



ANNUAL REPORT 2007



BANQUE CENTRALE DU LUXEMBOURG

EUROSYSTEM

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*Banque centrale du Luxembourg  
2, boulevard Royal - L-2983 Luxembourg  
Telephone: (+352) 4774 - 1  
Fax: (+352) 4774 - 4910  
Internet: [www.bcl.lu](http://www.bcl.lu)  
E-mail: [sg@bcl.lu](mailto:sg@bcl.lu)*



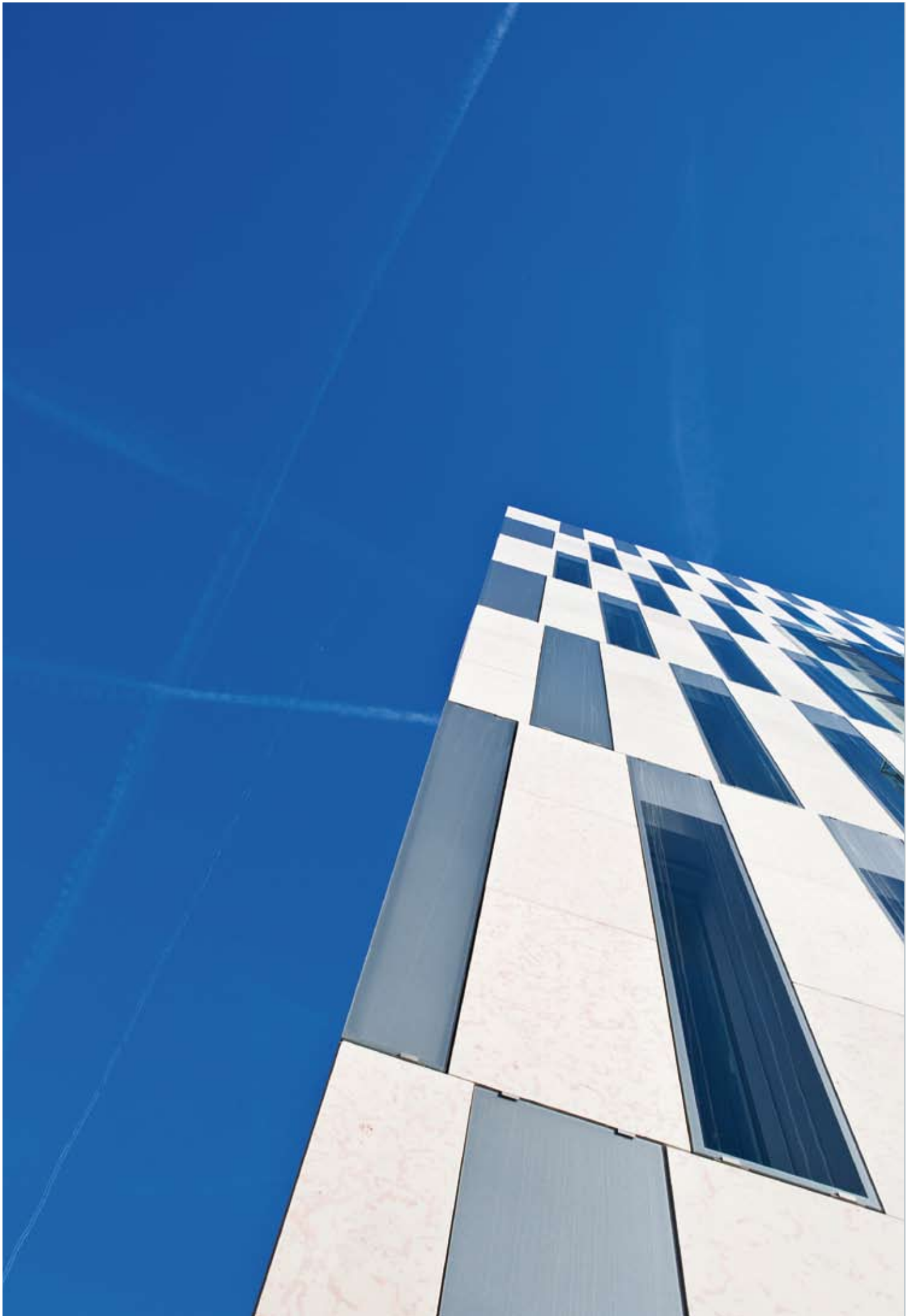
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## The Governor's Message

**P**reserving price stability is the best contribution monetary policy can make to sustainable economic growth, job creation, prosperity and social cohesion. This has become the established consensus on monetary policy.

*In an inflationary environment it becomes more difficult to disentangle changes in relative prices (which imply a change in the allocation of resources) from changes in the general price level (which should not trigger such a change), with the result that resources are misallocated, total factors productivity deteriorates, and overall macroeconomic performance worsens.*

*Inflation also has a negative impact on capital accumulation, and therefore on the long-term potential output of the economy, especially because of the non-indexation of the tax system. Since depreciation allowances are not indexed, this introduces a systematic distortion of business investment decisions. Ceteris paribus, higher inflation artificially increases investment in short-lived capital equipment and inventories, to the detriment of long-lived capital goods. Inflation uncertainty also causes real rates to be higher than they would be otherwise by adding an inflation risk premium to risk-free nominal interest rates, thus further discouraging capital accumulation. Empirical evidence confirms the existence of a negative relationship between inflation and output growth, with a 100 basis point permanent increase in inflation being associated with a 10 to 30 basis point decrease in trend output growth.*

*The Governing Council of the ECB has emphasised that maintaining price stability in the medium term is the Eurosystem's primary objective. A firm anchoring of medium and long-term inflation expectations in line with price stability is an absolute priority. The Governing Council is determined to prevent second-round effects and to ensure that risks to price stability over the medium term do not materialise.*

*Luxembourg's cumulated inflation differential from the beginning of phase III of EMU in 1999 to the end of 2007 stood at 2.5 percentage points vis-à-vis the euro area and 6.5 percentage points vis-à-vis Luxembourg's neighbouring countries. The Eurosystem is responsible for maintaining price stability in the euro area as a whole, without being able to take into account inflation differentials that might exist between Member States. The Eurosystem does not have any instruments which could reduce such differentials. It is therefore up to the Member States concerned to identify the reasons underlying excessive inflation differentials and to take the appropriate measures. This analysis is of particular relevance for a small open economy like Luxembourg, as any unfavourable inflation differential will in general entail a real appreciation and hence a loss of competitiveness. These differentials may be driven by increases in indirect taxes and administered prices, by higher wage increases relative to those in trading partners, by unfavourable productivity developments and by structural inefficiencies. These issues need to be addressed at the national level.*

*According to the latest BCL staff projections, NICP and HICP inflation should increase in 2008 to 3.6% and 4.5%, respectively. This reflects a very high contribution from energy prices. Despite the economic slowdown, this impact should be amplified by an increase in inflation excluding energy, reflecting high services price inflation and increasing food prices. NICP inflation should barely decline below 2% over the medium term. If the automatic indexation scheme is fully reinstated, robust nominal wage growth in 2010 should trigger a strong increase in services prices, boosting inflation excluding energy. This is an example of a wage-price spiral generated by the automatic wage indexation mechanism.*

*The BCL analysis in this Annual Report demonstrates that changes to the automatic wage indexation mechanism introduced by the "Tripartite agreement" of May 2006 probably dampened the impact of the wage-price spiral on consumer price inflation. Furthermore, BCL analysis establishes the statistical link between an automatic wage increase and the rise in consumer prices.*

*In mid-May, STATEC released national accounts estimate for the past three years, presenting a sharp deceleration in real GDP growth. After a series of revisions, the latest figures for GDP growth for 2005, 2006 and 2007 are 5.0%, 6.1% and 4.5%. Slowing economic growth mainly reflects weaker exports of goods and services.*

*On the basis of these statistics, the BCL estimates that the slowdown in early 2008 might be more pronounced in the context of worsening financial market turmoil and its negative impact on Luxembourg's financial sector results. BCL projections for 2008 as a whole foresee average annual real GDP growth in a range between 2.9% and 3.5%, which is significantly below the historical average. On the basis of the international scenario, economic growth in Luxembourg is projected to recover in 2009 to between 3.5% and 4.5%. Luxembourg's relatively high GDP growth rates by international standards have to be seen in the context of significant labour inflows meaning that productivity growth is not exceptional by international standards.*

Since 1996, unit labour costs have grown faster in Luxembourg than in the surrounding countries. This increase reflects faster growth of wages per employee and slower growth of labour productivity than in the three neighbouring countries. Weak labour productivity growth could be explained by a total factor productivity contribution that has been low by international standards and even negative in the most recent years. On the other hand, the contribution of the capital-labour ratio has been higher than in neighbouring countries. This suggests that Luxembourg depends on capital accumulating much faster than employment growth. Under this configuration, Luxembourg's labour productivity seems vulnerable to a potential fall in the country's attractiveness for foreign investors.



The competitiveness indicators calculated by the BCL indicate a continuing deterioration, even when they are extended to 2010 using the results of the recent Eurosystem projection exercise. However, as noted in the BCL 2006 Annual Report, this needs to be interpreted carefully because in the past the deterioration of various price and cost competitiveness indicators was accompanied by robust export growth in Luxembourg. However, Luxembourg remains especially vulnerable to a slowdown, or even a fall, in international trade, as has been projected by the main international organisations. Luxembourg's high estimated export elasticities with respect to foreign demand suggest that such a negative development at the global level could have amplified effects in Luxembourg.

As indicated during the presentation of the BCL Financial Stability Report, the impact of the financial turmoil on the real economy and on public finances may be more negative than expected on the basis of 2007 results, especially given the wide methodological differences in evaluating falls in asset prices. Fluctuations early in 2008 represent a very important source of uncertainty for public finances. Central government may move once again into deficit in 2008. For 2009, the general government surplus should also deteriorate with respect to its position in 2008.

In this context, the BCL echoes various international institutions, and in particular the European Commission, who repeatedly stressed the urgent need for reforms to guarantee the long-term sustainability of Luxembourg's old-age pension system. In its assessment of the ninth update of Luxembourg's Stability Programme, the European Commission indicates that the estimated impact of ageing will be a spectacular increase in general government debt. This should exceed 60% of GDP shortly after 2030.

We are celebrating the tenth anniversary of the Banque centrale du Luxembourg, as it was created on the 1st June 1998.

The initial objective was to anchor the new institution within the European System of Central Banks and within the national institutional environment. This has been pursued with determination by applying a high level of professionalism. Despite its low initial level of capital, the Bank has successfully resisted international financial shocks.

Its strategy and management have been validated by results.

At the level of the ESCB, we have been entrusted with the creation of a "Eurosystem Procurement Coordination Office". At the national level, a legislative framework for the Bank's cooperation in financial stability matters is in preparation.

This success reflects the quality and motivation of a staff that is committed to the declared values. It represents an encouragement to continue in the direction chosen and to give our best in the service of our country in the heart of our Europe.

**Yves Mersch**



# 1. Economic and financial situation

## 1.1 Economic situation at the international level

### 1.1.1 Short-term interest rates and monetary policy decisions

The Governing Council of the ECB raised the minimum bid rate for the main refinancing operations by a total of 50 basis points in March and in June 2007; in June 2008, the minimum bid rate stood at 4.00%. The interest rates on the deposit facility and on the marginal lending facility were raised to 3.00% and 5.00% respectively. Since the onset of market turmoil in August 2007, the Eurosystem's monetary policy was conducted in a context of heightened uncertainty, in particular with regard to the impact of market tensions on economic developments.

Market turmoil also impinged on the overnight interbank lending rate (EONIA), while the three-month EURIBOR increased considerably in spite of the liquidity measures undertaken by the Eurosystem.

Annual HICP inflation averaged 2.1% in 2007, after 2.2% in 2006. The situation in the second quarter of 2007 suggested that annual HICP inflation would rise considerably at the end of the year; indeed, from the fourth quarter of 2007, the annual rate of inflation considerably exceeded

**CHART 1:**  
KEY POLICY RATES OF THE EUROSISTEM,  
THE EONIA AND THE THREE-MONTH  
EURIBOR

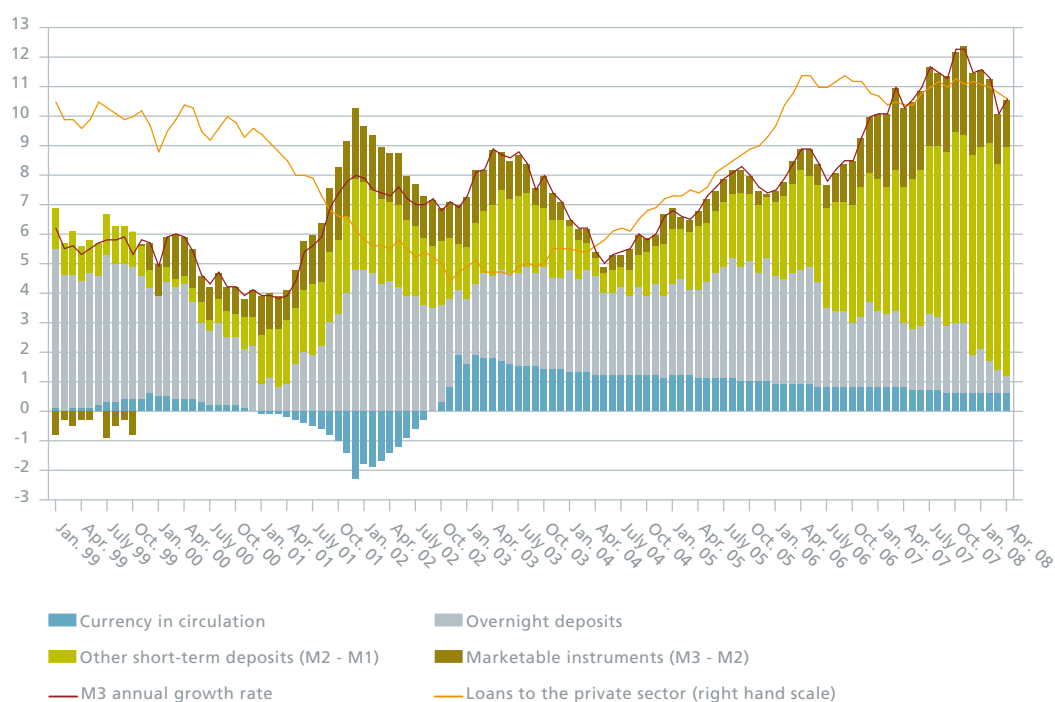


Sources : ECB, Bloomberg

# 1. ECONOMIC AND FINANCIAL SITUATION

**CHART 2:  
MONEY AND CREDIT DEVELOPMENTS**

(yearly changes in percentage; contributions to yearly changes in percentage points)



Source : ECB

2% in the wake of a rise in oil and food prices. In the first four months of 2008, the annual rate of inflation ranged from 3.2% to 3.6%; Eurostat's flash estimate put annual HICP inflation at 3.6% in May. The Eurosystem staff inflation projections in June point to an annual HICP progression between 3.2% and 3.6% in 2008, and between 1.8% and 3.0% in 2009. Several upside risks remain, in particular as regards continued upward pressure from further oil price hikes, as well as second-round effects linked to wage negotiations; upward risks to price stability have intensified recently.

Following the onset of financial market tensions in August last year, euro area growth prospects were surrounded by considerable uncertainty. However, economic growth remained robust in 2007: real GDP rose 2.6% annually, and the Eurosystem staff growth

projections pointed to robust economic growth throughout the year. The June 2008 projections anticipated annual real GDP growth between 1.5% and 2.1% in 2008, and between 1.0% and 2.0% for 2009. Several downside risks to growth remain though, not least a stronger than expected impact of market tensions on the real economy.

Monetary growth and loan dynamics remained strong in 2007: the broad monetary aggregate M3 increased by 11.1% annually, while loans to the private sector rose by 10.8%.

At this stage, market tensions have hardly had an impact on monetary developments, although some of the sub-components of the monetary aggregates have been affected. The chart shows that the contribution

of the narrow aggregate M1 (made up of “money in circulation” and “overnight deposits”) has moderated further. The strong annual progression of “other short term deposits” (M2-M1) has continued, however, and their annual growth rate reached 20.2% in April this year, compared to 11.7% at end-2006. M2-M1 has thus put considerable upward pressure on the broad aggregate, as highlighted in the chart. As for the sub-components of M2-M1, deposits with an agreed maturity of up to two years grew particularly strongly, while in 2007 and early 2008 deposits redeemable at notice of up to three months even regressed on an annual basis. The impact of marketable instruments (M3-M2) on M3 also intensified in the course of 2007, before tapering off from November onwards. Money market fund shares and units, one of the sub-components of M3-M2, progressed continuously in the first seven months of 2007, while several outflows have been recorded since the onset of financial market tensions in August. Debt securities of up to two years also grew considerably: at end-2007, their annual growth rate stood close to 60%.

As for the counterparts of M3, loans to the private sector have stabilised at a growth rate around 11% since mid-2007. The annual progression of loans to non-financial corporations increased continuously in the period under review, hitting a historical high of 15.0% in March 2008. Loans to households continued to trend down on an annual basis.

The Governing Council of the ECB is monitoring very closely all developments. It is in a state of heightened alertness. By acting in a firm and timely manner, the Governing Council will prevent second-round effects and ensure that risks to price stability over the medium term do not materialise. The Governing Council is determined to secure a firm anchoring of medium and long-term inflation expectations in line with price stability.

### **1.1.2 Long-term government bond yields**

At end-2007, the yield on euro area long-term government bonds stood at 4.4%; this constitutes a 45 basis point increase compared to end-2006. In the first five months of 2008, euro area government bond yields have risen somewhat, ending at 4.5%. Since around

mid-2007, the yield spread between US and euro area bonds has fallen considerably, turning negative in November and standing at minus 46 basis points in May 2008. Indeed, the yield on US Treasuries dropped almost 70 basis points in the course of 2007; between end-2007 and end-May 2008, the yield has risen slightly and reached almost 4.1%. Since August 2007, market volatility rose considerably. In light of a steepening of the yield curve, the yield spread between two-year and ten-year bonds rose sharply in the euro area from August 2007, before declining slightly since March 2008.

In the first half of 2007 bond yields rose on both sides of the Atlantic in light of favourable growth prospects. This upward trend was only briefly interrupted between end-January and mid-March when market participants re-assessed US growth prospects. At the end of February, yields were put under additional pressure following a flight to quality caused by market turmoil in China.

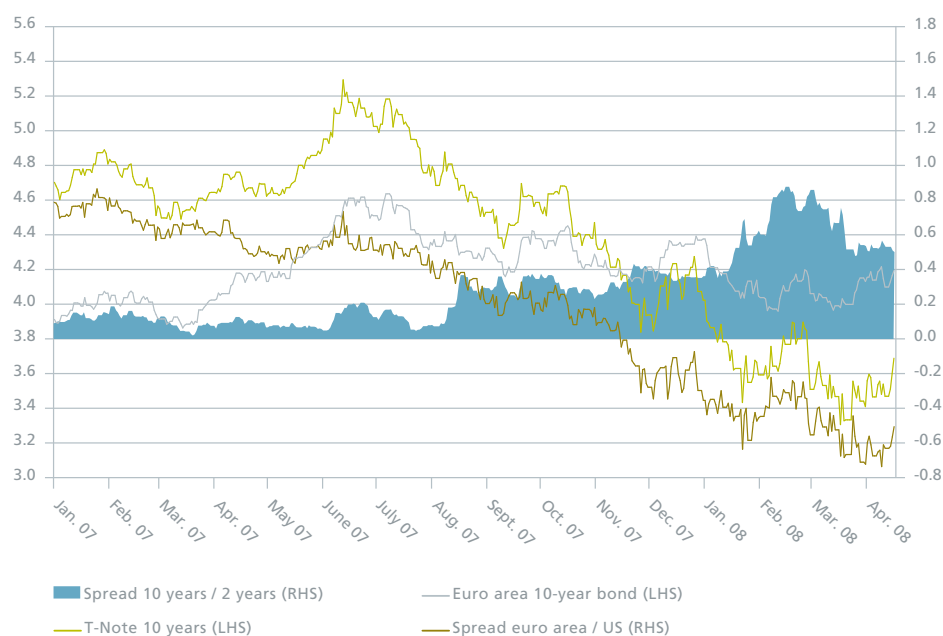
The upward trend observable in the first half of 2007 began to reverse as early as June when the first signs of sub-prime related market tensions surfaced: at first, bond yields fell across the entire maturity spectrum and volatility began to increase. Market tensions intensified in July and August and investors became increasingly nervous about contagion effects. Government bonds quickly became safe haven investments, which is common in times of increased uncertainty. The yield on US Treasuries fell much more sharply than euro area government bond yields in light of several cuts in the federal funds rate, leading to a significant drop in the spread between bond yields in the US and the euro area. Indeed, the federal funds rate was cut by 100 basis points between September and December 2007 while the minimum bid rate on the ECB’s main refinancing operations remained unchanged.

Uncertainty continued to haunt market participants throughout the remainder of the period under review, while market expectations regarding further rate cuts only provided temporary respite. Furthermore, while rate cuts usually lead to lower government bond yields, this time they boosted confidence and optimism, which put upward pressure on bond yields. Stock market volatility, caused in large part by bleaker growth prospects in the US, spread to international bond markets. In the euro area, government bond yields rose between

# 1. ECONOMIC AND FINANCIAL SITUATION

**CHART 3:  
LONG-TERM GOVERNMENT BOND YIELDS  
IN THE EURO AREA AND IN THE UNITED STATES**

(LHS: percentages per annum,  
RHS: percentage points)



Sources : Bloomberg, ECB

January and May 2008, causing the spread over US Treasuries to become somewhat more negative. To some extent, the evolution of the spread reflects a stronger resilience of euro area fundamentals. Since mid-March, the rise in long-term government bond yields should be seen against the backdrop of a renewed rise in market participants' appetite for risk.

### 1.1.3 Equity markets

While the Dow Jones EuroStoxx and the S&P 500 progressed in 2007, the Nikkei 225 fell considerably. The Dow Jones EuroStoxx rose by 4.9% and finished the year at 414.9, while the S&P 500 only rose 3.5%; the Nikkei 225 fell 11.1%. Thus, although stock markets continued their upward progression in the euro area and in the United States, the upward trend has slowed down considerably compared to 2006 when the two

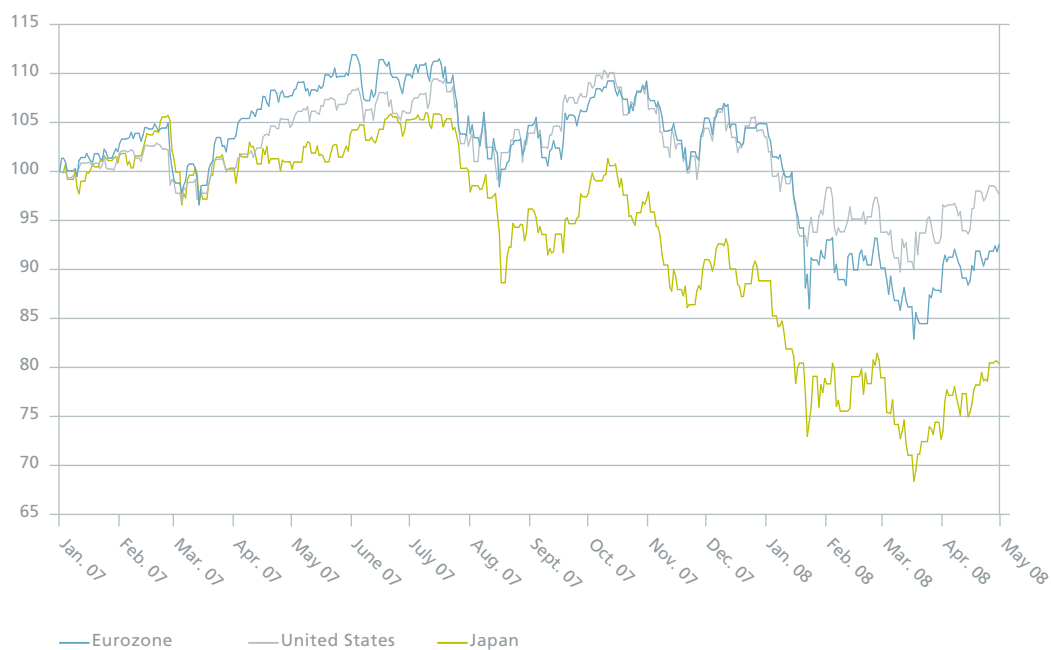
indices rose by 20% and 14% respectively. Moreover, the Nikkei's decline stands in stark contrast with its past performance in 2006 and 2005, when it progressed by 7% and 40% respectively.

