	1.0	-	-3.22	1.0	7	1.00
RT	13 Nov. 2008	7	60.6	-	1.43	60.6	42	1.00
FX	20 Nov. 2008	8	0.9	-	-3.29	0.9	6	1.00
RT	20 Nov. 2008	8	72.5	-	1.48	72.5	52	1.00
FX	20 Nov. 2008	28	4.8	-	-9.64	4.8	4	1.00
RT	20 Nov. 2008	28	52.3	-	1.51	52.3	54	1.00
FX	28 Nov. 2008	6	0.8	-	-2.53	0.8	6	1.00
RT	28 Nov. 2008	6	84.6	-	1.42	84.6	60	1.00

1) RT = reverse transaction; FX = foreign exchange swap.

USD operations

Type of transaction ¹⁾	Date of settlement	Duration (days)	Allotted amount (\$ billions)	Marginal rate (%)	Fixed rate (%) (RT) / Fixed swap points (FX)	Total bid amount (\$ billions)	Number of bidders	Bid-cover ratio
FX	4 Dec. 2008	7	0.8	-	-2.28	0.8	6	1.00
RT	4 Dec. 2008	7	75.1	-	1.47	75.1	50	1.00
FX	4 Dec. 2008	84	1.5	-	-13.03	1.5	3	1.00
RT	4 Dec. 2008	84	67.5	-	1.42	67.5	53	1.00
FX	11 Dec. 2008	7	0.8	-	-1.75	0.8	6	1.00
RT	11 Dec. 2008	7	57.4	-	1.24	57.4	39	1.00
FX	18 Dec. 2008	5	5.1	-	-1.30	5.1	7	1.00
RT	18 Dec. 2008	5	41.6	-	1.18	41.6	36	1.00
FX	18 Dec. 2008	28	0.1	-	-6.00	0.1	1	1.00
RT	18 Dec. 2008	28	47.6	-	1.28	47.6	47	1.00
FX	23 Dec. 2008	16	5.4	-	-4.07	5.4	7	1.00
RT	23 Dec. 2008	16	52.3	-	1.16	52.3	46	1.00
FX	30 Dec. 2008	83	0.1	-	-8.30	0.1	2	1.00
RT	30 Dec. 2008	83	10.8	-	1.20	10.8	30	1.00

1) RT = reverse transaction; FX = foreign exchange swap.

CHF operations

Type of transaction ¹⁾	Date of settlement	Duration (days)	Allotted amount (€ billions)	Marginal rate (%)	Fixed swap points	Total bid amount (€ billions)	Number of bidders	Bid-cover ratio
FX	22 Oct. 2008	7	15.3	-	-6.36	15.3	50	1.00
FX	29 Oct. 2008	7	13.6	-	-6.04	13.6	33	1.00
FX	5 Nov. 2008	7	15.0	-	-6.84	15.0	36	1.00
FX	7 Nov. 2008	84	0.9	-	-60.22	0.9	6	1.00
FX	12 Nov. 2008	7	10.6	-	-6.97	10.6	35	1.00
FX	19 Nov. 2008	7	12.5	-	-6.95	12.5	38	1.00
FX	21 Nov. 2008	84	0.5	-	-65.17	0.5	7	1.00
FX	26 Nov. 2008	7	13.7	-	-8.23	13.7	37	1.00
FX	3 Dec. 2008	7	13.9	-	-8.23	13.9	36	1.00
FX	5 Dec. 2008	84	0.5	-	-84.15	0.5	6	1.00
FX	10 Dec. 2008	7	12.8	-	-6.19	12.8	29	1.00
FX	17 Dec. 2008	6	9.7	-	-5.49	9.7	28	1.00
FX	19 Dec. 2008	84	0.7	-	-70.63	0.7	6	1.00
FX	23 Dec. 2008	7	11.6	-	-6.25	11.6	29	1.00
FX	30 Dec. 2008	8	15.8	-	-6.97	15.8	36	1.00

1) FX = foreign exchange swap.

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This list is designed to inform readers about selected documents published by the European Central Bank since January 2008. For Working Papers, the list only refers to publications released between December 2008 and February 2009. Unless otherwise indicated, hard copies can be obtained or subscribed to free of charge, stock permitting, by contacting info@ecb.europa.eu.