Overall stock market developments should be seen against the backdrop of heightened uncertainty and volatility since the onset of market turmoil around mid-2007. In the first five months of the year, all three indices under review lost ground overall, in spite of the rally discernible since mid-March 2008.

In the first half of 2007, stock markets continued their upward trend from 2006, notwithstanding several short periods of market turmoil such as the tensions in Chinese markets at end-February which led to a massive sell-off. The upward trend observable in the first half of 2007 began to cool off as early as June when

**CHART 4:  
MAJOR STOCK INDICES IN THE EURO AREA,  
THE UNITED STATES AND JAPAN**

(indice: 01/01/2007 = 100)



Source : Bloomberg

the first signs of sub-prime related market tensions appeared. Market tensions subsequently intensified in July and stock markets across the globe fell sharply between mid-July and mid-August in the wake of a general re-pricing of risk: within the course of several weeks, the Dow Jones EuroStoxx and the Nikkei 225 lost roughly 12%, while the S&P 500 dropped 9%. Between mid-August and mid-October, stock markets recovered some lost ground amidst a partial regain of optimism, a sharp and continuing drop in bond yields since mid-2007, and persistently good reported and expected earnings per share.

Overall, since the beginning of 2008, the three indices under review lost further ground. In the first three weeks of the year, the Dow Jones EuroStoxx lost 17%, the Nikkei 225 fell 16% and the S&P 500 dropped 7.5%. Volatility was particularly high in January when

panic reigned and markets reacted sharply to the slightest hint that economic fundamentals could be deteriorating. Stock markets stabilised somewhat when the federal funds rate was cut by a total of 125 basis points in late January. After hitting a low in mid-March, stock markets embarked on a new upward trend, especially in the wake of additional rate cuts by the Federal Reserve in March and April, which further bolstered market participants' new-found optimism.

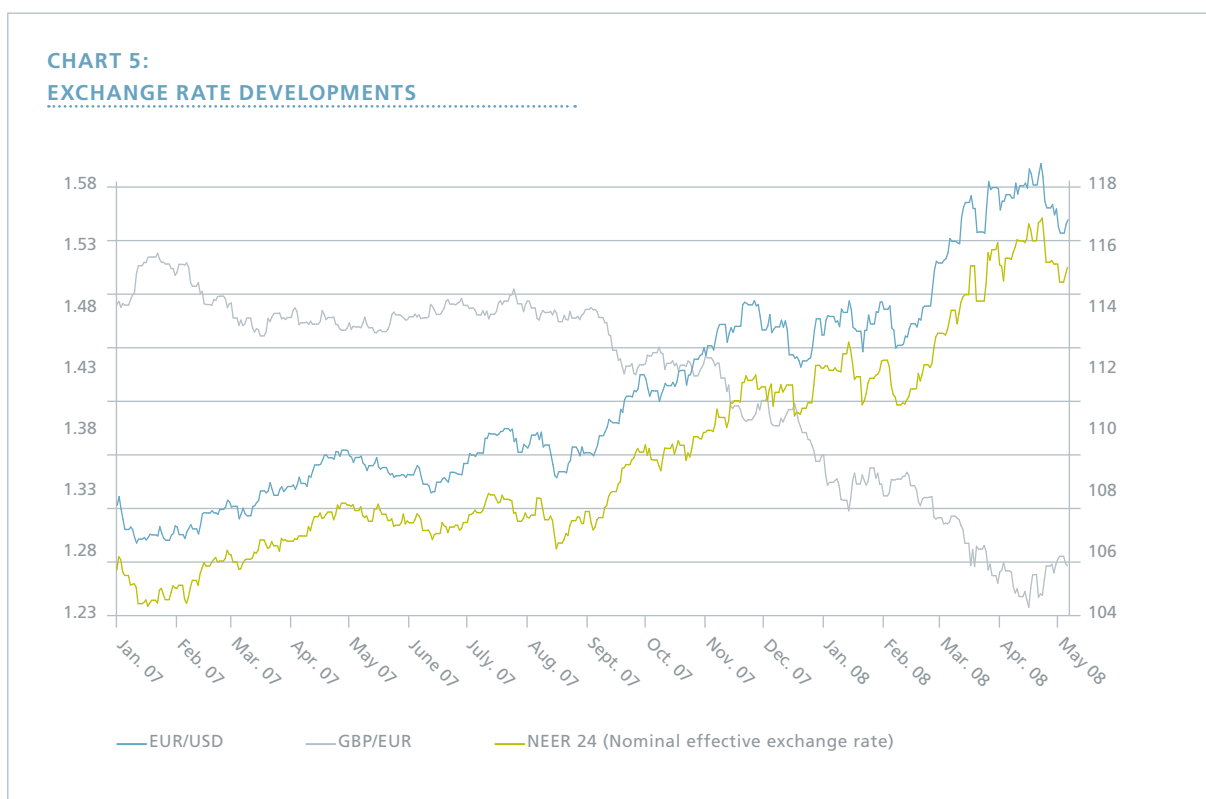
#### 1.1.4 Exchange Rate developments

The euro appreciated strongly since end-2006, both in effective terms as well as vis-à-vis the US dollar and the pound sterling. Overall, the single currency also appreciated against the Japanese yen and, to a lesser extent, vis-à-vis the Swiss franc. Between end-2006 and end-2007, the euro's nominal effective exchange



# 1. ECONOMIC AND FINANCIAL SITUATION

**CHART 5:**  
**EXCHANGE RATE DEVELOPMENTS**



Sources : Bloomberg, ECB

rate (NEER)<sup>1</sup> appreciated by more than 6%. Over that same period, the euro rose more than 10% against the US dollar, ending the year at USD 1.46; the single currency rose 9% against the pound sterling, ending the year at GBP 0.74.

Since early-2008, the euro has continued to appreciate against the US dollar and the pound sterling. The euro's appreciation against the dollar can be largely explained by diverging growth prospects in the United States and in the euro area, as well as by the change in interest rate differentials. As regards the euro's exchange rate vis-à-vis the pound, the single currency evolved in a relatively narrow range up until September when it began to appreciate following market participants' revised interest rates expectations in the UK. The euro-yen exchange rate behaved in a very volatile fashion since the Japanese currency is widely used as a funding currency in carry trade operations; a rise in risk aversion in times of financial turmoil quickly leads to an unwinding of carry trade positions.

The US dollar has a particularly strong impact on the evolution of the NEER, in light of its weight in the currency basket. While the euro's appreciation against the dollar in the first eight months of 2008 was somewhat more moderate, in particular between May and August, the single currency's upward momentum was soon reinforced by interest rate decisions on both sides of the Atlantic: the ECB raised the minimum bid rate on its main refinancing operations by 25 basis points in March and in June respectively, while the Federal Reserve left its federal funds rate unchanged at 5.25%. While the onset of the market turmoil in the summer months led to a sharp overall depreciation of the euro versus the yen, the euro-dollar exchange rate was at first hardly affected and even depreciated slightly owing to the US Dollar's status as a safe-haven currency. However, the euro soon began to appreciate against the dollar given that market participants felt that US growth prospects had become increasingly gloomy. From September onwards, the single currency also appreciated considerably against the pound sterling, in part owing to the liquidity crisis that brought down Northern Rock.

<sup>1</sup> The NEER is a weighted average of bilateral euro exchange rates against the currencies of the euro area's main trading partners.

The euro's upward momentum slowed only partially between November 2007 and February 2008, in the context of market participants' reappraisal of economic and monetary policy developments in the US as well as in the euro area. Between February and April, the single currency appreciated sharply and hit historic highs against the US dollar and the pound sterling, breaking the USD 1.60 barrier and coming close to GBP 0.81. These developments were largely linked to a drop in the interest rate differentials between the euro area and the United States and between the euro area and the United Kingdom. It is likely that the euro's rapid appreciation is more than usually influenced by technical elements and speculative pressures rather than from changes in underlying economic fundamentals.

At the end of May 2008, the euro stood at USD 1.56, GBP 0.79 and JPY 164.1.

### 1.1.5 Consumer prices

HICP inflation in the euro area averaged 2.1% in 2007, compared to 2.2% the two previous years. Annual inflation rates remained below 2% and broadly stable until the end of the summer and increased rapidly thereafter, reaching 3.1% at the end of 2007. Oil price increases (including base effects stemming from

previous energy price developments) and food price increases significantly affected the profile of HICP inflation in 2007.

From January to July 2007 the impact of the rise in oil prices on the energy price component of the HICP were reduced by favourable base effects stemming from the pronounced increase in energy prices observed a year earlier. From September 2007 onwards, both rising oil prices and unfavourable base effects led to a considerable contribution from the energy component to overall HICP inflation.

A major contribution to the rise in HICP inflation in late 2007 came from processed food prices, which started to accelerate towards the end of the summer, reflecting strong increases in the prices of certain agricultural commodities in global markets.

The June 2008 Eurosystem staff projections anticipate average annual HICP inflation between 3.2% and 3.6% in 2008 and between 1.8% and 3.0% in 2009. Compared with the March 2008 ECB staff projections, the ranges projected for inflation in 2008 and 2009 are markedly higher, reflecting mostly higher oil and food prices and increasing upward pressures in the services sector.

**TABLE 1:**  
**DEVELOPMENTS IN THE HICP AND ITS**  
**COMPONENTS IN THE EURO AREA**  
**(ANNUAL PERCENTAGE CHANGES)**

	2005	2006	2007	2006	2007	2007	2007	2007	2008	2008	2008	2008	2008	2008
				Q4	Q1	Q2	Q3	Q4	Q1	Jan.	Feb.	Mar.	April	May
<b>Overall HICP</b>	2.2	2.2	2.1	1.8	1.9	1.9	1.9	2.9	3.3	3.2	3.3	3.6	3.3	3.6
of which														
-Unprocessed food	0.8	2.8	3.0	4.1	3.1	3.3	2.4	3.0	3.5	3.3	3.2	3.8	3.1	
-Processed food	2.0	2.1	2.8	2.2	2.1	2.0	2.5	4.5	6.4	5.9	6.5	6.7	6.9	
-Non-energy industrial goods	0.3	0.6	1.0	0.8	1.1	1.0	1.0	1.1	0.8	0.7	0.8	0.9	0.8	
-Energy	10.1	7.7	2.6	1.5	1.2	0.5	0.7	8.1	10.7	10.6	10.4	11.2	10.8	
-Services	2.3	2.0	2.5	2.1	2.4	2.6	2.5	2.5	2.6	2.5	2.4	2.8	2.2	
<b>HICP excluding unprocessed food and energy</b>	1.5	1.5	2.0	1.6	1.9	1.9	2.0	2.3	2.5	2.3	2.4	2.7	2.4	

Source: Eurostat

# 1. ECONOMIC AND FINANCIAL SITUATION

## 1.1.6 Output, demand and labour market developments

The euro area economy performed well in 2007. On average, real GDP growth was 2.6%, which is only slightly below the 2.8% recorded in 2006, despite the impact of energy price volatility and the uncertainty resulting from the financial market turmoil in the second half of 2007 (see Chart 6).

Slower GDP growth in 2007 was mainly due to developments in private consumption and residential investment as net exports remained robust.

On the domestic side, private consumption grew by 1.5% in 2007, down from 1.8% in 2006. The consumption growth path in 2007 was strongly influenced by a VAT increase in Germany in the first quarter of 2007. Household consumption rebounded in the following months, in line with improvements in real household disposable income which were mainly driven by the positive developments in employment and, to a lesser extent, by growth in household real wealth. The weakening in consumer confidence apparently linked to the financial turmoil is considered to have had only a limited direct impact on consumption, although consumer credit standards were also tightened in the last few months of the year. After rebounding strongly in 2006 (5.0%), total investment growth decelerated in 2007 at 4.3% for the year as a whole. This trend was most pronounced in residential investment, reflecting the end of the expansionary phase of the business cycle in the construction sector in the context of slowing house prices. As illustrated in the Eurosystem's bank lending survey for the fourth quarter of 2007, households' net demand for housing loans dropped considerably.

Euro area net exports expanded robustly by 24.1% in 2007 after 11.4% in 2006. However, this expansion essentially reflected the drop in import growth that exceeded the slowdown in export growth – caused by the rapid euro appreciation over the year and strong competition from China and other Asian countries – was more than offset by a more pronounced slowdown in import growth.

Against this background, the Eurosystem expects average annual real GDP growth to decelerate to a rate

between 1.5% and 2.1% in 2008 and further to 1.0% to 2.0% in 2009.

Labour market conditions in the euro area improved significantly in 2007 in line with the pattern of economic growth. Strong employment growth observed in 2006 (1.4%) continued in 2007, with an annual growth rate of 1.6% and around four million net new jobs were created. According to the European Commission's Business and Consumer Survey, employment growth is expected to decelerate in 2008 and 2009 (respectively to 0.9% and 0.5%).

The evolution of euro area unemployment is in line with employment trends as it has continued to fall in 2007, reaching 7.4% on average in 2007 after 8.3% on average in 2006. This is the lowest rate seen since the early 1980s. The latest data available for March 2008 confirm this trend as the unemployment rate declined to 7.1% which represents – in absolute terms – less than 11 million unemployed persons. Overall, lower unemployment reflects robust employment growth in line with the cyclical evolution of GDP growth as well as the impact of labour market reforms and continued wage moderation.

## 1.1.7 External trade

Euro area trade in goods grew at a slower pace in 2007, after recording higher growth rates in 2006. Goods exports reached €1 493 billion in 2007, increasing by 8.3% compared with a growth rate of 11.6% in 2006. However goods imports saw a larger fall in their growth rate, from 13.7% in 2006 to 5.6% in 2007 (reaching €1 471 billion). As a result the euro area trade balance turned into a surplus of €22.3 billion in 2007, compared to a deficit of €14.3 billion in 2006. This reversal reflects the improvement in the euro area terms of trade in 2007 as a whole (see Chart).

The geocharterial breakdown of trade shows that the euro area surplus with the United Kingdom rose by 24% reaching €61 billion in 2007. However the surplus vis-à-vis the United States declined by 13% to €64 billion in 2007 as a whole. Trade deficits with oil exporting countries decreased: OPEC members (-32% at €32.8 billion), Russia (-24% at €30 billion) and Norway

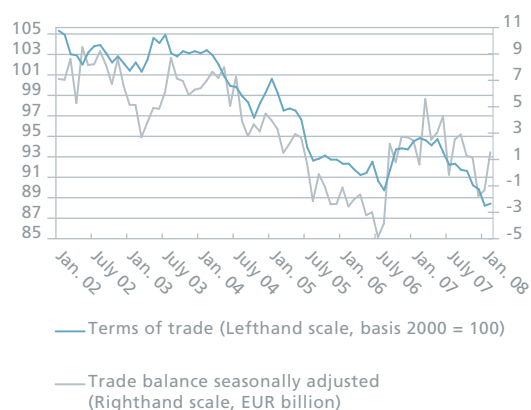
**TABLE 2:**  
**COMPOSITION OF GDP GROWTH**  
**(PERCENTAGE CHANGES)**

	Annual rates					Quarterly rates							
	2005	2006	2007	2006 Q4	2007 Q1	2007 Q2	2007 Q3	2007 Q4	2006 Q4	2007 Q1	2007 Q2	2007 Q3	2007 Q4
Real gross domestic product	1.6	2.8	2.6	3.2	3.2	2.5	2.7	2.2	0.8	0.7	0.3	0.7	0.4
Of which:													
Domestic demand	1.8	2.6	2.2	2.4	2.9	2.0	2.1	1.9	0.2	0.9	0.1	0.9	0.0
Private consumption	1.6	1.8	1.5	2.1	1.4	1.6	1.7	1.1	0.5	0.1	0.6	0.5	-0.1
Government consumption	1.5	2.0	2.2	2.3	2.2	2.2	2.4	1.8	0.5	1.0	0.2	0.6	-0.1
Gross fixed capital formation	3.0	5.0	4.3	5.5	6.3	3.5	3.9	3.2	1.5	1.3	0.0	1.1	0.8
Net exports	-9.4	11.4	24.1	60.9	21.8	27.0	37.6	14.2	40.6	-7.4	11.6	-5.3	16.7
Exports	4.7	7.9	6.0	9.0	6.6	6.0	7.2	4.4	3.3	0.8	0.9	2.0	0.6
Imports	5.5	7.7	5.2	7.1	5.9	5.0	5.9	3.8	1.7	1.3	0.3	2.5	-0.3

Sources : Eurostat

(-19% at €21 billion). However the usual heavy trade deficit with China (€110 billion in 2007) and the deficit with Japan (€24 billion) continued to broaden.

**CHART 6:**  
**MONTHLY DEVELOPMENTS IN THE EURO AREA**  
**TRADE BALANCE AND IN THE TERMS OF TRADE**  
**(SEASONALLY ADJUSTED DATA)**



Source: EUROSTAT

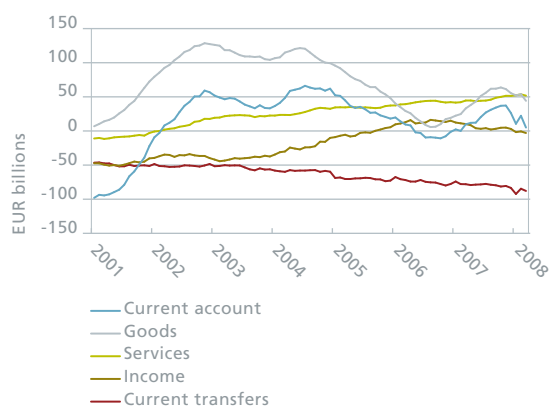
### 1.1.8 Balance of payments

In 2007 the current account of the euro area recorded a surplus of €26.4 billion compared with a small deficit of €1.3 billion in 2006. This shift reflected to a large extent the improvement in the goods surplus as imports grew slower than exports. The 21.8% increase in the surplus of the services balance contributed also to the improvement in the current account while the balances for current transfers and for income deteriorated strongly.

In the financial account, the euro area recorded net inflows of €103 billion in 2007 down from €112 billion in 2006. Net outflows in direct investments dropped in 2007 and were largely offset by portfolio investment net inflows resulting from the net sales of foreign securities by euro area resident investors.

# 1. ECONOMIC AND FINANCIAL SITUATION

**CHART 7:**  
**CURRENT ACCOUNT BALANCE AND ITS COMPONENTS (12- MONTHS CUMULATED TRANSACTIONS)**



Source: ECB

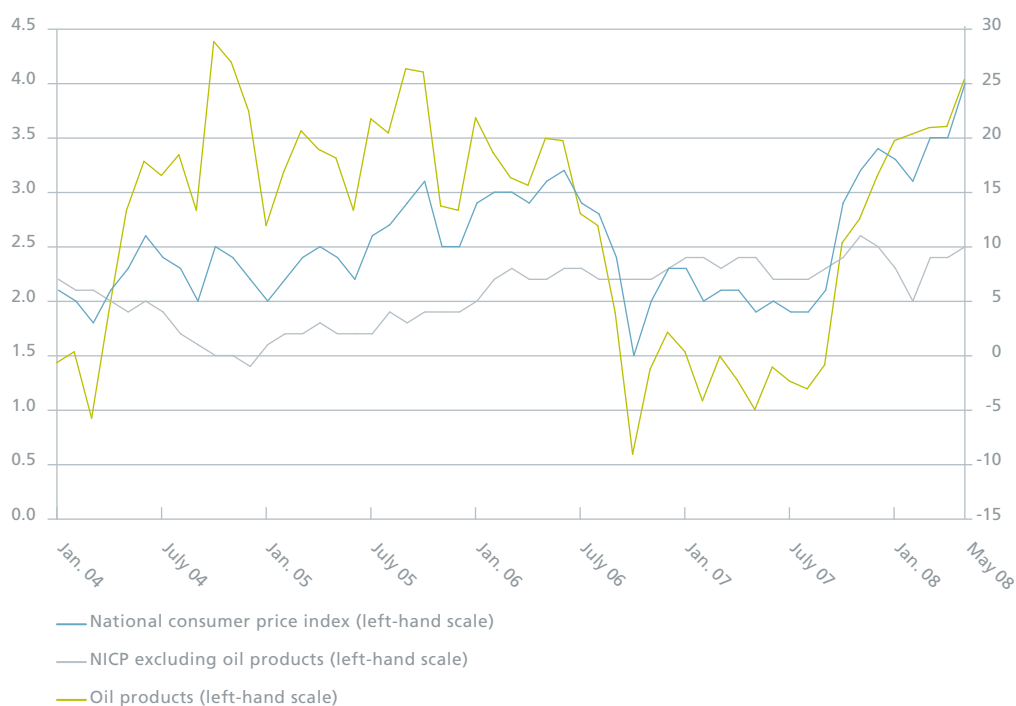
## 1.2 Economic Situation in Luxembourg

### 1.2.1 Prices and costs

#### 1.2.1.1 Consumer prices and inflation projections

The national index of consumer prices (NICP) increased by an average 2.3% in 2007, down by a 0.4 percentage point when compared with 2006. However, inflation increased sharply since October 2007, reaching 3.4% in December after having hovered around 2% since the beginning of 2007. The increase in inflation at the end of last year was mainly due to oil price developments and rising food prices in the second half of 2007, and adverse base effects related to energy prices.

**CHART 8:**  
**BREAKDOWN OF THE NATIONAL CONSUMER PRICE INDEX (ANNUAL PERCENTAGE CHANGES)**



Source : STATEC

Turning to developments in early 2008, inflation remained above 3%. The annual rate of change of the NICP even reached 4.0% in May 2008, which is the highest rate on record since the series was introduced in 1995.