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“Developments in the EU arrangements for financial stability”, April 2008.

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GLOSSARY

This glossary contains selected terms that are used in the Annual Report. A more comprehensive and detailed glossary can be found on the ECB's website.

Balance of payments (b.o.p.): a statistical statement that summarises, for a specific period of time, the economic transactions of an economy with the rest of the world. The transactions considered are those involving goods, services and income; those involving financial claims on, and liabilities to, the rest of the world; and those (such as debt forgiveness) that are classified as transfers.

Benchmark portfolio: in relation to investments, a reference portfolio or index constructed on the basis of the objectives for the liquidity and risk of, as well as the return on, the investments. The benchmark portfolio serves as a basis for comparison of the performance of the actual portfolio.

Bond market: the market in which longer-term **debt securities** are issued and traded.

Candidate countries: countries for which the EU has accepted an application for EU membership. Accession negotiations with Croatia and Turkey began on 3 October 2005, while those with the former Yugoslav Republic of Macedonia have not yet started.

Central counterparty: an entity that interposes itself between the **counterparties** to the contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer.

Central government: the government as defined in the **European System of Accounts 1995** but excluding regional and local governments (see also **general government**).

Central securities depository (CSD): an entity that i) enables securities transactions to be processed and settled by book entry, and ii) plays an active role in ensuring the integrity of securities issues. Securities can be held in physical (but immobilised) or dematerialised form (i.e. so that they exist only as electronic records).

Collateral: assets pledged or otherwise transferred (e.g. by **credit institutions** to central banks) as a guarantee for the repayment of loans, as well as assets sold (e.g. by credit institutions to central banks) under **repurchase agreements**.

Consolidated balance sheet of the MFI sector: a balance sheet obtained by netting out inter-MFI positions (e.g. inter-MFI loans and deposits) in the aggregated MFI balance sheet. It provides statistical information on the MFI sector's assets and liabilities vis-à-vis residents of the **euro area** not belonging to this sector (i.e. the **general government** and other euro area residents) and vis-à-vis non-euro area residents. It is the main statistical source for the calculation of monetary aggregates, and it provides the basis for the regular analysis of the counterparts of **M3**.

Corporate governance: rules, procedures and processes according to which an organisation is directed and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among the different participants in the organisation – such as the board, managers, shareholders and other stakeholders – and lays down the rules and procedures for decision-making.

Corporate profitability: a measure of the earnings performance of corporations, mainly in relation to their sales, assets or equity. There are a number of different corporate profitability ratios based on company financial statements, such as the ratio of operating income (sales minus

operating expenses) to sales, the ratio of net income (operating and non-operating income, after tax, depreciation and extraordinary items) to sales, the return on assets (relating net income to total assets) and the return on equity (relating net income to shareholders' funds). At the macroeconomic level, the **gross operating surplus**, based on national accounts, for instance in relation to GDP or value added, is often used as a measure of profitability.

Correspondent central banking model (CCBM): a mechanism established by the **Eurosystem** with the aim of enabling **counterparties** to use eligible assets on a cross-border basis. In the CCBM, NCBs act as custodians for one another. Each NCB has a securities account in its securities administration for each of the other NCBs (and for the **European Central Bank**).

Cost of the external financing of non-financial corporations (real): the cost incurred by non-financial corporations when taking up new external funds. For **euro area** non-financial corporations, it is calculated as a weighted average of the cost of bank lending, the cost of **debt securities** and the cost of equity, based on the amounts outstanding (corrected for valuation effects) and deflated by inflation expectations.

Counterparty: the opposite party in a financial transaction (e.g. any party transacting with a central bank).

Credit derivative: a financial instrument which separates the **credit risk** from an underlying financial transaction, enabling the credit risk to be priced and transferred separately.

Credit institution: i) an undertaking whose business is to receive deposits or other repayable funds from the public and to grant credit for its own account; or ii) an undertaking or any other legal person, other than those under i), which issues means of payment in the form of electronic money.

Credit risk: the risk that a **counterparty** will not settle an obligation for full value, either when due or at any time thereafter. Credit risk includes replacement cost risk and principal risk. It also includes the risk of the failure of the settlement bank.

Debt security: a promise on the part of the issuer (i.e. the borrower) to make one or more payment(s) to the holder (the lender) at a specified future date or dates. Such securities usually carry a specific rate of interest (the coupon) and/or are sold at a discount to the amount that will be repaid at maturity. Debt securities issued with an original maturity of more than one year are classified as long-term.

Deposit facility: a **standing facility** of the **Eurosystem** which **counterparties** may use to make overnight deposits, remunerated at a pre-specified interest rate, at an NCB (see also **key ECB interest rates**).

Direct investment: cross-border investment for the purpose of obtaining a lasting interest in an enterprise resident in another economy (assumed, in practice, for ownership of at least 10% of the ordinary shares or voting power). Included are equity capital, reinvested earnings and other capital associated with inter-company operations.

ECOFIN Council: the EU Council meeting in the composition of the ministers of economy and finance.

Economic analysis: one pillar of the **European Central Bank's** framework for conducting a comprehensive analysis of the risks to **price stability**, which forms the basis for the **Governing Council's** monetary policy decisions. The economic analysis focuses mainly on the assessment of current economic and financial developments and the implied short to medium-term risks to price stability from the perspective of the interplay between supply and demand in goods, services and factor markets at those horizons. Due attention is paid to the need to identify the nature of shocks affecting the economy, their effects on cost and pricing behaviour, and the short to medium-term prospects for their propagation in the economy (see also **monetary analysis**).

Economic and Financial Committee (EFC): a consultative Community body which contributes to the preparation of the work of the **ECOFIN Council** and the European Commission. Its tasks include reviewing the economic and financial situation of the Member States and of the Community, and budgetary surveillance.

Economic and Monetary Union (EMU): the process that led to the single currency, the euro, and the single monetary policy in the **euro area**, as well as to the coordination of the economic policies of the EU Member States. This process, as laid down in the **Treaty**, took place in three stages. Stage Three, the final stage, started on 1 January 1999 with the transfer of monetary competence to the **European Central Bank** and the introduction of the euro. The cash changeover on 1 January 2002 completed the process of setting up EMU.

Effective exchange rate (EER) of the euro (nominal/real): a weighted average of bilateral euro exchange rates against the currencies of the **euro area's** main trading partners. The **European Central Bank** publishes nominal EER indices for the euro against two groups of trading partners: the EER-21 (comprising the 11 non-euro area EU Member States and 10 main trading partners outside the EU) and the EER-41 (composed of the EER-21 and 20 additional countries). The weights used reflect the share of each partner country in euro area trade and account for competition in third markets. Real EERs are nominal EERs deflated by a weighted average of foreign, relative to domestic, prices or costs. They are thus measures of price and cost competitiveness.

EONIA (euro overnight index average): a measure of the effective interest rate prevailing in the euro interbank overnight market. It is calculated as a weighted average of the interest rates on unsecured overnight lending transactions denominated in euro, as reported by a panel of contributing banks.

Equities: securities representing ownership of a stake in a corporation. They comprise shares traded on stock exchanges (quoted shares), unquoted shares and other forms of equity. Equities usually produce income in the form of dividends.

Equity market: the market in which **equities** are issued and traded.

ERM II (exchange rate mechanism II): the exchange rate mechanism which provides the framework for exchange rate policy cooperation between the **euro area** countries and the non-euro area EU Member States. ERM II is a multilateral arrangement with fixed, but adjustable, central rates and a standard fluctuation band of $\pm 15\%$. Decisions concerning central rates and, possibly, narrower fluctuation bands are taken by mutual agreement between the EU Member State concerned, the euro area countries, the **European Central Bank (ECB)** and the other EU Member States participating in the mechanism. All participants in ERM II, including the ECB, have the right to initiate a confidential procedure aimed at changing the central rates (realignment).

EURIBOR (euro interbank offered rate): the rate at which a prime bank is willing to lend funds in euro to another prime bank, as reported by a panel of contributing banks, computed daily for interbank deposits with different maturities of up to 12 months.