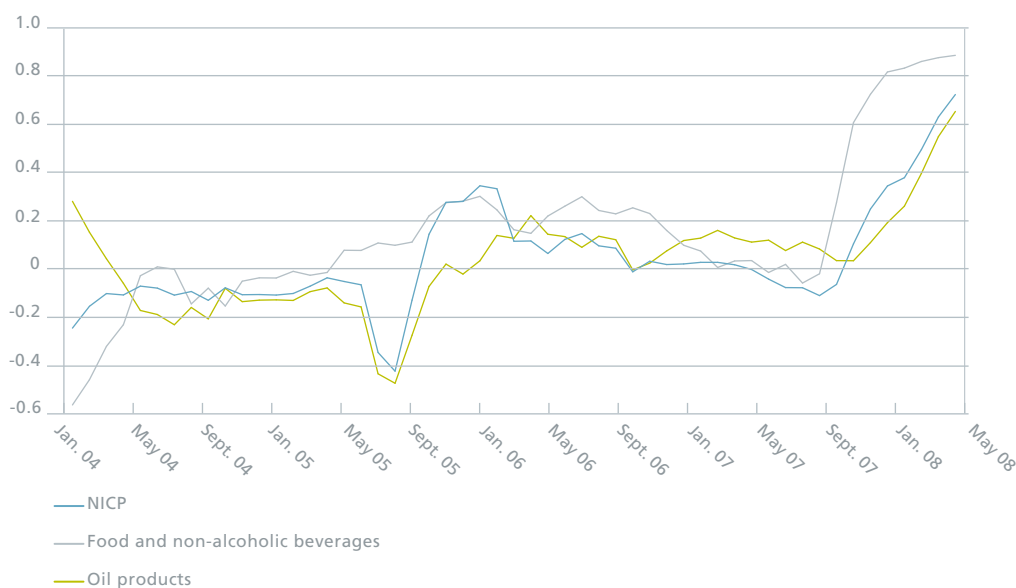
Luxembourg's inflation differentials against the euro area and against the three neighbouring countries remained unfavourable in 2007. Over the period from the beginning of phase III of EMU in 1999 to the end of 2007 Luxembourg's cumulated inflation differential stood at 2.5 percentage points vis-à-vis the euro area and 6.5 percentage points vis-à-vis Luxembourg's neighbouring countries.

According to the BCL's consumer survey, qualitative inflation perceptions have risen sharply since August 2007, reaching the highest level since the survey was launched in 2002. Consumers' inflation expectations also showed a substantial increase in September, moderating thereafter while remaining high by historical standards.

Developments in the prices of "food and non-alcoholic beverages" seem to have had a more direct impact on consumers' inflation perceptions recently. Processed food prices have risen sharply in recent months, and these increases have been very closely followed by rises in consumers' inflation perceptions. This assessment is confirmed by the fact that the correlation between inflation perceptions and the prices of "food and non-alcoholic beverages" has increased and reached record levels in the recent period (see chart 9).

The increase in inflation perceptions and expectations related to the recent surge in food prices could affect the real economy. The increase in food price inflation has been cited as a reason for the fall in the Luxembourg consumer confidence in recent months. In this regard, it should also be recalled that the consumer survey shows a positive and significant degree of correlation with real household consumption growth.

**CHART 9:  
CORRELATION BETWEEN INFLATION  
PERCEPTIONS AND MEASURES OF ACTUAL  
INFLATION (CORRELATION COEFFICIENT  
OVER A ROLLING SAMPLE OF 2 YEARS)**



Sources : BCL et STATEC

# 1. ECONOMIC AND FINANCIAL SITUATION

## *Inflation projections*

### *Assumptions*

End of May, the price of oil fluctuated around 126 USD per barrel and the markets were anticipating a stabilization at that level up to June 2009. The quote for one euro against the dollar stood at 1.54, which corresponds to an appreciation with respect to both the average of 2007 and the previous exercise. Detailed assumptions are given in the following table.

As regards the fiscal measures introduced by the government, they remain unchanged compared to the previous exercise.

Inflation excluding energy has recently turned out at fairly high levels, and a couple of factors suggest that it might persist around those levels in the near future. Following the sharp rise in agricultural commodities

prices, such as wheat and milk, inflation of processed food excluding tobacco has accelerated sharply in recent months. It remains highly uncertain whether the recent drop in commodities prices will also feed through to lower consumer prices. The financial turmoil has clouded economic prospects in Luxembourg. However, the eurozone has proved extremely resilient and, although slower growth is likely in the second quarter of 2008, there is not yet convincing evidence of more persistent economic weakness. This context favours the development of indirect effects stemming from the rise in oil prices. In the labour market, wages might also continue on their accelerating path. In Luxembourg though, these risks are contained in 2008 in light of the agreement to moderate the automatic compensation for past inflation and the absence of a further adjustment in the minimum wage. According to the Eurosystem's projections, imported inflation is set for a sharp acceleration in 2008, before moderating in 2009.

**TABLE 3:**  
**ASSUMPTIONS UNDERLYING**  
**THE INFLATION PROJECTIONS**

	2006	2007	2008	08-Q1	08-Q2	08-Q3	08-Q4	09-Q1	09-Q2
Price of oil in USD/barrel	65.4	72.7	116.7	96.4	118.5	126	126	126	126
Exchange rate USD/€	1.26	1.37	1.54	1.50	1.55	1.54	1.54	1.54	1.54
Price of oil in € (annual percentage changes)	18.6	1.4	43.7	45.1	49.6	49.4	32.9	26.9	7.0

Source: BCL

## Results

The projections for the energy component of inflation have been revised sharply upwards compared to the previous exercise. On the basis of the euro oil price assumptions, the contribution of the energy component to headline inflation might have peaked in mid-2008. However, it should remain at a high level in the near term and a more substantial deceleration only seems feasible in the second quarter of 2009. The projections for the HICP and the NICP excluding energy remain broadly unchanged. Inflation is set to persist around the current high levels with a modest decline towards the end of the projection horizon. As a result, NICP inflation should turn out around 4.0%

up to the third quarter of 2008 (see chart), and it is only towards the beginning of 2009, when the base effects on the energy component set in, that a decline below 3.0% is projected.

The sharp acceleration of headline inflation has occurred against the backdrop of a moderation of the impact of government measures on consumer prices. The payout of the automatic wage indexation that had been triggered towards the end of 2007 has been postponed until March 2008, in line with the measures agreed in 2006. On the basis of these inflation projections, the next 2.5% automatic wage increase should be due in March 2009.

**TABLE 4:**  
**INFLATION PROJECTIONS AND REVISIONS COMPARED TO THE PREVIOUS EXERCISE (IN ANNUAL PERCENTAGE CHANGES, RESP. IN PERCENTAGE POINTS)**

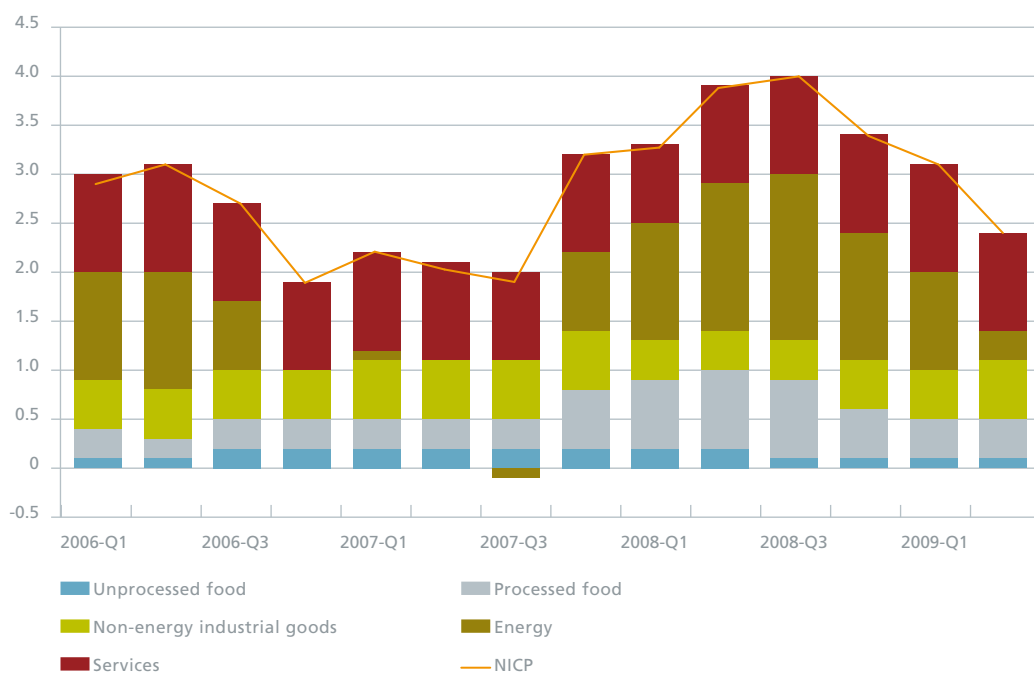
	2007	2008	2008-1st half	2008-1st half	2009-1st half
NICP	2.3	3.6 (0.6)	3.5 (0.3)	3.7 (1.0)	2.7
NICP ex energy	2.3	2.4 (-0.1)	2.4 (-0.1)	2.4 (-)	2.3
HICP	2.7	4.5 (1.1)	4.4 (0.6)	4.6 (1.5)	3.3
HICP energy	2.7	16.9 (8.9)	16.2 (5.1)	17.5 (12.5)	7.3
HICP ex energy	2.7	2.8 (-)	2.9 (-)	2.8 (0.1)	2.7
Impact of government measures on the NICP, in pp	0.8	0.4			
Impact of government measures on the HICP, in pp	1.2	0.8			

Source: BCL



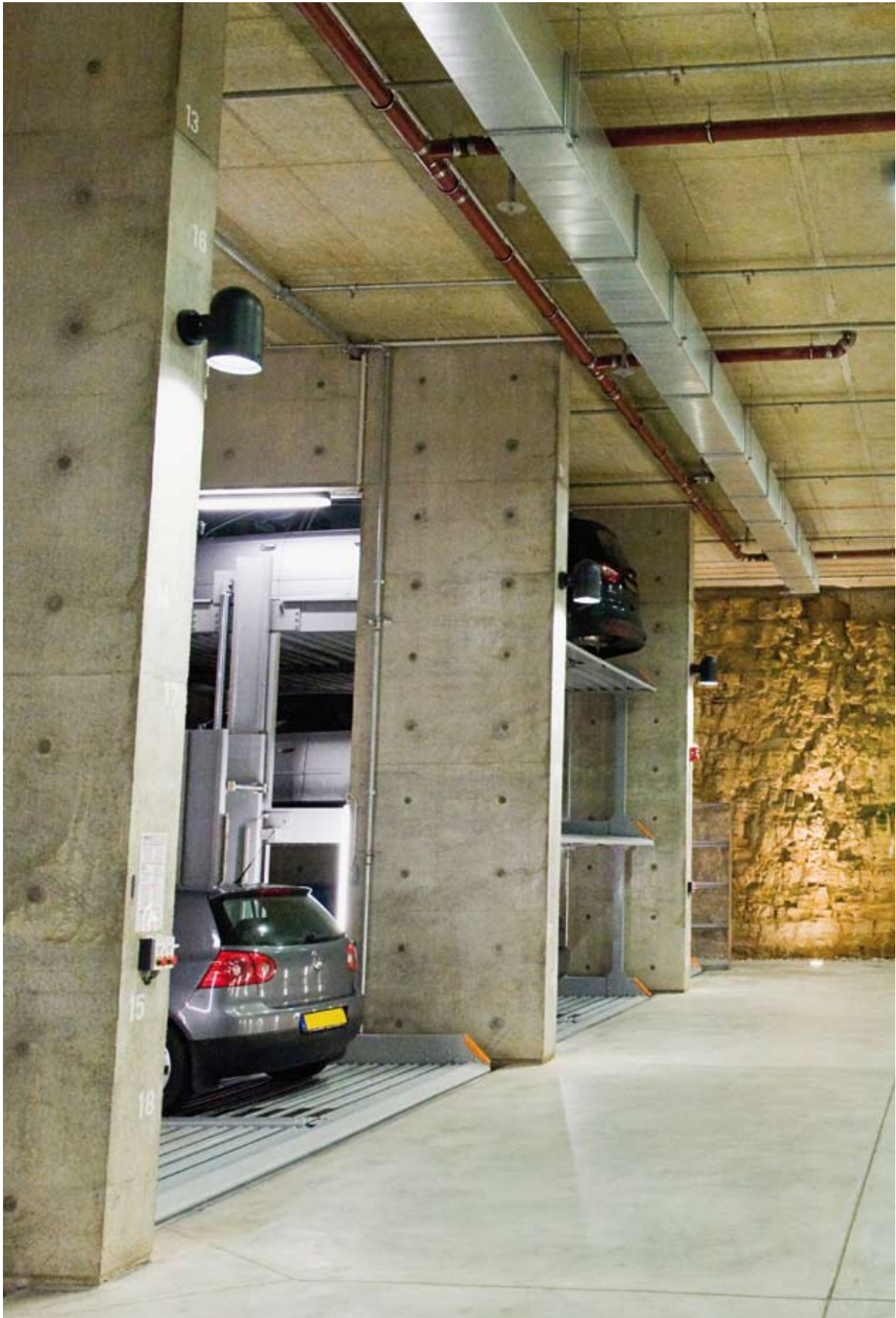
# 1. ECONOMIC AND FINANCIAL SITUATION

**CHART 10:**  
**CONTRIBUTIONS TO NICP INFLATION**



Sources : STATEC, BCL calculations





## Can automatic wage indexation generate an inflationary spiral?

Inflation has accelerated considerably over recent months. While annual growth of NICP fluctuated around 2.0% in mid-2007, it reached 4.0% in May 2008. This echoes the experience some years ago, when inflation rose from an average of 1.0% in 1999 to 3.7% in November 2000. As at that time, the current acceleration in inflation is largely attributable to the rise in petrol prices. Back then, the BCL warned against the potential danger of a wage-price spiral triggered by the automatic wage indexation mechanism<sup>2</sup>. This text box aims to revisit this discussion in the light of recent events.

A wage-price spiral represents a situation in which an initial increase in consumer prices boosts nominal wages via the automatic indexation mechanism and, in a second round, firms transmit the increase in labour costs onto their selling price, generating feedback effects between wages and prices.

In a small open economy, such as Luxembourg which imports more than 50% of its private consumption, inflation is largely determined by external price developments. Imported inflation, originating mostly in the three neighbouring countries, thus represents the main source of fluctuations in Luxembourg's consumer prices. However, domestic factors, in particular labour market conditions, can also play an important role.

This effect is most visible in the "Services" component of the consumer price index, as this is essentially domestic. Services are characterised by a high labour intensity in production, meaning that labour costs play a key role in determining their price. As a result, services prices will be the first to reflect wage increases, especially those due to automatic wage indexation. This is especially true for some categories of services whose prices are officially linked to the sliding wage scale that serves as the basis for the indexation mechanism.

Price developments since 2001 seem to confirm the analysis published at the time. Chart 11 indicates that

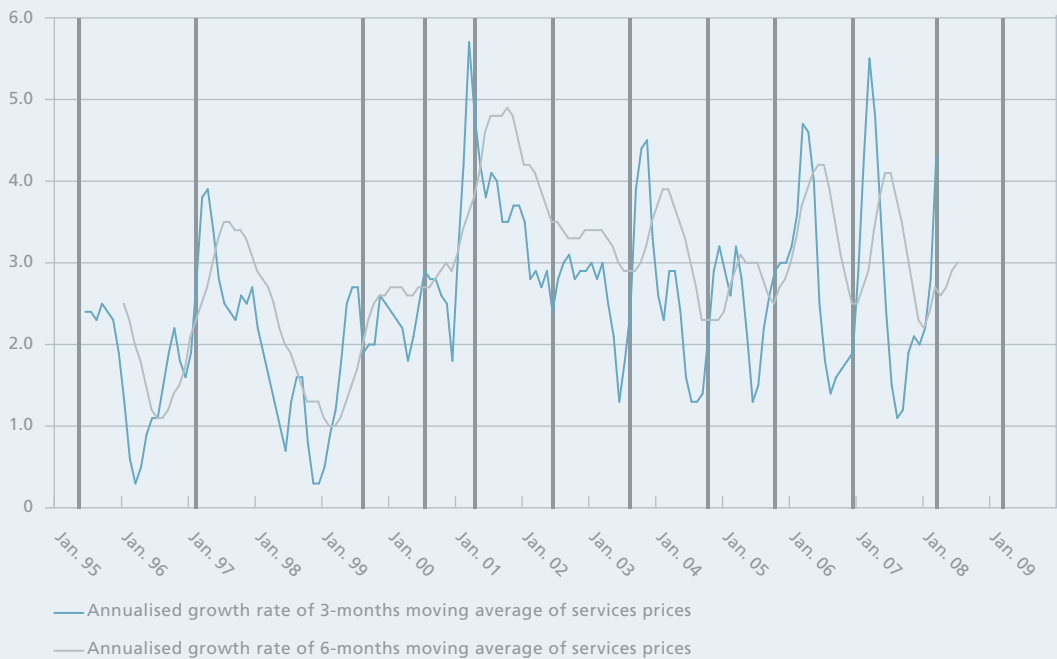
services prices tend to accelerate after an automatic 2.5% wage increase. More recently, in March 2008, the application of the indexation mechanism was followed by an increase of about 1.0% in services prices between February and April. However this time, the process was already under way in the month of March. Thus, unlike previous years, there was no delay between the automatic wage increases and the acceleration in services prices. The automatic 2.5% wage increase that fell due in December 2007 had been delayed to the month of March 2008, so that, unlike under the previous functioning of the system, the timing of the wage increase was no longer a surprise for the service providers. Therefore, they were prepared in advance to adjust their prices to compensate for the change in their labour costs.

The apparent link between services prices, on the one hand, and the wage indexation mechanism, on the other, appears more clearly on chart 12. The wage increase associated with the automatic indexation mechanism seems to act as a lower bound for services price inflation. Since 2002, with the exception of some short intervals of two months, the yearly increase in the sliding wage scale remained constant at 2.5%, which probably prevented services price inflation falling below this level. Conversely, the years 1996 and 1998 demonstrated that when the time span between two automatic wage increases widened, services price inflation could fall below this level, contributing to the decrease in aggregate inflation.

The impact of an automatic wage increase on aggregate inflation has been quantified using econometric methods. Based on monthly data for the period January 1996 to May 2008, an estimated equation explains monthly inflation (after seasonal adjustment) using a dummy variable that takes the value unity in months when wages are increased automatically and zero otherwise. Month-on-month changes in petrol prices (in euro) appear in the equation with a one-month delay. The results are statistically significant: an automatic 2.5% wage increase raises month-on-month inflation

<sup>2</sup> See BCL 2000 Annual Report, pp.33-34.

**CHART 11:**  
**SERVICES PRICE INFLATION**



Sources: STATEC data, BCL calculations

by 0.18 percentage points on average, or more than 2.1% at an annual rate. An automatic wage increase has a statistically significant effect even after four months and its effect is further prolonged by inflation inertia. The cumulated impact over twelve months is an additional 0.42 percentage point inflation for the year as a whole. It should be emphasized that this estimation only represents a lower bound, as it relies on several assumptions, including the occurrence of a single automatic wage increase during the whole year. Furthermore, this analysis is limited to the short-term impact of an automatic wage increase and does not consider longer-term effects that may be associated with the existence of an automatic wage indexation mechanism.

The Tripartite agreement of May 2006 introduced changes to the automatic wage indexation mechanism

that probably dampened the impact of the wage-price spiral. The postponement of automatic wage increases to some pre-determined dates preserved an interval of at least 12 months between two consecutive automatic wage increases. This avoided the superimposition of two automatic wage increases on an annual basis, as would otherwise have been the case in the third quarter of 2006 and would be the case again towards the end of 2008 (green line on chart 12). In this counterfactual scenario, services price inflation would have accelerated even more, as was observed end-2001 and beginning-2002, when it even exceeded 4%.

Unless a new agreement is negotiated or the current accord is extended, the modulation of the automatic wage indexation mechanism will expire end-2009. On the basis of the current inflation projections, the

**CHART 12:  
SERVICES PRICE INFLATION AND SLIDING  
WAGE SCALE**



Sources: STATEC data, BCL calculations

superimposition of two automatic wage increases would occur twice in 2010 (see also section 1.2.10). Wages would be increased in January as well as July 2010 meaning that automatic wage indexation would contribute 4.2 percentage points to the increase in nominal wages. This would be the highest contribution from the wage indexation mechanism since 1984. The result would be an acceleration of non-energy price inflation due to a strong increase in services prices. At the time of this acceleration, this inflation component may actually be falling in neighbouring countries. In any case, this is the scenario underlying our macroeconomic projections, which are based on the assumption of unchanged government policy.

# 1. ECONOMIC AND FINANCIAL SITUATION

## Producer prices in industry

Industrial producer prices increased on average by 9.0% in 2007, the fourth consecutive year of price rises above 7%. As was the case in previous years, the price adjustments are mostly due to intermediate goods prices. Prices for energy and capital goods increased also, but at a more moderate pace, while consumer goods prices were virtually flat.

The driving forces behind these price increases are probably the oil price on the cost side, and robust consumption growth in the emerging economies, particularly in South-East Asia, on the demand side. While

the aggregate picture suggests flat prices for consumer goods, the breakdown reveals that prices for food products have accelerated sharply in the course of 2007, probably on the back of the sharp price increases recorded for agricultural commodities, such as wheat and milk. These developments have also influenced prices at the consumer level.

The annual inflation rates have been on a downward trend since the beginning of 2007, and have fallen to around 7% in the beginning of 2008. The available data from the harmonised business surveys however suggest that this trend might soon revert and that inflation is set for a re-acceleration (see chart).

**TABLE 5:**  
**INDUSTRIAL PRODUCER PRICES (CHANGES WITH RESPECT TO THE PREVIOUS PERIOD)**

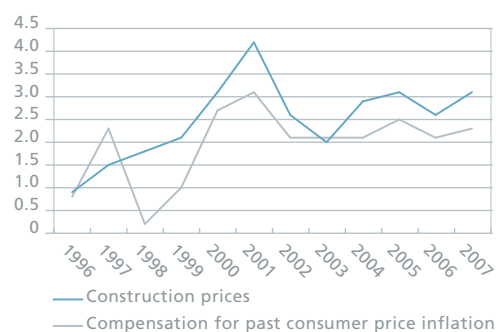
	2006	2007	2007-Q2	2007-Q3	2007-Q4	2008-Q1
Total	7.7	9.0	2.4	-0.1	1.7	2.3
Intermediate goods	8.8	12.1	3.0	-0.6	0.3	3.9
Capital goods	0.9	5.1	1.1	1.6	-0.2	2.7
Consumer goods	1.2	0.6	0.8	-0.1	0.4	0.5
Energy	19.9	8.5	2.0	2.0	0.2	3.4

Source: STATEC

### 1.2.1.2 Construction prices

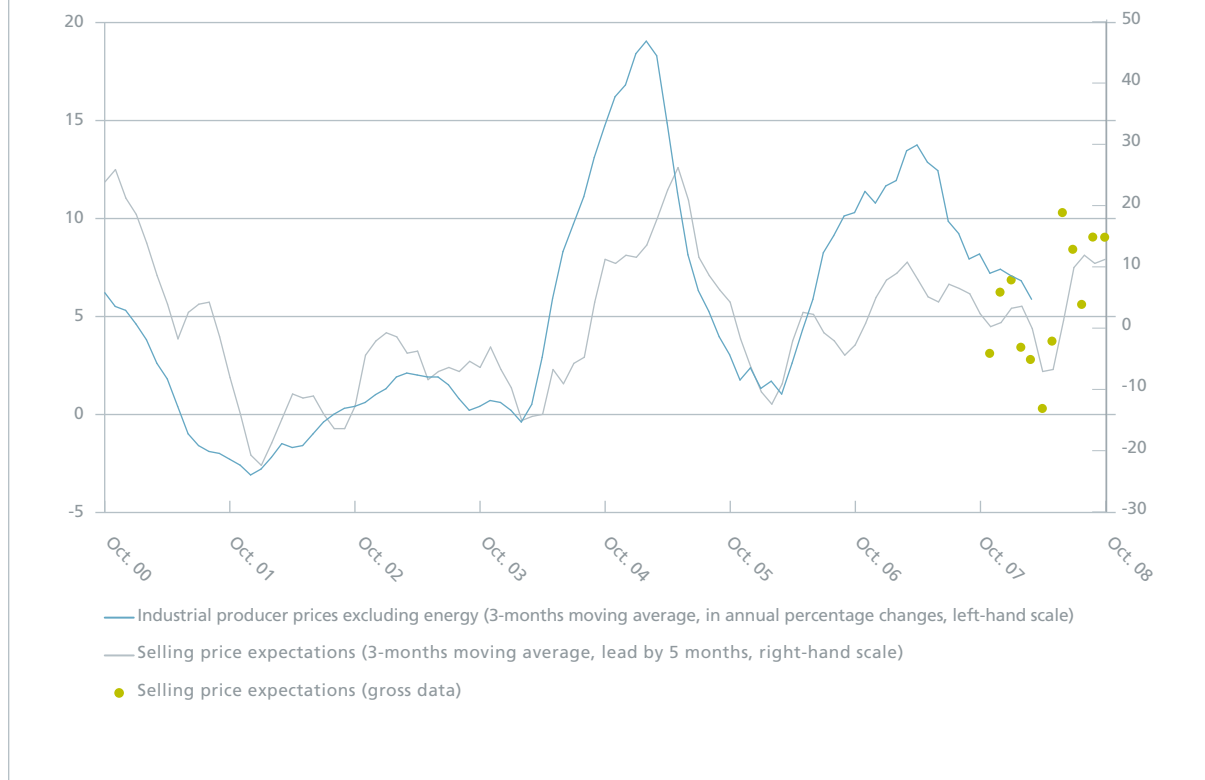
The prices of construction services rose by 3.1% in the course of 2007. This probably reflected developments on the cost side, in particular wages, rather than the cyclical position of the sector. Given the high labour content of construction, it is no surprise that these price increases rarely drop below the automatic wage increases dictated by the indexation scheme (see chart).

**CHART 13:**  
**CONSTRUCTION PRICES**



Source: STATEC, BCL

**CHART 14:**  
**INDUSTRIAL PRODUCER PRICES, PAST**  
**AND EXPECTED DEVELOPMENTS**



Sources : Eurostat, BCL

## 1.2.2 Sectoral developments

### 1.2.2.1 Industry

The short-term indicators paint a fairly mixed picture for the industrial sector. The value of production and the turnover statistics point to an apparently comfortable performance in 2007. However, the latter stems exclusively from the sharp rise in industrial producer prices. Production per working day, which is corrected for price developments, stagnated in 2007, and was thus below the growth of the manufacturing sector in the euro area.

The sectoral breakdown of production per working day suggests fairly heterogeneous developments in the different branches. Production of capital goods rose by almost 10% compared to 2007, whereas intermediate goods production stagnated. An outright fall in production levels was recorded for the energy and consumer components.

The confidence indicator based on harmonised monthly business surveys declined from its peak in February 2007. While the corporate sector has tempered its optimism, the confidence indicator remains nonetheless above its long-run average (see chart), possibly suggesting that the financial turmoil not yet affected



# 1. ECONOMIC AND FINANCIAL SITUATION

**TABLE 6:**  
**INDICATORS FOR THE INDUSTRIAL SECTOR**  
**(IN ANNUAL PERCENTAGE CHANGES)**

	2006	2007	2007-Q1	2007-Q2	2007-Q3	2007-Q4
Value of production	9.7	7.1	9.5	9.0	3.8	6.0
Turnover	14.7	4.9	7.9	8.1	4.8	-0.9
Production per working day	2.4	0.3	2.4	2.1	-2.9	-0.7
Intermediate goods (ppwd)	6.1	1.1	8.3	5.3	-5.5	-3.8
Capital goods (ppwd)	1.3	12.2	12.8	10.0	16.7	9.9
Consumer goods (ppwd)	-4.3	-6.3	-4.0	-3.4	-9.6	-8.1
Energy (ppwd)	-1.5	-4.3	-16.9	-15.1	6.8	14.3

Source: STATEC, BCL

its activities. The quarterly surveys suggest a resilient manufacturing sector however no new impulses seem present. In April, growth prospects worsened considerably as the confidence indicators in the neighbouring countries recorded sharp drops and this in all the sectors polled. This does not bode well for economic activity in the second quarter, in the euro area as well as in Luxembourg.

### 1.2.2.2 Construction

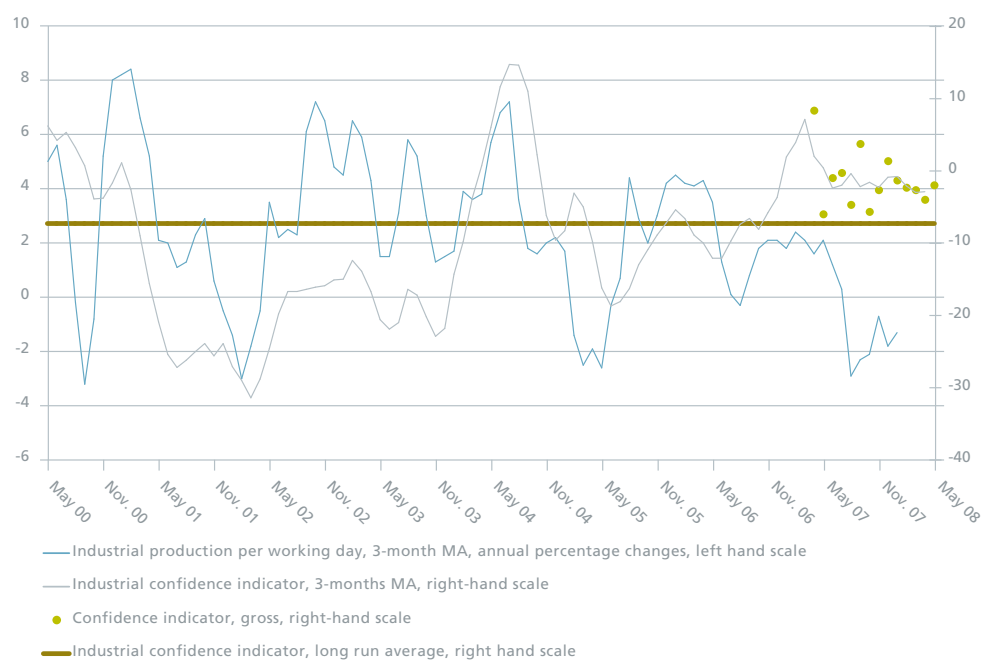
In 2007, the construction sector fared slightly better than the manufacturing sector. Turnover accelerated to 5.7%, whereas production per working day slowed to 1.4%. The activity breakdown suggests that the dynamism is virtually all due to civil engineering, since the building branch apparently stagnated. Leading indicators however paint a more favourable scenario for the latter. The loans to households for house purchase grew robustly in both 2007 and the beginning of 2008. In addition, the government is pursuing its policy of increasing housing supply. It remains to be seen whether the increase in building permits granted will also translate into higher economic activity.

For example, mortgage rates rose to 4.9%, which risks weighing on demand prospects. Higher monthly instalments on variable-rate loans will deter some households from buying and building new homes, especially since several indicators suggest that, in relative terms, house prices have already reached historically high levels<sup>3</sup>. On a more reassuring note, the dislocations in the money markets since the second quarter of 2007 have not yet fed through to mortgage rates. According to the Bank Lending Survey, banks are unlikely to tighten financial conditions for households. However, an easing does not seem to be on the agenda either.

### 1.2.2.3 Trade and other sectors

The trade branches have overall fared fairly well in 2007 as wholesale trade and retail trade maintained their strong growth performance of the previous year. However, retail trade data need to be interpreted carefully as they are affected by e-commerce activities, which do not do not reflect the behaviour of Luxembourg consumers. After correcting for these activities, turnover growth rate would have been only 3.8%, thus below the corrected value of 5.4% in 2006. Car registrations recorded only modest growth,

**CHART 15:  
CONFIDENCE INDICATORS  
AND INDUSTRIAL PRODUCTION**



Sources : Eurostat, BCL

**TABLE 7:  
INDICATORS FOR THE CONSTRUCTION SECTOR  
(IN ANNUAL PERCENTAGE CHANGES)**

	2006	2007	2007-Q1	2007-Q2	2007-Q3	2007-Q4	2008-Q1
Turnover - Total	5.3	5.7	25.3	11.6	-1.8	-5.1	-
Production per working day -Total	2.5	1.4	13.0	1.6	-3.2	-4.4	-
Production per working day - Building	2.3	0.3	9.8	-0.3	-3.9	-3.4	-
Production per working day - Civil engineering	3.2	5.7	28.8	9.0	-0.3	-8.4	-
Building permits	-5.9	12.1	-6.5	37.2	-9.4	25.5	-
Loans for house purchase - outstanding amounts	13.8	22.1	22.3	22.0	21.9	22.0	12.2
Loans for house purchase - new business	9.4	19.4	14.4	18.4	-0.4	43.5	16.7
Mortgage rates	4.1	4.7	4.6	4.6	4.9	4.9	4.9

Sources : STATEC, BCL

# 1. ECONOMIC AND FINANCIAL SITUATION

**TABLE 8:**  
**TURNOVER AND CAR REGISTRATIONS**  
**(IN ANNUAL PERCENTAGE CHANGES)**

	2006	2007	2007-Q1	2007-Q2	2007-Q3	2007-Q4	2008-Q1
Car registrations	4.7	1.0	1.4	-8.7	5.4	11.4	-6.5
Trade - total	11.0	9.5	8.2	3.3	9.0	16.6	--
Repair of motor vehicles	5.6	-3.1	-2.5	-8.3	-0.3	-0.5	--
Wholesale trade	10.7	10.1	7.9	4.4	9.9	22.3	--
Retail trade	17.1	19.6	19.3	12.5	14.9	25.6	--
Hotels and restaurants	1.8	3.4	1.7	3.3	3.9	6.4	--
Transport - total	8.6	-0.9	-3.6	15.5	-5.3	-7.1	--
Postal services and telecommunications	13.8	7.5	5.8	2.9	3.8	21.2	--
IT related services	68.8	-58.2	-41.6	-64.3	-67.8	-59.4	--
Business services	12.0	13.0	15.0	7.9	24.2	7.9	--

Source: STATEC, BCL

while motor vehicle repair saw an outright drop in sales. Taking all this into account, sales data suggest somewhat prudent consumer spending in spite of the strong fundamentals such as employment growth and increasing real wages. The hotel branch benefited from a rise in the number of tourists.

Turnover in other business services, which are largely dependent on manufacturing and financial services, point to a heterogeneous performance in the different branches in 2007 when compared to 2006.

### 1.2.3 Consumer survey

Consumer confidence<sup>4</sup> had been on a steady uptrend since mid-2006, reaching a high level by historical standards around mid-2007. The rise was mainly due to consumers' expectations as regards the outlook for the general economic situation and unemployment in Luxembourg.

<sup>4</sup> The consumer survey carried out in Luxembourg is part of the Joint Harmonised EU Programme of Business and Consumer Surveys and is co-financed by the European Commission.

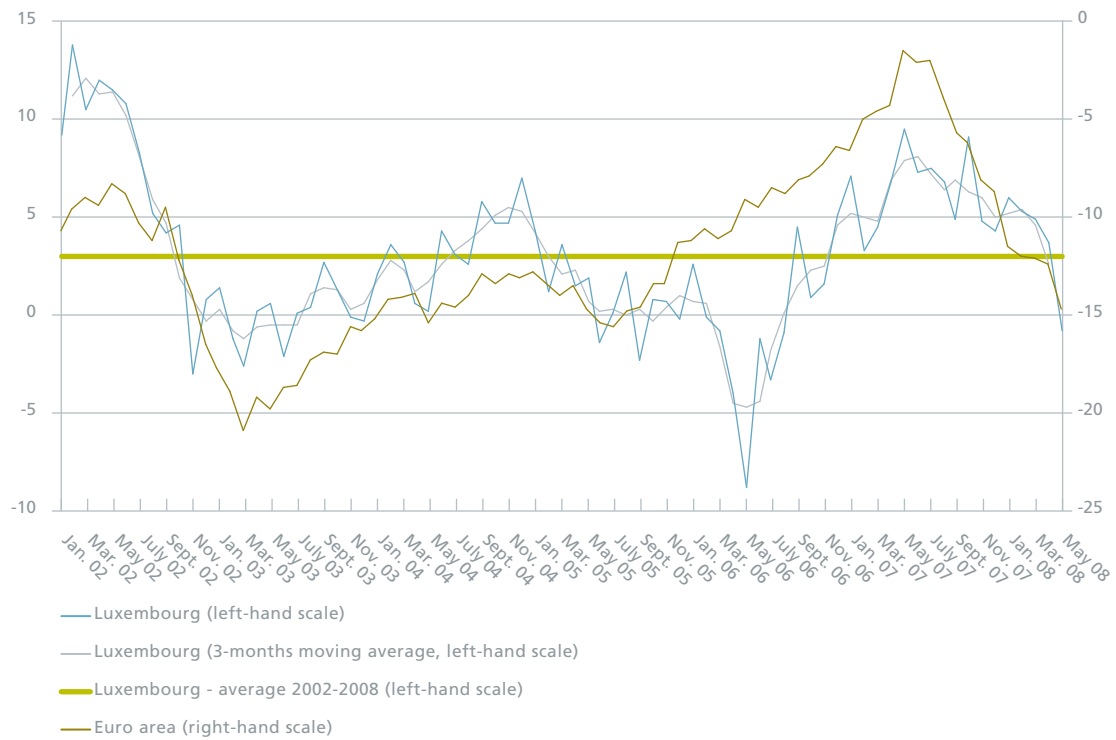
However, this positive trend reversed in the summer of 2007. Progressive weakening in consumer confidence appears to have been linked to the turmoil in financial markets and the rise in inflation. Nevertheless, the decline in consumer confidence observed since the summer 2007 has been less severe in Luxembourg than in the euro area as a whole.

### 1.2.4 Economic growth

GDP decelerated to an estimated growth rate of 4.5% in 2007, after 5.0% and 6.1% in 2005 and 2006 respectively, mostly due to weaker exports. After an exceptionally dynamic year in 2006, services exports grew more slowly and goods exports decreased slightly. Imports of services accelerated while imports of goods virtually stagnated.

The contribution to growth from final consumption was weak by historical standards, while gross fixed capital formation was particularly strong (+2.8 p.p. contribution to growth). Net exports' contribution (1.9 p. p.) was almost entirely due to trade in services as trade in goods had virtually no impact on growth.

**CHART 16:**  
**CONSUMER CONFIDENCE INDICATORS**  
**(SEASONALLY ADJUSTED DATA)**



Sources: BCL, European Commission

# 1. ECONOMIC AND FINANCIAL SITUATION

**TABLE 9:**  
**ANNUAL NATIONAL ACCOUNTS**

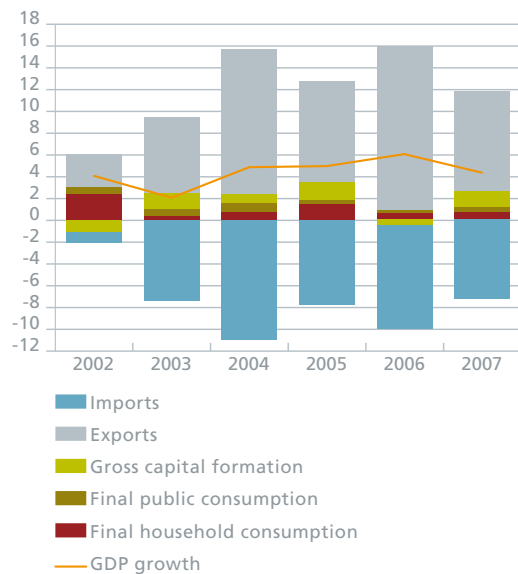
	ANNUAL RATES OF CHANGE						CONTRIBUTIONS TO GDP GROWTH ( <i>in p. p.</i> )					
	2002	2003	2004	2005	2006	2007	2002	2003	2004	2005	2006	2007
Final consumption expenditure	5.5	2.0	3.0	3.3	2.1	2.1	3.2	1.2	1.7	1.9	1.1	1.1
Final consumption expenditure of private households	5.7	0.7	1.9	3.6	1.7	2.1	2.3	0.3	0.7	1.4	0.6	0.7
Final consumption expenditure of NPISH	9.3	10.2	6.8	6.4	10.2	-1.0	0.1	0.2	0.1	0.1	0.2	0.0
Final consumption expenditure of Public Administrations	4.6	4.4	5.1	2.4	2.1	2.4	0.7	0.7	0.8	0.4	0.3	0.4
Gross capital formation	-4.4	6.2	4.2	7.3	-2.3	8.0	-1.1	1.4	0.9	1.6	-0.5	1.5
Of which : Gross fixed capital formation	5.5	2.4	2.1	2.1	3.1	15.2	1.2	0.5	0.5	0.4	0.6	2.8
Exports of goods and services	2.1	5.0	9.8	6.3	9.6	5.5	3.0	7.0	13.3	9.3	15.0	9.2
Exports of goods	2.4	2.3	8.4	-1.5	10.1	-0.6	1.0	0.9	3.1	-0.6	4.0	-0.2
Exports of services	1.9	6.0	10.4	9.2	9.4	7.4	2.0	6.1	10.1	9.9	11.0	9.4
Imports of goods and services	0.8	6.1	9.7	6.1	7.2	5.3	-1.0	-7.4	-11.0	-7.8	-9.5	-7.3
Imports of goods	-1.4	4.2	6.8	0.9	9.1	0.0	0.8	-2.1	-3.2	-0.5	-4.6	0.0
Imports of services	2.4	7.5	11.7	9.7	6.0	8.3	-1.8	-5.3	-7.7	-7.3	-4.9	-7.3
<b>Gross Domestic Product</b>	<b>4.1</b>	<b>2.1</b>	<b>4.9</b>	<b>5.0</b>	<b>6.1</b>	<b>4.5</b>						
GDP deflator	2.1	5.0	1.7	4.2	6.2	2.2						
Employees	3.4	1.9	2.4	3.0	4.0	4.4						
Total employment	3.2	1.8	2.2	2.9	3.7	4.2						
Compensation per employee	3.1	2.2	3.9	3.8	4.5	3.5						
Labour productivity	0.8	0.3	2.6	2.1	2.3	0.3						
Unit Labour Cost	2.2	1.9	1.3	1.7	2.2	3.2						
Profit margins	-0.1	3.1	0.4	2.5	4.1	-1.0						

Source : STATEC, BCL calculations

Job creation rose to 4.4% despite slowing economic activity, in line with the observation that job growth is often a lagging function of GDP growth. The diverging dynamics of GDP and job growth led to a slowdown in productivity (+0.3%). In a context of robust wage growth (+3.5%), accelerating ULC, combined with slow growth in the GDP deflator, resulted in the first decrease in profit margins since 2002 (-1%).

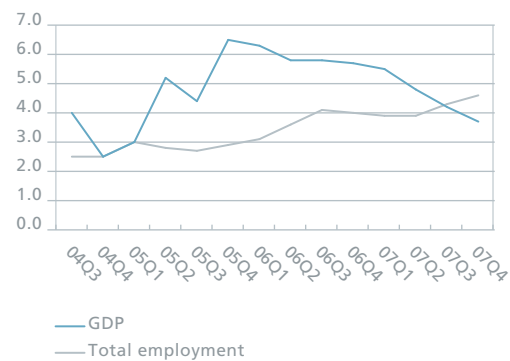
Quarterly national accounts figures show that the deceleration of growth started in the first quarter of 2006 and intensified in the course of 2007. As employment accelerated towards the end of 2007, productivity growth became negative in the fourth quarter, a development which should be reversed in the medium term, quite possibly by a pronounced cyclical deceleration of employment.

**CHART 17:**  
**CONTRIBUTION OF INDIVIDUAL**  
**AGGREGATES TO REAL GDP GROWTH**



Sources : STATEC, BCL calculations

**CHART 18:**  
**GDP AND TOTAL EMPLOYMENT (ANNUAL**  
**PERCENTAGE GROWTH, QUARTERLY DATA)**



Source : STATEC

## Output Gap and Potential Growth Estimates

This text box provides an update of the output gap and potential growth estimates published in the 2006 annual report. It is well known that these estimates are subject to important revisions, especially for the most recent observations. To reduce this problem of limited reliability, the series have been extended until 2010 using the results of the latest projection exercise.

With respect to the estimates published in June 2007, the new results indicate clearly that output was below its potential level during the period 2003-2005 (negative gap according to all methods). However, for the year 2006 all methods found a negative gap in June 2007, while using the latest data the output gap in 2006 is now positive according to five of the six methods considered. This change is partly the result of new national accounts data published in October 2007. These revised upwards GDP growth in 2004 and 2005 by more than a percentage point. Now, the output gap in 2006 is negative only according to the Apel-Jansson model (-2.4%). This could be explained by the fact that this method also takes into account fluctuations in unemployment in order to identify the cyclical component of output. As a result, the rise in unemployment from 2001 to 2006 translates into a more negative output gap according to this method, which only begins to fall back in 2006.

For the year 2007, the situation is unchanged with respect to 2006 according to one method (HP filter), deteriorates according to three methods (by about 0.5% of GDP), and improves according to the other two methods (between 0.2% and 1.1% of GDP). For the following years, the projections anticipate a slowdown in 2008 and a gradual recovery in 2009-2010, which implies a negative gap for five of the six methods. The production function approach is less pessimistic over the projection horizon, partly thanks to the recent reduction in unemployment and the expectations of sustained growth in fixed capital formation.

These estimates (and especially those for current or future periods) are subject to a large amount of uncertainty, as indicated by the size of the revisions since the last publication in June 2007. Note that the level of GDP was also revised by more than 1% in each of the years 2003-2007. As a result, the linear trend finds an increase in the output gap between one and two percentage points over the years 2004-2007. The gap estimated for the year 2003 has been revised downwards for four of the six methods (by nearly two percentage points according to the Kuttner model). For the years 2004-2007 revisions are almost always positive (smaller negative gap or larger positive gap). The production function approach is characterized by the smallest revisions in absolute value (highest reliability). Univariate methods, which are limited to analysing fluctuations in GDP growth, have seen the largest revisions in absolute value. In particular, the linear trend appears to be the least reliable method (subject to the largest revisions).

Potential growth estimates have generally been revised slightly upwards. According to the linear trend, potential growth remains at 5.0%. According to the other methods, the average of potential growth since 1981 increased by 0.1 percentage points in three cases. The average since 2001 rose between 0.2 and 0.8 percentage points. Potential growth seems to remain within the range 4% to 5% over the projection horizon 2008-2010 (with the possible exception of the Apel-Jansson model). However, it bears repeating that the results for the projection period should be interpreted with caution.