Euro area: the area encompassing those Member States which have adopted the euro as the single currency in accordance with the **Treaty** and in which a single monetary policy is conducted under the responsibility of the **Governing Council** of the **European Central Bank**. The euro area currently comprises Belgium, Germany, Ireland, Greece, Spain, France, Italy, Cyprus, Luxembourg, Malta, the Netherlands, Austria, Portugal, Slovenia, Slovakia and Finland.

European Central Bank (ECB): the ECB lies at the centre of the **Eurosystem** and the **European System of Central Banks (ESCB)** and has its own legal personality in accordance with the **Treaty** (Article 107(2)). It ensures that the tasks conferred upon the Eurosystem and the ESCB are implemented either through its own activities or through those of the NCBs, pursuant to the Statute of the ESCB. The ECB is governed by the **Governing Council** and the **Executive Board**, and, as a third decision-making body, by the **General Council**.

European Monetary Institute (EMI): a temporary institution established at the start of Stage Two of **Economic and Monetary Union** on 1 January 1994. It went into liquidation following the establishment of the **European Central Bank** on 1 June 1998.

European System of Accounts 1995 (ESA 95): a comprehensive and integrated system of macroeconomic accounts based on a set of internationally agreed statistical concepts, definitions, classifications and accounting rules aimed at achieving a harmonised quantitative description of the economies of the EU Member States. The ESA 95 is the Community's version of the world System of National Accounts 1993 (SNA 93).

European System of Central Banks (ESCB): composed of the **European Central Bank (ECB)** and the NCBs of all 27 EU Member States, i.e. it includes, in addition to the members of the **Eurosystem**, the NCBs of those Member States that have not yet adopted the euro. The ESCB is governed by the **Governing Council** and the **Executive Board** of the ECB, and, as a third decision-making body of the ECB, by the **General Council**.

Eurosystem: the central banking system of the **euro area**. It comprises the **European Central Bank** and the NCBs of the Member States that have adopted the euro.

Excessive deficit procedure: the provision set out in Article 104 of the **Treaty** and specified in Protocol No 20 on the excessive deficit procedure requires EU Member States to maintain budgetary discipline, defines the criteria for a budgetary position to be considered an excessive deficit and regulates steps to be taken following the observation that the requirements for the budgetary balance or government debt have not been fulfilled. Article 104 is supplemented by Council Regulation (EC) No 1467/97 of 7 July 1997 on speeding up and clarifying the implementation of the excessive deficit procedure (as amended by Council Regulation (EC) No 1056/2005 of 27 June 2005), which is one element of the **Stability and Growth Pact**.

Executive Board: one of the decision-making bodies of the **European Central Bank (ECB)**. It comprises the President and the Vice-President of the ECB and four other members appointed by common accord by the Heads of State or Government of the Member States that have adopted the euro.

Financial stability: condition in which the financial system – comprising financial intermediaries, markets and market infrastructures – is capable of withstanding shocks and the unravelling of financial imbalances, thereby mitigating the likelihood of disruptions in the financial intermediation process which are severe enough to significantly impair the allocation of savings to profitable investment opportunities.

Financing gap of non-financial corporations: the financing gap can be defined as the balance between the corporate savings (through retained earnings and depreciation allowances) and the non-financial investment of non-financial corporations. The financing gap can also be defined on the basis of the financial accounts, as the balance between the net acquisition of financial assets and the net incurrence of liabilities by non-financial corporations. There are statistical discrepancies between the two measures owing to differences in source statistics.

Fine-tuning operation: an **open market operation** executed by the **Eurosystem** in order to deal with unexpected liquidity fluctuations in the market. The frequency and maturity of fine-tuning operations are not standardised.

Foreign exchange swap: simultaneous spot and forward transactions exchanging one currency against another.

General Council: one of the decision-making bodies of the **European Central Bank (ECB)**. It comprises the President and the Vice-President of the ECB and the governors of all the NCBs of the **European System of Central Banks**.

General government: a sector defined in the **European System of Accounts 1995** as comprising resident entities that are engaged primarily in the production of non-market goods and services intended for individual and collective consumption and/or in the redistribution of national income and wealth. Included are central, regional and local government authorities, as well as social security funds. Excluded are government-owned entities that conduct commercial operations, such as public enterprises.

Governing Council: the supreme decision-making body of the **European Central Bank (ECB)**. It comprises all the members of the **Executive Board** of the ECB and the governors of the NCBs of the Member States that have adopted the euro.

Gross operating surplus: the surplus (or deficit) on the value of output of production activities after the costs of intermediate consumption, compensation of employees and taxes less subsidies on production have been deducted, but before payments and receipts of income related to the borrowing/renting or owning of financial and non-produced assets have been taken into account.

Harmonised Index of Consumer Prices (HICP): a measure of the development of consumer prices that is compiled by Eurostat and harmonised for all EU Member States.

Implied volatility: the expected volatility (i.e. standard deviation) in the rates of change of the price of an asset (e.g. a share or a bond). It can be derived from the asset's price, maturity date and exercise price of its **options**, as well as from a riskless rate of return, using an option pricing model such as the Black-Scholes model.

International investment position (i.i.p.): the value and composition of an economy's outstanding net financial claims on (or financial liabilities to) the rest of the world.

Key ECB interest rates: the interest rates, set by the **Governing Council**, which reflect the monetary policy stance of the **European Central Bank**. They are the rates on the **main refinancing operations**, the **marginal lending facility** and the **deposit facility**.

Lisbon strategy: a comprehensive agenda of structural reforms aimed at transforming the EU into "the most dynamic and competitive knowledge-based economy in the world", launched in 2000 by the Lisbon European Council.

Longer-term refinancing operation: a regular **open market operation** executed by the **Eurosystem** in the form of **reverse transactions**. Such operations are carried out through a monthly standard tender and normally have a maturity of three months.

M1: a narrow monetary aggregate that comprises currency in circulation plus overnight deposits held with **MFIs** and **central government** (e.g. at the post office or treasury).

M2: an intermediate monetary aggregate that comprises **M1** plus deposits redeemable at a period of notice of up to and including three months (i.e. short-term savings deposits) and deposits with an agreed maturity of up to and including two years (i.e. short-term time deposits) held with **MFIs** and **central government**.

M3: a broad monetary aggregate that comprises **M2** plus marketable instruments, in particular **repurchase agreements**, **money market** fund shares/units, and **debt securities** with a maturity of up to and including two years issued by **MFIs**.

Main refinancing operation: a regular **open market operation** executed by the **Eurosystem** in the form of **reverse transactions**. Such operations are carried out through a weekly standard tender and normally have a maturity of one week.

Maintenance period: the period over which **credit institutions'** compliance with **reserve requirements** is calculated. The maintenance period begins on the settlement day of the first **main refinancing operation** following the meeting of the **Governing Council** at which the monthly assessment of the monetary policy stance is pre-scheduled. The **European Central Bank** publishes a calendar of the reserve maintenance periods at least three months before the start of the year.

Marginal lending facility: a **standing facility** of the **Eurosystem** which **counterparties** may use to receive overnight credit from an NCB at a pre-specified interest rate against eligible assets (see also **key ECB interest rates**).

Market liquidity risk: the risk that transactions on the financial market cannot be concluded or can only be concluded at worse than expected conditions owing to inadequate market depth or market disruption.

Market risk: the risk of losses (in both on and off-balance-sheet positions) arising from movements in market prices.

MFIs (monetary financial institutions): financial institutions which together form the money-issuing sector of the **euro area**. These include the **Eurosystem**, resident **credit institutions** (as defined in Community law) and all other resident financial institutions whose business is to receive deposits and/or close substitutes for deposits from entities other than MFIs and, for their own account (at least in economic terms), to grant credit and/or invest in securities. The latter group consists predominantly of **money market** funds.

MFI credit to euro area residents: MFI loans granted to non-MFI **euro area** residents (including **general government** and the private sector) and MFI holdings of securities (shares, other equity and **debt securities**) issued by non-MFI euro area residents.

MFI interest rates: the interest rates that are applied by resident **credit institutions** and other **MFIs**, excluding central banks and **money market** funds, to euro-denominated deposits and loans vis-à-vis households and non-financial corporations resident in the **euro area**.