**TABLE 10:**  
**ESTIMATES OF THE OUTPUT GAP AND**  
**POTENTIAL GROWTH ESTIMATES**

	real GDP (bn EUR)	Linear Trend	Hodrick- Prescott	Harvey- Jaeger	Kuttner	Apel- Jansson	Production Function
		<b>Output gap estimates</b>					
2003	23.97	-0.9%	-1.2%	-0.3%	-0.6%	-1.0%	-1.9%
2004	25.14	-1.0%	-1.0%	-0.4%	-0.6%	-2.3%	-1.5%
2005	26.40	-1.0%	-0.5%	-0.3%	-0.5%	-2.9%	-0.9%
2006	28.02	0.1%	1.0%	0.6%	0.7%	-2.4%	0.7%
2007	29.27	-0.4%	1.0%	0.3%	0.3%	-1.4%	0.9%
2008	30.22	-2.1%	-0.2%	-1.1%	-1.2%	-0.4%	0.0%
2009	31.43	-3.1%	-0.6%	-2.0%	-2.0%	-0.9%	-0.1%
2010	32.81	-3.7%	-0.7%	-2.5%	-2.5%	-0.2%	0.3%
	<b>Revisions</b>	<b>Revisions to output gap since last estimates in 2007</b>					
2003	1.0%	0.2%	-0.2%	0.5%	-1.7%	-0.9%	-0.2%
2004	2.2%	1.4%	0.8%	1.6%	-0.8%	1.2%	0.7%
2005	3.2%	2.3%	1.6%	1.9%	0.3%	1.7%	1.4%
2006	3.2%	2.2%	1.4%	1.8%	2.0%	1.5%	1.2%
2007	2.6%	1.7%	0.8%	0.9%	1.8%	0.7%	0.6%
	<b>Real GDP growth</b>	<b>Potential growth estimates</b>					
2003	2.1%	5.0%	4.7%	4.4%	4.9%	5.1%	4.6%
2004	4.9%	5.0%	4.6%	4.9%	4.9%	6.2%	4.4%
2005	5.0%	5.0%	4.6%	5.0%	4.9%	5.7%	4.4%
2006	6.1%	5.0%	4.5%	5.1%	4.9%	5.6%	4.5%
2007	4.5%	5.0%	4.5%	4.9%	4.9%	3.5%	4.3%
2008	3.2%	5.0%	4.5%	4.7%	4.9%	2.1%	4.2%
2009	4.0%	5.0%	4.4%	4.9%	4.8%	4.6%	4.1%
2010	4.4%	5.0%	4.4%	4.9%	4.8%	3.6%	4.0%
	<b>Average real growth</b>	<b>Average potential growth</b>					
1981-2006	4.8%	5.0%	4.8%	5.0%	4.9%	4.9%	4.8%
2001-2006	4.1%	5.0%	4.7%	4.7%	4.9%	5.1%	4.7%

Sources : STATEC data, BCL calculations



# 1. ECONOMIC AND FINANCIAL SITUATION

## 1.2.5 Financial sector

The real estate crisis in the United States affected the global financial system through two major channels. On the one hand, it directly affected credit institutions providing housing loans in the USA or holding securities representing securitised housing loans. On the other hand, it had an indirect impact through the significant downturn of stock indices, observed especially during the first quarter of 2008.

As in other countries, the financial sector in Luxembourg experienced a turbulent year, marked by sharp reversals in performance of credit institutions and mutual funds. The first half of the year under review was perfectly in line with developments observed during 2006, with high growth in the major indicators of the financial sector (such as employment, results of credit institutions or net asset values of undertakings for collective investments). However, the second half of the year indicated a clear reversal. Employment growth is the only indicator to have been spared so far.

The impact of this degradation on the financial centre is undeniable. However, it is important to mention that this reversal affects the various indicators unevenly.

Between December 2006 and 2007 the net asset value (NAV) of undertakings for collective investment grew 11.6%, far below growth rates in 2005 and 2006. Employment in the banking sector increased by 1 387 units during 2007, representing a growth rate of 5.6%, a slight decrease compared to the rate of 6.6% observed in 2006. Banks' aggregate balance sheet rose by 9.0% to €15 448 million as at 31 December 2007. By contrast, net results of credit institutions were subject to an important decline, significantly larger than that observed in 2002 in the financial market turbulences amplified by the terrorist attacks of 11 September 2001. Net income fell by 35.8% compared to 2006.



## Is there a credit crunch in Luxembourg?

### 1. Introduction

The current financial turmoil has led to fears that a "credit crunch" may emerge in Europe, as has been the case in the United States. The tightening of credit conditions in financial markets together with the weakening of the capital positions of big banks naturally raise the question of whether a restriction of credit has occurred in Luxembourg.

This box discusses the different definitions of a credit crunch, before analysing recent data. Special attention is given to the banking industry Balance Sheet Items (BSI), results of the last quarterly Bank Lending Survey (BLS), and indicators typically used for monitoring banks' capital base.

### 2. Multiple definitions

There is no single definition of a credit crunch that is commonly accepted. At present, the academic literature provides a variety of definitions. According to Bernanke and Lown<sup>5</sup>, a credit crunch is a significant leftward shift in the supply of bank loans, holding constant both the real interest rate and the quality of potential borrowers. Owens and Schref<sup>6</sup> define it as a period of sharply increased non-price credit rationing. This view is shared by Green and Oh<sup>7</sup>, who also describe a credit crunch as an inefficient situation characterised by solvent borrowers which are unable to obtain credit, and lenders which are excessively prudent. More formally, a credit crunch is typically defined as a situation where the erosion of banks' capital base forces them into a de-leveraging process in order to maintain regulatory capital adequacy ratios. In such a situation, banks are unable to extend credit, irrespective of the price they could charge or the rating of the borrower. This narrow definition is sometimes also referred to as "capital crunch"<sup>8</sup>.

Finally, following a broader definition of a credit crunch, the trigger may lie not only in banks' balance sheet problems (impaired capital ratios), but also in borrowers' balance sheet problems (impaired creditworthiness) or, more precisely, uncertainties created by asymmetric information.

Note that a credit crunch may take place between banks as well as between banks and borrowers. It may be localised in particular sectors of the economy (the real estate market for example) or categories of borrowers (households for example). In the following, we'll see credit crunches as a supply-side phenomenon, including situations where banks significantly tighten their non-price credit standards or write more protective covenants into the terms of a loan (reflecting changes in banks' standards that go beyond a normal cyclical tightening), or when higher uncertainty results in significantly higher estimated probabilities of borrower default and thus higher capital charges (reflecting changes in the risk environment; for example via changes to the value of borrowers' collateral). We are particularly interested in assessing the risks of a credit crunch for households and Non-Financial Corporations (NFCs).

### 3. The growth of loans continues to increase...

By the end of December 2007, Luxembourg banks registered €77 702 million of outstanding loans to NFCs. This figure represents an increase of €13 742 million (+21.5%) within 12 months. Euro area NFCs represented the most important player in nominal terms. Credits to the latter increased by €6 135 million (+18.6%) over one year. Credits to NFCs situated outside the euro area went up by 19.5% (€4 337 million). In relative terms, the strongest credit growth was observed at national level with 37.8% (€3 270 million) between end-2006 and end-2007. According to the latest data, outstanding loans to euro area NFCs continued to increase in the first quarter of 2008 (+ 27.2% within 12 months in April 2008).

5 Bernanke and Lown (1991) "The Credit Crunch", Brookings Papers on Economic Activity, Vol. 1991, No. 2, pp. 205-247.

6 Owens and Schref (1995) "Identifying Credit Crunches", Contemporary Economic Policy, April, Vol. 13, No. 2, pp. 63-76.

7 Green et Oh (1991) "Can a 'Credit Crunch' Be Efficient? ", Federal Reserve Bank of Minneapolis Quarterly Review, Vol. 15, No. 4, pp. 3-17.

8 See Peek and Rosengren (1995) "The Capital Crunch:

Neither a Borrower nor a Lender Be", Journal of Money, Credit and Banking, Vol. 27, No. 3, pp. 625-638.

Outstanding loans granted by Luxembourg banks to households increased by 10% in 2007 (€34 251 million). According to the latest figures, loans to Luxembourg residents remained buoyant during the first four months of the year whereas loans to euro area households excluding Luxembourg were decreasing. Overall, outstanding loans granted by Luxembourg banks to euro area households were still increasing in April 2008 (+3.1%).

#### **4. ... but the Bank Lending Survey indicates a tightening of financing conditions!**

BLS data suggest that credit standards on loans to NFCs have tightened in Luxembourg. This tightening has been stronger for large companies. Moreover, it should continue during the second quarter of 2008. These results should be considered with caution as the correlation between the evolution of reported corporate credit standards and corporate loan developments is far from perfect. For instance, the BLS reported tightening credit standards between 2005 and 2006 during a period that coincided with a significant acceleration of loan growth.

#### **5. Banking sector performance indicators are satisfactory**

At this stage, there is no sign of an erosion of banks' capital base that could generate a capital crunch. Although decreasing somewhat between 2007 and 2006, solvency ratios remain far above the minimum required level of 8%. The average solvency ratio stood at 14.2% in 2007 compared to 14.9% in 2006. The return on assets ratio "Net results/total assets" was on average 0.68% in 2007 compared to 0.79% in 2006. The liquidity ratio "liquid assets/eligible liabilities" remained comfortably above the minimum required level of 30% (63.3% on average in 2007).

#### **6. Borrowers remain solvent**

The broad definition of a credit crunch implies that borrower solvency should be monitored carefully. BLS data suggest that a credit crunch would first and foremost affect riskier corporate borrowers. Moreover, judging by recent credit standard developments, large firms are particularly vulnerable, while the household sector has largely been shielded from adverse developments in financial markets. This is unlikely to change significantly in the near term. On the other hand, in the

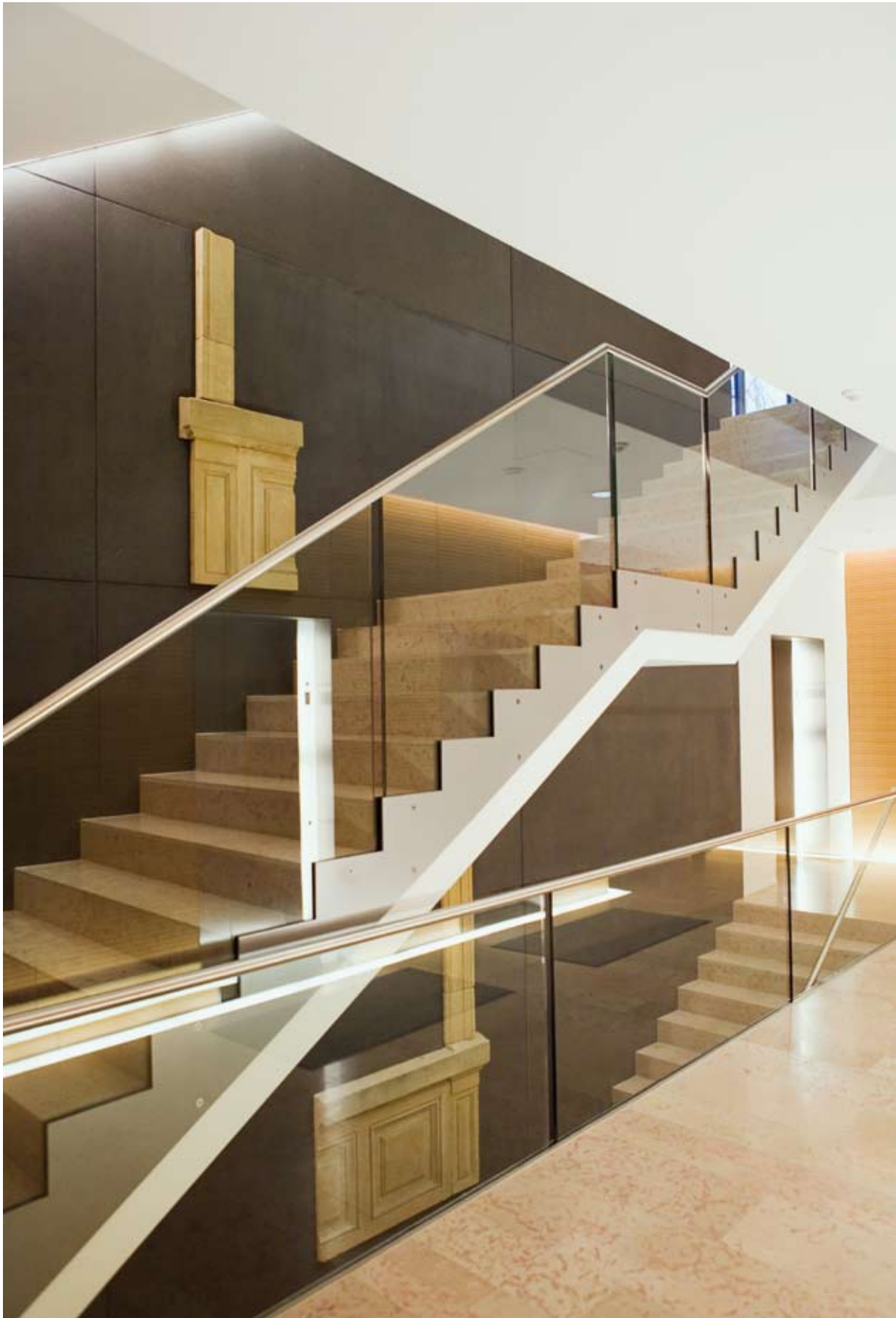
absence of corporate loan data by branch of activity, it is impossible to draw further conclusions about which kind of borrowers may be affected.

#### **7. Conclusion**

Strong loan growth has continued during the first quarter 2008. The total supply of credit to both households and NFCs has not been affected by financial turmoil that appeared in August 2007. At this stage, there is no evidence of a credit crunch in Luxembourg.

It should be noted that the decline would be limited to 23.7% if one neutralises non-recurring gains of €904 million that occurred in 2006. The significant decline of credit institutions' net profits is primarily due to important value adjustments and resident credit institutions' provisions to cover risks.

Finally, due to continuing uncertainty on global stock exchanges as well as the impact of the economic slowdown in the US, a further weakening in 2008 can no longer be ruled out.



# 1. ECONOMIC AND FINANCIAL SITUATION

## 1.2.5.1 Credit institutions' balance sheets

The aggregate balance sheet grew virtually uninterrupted since 2003, with the exception of December 2007, when it fell by €25 296 million. Between 31 December 2006 and 31 December 2007 banks' aggregate balance sheet increased by €75 883 million, or 9.0%, to reach €915 448 million. The first quarter of 2008 saw similar growth, with an increase of 2.6% between 31 December 2007 and 31 March 2008. Thus, at the end of first quarter of 2008 the Luxembourg banks' aggregate balance sheet stood at €939 299 million. The increase in activity stems mostly from growth in credits and debts as much from the inter-bank market as from non-bank customers.

It is worth mentioning that despite the introduction of International Financial Reporting Standards (IFRS) for all Luxembourg credit institutions, loans (72.0% of total assets) and deposits (82.9% of total assets) are still expressed at their face value in the statistical reports of the BCL. By contrast, the level of securities held or issued are subject to changes in accounting standards which have obviously an impact on the developments of the outstanding amounts. Indeed, previously only a

small share of securities were valued at market price, the application of IAS / IFRS means that the majority of securities are now measured at fair value. Finally, it is also important to mention that the new accounting standards require accounting for derivatives on the balance sheet rather than off-balance sheet as was still the case in 2007. The statistical reporting to the BCL requires that the latter positions be classified under other assets and/or other liabilities, respectively. These residual categories are therefore subject to some increase during the first quarter of 2008 as financial derivatives are moved onto the balance sheet.

On the asset side, inter-bank loans increased €37 739 million (9.0%) between December 2006 and 2007. During the first three months of 2008, there was an additional increase of €15 404 million (3.4%), reaching €471 086 million by 31 March 2008. At this stage, interbank activity accounts for nearly half (50.2%) of Luxembourg banks' total assets.

Loans to non-bank customers grew by €34 100 million (21.1%) on an annual basis, rising from €161 250 million at the end of 2006 to €195 350 million at the end of 2007. During the first quarter of this year, loans

**TABLE 11:**  
**MAIN FIGURES RELATING TO THE ASSET SIDE OF**  
**THE AGGREGATE BALANCE SHEET (OUTSTANDING**  
**AMOUNTS AS AT END OF PERIOD)**

	Amounts in million euros			Variation in million euros and in %				<sup>1</sup> Relative weight	
	2006/12	2007/12	2008/03	2006/12 - 2007/12		2007/12 - 2008/03			2008/03
				million euros	in %	million euros	in %		
<b>Assets</b>									
Interbank loans	417 943	455 682	471 086	37 739	9.0	15 404	3.4	50.2	
Loans to non bank customers	161 250	195 350	204 367	34 100	21.1	9 017	4.6	21.8	
Portfolio investment	233 602	236 700	230 632	3 098	1.3	-6 068	-2.6	24.6	
Other assets	26 770	27 717	32 214	946	3.5	5 497	18.8	3.5	
<b>Total assets</b>	<b>839 565</b>	<b>915 448</b>	<b>939 299</b>	<b>75 883</b>	<b>9.0</b>	<b>23 851</b>	<b>2.6</b>	<b>100.0</b>	

Source: BCL

<sup>1</sup> Relative weight in relation to total assets

to non-bank customers increased by 4.6% reaching €204 367 million as of 31 March 2008.

While the value of portfolio investment increased slightly during 2007 (1.3%), it fell by €6 068 million (-2.6%) during the first quarter of 2008. This decrease reflects the impact of less favourable stock market developments as well as the application of new valuation methods. Similar effects are visible on the liability side. Debt securities issued decreased by 12.2% (€11 394 million) during the first quarter of 2008. Part of this fall may be linked to the application of the new accounting standards, in particular the adoption of fair value measures.

Other assets, having risen modestly by €946 million (3.5%) over 2007, have significantly improved by €5 497 million (19.8%) in the first quarter of 2008. This increase is largely due to the migration of LuxGAAP accounting towards International Financial Reporting Standards. Finally, on 31 March 2008 other assets represented 3.5% of the total balance sheet, while other liabilities accounted for 8.6%. Given this background, the share of these two miscellaneous categories should keep growing fairly strongly in the months ahead.

On the liabilities side, most of the increase stems from inter-bank refinancing. After an increase of 14.9% (€57 710 million) during 2007, this item has grown by 4.5% (€20 179 million) during the first quarter of 2008. In relative terms, interbank liabilities represent nearly half (49.4%) of the total liabilities of Luxembourg banks.

Deposits to non-bank customers account for the second most important source of financing with a 33.3% share of total liabilities. They increased by just 2.9% over 2007, followed by a 2.4% increase during the first quarter of 2008.

While 2007 was marked by 3.9% growth of outstanding debt securities issued. In the first quarter of 2008 these fell 12.2% to €82 180 million.

In contrast, other liabilities rose in line with banks' aggregate balance sheet, increasing 9.3% (€6 166 million) during 2007. An even more remarkable performance was registered over the first three months of 2008 with growth of 10.8% (€7 854 million), which was largely due to migration towards IAS / IFRS accounting. On 31 March, outstanding amounts accounted for €80 651 million.

**TABLE 12:**  
**MAIN FIGURES RELATING TO THE LIABILITY**  
**SIDE OF THE AGGREGATE BALANCE SHEET**  
**(OUTSTANDING AMOUNTS AT END OF PERIOD)** .....

Liabilities	Amount in million euros			Variation in million euros and in %				<sup>1</sup> Relative weight
	2006/12	2007/12	2008/03	2006/12 - 2007/12		2007/12 - 2008/03		
				million euros	in %	million euros	in %	
Interbank debts	386 088	443 797	463 976	57 710	14.9	20 179	4.5	49.4
Deposits from non bank customers	296 803	305 279	312 492	8 476	2.9	7 212	2.4	33.3
Debt securities issued	90 043	93 574	82 180	3 531	3.9	-11 394	-12.2	8.7
Other liabilities	66 631	72 797	80 651	6 166	9.3	7 854	10.8	8.6
<b>Total liabilities</b>	<b>839 565</b>	<b>915 448</b>	<b>939 299</b>	<b>75 883</b>	<b>9.0</b>	<b>23 851</b>	<b>2.6</b>	<b>100.0</b>

Source: BCL

1 Relative weight in relation to total assets

# 1. ECONOMIC AND FINANCIAL SITUATION

## 1.2.5.2 Retail interest rates in Luxembourg

After a continuous increase since December 2005, the cost of loans granted by the Luxembourg banks to euro area residents stabilised during the second half of 2007. On the other hand, financing conditions offered to non-financial corporations tightened until the end of 2007 and relaxed during the first quarter of 2008.

After a rapid increase between December 2006 (4.51%) and July 2007 (4.83%), the variable interest rate on loans for house purchase granted to euro area households fluctuated between 4.82% and 4.93% during the second half of 2007. During the first quarter of 2008 it remained rather stable, passing from 4.89% in January to 4.90% in March and finally settling at 4.82% in April.

The financial turmoil since summer 2007 flattened the interest rate yield curve (and disconnected the inter-bank interest rate and the Eurosystem's refinancing rate). However, it did not affect interest rates on loans for house purchase. The latter remain strongly correlated with the daily interest rate linked to the rate

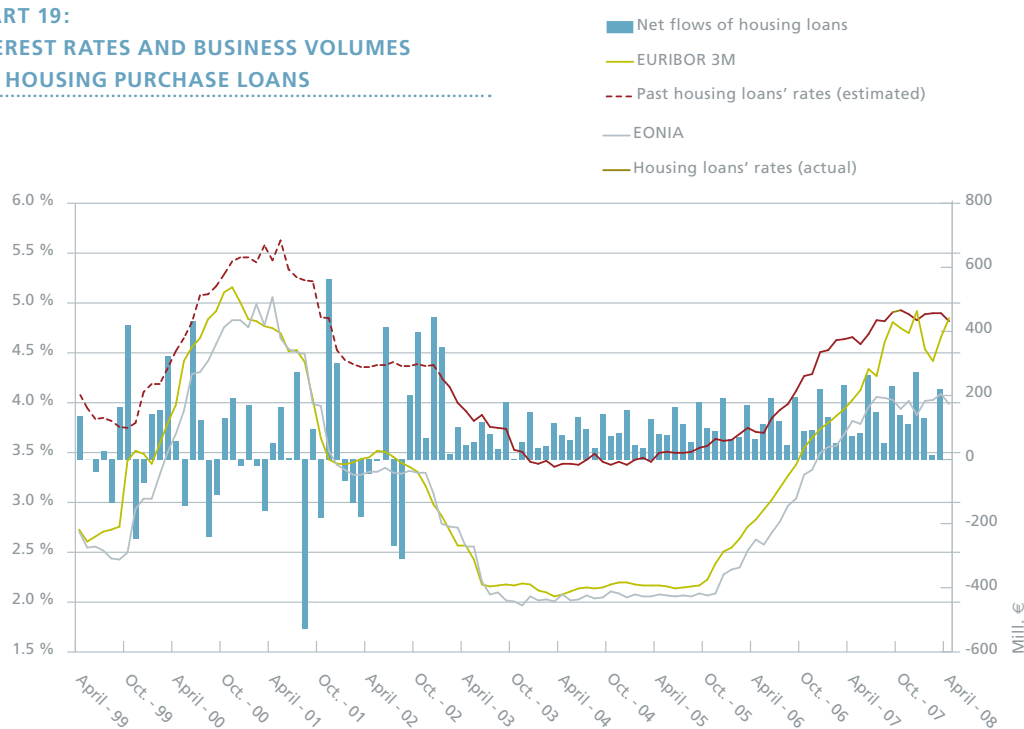
of the main refinancing operations of the Eurosystem. The current interest rate on loans for house purchase remains below levels observed in 2000 and 2001.