MFI longer-term financial liabilities: deposits with an agreed maturity of over two years, deposits redeemable at a period of notice of over three months, **debt securities** issued by **euro area MFIs** with an original maturity of more than two years, and the capital and reserves of the euro area MFI sector.

MFI net external assets: the external assets of the **euro area MFI** sector (such as gold, foreign currency banknotes and coins, securities issued by non-euro area residents and loans granted to non-euro area residents) minus the external liabilities of the euro area MFI sector (such as non-euro area residents' deposits and **repurchase agreements**, as well as their holdings of **money market** fund shares/units and **debt securities** issued by MFIs with a maturity of up to and including two years).

Minimum bid rate: the lower limit to the interest rates at which **counterparties** may submit bids in the variable rate tenders.

Monetary analysis: one pillar of the **European Central Bank's** framework for conducting a comprehensive analysis of the risks to **price stability**, which forms the basis for the **Governing Council's** monetary policy decisions. The monetary analysis helps to assess medium to long-term trends in inflation, in view of the close relationship between money and prices over extended horizons. The monetary analysis takes into account developments in a wide range of monetary indicators including **M3**, its components and counterparts, notably credit, and various measures of excess liquidity (see also **economic analysis**).

Monetary income: income accruing to the NCBs in the performance of the **Eurosystem's** monetary policy function, derived from assets earmarked in accordance with guidelines established by the **Governing Council** and held against banknotes in circulation and deposit liabilities to **credit institutions**.

Money market: the market in which short-term funds are raised, invested and traded using instruments which generally have an original maturity of up to and including one year.

Open market operation: an operation executed on the initiative of the central bank in the financial market. With regard to their aims, regularity and procedures, **Eurosystem** open market operations can be divided into four categories: **main refinancing operations**; **longer-term refinancing**

operations; fine-tuning operations; and structural operations. As for the instruments used, **reverse transactions** are the main open market instrument of the Eurosystem and can be employed in all four categories of operations. In addition, the issuance of debt certificates and outright transactions are available for structural operations, while outright transactions, **foreign exchange swaps** and the collection of fixed-term deposits are available for the conduct of fine-tuning operations.

Option: a financial instrument that gives the owner the right, but not the obligation, to buy or sell specific assets (e.g. a bond or a stock) at a predetermined price (the strike or exercise price) at or up to a certain future date (the exercise or maturity date).

Other financial intermediary (OFI): a corporation or quasi-corporation (other than an insurance corporation or pension fund) that is engaged mainly in financial intermediation by incurring liabilities in forms other than currency, deposits and/or close substitutes for deposits from institutional entities other than **MFIs**. OFIs include in particular corporations engaged primarily in long-term financing (such as financial leasing), securitised asset holdings, other financial holdings, securities and derivatives dealing (on their own account), venture capital and development capital.

Portfolio investment: euro area residents' net transactions and/or positions in securities issued by non-residents of the euro area ("assets") and non-residents' net transactions and/or positions in securities issued by euro area residents ("liabilities"). Included are equity securities and **debt securities** (bonds and notes, and **money market** instruments), excluding amounts recorded in **direct investment** or reserve assets.

Price stability: the maintenance of price stability is the primary objective of the **Eurosystem**. The **Governing Council** defines price stability as a year-on-year increase in the **Harmonised Index of Consumer Prices** for the **euro area** of below 2%. The Governing Council has also made it clear that, in the pursuit of price stability, it aims to maintain inflation rates below, but close to, 2% over the medium term.

Primary balance: government net borrowing or net lending excluding interest payments on consolidated government liabilities.

Projections: the results of exercises conducted four times a year to project possible future macroeconomic developments in the **euro area**. **Eurosystem** staff projections are published in June and December, whereas **European Central Bank (ECB)** staff projections are published in March and September. They form part of the **economic analysis** pillar of the monetary policy strategy of the ECB and are thus one of several inputs into the **Governing Council's** assessment of the risks to **price stability**.

Real-time gross settlement (RTGS) system: a settlement system in which processing and settlement take place on an order-by-order basis (without netting) in real time (continuously) (see also **TARGET**).