At the same time, the volume of loans granted for house purchase in Luxembourg grew since the beginning of the decade. From the first quarter of 2001 to the last quarter of 2005 this increase could be explained by favourable conditions offered to borrowers and the continuous growth of real estate prices. Since the beginning of 2006 the macroeconomic environment has changed substantially (increase of the cost of financing) but real estate prices continued to rise (8% for apartments and 13% for houses between end-2004 and end-2006<sup>9</sup>). Despite this development, Luxembourg banks anticipate only a slight tightening in loan conditions over the coming months.

Regarding loans to non-financial corporations (NFCs) the situation is quite different. Interest rates on loans to NFCs are anchored to short-term market rates (typically the 3-month EURIBOR) and not the Eurosystem's

<sup>9</sup> Data provided by the Observatoire de l'habitat based on public offers – note n°8, June 2007

**CHART 19:**  
**INTEREST RATES AND BUSINESS VOLUMES**  
**FOR HOUSING PURCHASE LOANS**



Source: BCL

main refinancing operations. In addition, the latest bank lending survey (BLS) indicates a tightening of loan criteria reflecting balance sheet constraints. The turmoil on inter-bank markets raised the volatility of interest rates for loans to NFCs, in particular for loans above €1 million. The interest rate for the latter decreased from 5.25% in December 2007 to 5.04% in April 2008. However, this development occurred after an increase of 31 basis points between November (4.94%) and December 2007 following the strong increase of the 3-month inter-bank rate during this period (22 basis points). Besides, the differential between the interest rate on loans granted to NFCs (for loans above €1 million) and the EONIA rate, provides a measure of the volatility of this series against the financing conditions offered on a daily basis. This spread increased from 7 basis points in 2006 to 17 basis points in 2007.

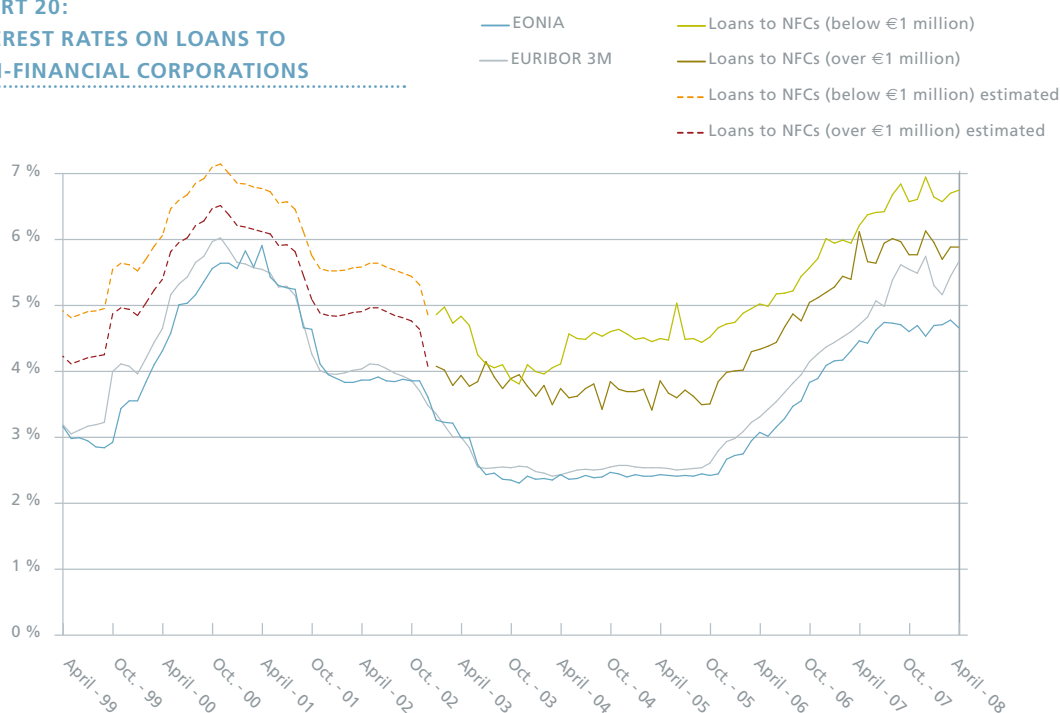
Interest rates on loans to NFCs below €1 million decreased from 5.95% in December 2007 to 5.78% in April 2008. Both rates remained stable in April 2008 with 5.78% and 5.04%.

For consumer loans granted to euro area households with an initial rate fixation between 1 and 5 years, the interest rate fell 52 basis points from 6.29% in December 2007 to 5.77% in April 2008. However, it is worth mentioning that the rate offered in this category of loans fell to 5.25% in February 2008 due to the so-called *Festival de l'auto* and its very specific interest rate conditions.

Other loans with variable interest rate also saw a decrease of interest rates by 11 basis points from 5.52% in December 2007 to 5.41% in April 2008. However, the downturn in the financial environment affects this category of loans through two channels: the rise of short-term financing costs and the increase of the default risk premium. In 2007, at the height of the tensions on inter-bank markets, the interest rate on other loans increased by 26 basis points compared to November 2007 (5.26%).

A similar evolution affected the remuneration of deposits with agreed maturity of less than one year for households and for non-financial corporations. Following

**CHART 20:**  
**INTEREST RATES ON LOANS TO**  
**NON-FINANCIAL CORPORATIONS**

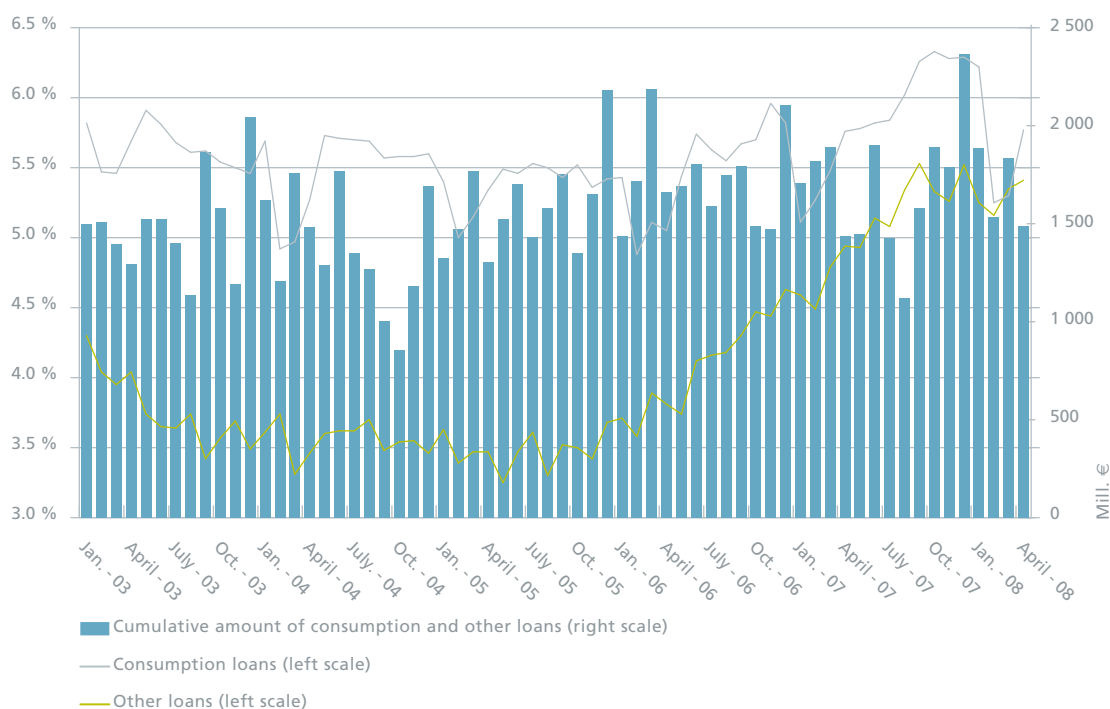


Source: BCL



# 1. ECONOMIC AND FINANCIAL SITUATION

**CHART 21:**  
**INTEREST RATES AND VOLUMES OF CONSUMER**  
**LOANS AND OTHER LOANS**



Source: BCL

an increase of 24 basis points between October 2007 and December 2007, the interest rates on household deposits with agreed maturity fell slightly between December 2007 (4.07%) and March 2008 (3.98%) but increased again to 4.08% in April 2008. Deposits with agreed maturity from non financial corporations saw an increase in interest rates from 4.07% in December 2007 to 4.11% in April 2008.

### 1.2.5.3 Employment in the banking sector

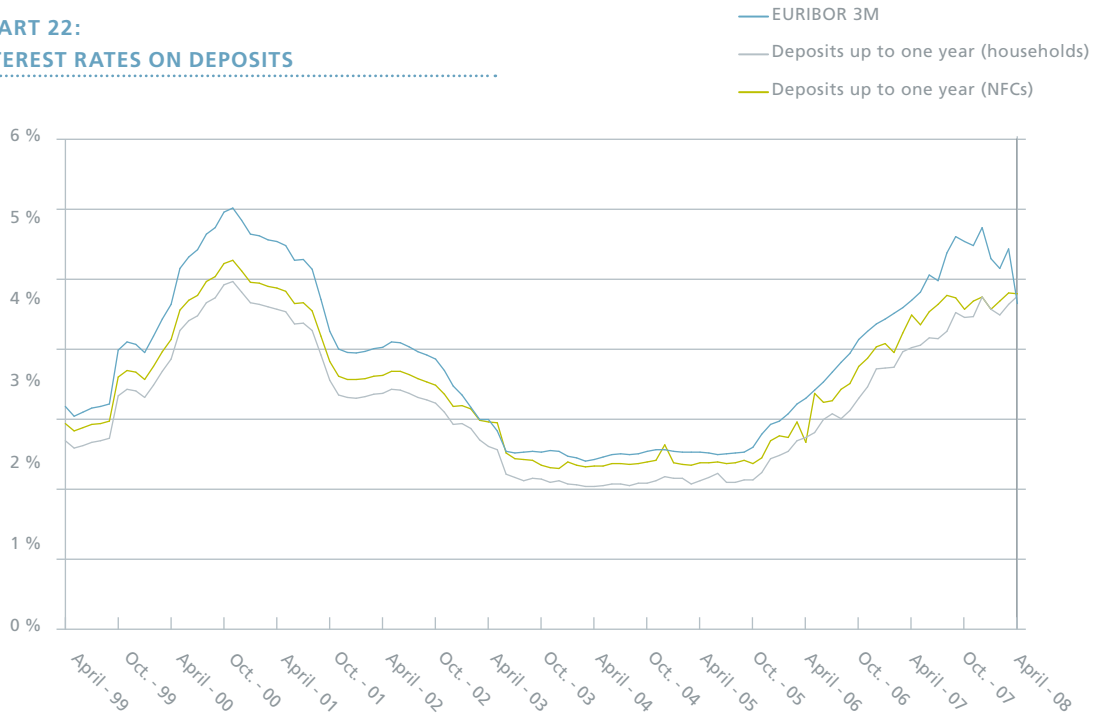
As of 31 March 2008, the total number of employees in the Luxembourg banks stood at 26 513, which represents an increase of 1.4% from December 2006. Despite a difficult macroeconomic and financial environment (revaluation of risks, worsening of refinancing conditions, uncertainty, high volatility of stock indices...) Luxembourg banks increased their staff. This

development is even more significant if one considers that the number of credit institutions remains stable (fluctuating between 153 and 157 units). It should be mentioned that the Luxembourg banking sector has been a net job creator since mid-2004.

However, some banks recently announced plans to cut jobs. It seems that these decisions are motivated by reorganisation plans at a group level rather than by local considerations. In fact, some major international banking groups have recently announced that they intend to implement cost reduction plans.

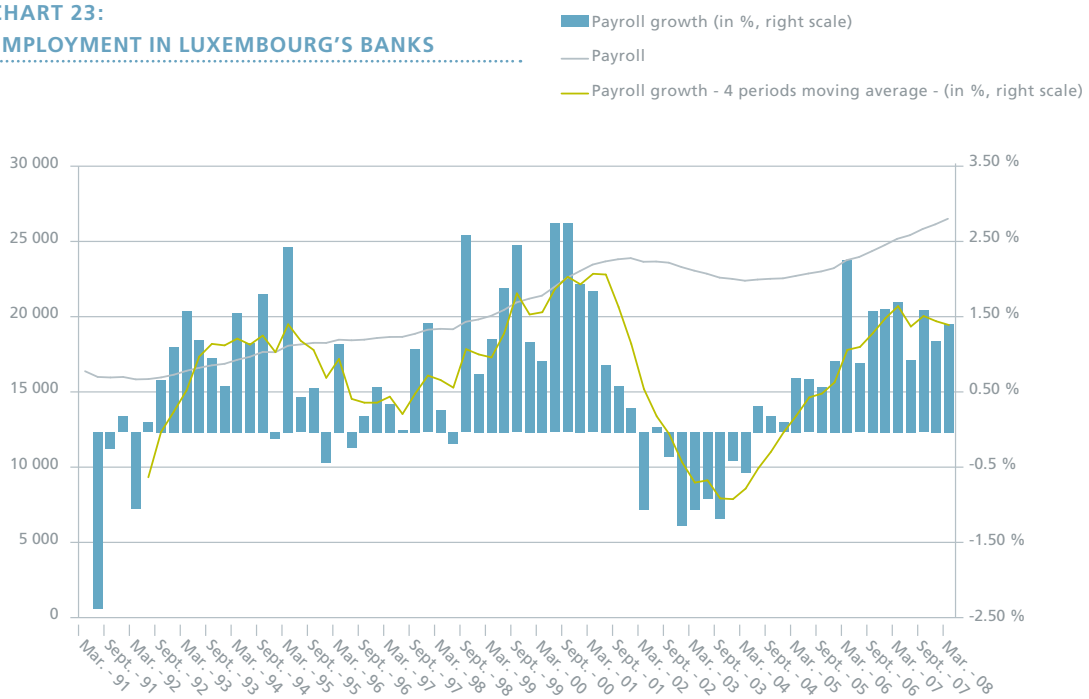
The chart below shows that despite the difficult economic and financial environment in the first half of the year 2001, the Luxembourg banking sector has continued to create jobs. A reversal of this trend was only observed during the first quarter of 2002 but this

**CHART 22:**  
**INTEREST RATES ON DEPOSITS**



Source: BCL

**CHART 23:**  
**EMPLOYMENT IN LUXEMBOURG'S BANKS**



Source: BCL

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reversal was strong and durable; as it took 2 years to return to job creation. This suggests a time-lag between the start of a crisis and its impact on the level of employment in the Luxembourg banks.

#### **1.2.5.4 Credit institutions' profit and loss accounts**

After an excellent first half of 2007, in line with the results of 2006, earnings in Luxembourg's credit institutions suffered from the financial turmoil that started in August 2007. The aggregate net result after taxes declined by €2 046 million, or 35.8% compared with 2006, to €3 670 million, which nearly represents a return to the level in 2005.

The interest margin rose considerably by 24.5%, or €1 199 million, to €6 102 million in 2007. Net income benefited especially from an increase in net income from securities of 275.5%, or €259 million, whereas other net income dropped by €760 million, or 45.5%.

The slight decline in net income by 2.3% was more than compensated by the increased interest margin

so that gross income rose from €10 878 million to €11 939 million, or 9.8%, over 2007.

General administrative expenditure (staff costs and other administrative expenditure) rose by 11.2% during 2007. Staff costs increased due to wage adjustments and to new job creation in the banking sector (+ 1 387 jobs).

In 2007, Luxembourg banks reached an aggregate gross income before taxes and provisions of €7 364 million, representing an improvement of 8.9% in comparison with the year 2006, when an exceptionally high level of €6 761 million was achieved (+46.7% compared to 2005).

However, due to the sub-prime mortgage crisis and subsequent financial turmoil, credit institutions had to increase net provisions from €193 million in 2006 to €2 899 million in 2007, representing 24.3% of gross income. Although some banks holding mortgage-backed securities and collateralised debt obligations faced significant losses, the vast majority of Luxembourg banks seem to have been fairly resilient to the effects the sub-prime mortgage crisis had on international financial markets.

**TABLE 13:**  
**AGGREGATE PROFIT AND LOSS ACCOUNT OF**  
**LUXEMBOURG BANKS AT YEAR-END, INCLUDING**  
**THEIR FOREIGN BRANCHES <sup>1)2)</sup>**

(Eur millions except otherwise indicated)

Debit and credit items		2000	2001	2002	2003	2004	2005	2006	2007
1	Interest receivable and income from securities	50 694	52 993	42 681	35 300	30 241	36 515	49 972	62 452
2	Interest payable	47 081	48 524	38 441	31 129	26 241	32 531	45 069	56 350
3	Interest margin (1-2)	3 613	4 469	4 240	4 171	4 000	3 984	4 903	6 102
Other income:									
4	from securities	290	189	172	297	415	376	94	353
5	from commission	3 102	2 830	2 655	2 575	2 831	3 285	3 761	4 115
6	from foreign exchange	300	290	316	285	296	335	446	455
7	other net income	463	413	948	430	64	503	1 674	914
8	Net income (4+5+6+7)	4 155	3 722	4 091	3 587	3 606	4 499	5 975	5 837
9	Gross income (3+8)	7 768	8 190	8 331	7 758	7 606	8 483	10 878	11 939
10	Staff costs	1 677	1 806	1 864	1 807	1 860	2 016	2 208	2 432
11	Other administrative expenditure	1 444	1 498	1 412	1 381	1 413	1 518	1 628	1 832
12	General administrative expenditure (10+11)	3 121	3 304	3 276	3 188	3 273	3 534	3 836	4 264
13	Taxes other than tax on income	99	95	50	40	36	38	46	54
14	Write downs of non-financial fixed assets	315	402	314	295	296	286	235	257
15	Results before provisions (9-12-13-14)	4 232	4 390	4 691	4 235	4 001	4 625	6 761	7 364
16	Provisions and write downs of fixed financial assets	1 584	1 381	1 912	1 318	1 004	1 007	712	3 587
17	Write back of provisions	719	627	526	593	622	630	519	688
18	Net provisions	864	754	1 386	725	382	377	193	2 899
19	Result after provisions (15-18)	3 368	3 635	3 305	3 510	3 619	4 248	6 568	4 465
20	Tax on income	936	834	630	657	747	775	852	795
21	Net result (19-20)	2 432	2 802	2 675	2 853	2 872	3 473	5 716	3 670
22	Average balance sheet total	639 043	696 961	700 099	668 088	687 486	754 825	837 148	896 069
Significant indicators									
23	Operating costs (row 10 to 14)	0.55	0.55	0.52	0.53	0.52	0.51	0.49	0.51
24	Results before provisions (row 15)	0.66	0.63	0.67	0.63	0.58	0.61	0.81	0.82
25	Net provisions (row 18)	0.14	0.11	0.20	0.11	0.06	0.05	0.02	0.32
26	Result after provisions (row 19)	0.53	0.52	0.47	0.53	0.53	0.56	0.78	0.50

Source: BCL

1. Data has been revised in the light of new information.
2. 2007 provisional data.

# 1. ECONOMIC AND FINANCIAL SITUATION

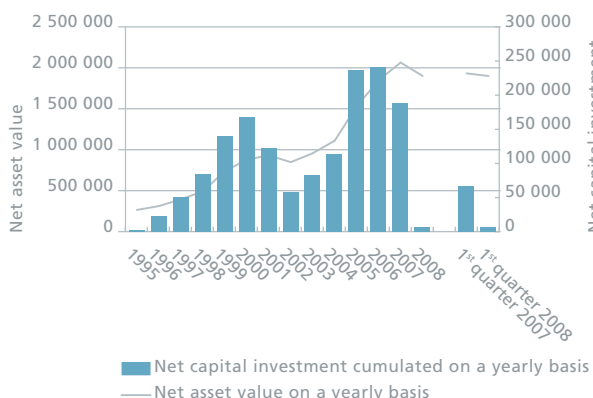
## 1.2.5.5 Undertakings for collective investment

The Luxembourg investment fund industry was marked by many contrasts over the year 2007. The favourable stock market environment during the first half of the year set the basis for an excellent performance of the funds industry with high growth rates both in the number of funds as well as in net asset value and net capital investment. Following the US mortgage market crisis, the second half of 2007 was characterised by reduced net capital investment as well as the stabilization of the net asset value at a high level. The first quarter of 2008 was characterised by a decrease of the net asset value essentially explained by the poor equity market performance.

### *The evolution of the number of funds*

As at end 2007, 2 868 undertakings for collective investment (UCIs) were recorded on the official list, representing an increase of 630 units compared to the level end December 2006. This upward trend in the number of UCIs, confirmed in the first quarter of 2008 by an increase of 144 units, suggests that the US mortgage crisis did not affect the development of the number of UCIs.

**CHART 24:**  
**NET ASSET VALUE AND NET CAPITAL INVESTMENT (IN MILLION EUROS)**



### *Net asset value*

As far as concerns the net asset value (NAV), the growth observed during 2006 continued in 2007 to reach its highest historical value of €2 123 519 million at the end of October 2007. By the end of December 2007, net asset value stood at €2 059 395 million, compared to €1 844 850 million observed as at end December 2006. The 11.6% annual growth observed in 2007 is still high although below the growth rates observed during the three previous years.

As at 31 March 2008, net asset value stood at €1 895 445 million, representing a significant decrease of €163 950 million compared to December 2007. This decrease can mainly be explained by the weak stock market performance in January and March 2008 as well as by lower net capital investment, which was even negative in January 2008.

## 1.2.5.6 Money market funds

Unlike the overall population of UCIs, money market funds had a successful year in 2007.

### *The number of money market funds*

End December 2007, 463 units were recorded on the official list. Compared to the previous year, the number of money market funds rose by 12 units. During the first quarter of 2008, the number of money market funds remained stable with 464 units registered as at end March 2008.

### *The balance sheet of money market funds*

The balance sheet increased from €190 242 million as at 31 December 2006 to €253 641 million as at 31 December 2007 which represents a growth rate of 33%. This positive evolution was confirmed during the first quarter of 2008 when the balance sheet increased further to €286 092 million.

Strong total asset growth in the money market funds during 2007 and the first quarter of 2008 may partially be explained by the enlargement of the population. However, the important increase of money market funds' total balance sheet also confirms that during a period

**TABLE 14:**  
**GLOBAL SITUATION OF UNDERTAKINGS FOR**  
**COLLECTIVE INVESTMENTS**

(in million euros, outstanding amounts at the end of period,  
except where otherwise stated)

	Number of UCIs	Number of subfunds	Net asset value	Net capital investment <sup>1) 2)</sup>	Variation of financial market <sup>2) 3)</sup>	Annual change in EUR million	Annual percentage change
2000	1 785	6 995	874 600	168 200	-28 118	140 082	19.1
2001	1 908	7 519	928 447	121 700	-67 900	53 847	6.2
2002	1 941	7 806	844 508	57 314	-141 206	-83 939	-9.0
2003	1 870	7 509	953 302	82 609	26 185	108 794	12.9
2004	1 968	7 876	1 106 222	113 731	39 189	152 920	16.0
2005	2 060	8 497	1 525 208	236 277	182 709	418 986	37.9
2006	2 238	9 473	1 844 850	241 344	78 298	319 642	21.0
2007	2 868	11 115	2 059 395	188 488	26 057	214 545	11.6
2007							
Jan.	2 260	9 563	1 895 810	30 749	20 211	312 566	19.7
Feb.	2 278	9 637	1 908 707	29 083	-16 186	270 601	16.5
March	2 248	9 680	1 927 360	6 378	12 275	252 100	15.0
April	2 276	9 793	1 966 996	22 233	17 403	264 757	15.6
May	2 302	9 900	2 024 662	21 578	36 088	366 985	22.1
June	2 352	10 042	2 047 022	20 598	1 762	394 896	23.9
July	2 407	10 194	2 052 977	23 771	-17 816	373 459	22.2
Aug.	2 460	10 336	2 035 294	166	-17 849	327 888	19.2
Sept.	2 501	10 415	2 059 144	-607	24 457	326 114	18.8
Oct.	2 618	10 644	2 123 519	24 630	39 745	342 402	19.2
Nov.	2 761	10 924	2 063 797	6 860	-66 582	264 272	14.7
Dec.	2 868	11 115	2 059 395	3 049	-7 451	214 545	11.6
2008							
Jan.	2 932	11 262	1 951 141	-7 580	-100 674	55 331	2.9
Feb.	2 972	11 387	1 962 845	9 027	2 677	54 138	2.8
March	3 012	11 498	1 895 445	4 794	-72 194	-31 915	-1.7

Source: CSSF

1. Net capital investment is defined as the difference between net proceeds from shares or units and net payments made in settlement of redemptions in liquidation adjusted to take into consideration UCIs
2. Figures cumulated on a yearly/monthly basis
3. The column variation of financial markets reflects the change in net assets which is due to the fluctuation of financial markets.

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of negative stock market performance investors tend to adopt more prudent behaviour and prefer investments that have more stable returns. In fact, since the start of 2007 total balance sheet grew €95 850 million, representing a growth rate of more than 50% within 15 months.

## 1.2.5.7 Bank lending survey

The Bank Lending Survey (BLS) carried out by the Eurosystem since end-2002 assesses credit conditions in the euro area. Every quarter, a questionnaire is sent out to the seven banks from the Luxembourg sample; the survey questionnaire contains a number of questions on the supply of and demand for credit, covering the household sector as well as non-financial corporations (NFCs).

Results are generally expressed in terms of “net percentages”. For the questions on credit standards, net percentages refer to the difference between those banks that reported a tightening and those that reported an easing of credit standards. For the questions on credit demand, net percentages refer to the difference between those banks that reported a fall in demand and those that reported a rise.

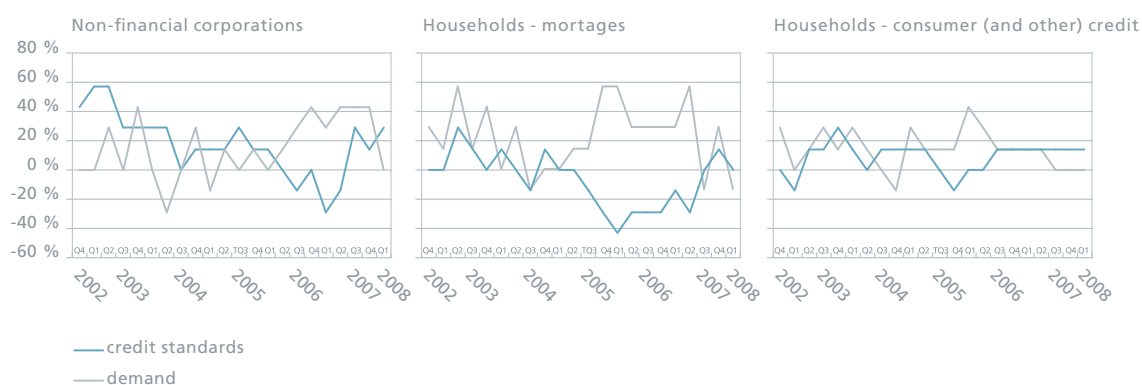
The latest results pertain to the first quarter of 2008; this survey again included a number of additional questions on market turmoil. For the entire period under review (January 2007 to March 2008), the results obtained for Luxembourg differ markedly from those at the euro area level, in particular after the first six months of 2007; overall, results are much more optimistic for Luxembourg. Nevertheless, results for the corporate sector are more or less in line with the aggregate results at the euro area level.

The chart plots the survey results for key questions in terms of net percentages.

**NFCs:** Following a period of net easing of credit standards during the first two quarters of 2007, several banks indicated that they had tightened lending standards after the market turmoil in August 2007. Although this tightening impact has risen somewhat since the onset of the turmoil, other elements such as risk perceptions have also contributed to a net tightening. Credit standards for large NFCs were particularly affected.

On the demand side, corporate net demand remained resilient at first before hitting 0% in the last quarter of the period under review, owing to lesser financing requirements.

**CHART 25:  
CREDIT STANDARDS AND DEMAND,  
NET PERCENTAGES**



Source: BCL





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**Households (mortgages):** Although the two-year period during which mortgage credit standards have eased continuously came to an end in the third quarter 2007, only one net tightening has been recorded since. The ad hoc questions on market turmoil indicate that market tensions have indeed had little impact on mortgage lending standards. These results are much more favourable for borrowers than those recorded at the euro area level, though it is worth highlighting that considerable intra-country differences exist.

Net mortgage demand has moderated considerably after a prolonged period during which high net percentages had been recorded; indeed, net demand was negative in the third quarter of 2007 and in the first quarter of 2008. Moreover, participating banks indicated that housing market prospects had a mitigating impact on loan demand.

**Households (consumer and other credit):** Regarding credit standards, consecutive net tightenings have been recorded since the third quarter of 2006. However, it is essential to recall that the net percentages are not weighted, and the overall results should therefore not be interpreted as a broad-based tightening affecting the Luxembourg economy at large.

On the demand side, net percentages have been flat since the third quarter of 2007, following a prolonged period during which net demand was positive. The drop in net demand for consumer (and other) credit is in part linked to a fall in consumer confidence.

**Ad hoc questions regarding the impact of market tensions on funding access:** In addition to the questions regarding the impact of market tensions on credit standards, the last three survey rounds included a series of questions on whether market turmoil had affected banks' funding access. Results indicate that participating banks in Luxembourg have primarily experienced funding difficulties in the money market; these difficulties have increased somewhat since the third quarter 2007. While funding difficulties were less severe with regard to the issuance of debt securities, it should be highlighted that not all banks from the sample were active in this market segment, while securitisation was not widely used at all.

These funding difficulties have also had an impact on the quantity banks were willing to lend, and especially on their margins. Bank capital was virtually unaffected.

## 1.2.6 Luxembourg Stock Exchange

In 2007, the LuxX index progressed by 11.1%, finishing the year at 2 419.28. During the first five months of 2008, the LuxX fell by 4.5%, standing at 2 311.54 at end-May. Nevertheless, compared to other major stock indices the performance of the LuxX remains impressive.

The overall rise in the index veils a rather heterogeneous evolution of its components. It is, for example, largely attributable to ArcelorMittal, which contributes over 20% to the index basket. However, some of the other components of the LuxX, most notably financial sector shares, had a much less favourable performance.

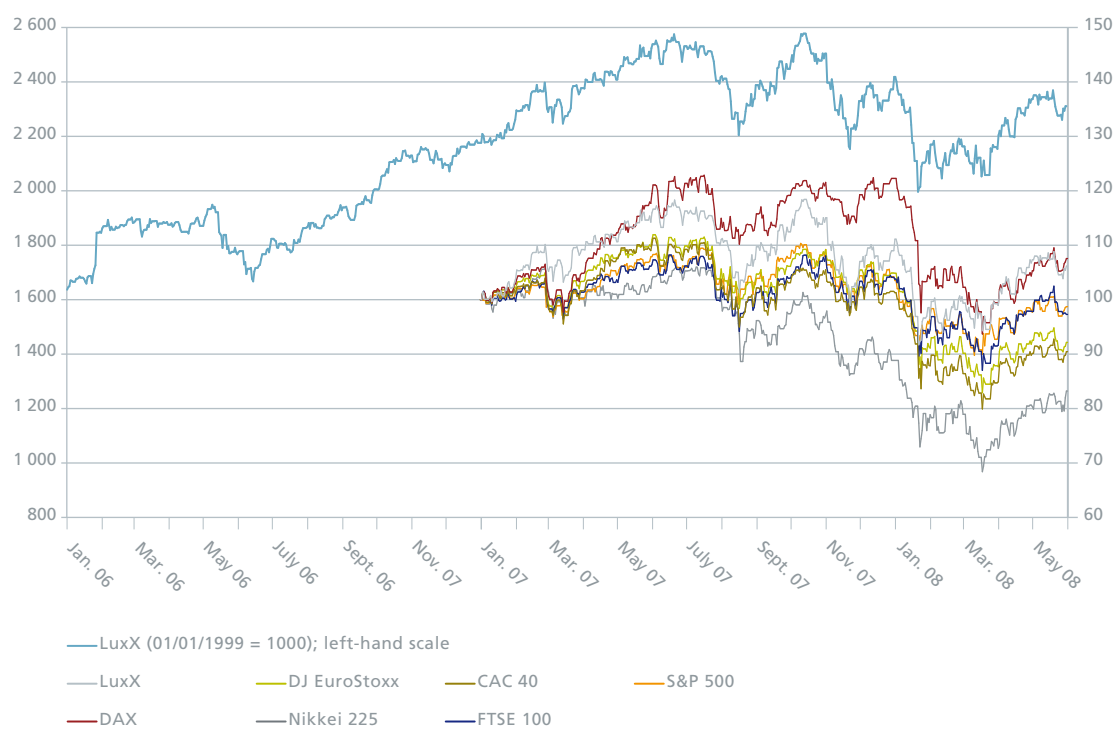
All in all, 13 353 new listings were introduced in the year under review (2 305 in the alternative Euro MTF market); this contrasts with 7 639 de-listings, yielding a total of 45 573 listings at end-2007.

Total turnover by volume fell from €1 500.5 million to €652 million, however, largely owing to a substantial drop in bond turnover (-65%).

Apart from these developments, it is worth mentioning that the alternative market Euro MTF launched in July 2005 has become increasingly popular at the international level, in particular with issuers outside the European Union; this alternative market lies outside the scope of some EU regulations, such as IAS. At end-2007, 4 259 securities were listed on Euro MTF. In March 2007, Euronext and the Luxembourg Stock Exchange announced the signature of a Master Agreement. On May 2, 2007, the Luxembourg Stock Exchange migrated all securities listed on its two markets to the NSC® trading platform of Euronext. A few weeks later, LCH.Clearnet SA and the Luxembourg Stock Exchange announced the signature of a Memorandum of Understanding to implement clearing services for Luxembourg Stock Exchange markets in respect of transactions in corporate bonds, government bonds and equities.

**CHART 26:**  
**THE LUXX INDEX AND OTHER MAJOR**  
**INTERNATIONAL STOCK INDICES**

(Index : 01/01/2007 =  
100 Unless Otherwise Indicated ; Daily Data)



Source: Bloomberg

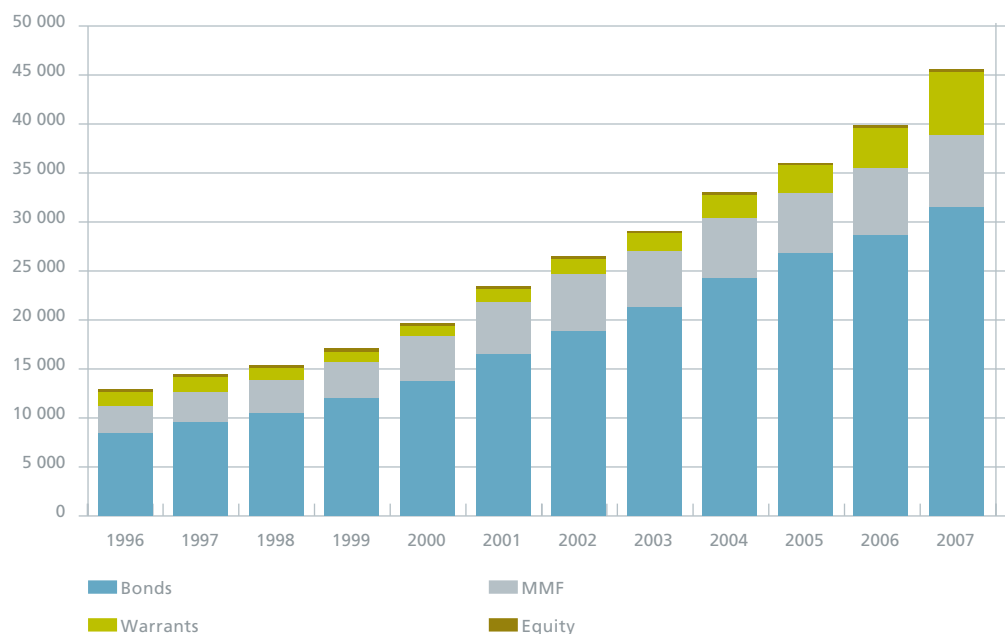
**TABLE 15:**  
**TURNOVER BY VOLUME, %**

	2002	2003	2004	2005	2006	2007
Bonds	70.0%	47.9%	49.5%	87.8%	86.1%	68.8%
Equity	16.7%	29.4%	27.1%	9.3%	12.5%	27.0%
MMF	13.2%	16.5%	16.2%	2.7%	1.4%	4.1%
Warrants	0.0%	6.2%	7.2%	0.2%	0.0%	0.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Bourse de Luxembourg

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**CHART 27:**  
**NUMBER OF LISTINGS**



Source : Bourse de Luxembourg

## 1.2.7 Labour market

The Luxembourg labour market improved clearly in 2007: employment growth continued to accelerate throughout the year, in line with the lagged response of employment to economic activity, rising by 4.5% in 2007 after an increase of 3.9% in 2006. Available information suggests continued and even accelerating expansion in 2008 at around 5.2% on average for the first four months. As a result, the total number of persons working in Luxembourg reached around 350 000 in April 2008. The sectoral breakdown indicates that the acceleration in employment growth in 2007 was driven by two sectors, namely "Real estate and business services" and "Financial services".

The inflow of non-resident labour has continued to account for the largest part of employment growth. Cross-border commuters represent nearly 70% of net

newly created jobs. This share is higher than the previous year's figure. In 2007, the share of cross-border commuters in total domestic employment reached almost 40%. Of all cross-border workers approximately 51% come from France, 26% from Belgium and 24% from Germany.

After 5 years of increase, the unemployment rate stabilised at 4.4% in 2007, employment growth having been sufficiently strong to prevent a further increase. However, a certain amount of skill mismatch certainly remains as more than half of the resident unemployed have only a primary education level while most jobs offered require higher qualifications or a specialisation, especially in the financial sector. In addition, one-third of the unemployed are unemployed for more than 12 months so they may be subject to a depreciation of their existing skills.

## Unit labour costs and productivity: comparison with neighbouring countries

This text box analyses unit labour cost developments over the period 1996-2006, comparing Luxembourg's performance with that of its three neighbouring countries (Germany, France and Belgium). These three countries are also Luxembourg's main trading partners and in 2006 they were the destination of more than 50% of Luxembourg's goods exports and nearly 40% of its services exports. Any international comparison requires comparable data. This is why this text box relies on the AMECO database, published by the European Commission services, in which the most recent annual observation is 2006.

Unit labour costs are measured by the ratio of wages per employee to labour productivity (GDP divided by total employment, including the self-employed). In

general, international comparisons are based on nominal unit labour costs (calculated using real GDP)<sup>10</sup>. The table indicates that Luxembourg experienced the fastest growth in unit labour costs over the period 1996-2006 (1.95%), above Belgium and France (1.38% and 1.22%). In Germany, unit labour costs even declined slightly in nominal terms over this period (-0.05%). Limiting the analysis to the five most recent years (2001-2006), it appears that growth in unit labour costs in Luxembourg was even higher, by nearly 0.8 percentage points with respect to the whole of the decade. Note also that over the period 2001-2006, the drop in Germany was nearly twice as fast as the decline over the last decade.

<sup>10</sup> Comparing real unit labour costs Luxembourg's situation appears to be much better because these incorporate the GDP deflator, which has grown much more rapidly in Luxembourg than abroad. By analogy, it would be mistaken to compare the price of apples in Luxembourg and abroad after deflating by the consumer price index (which has increased more in Luxembourg than in neighbouring countries).

**TABLE 16:**  
**UNIT LABOUR COSTS: COMPARISON**  
**WITH NEIGHBOURING COUNTRIES**

	Luxembourg	Germany	France	Belgium
	<b>Average 1996-2006</b>			
Unit labour costs (1) = (2)-(3)	1.95%	-0.05%	1.38%	1.22%
Wages per employee (2)	3.01%	1.03%	2.52%	2.49%
Labour productivity (3)=(4)+(5)	1.06%	1.08%	1.14%	1.27%
Contribution from total factor productivity (4)	0.45%	0.58%	0.64%	0.87%
Contribution from capital-deepening (5)	0.61%	0.50%	0.50%	0.40%
	<b>Average 2001-2006</b>			
Unit labour costs (1) = (2)-(3)	2.76%	-0.09%	1.98%	1.61%
Wages per employee (2)	3.12%	0.90%	2.93%	2.65%
Labour productivity (3)=(4)+(5)	0.36%	0.99%	0.95%	1.04%
Contribution from total factor productivity (4)	-0.56%	0.51%	0.26%	0.64%
Contribution from capital-deepening (5)	0.93%	0.47%	0.69%	0.40%

Sources : European Commission (AMECO), BCL calculations

Growth in unit labour costs can be decomposed into the contribution of wages per employee and the contribution of labour productivity (GDP per person employed). Luxembourg experienced the fastest growth in wages per employee (3.01% on average), well above France (2.52%) and Belgium (2.49%), with Germany demonstrating significant wage moderation (1.03%). On the other hand, labour productivity grew more slowly in Luxembourg (1.06%) than in Belgium (1.27%) or France (1.14%) or even Germany (1.08%). Considering that Luxembourg experienced the weakest productivity growth and the strongest wage growth, it is natural that its unit labour costs grew faster than in its neighbouring countries. Concentrating on the last five years of the decade, one can see that wages per employee accelerated in Luxembourg but also in France and in Belgium. Furthermore, over the period 2001-2006, labour productivity growth was nearly three times slower than over the whole of the decade, contributing to the decline in Luxembourg's relative position.

Labour productivity growth can be further decomposed by relying on the conventional assumptions of growth accounting. Assume that observed GDP is produced by a Cobb-Douglas function with constant returns to scale:

$$Y = (K)^{1-\alpha} (L)^\alpha \text{TFP}$$

where Y represents real GDP, K represents the real capital stock, L represents total employment and TFP represents total factor productivity. Applying natural logarithms (ln) and taking first differences ( $\Delta x_t = x_t - x_{t-1}$ ), one can rewrite this equation as follows:

$$\Delta \ln(Y/L) = (1-\alpha)\Delta \ln(K/L) + \Delta \ln(\text{TFP})$$

The term on the left-hand side measures growth in labour productivity, which can now be decomposed into the two terms on the right-hand side: fluctuations in the capital-labour ratio (capital-deepening) and growth in total factor productivity. The parameter  $\alpha$  is conventionally set at the average share of the wage bill in nominal GDP (on the assumption that on average factor markets are at their competitive equilibrium). This makes it possible to calculate TFP as a residual.

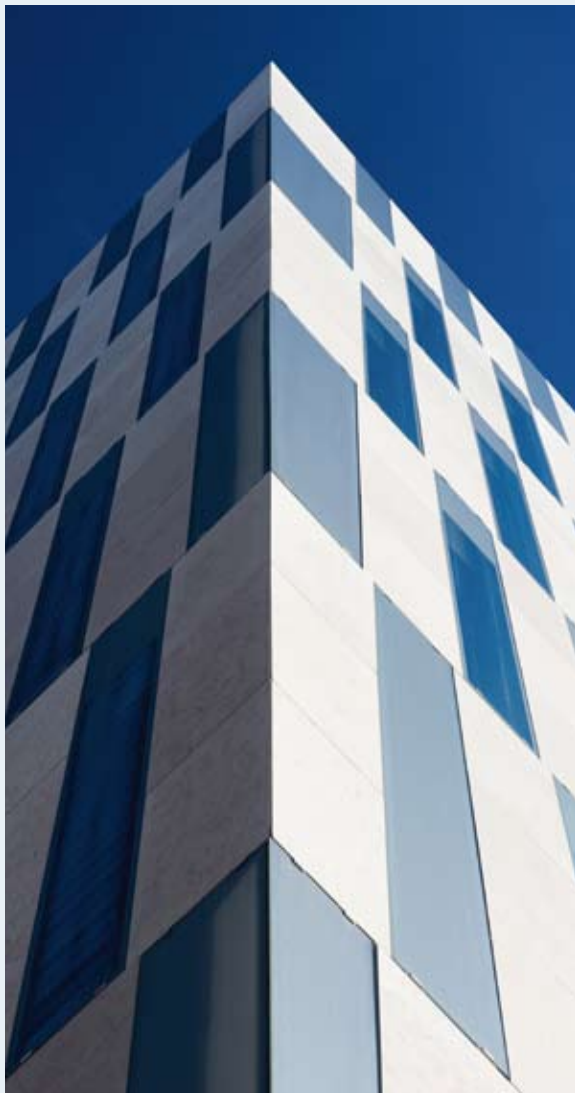
Based on the capital stock estimates in the AMECO database<sup>11</sup>, the results of this accounting exercise suggest that the contribution of total factor productivity has been weakest in Luxembourg, with respect to its neighbouring countries, and that it has even been negative over the last five years. This result should be taken with some caution, as total factor productivity is not observed but only estimated on the basis of the (possibly unrealistic) assumptions mentioned earlier. In particular, if one of the factors of production (labour or capital) is not homogeneous, but varies due to quality improvements or composition effects, this will contaminate total factor productivity if measured as described.

The second component of labour productivity reflects changes in the capital-labour ratio. The results suggest that the contribution from "capital deepening" has been very important in Luxembourg, exceeding that in the three neighbouring countries. In particular, this contribution increased over the last five years, practically reaching the double of levels observed in Germany and Belgium. This means that growth in labour productivity in Luxembourg reflects the fact that each worker had a greater portion of capital stock available. In order for this component to provide a positive contribution to labour productivity, capital accumulation must grow faster than total employment. Again, it is important to bear in mind that the capital stock measure used in this international comparison is calculated by the European Commission services on the basis of some assumptions that could be challenged<sup>12</sup>. However, it is possible to draw some provisional conclusions.

Since 1996, unit labour costs have grown faster in Luxembourg than in the surrounding countries. This increase could be attributed to faster growth of wages per employee and slower growth of labour productivity than in the three neighbouring countries. On the basis of some conventional assumptions, weak labour productivity growth can be decomposed separately. Results suggest that this has suffered from a contribution of total factor productivity that has been weak in

11 This series for Luxembourg's capital stock is not produced by STATEC. The national statistics institute has not validated the series for Luxembourg available on [www.eu-klems.com](http://www.eu-klems.com) either.

12 For all countries, the initial level of the capital stock is fixed at 300% of GDP in 1960.



international comparison and even negative over the most recent years. On the other hand, the “capital-deepening” contribution of the capital-labour ratio has been higher than in the neighbouring countries. This suggests that Luxembourg depends on a capital accumulation that has been much faster than employment growth. Under this configuration, Luxembourg’s labour productivity seems vulnerable to a fall in the country’s attractiveness for foreign investors.