Reference value for M3 growth: the annual growth rate of **M3** over the medium term that is consistent with the maintenance of **price stability**. At present, the reference value for annual M3 growth is 4½%.

Repurchase agreement: a contract to sell and subsequently repurchase securities on a specified date and at a specified price. Also called a "repo".

Reserve base: the sum of the eligible balance sheet items (in particular liabilities) that constitute the basis for calculating the **reserve requirement** of a **credit institution**.

Reserve ratio: the ratio defined by the central bank for each category of eligible balance sheet items included in the **reserve base**. The ratio is used to calculate **reserve requirements**.

Reserve requirement: the minimum amount of reserves a **credit institution** is required to hold with the **Eurosystem** over a predefined **maintenance period**. Compliance with the requirement is determined on the basis of the average of the daily balances in the reserve accounts over the maintenance period.

Reverse transaction: an operation whereby the central bank buys or sells assets under a **repurchase agreement** or conducts credit operations against **collateral**.

Securities settlement system (SSS): a transfer system for settling securities transactions. It comprises all of the institutional arrangements required for the clearing and settlement of securities trades and the provision of custody services for securities.

Securitisation: the pooling of financial assets, such as residential mortgage loans, and their subsequent sale to a special-purpose vehicle, which then issues fixed income securities for sale to investors. The principal and interest of these securities depend on the cash flows produced by the pool of underlying financial assets.

Settlement risk: the risk that settlement in a transfer system will not take place as expected, usually owing to a party defaulting on one or more settlement obligations. This risk comprises, in particular, operational risk, **credit risk** and liquidity risk.

Stability and Growth Pact: the Stability and Growth Pact is intended to serve as a means of safeguarding sound government finances in Stage Three of **Economic and Monetary Union** in order to strengthen the conditions for **price stability** and for strong, sustainable growth conducive to employment creation. To this end, the Pact prescribes that Member States specify medium-term budgetary objectives. It also contains concrete specifications on the **excessive deficit procedure**. The Pact consists of the Resolution of the Amsterdam European Council of 17 June 1997 on the Stability and Growth Pact and two Council Regulations, namely i) Regulation (EC) No 1466/97 of 7 July 1997 on the strengthening of the surveillance of budgetary positions and the surveillance and coordination of economic policies as amended by Regulation (EC) No 1055/2005 of 27 June 2005, and ii) Regulation (EC) No 1467/97 of 7 July 1997 on speeding up and clarifying the implementation of the excessive deficit procedure as amended by Regulation (EC) No 1056/2005 of 27 June 2005. The Stability and Growth Pact is complemented by the **ECOFIN Council**'s report entitled "Improving the implementation of the Stability and Growth Pact", which was endorsed by the Brussels European Council of 22 and 23 March 2005. It is also complemented by the new Code of Conduct entitled "Specifications on the implementation of the Stability and Growth Pact and Guidelines on the format and content of stability and convergence programmes", which was endorsed by the ECOFIN Council on 11 October 2005.

Standing facility: a central bank facility available to **counterparties** on their own initiative. The **Eurosystem** offers two overnight standing facilities: the **marginal lending facility** and the **deposit facility**.

Straight-through processing (STP): the automated end-to-end processing of trades/payment transfers, including, where relevant, the automated completion of confirmation, matching, generation, clearing and settlement of orders.

Systemic risk: the risk that the inability of one participant to meet its obligations in a system will cause other participants to be unable to meet their obligations when due, with possible spillover effects such as significant liquidity or credit problems that may threaten the stability of the financial system. Such inability may be caused by operational or financial problems.

TARGET (Trans-European Automated Real-time Gross settlement Express Transfer system): the **real-time gross settlement (RTGS) system** for the euro.

TARGET2: a new generation of the **TARGET** system which replaces the former decentralised technical structure with a single shared platform offering a harmonised service with a uniform pricing scheme.

Treaty: refers to the Treaty establishing the European Community (“Treaty of Rome”). The Treaty has been amended on several occasions, in particular by the Treaty on European Union (“Maastricht Treaty”) which laid the foundations for **Economic and Monetary Union** and contained the Statute of the **ESCB**.

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