### *Impact of the Tripartite Coordination Committee’s measures on the compensation per employee in Luxembourg*

#### **1. Presentation of the measures decided by the Tripartite Coordination Committee**

In April 2006, the Tripartite Coordination Committee’s stressed the imbalances in public finances, in the labour and real estate market and the rise in inflation. In order to preserve competitiveness, the Tripartite Coordination Committee decided to modulate the automatic indexation scheme for the period 2006-2009. The principle of the indexation mechanism remained unaltered but the inflation-related pay increases were postponed as follows:

- 2006: the automatic wage increase due in August 2006 was postponed to December 2006.
- 2007: the automatic wage indexation was suspended.
- 2008: the automatic wage increase due in January 2008 was postponed until March 2008, as the average oil price exceeded the threshold of 63 USD per barrel during the last six months of 2006 (65.1 dollars on average) and in 2007 (72 dollars on average).
- 2009: the previous automatic wage increase will be paid in January or March 2009 depending on the average level of the oil price.

This modulation of the indexation scheme will be applied until 31st December 2009.

In addition to the modulation of the indexation scheme, the Government announced a wage freeze for public employees in 2007 and 2008.

#### **2. Impact on compensation per employee**

To quantify the impact on wages of the changes to the indexation scheme, two cases are presented simultaneously in Table 17. The first case describes the situation without indexation modulation, in other words under the counterfactual assumption that the automatic indexation mechanism remained unchanged in 2006-2009. The second case shows the impact of the modulated scheme on compensation per employee and on unit labour costs. The main result is that on

**TABLE 17:  
IMPACT OF THE INDEXATION MODULATION  
ON THE COMPENSATION PER EMPLOYEE**

	2003	2004	2005	2006	2007	2008	Sum 03-05	Average 03-05	Sum 06-08	Average 06-08
<b>Without indexation modulation</b>										
(1) Real wage	0.1	1.9	1.3	2.5	1.2	1.3	3.3	1.1	5.0	1.7
(2) Contribution of indexation	2.1	2.1	2.5	2.9	1.7	3.4	6.7	2.2	7.9	2.6
(3) Compensation per employee (1)+(2)	2.2	3.9	3.8	5.4	2.8	4.7	10.0	3.3	12.9	4.3
(4) Productivity	0.3	2.6	2.1	2.3	0.3	0.2	5.0	1.7	2.8	0.9
(5) Unit Labor Costs (3)-(4)	1.9	1.3	1.7	3.1	2.6	4.5	5.0	1.7	10.1	3.4
<b>With indexation modulation</b>										
(1) Real wage	/	/	/	2.5	1.2	1.3	/	/	5.0	1.7
(2) Contribution of indexation	/	/	/	2.1	2.3	2.1	/	/	6.4	2.1
(3) Compensation per employee (1)+(2)	/	/	/	4.5	3.5	3.4	/	/	11.4	3.8
(4) Productivity	/	/	/	2.3	0.3	0.2	/	/	2.8	0.9
(5) Unit Labor Costs (3)-(4)	/	/	/	2.2	3.2	3.2	/	/	8.6	2.9

\*BCL projections

Source : BCL

average during the period 2006-2008<sup>13</sup>, the modulation of indexation reduced the contribution of indexation to average wage growth (on average from 2.6pp with the automatic scheme to 2.1pp with modulation). Paradoxically, growth in real compensation per employee has been higher on average during the period of indexation modulation than during the three years before (1.7% on average for 2006-08 and 1.1% for 2003-05). As a result, the real wage increases seemed to have compensated the wage moderation caused by indexation modulation.

The government announced a wage freeze in the public sector for 2007 and 2008, but this has not been effective as the collective agreement grants a 0.9% one-off bonus in December of these two years. This collective agreement increased the negotiated wage in the public

sector by 0.9pp in 2007<sup>14</sup>, with an impact of +0.2pp on compensation per employee in 2007.

To conclude, the modulation of the indexation scheme has moderated the contribution of the indexation to growth in compensation per employee during the years 2006-08. However, all in all real wage increases have compensated for the wage moderation generated by the indexation modulation. The announced wage freeze in the public sector has not occurred, so the current collective agreement contributed to accelerating compensation per employee in 2007.

14 And 0.0pp in 2008 as the wage increase is paid as a one-off bonus in December.

13 It should be noted that the results presented for 2008 are BCL projections.

**TABLE 18:**  
**IMPACT OF THE WAGE AGREEMENT IN THE PUBLIC**  
**SECTOR ON COMPENSATION PER EMPLOYEE**

	2006	2007	2008
<b>If the wage freeze was applied</b>			
Negotiated wage in the public sector	0.8	0.0	0.0
(1) Real wage	2.4	1.0	1.3
(2) Contribution of indexation with modulation	2.1	2.3	2.1
(3) Compensation per employee (1)+(2)	4.5	3.3	3.4
<b>With the wage agreement signed in the public sector for 2007, 2008 and 2009</b>			
Negotiated wage in the public sector	0.8	0.9	0.0
(1) Real wage	2.4	1.3	1.3
(2) Contribution of indexation with modulation	2.1	2.3	2.1
(3) Compensation per employee (1)+(2)	4.5	3.5	3.4

\*BCL projections

Source : BCL

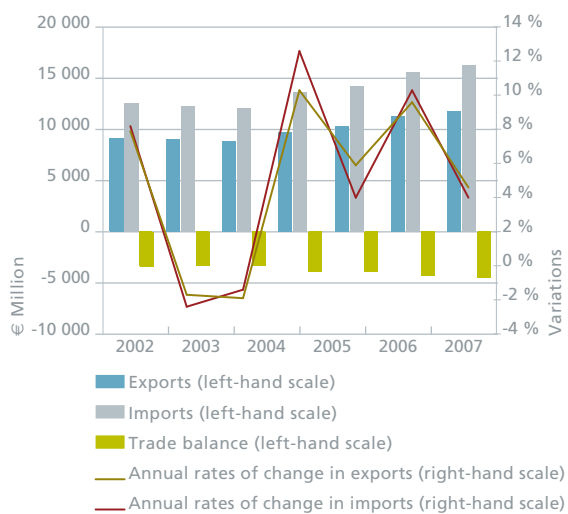


# 1. ECONOMIC AND FINANCIAL SITUATION

## 1.2.8 External trade

As for the euro area, Luxembourg's trade in goods grew at slower pace in 2007, after recording strong growth rates in 2006. Luxembourg goods exports rose 4.6% reaching €11.8 billion in 2007, compared with a growth rate of 9.6% in 2006. Goods imports grew even less, down to 4.6% in 2007 (reaching €16.3 billion) from 10.6% in 2006. As a result Luxembourg's trade deficit increased at a lower pace in 2007 (2.3% at €4.4 billion).

**CHART 28:**  
**LUXEMBOURG TRADE IN GOODS**



Source: STATEC



## Can price-cost competitiveness indicators explain export growth?

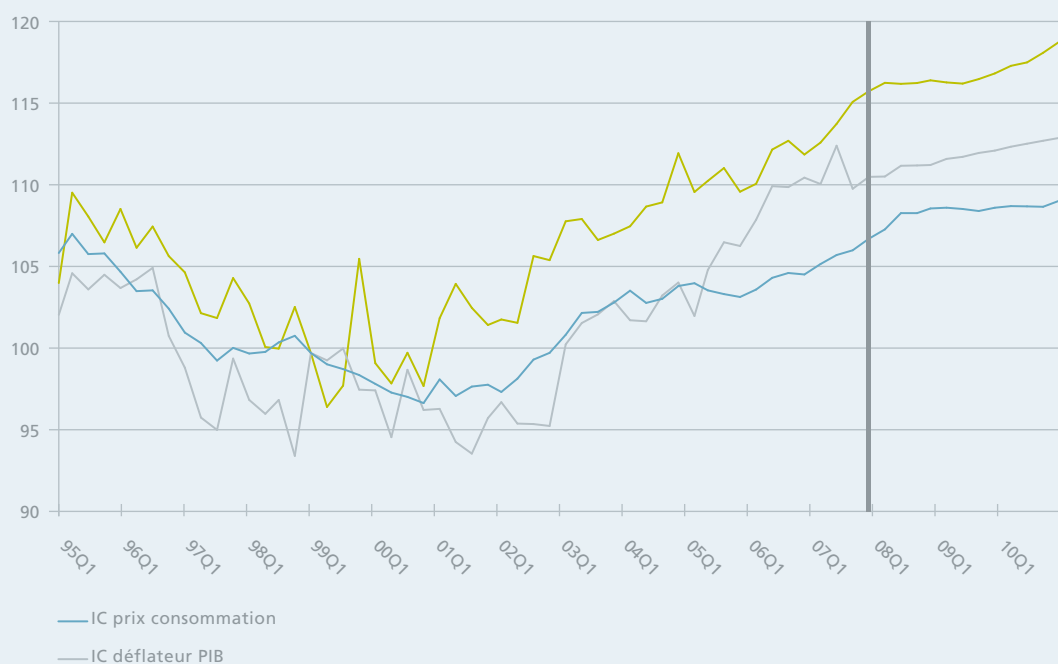
The competitiveness indicators calculated by the BCL indicate a continuing deterioration, even when they are extended to 2010 using the results of the recent Eurosystem projection exercise. However, as noted in the BCL 2006 Annual Report, in the past the deterioration of the different price and cost competitiveness indicators has been accompanied by robust export growth in Luxembourg. This text box explains this apparent paradox by decomposing export growth into one com-

ponent tied to price-cost competitiveness and another related to fluctuations in foreign demand addressed to Luxembourg.

The competitiveness indicators calculated by the BCL are effective exchange rate indices deflated by different price or cost indicators. Thus, these competitiveness indicators compare prices or costs in Luxembourg with a weighted average of the same prices or costs in Luxembourg's main trading partners<sup>15</sup>, all expressed in

<sup>15</sup> The trading partners considered include the other 26 members of the European Union and eleven other countries: Switzerland, Norway, the US, Canada, Japan, Australia, New Zealand, South Korea, China, Hong Kong and Singapore.

**CHART 29:**  
COMPETITIVENESS INDICATORS BASED ON  
CONSUMER PRICES, GDP DEFLATOR AND UNIT  
LABOR COSTS (ULX) FOR THE ENTIRE ECONOMY



Sources : Eurosystem, FMI, et calculs BCL

the same currency. The weight attached to each trading partner reflects its importance in Luxembourg's foreign trade.

The following chart presents those of Luxembourg's competitiveness indicators which could be extended to 2010 using the recent Eurosystem projections<sup>16</sup>. For each series, an increase in the curve means that prices or costs are increasing faster in Luxembourg than in its trading partners (a deterioration of Luxembourg's competitiveness). According to the indicator based on consumer prices, the most recent observations confirm this rising trend. The deterioration in 2007 was 1.56% and in the first quarter of 2008 (last available observation) this indicator is growing at 2.01% (annual rate). According to the projections, the deterioration should reach 2.08% in 2008, and continue into 2009-2010 but at a lower rate (0.41% and 0.22%). The competitiveness indicator based on the GDP deflator registers a deterioration of 1.05% in 2007 and in the last quarter of 2007 (latest available observation) this indicator was growing 0.04% at an annual rate. The

projections suggest a deterioration of only 0.32% in 2008 but around 0.70% in 2009 and 2010.

The competitiveness indicator based on unit labour costs in the whole economy indicates a deterioration of 2.31% in 2007 and in 2007Q4 (latest available observation) it increased 3.46% at an annual rate. According to the projections, the deterioration should continue with a 1.74% increase in 2008, 0.15% in 2009, and 1.25% in 2010. It bears repeating that these latest developments represent the continuation of an extended loss of competitiveness since Luxembourg entered the economic and monetary union. As illustrated by the chart, the three indicators have been characterised by a growing trend (competitiveness deterioration) over several years. The indicator based on consumer prices began this deteriorating phase in 2001 and increased at an annual rate of 0.6% on average from the first quarter of 1999 to end 2007. For the indicator based on the GDP deflator, the current phase began only in 2002 and the average yearly increase was 1.7% over the same sample. The last indicator, based on unit

16 Note that the projected deflators are limited to the fifteen euro area member states and the UK, Switzerland, the US and Japan.

**TABLE 19:**  
**COMPETITIVENESS INDICATORS –**  
**IMPACT ON EXPORTS**

	Estimated parameters			Contributions to average export growth (7.92% over 1996Q1-2007Q4)		
	export elasticities			foreign demand	price-cost competitiveness	residual
	error correction	foreign demand	price-cost competitiveness			
consumer prices	-0.81	1.53	-0.60	9.29	-1.00	-0.37
GDP deflator	-0.69	1.34	-0.30	8.10	0.06	-0.23
producer prices	-0.78	1.39	-0.22	8.52	-0.30	-0.29
ULC whole economy	-0.73	1.34	-0.37	8.14	0.07	-0.29
ULC manufacturing	-0.78	1.34	-0.25	8.06	0.09	-0.22
export deflator	-0.80	1.43	-0.33	8.70	-0.52	-0.25

Sources : ECB, STATEC data, BCL calculations

labour costs in the whole economy, began its deterioration in 2001 and increased at an average yearly rate of 1.4% over 1999Q1-2007Q4.

How can one reconcile the deterioration in price-cost competitiveness observed since 2001 with the good performance of Luxembourg's economy and in particular its exports over the same period? One must first recognise that exports not only depend on fluctuations in relative costs and prices, but also on growth in foreign demand addressed to Luxembourg. The latter is measured here by a weighted average of real imports in Luxembourg's main trading partners, with weights reflecting each country's share in Luxembourg's foreign trade. This indicator has a similar structure and geochart coverage to the effective exchange rate indicators presented above<sup>17</sup>. It is then possible to estimate an export equation for Luxembourg, linking them to this measure of foreign demand and a measure of price-cost competitiveness<sup>18</sup>. The following table presents the results of these estimations<sup>19</sup>. Each row in the table reports an export equation estimated with a different price-cost competitiveness indicator<sup>20</sup>. In each case, the equation is estimated using quarterly data (seasonally adjusted) from 1996Q1 to 2007Q4 and adopting an error-correction specification. The first column reports the speed of adjustment towards the long-term equilibrium. This equilibrium is characterised by the export elasticities in the following two columns<sup>21</sup>.

Comparing the different rows, one can observe that results are quite similar for all the price-cost competitiveness indicators considered. In every case, the error-correction term is included between zero and -1, as required for the stability of the equation. Adjust-

ment is always fast: 69% to 81% of deviations from the long-term equilibrium are eliminated after a single quarter<sup>22</sup>. In the following column, one can observe that the (long-term) export elasticities with respect to foreign demand are always positive, consistent with economic theory. However, they are always statistically above unity, which is problematic from the perspective of theory. In fact, Luxembourg's exports cannot systematically increase faster than foreign demand. Nevertheless, this result is consistent with experience since 1996 and imposing a unit elasticity could introduce mis-specification error, generating a bias in the estimates of the other parameters<sup>23</sup>. Elasticities above unity are often found for other countries and it is generally recommended to tolerate them<sup>24</sup>. In the third column, export elasticities with respect to the different measures of price-cost competitiveness are always negative, as expected, but also relatively weak (from -0.22 to -0.60). This means that a 5% deterioration of competitiveness implies a fall of exports of only 1.1% to 3%. This weakness of export elasticities with respect to price-cost competitiveness is a result that has already been found for other continental European economies<sup>25</sup>. In summary, Luxembourg's loss of price-cost competitiveness had an impact on exports that was negative and statistically significant, but its economic significance was limited.

The right-hand panel of the table uses the estimated equations to decompose Luxembourg's average export growth over the period 1996Q1-2007Q4. The equations are simulated under two different scenarios. In the first, price-cost competitiveness (represented by the different indicators in each row) is kept at its level in 1995Q4 until 2007Q1. In the second scenario, it is foreign demand that is kept at its level of 1995Q1. The results of this exercise indicate that (for all price-cost competitiveness indicators considered) foreign demand has been crucial in determining export

17 Real imports in Luxembourg's trading partners are expressed in a common currency and with the same base year.  
 18 Goldstein and Khan (1985) "Income and Price Effects in Foreign Trade" Handbook of International Economics, Elsevier.  
 19 These results are based on combined exports of goods and services. Similar results are obtained when the exercise is repeated separately for goods exports and for services exports.  
 20 Ca'Zorzi and Schnatz (2007) "Explaining and forecasting euro area exports: which competitiveness indicator performs best?" ECB Working Paper 833.  
 21 All coefficients are statistically different from zero. The equation includes three lags of all variables in first differences (short-term dynamics) and test results are consistent with the absence of residual autocorrelation up to four lags.

22 For each price-cost competitiveness indicator, the existence of a cointegration relationship is confirmed by the rejection of the hypothesis that this coefficient is zero.  
 23 In addition, for each of the estimated equations the Wald test rejects a unit elasticity.  
 24 Krugman (1989) «Differences in Income Elasticities and Trends in Real Exchange Rates,» European Economic Review, 33, 1031-1054.  
 25 Hooper, Johnson and Marquez (2000) "Trade Elasticities for the G-7 Countries," Princeton Studies in International Economics, no. 87.

growth, representing an average yearly contribution of 8.06% to 9.29%. On the other hand, the average yearly contribution of price-cost competitiveness has been negative or close to zero (although it may have been important for individual quarters). In fact, the average contribution of price-cost competitiveness has been comparable (or even below) the residual contribution (export growth that is not explained by the estimated equations), which is reported in the last column.

In conclusion, the deterioration of price-cost competitiveness has marginally reduced Luxembourg's exports over the period 1996Q1-2007Q4. However, in a context of strong growth in foreign demand addressed to Luxembourg, this competitiveness effect was minor. High estimated export elasticities with respect to foreign demand may suggest that exporting firms benefit from other competitiveness factors (quality, specialisation) which have offset the negative effects of the deterioration in price-cost competitiveness. From a wider perspective, one should take note of the fact that the world economy has just experienced a phase of exceptionally strong growth in international trade. This has benefited Luxembourg, minimising the negative effects of the deterioration of its price-cost competitiveness. However, Luxembourg remains especially vulnerable to a slowdown, or even a fall, in international trade. The high estimated values for Luxembourg's export elasticities with respect to foreign demand suggest that the negative effects of such a development at the global level could be amplified in Luxembourg. Therefore, it is crucial that Luxembourg authorities maintain their opposition to the protectionist tendencies that are increasingly visible in the public arena.

### 1.2.9 Balance of payments

In 2007 the Luxembourg current account surplus remained unchanged at €3.6 billion. This stability reflected strong divergent developments in the four components of the current account. The strong increase in the services surplus (17.8%) was offset by growing deficits on current transfers and factor incomes. The improvement in net services receipts was mostly driven by favourable developments in the financial sector. However, in the wake of the financial turmoil, the surplus on financial services grew at slower pace in 2007 (20%), after recording a strong increase (34%) in 2006.

The goods balance was positively affected by sales of fuel to non-residents and by net sales of non-monetary gold. In the income balance, dividends payments abroad and compensations of cross-border employees turned the overall balance into a huge deficit in 2007 while the rising deficit in current transfers was mainly

driven by the redistribution of monetary income within the Eurosystem.

In the financial account, Luxembourg registered net outflows of €3.5 billion in 2007. This development reflected net inflows in portfolio investments which were largely offset by net outflows in foreign direct investments and in other investments.



## BCL monetary operations within Luxembourg's balance of payments and international investment position

This text box focuses on BCL operations as a monetary authority within Luxembourg's Balance of Payments<sup>26</sup> (BOP) and International Investment Position<sup>27</sup> (IIP). The role of a central bank requires special treatment; in particular transactions are categorised to identify how a monetary authority could potentially finance an current account imbalance. In other words, the balance of transactions of the sector "resident monetary authorities" is the direct counterpart of the balance of transactions of the sector "non-monetary residents".

26 The balance of payments (BOP) is a statistical statement that summarises transactions between residents and non-residents during a given period. It comprises the current account, the capital account, and the financial account.

27 The international investment position (IIP) is a financial statement setting out the value and composition of a country's external financial assets and liabilities. The IIP is established on a quarterly basis.

In order to fulfil its statistical obligations, the BCL records all its operations under a regular statistical BOP reporting. Thus, the BCL transmits BOP and IIP statistics to the European Central Bank to allow it to establish the BOP and IIP of the EMU and thus detect a potential disequilibrium on the external balance. This framework includes transactions executed within the field of monetary policy, operations with the ECB and other supranational organisations (i.e. the International Monetary Fund (IMF)) as well as operations related to daily management. The above-mentioned transactions are primarily related to reserve assets, portfolio investment and other investments of the BCL. Finally, the nomenclature employed is defined by the IMF's balance of payments manual (BPM5).



### **1. Reserve Assets**

Reserve assets are an important component of BOP statistics and an essential element in the analysis of an economy's external position. Reserve assets consist of those external assets that are readily available to and controlled by a monetary authority for direct financing of payments imbalances, for indirectly regulating the magnitude of such imbalances through intervention in exchange markets to affect the currency exchange rate, and/or for other purposes. Reserve assets comprise monetary gold, special drawing rights, the reserve position in the IMF, foreign exchange assets (consisting of currency and deposits and securities), and other claims. Securities that do not satisfy the requirements of reserve assets are included in direct investment or portfolio investment.

Reserve assets held by the BCL comprise the following categories:

#### **a. Monetary gold**

Monetary gold is gold owned by the BCL and held as a reserve asset. Other gold (i.e. non-monetary gold, possibly including commercial stocks held for trading purposes...) is treated as any other commodity. Transactions in monetary gold occur only between monetary authorities and their counterparts in other economies or between monetary authorities and international monetary organisations.

#### **b. Special Drawing Rights (SDRs)**

SDRs are international reserve assets created by the IMF (in 1970) to supplement other reserve assets that are periodically allocated to IMF members in proportion to their respective quotas. SDRs are not considered liabilities of the Fund, and IMF members to whom SDRs are allocated do not incur actual liabilities to repay SDR allocations.

#### **c. Reserve position within the IMF**

An IMF member may have a position that is recorded under the category "reserve assets". This is referred to as the member's reserve position in the Fund. A member's reserve position is the sum of the reserve tranche purchases it may draw upon and any indebtedness of the Fund that is readily repayable to the member.

#### **d. Foreign exchange**

Foreign exchange includes monetary authorities' claims on non-residents in the forms of currency bank deposits, government securities, other bonds and notes, money market instruments, financial derivatives, equity securities, and non-marketable claims arising from arrangements between central banks or governments.

The BCL compiles data on reserve assets since 1999, but data on BOP and IIP is only available since 2002.

The sharp increase beginning of 2008 is due to an investment of foreign currency outside the Eurozone. According to the IMF's methodology, these investments have to be included in reserve assets.

### **2. Portfolio Investment**

Portfolio Investment targets the management of BCL assets. The core objective of these investments is to generate a regular income. The main components of this portfolio are equities, bonds (majority) as well as money market instruments.

### **3. Operations with the European Central Bank (ECB) / Other investments**

Operations with the ECB and operations relative to financial derivatives are part of other investments. Operations with the ECB and transactions within the ESCB comprise:

#### **a. Revenues generated by monetary operations**

As of 2003, the amount of monetary revenue of each national central bank in the Eurosystem is defined via the amount of revenue generated by a basket of certain assets. This basis comprises:

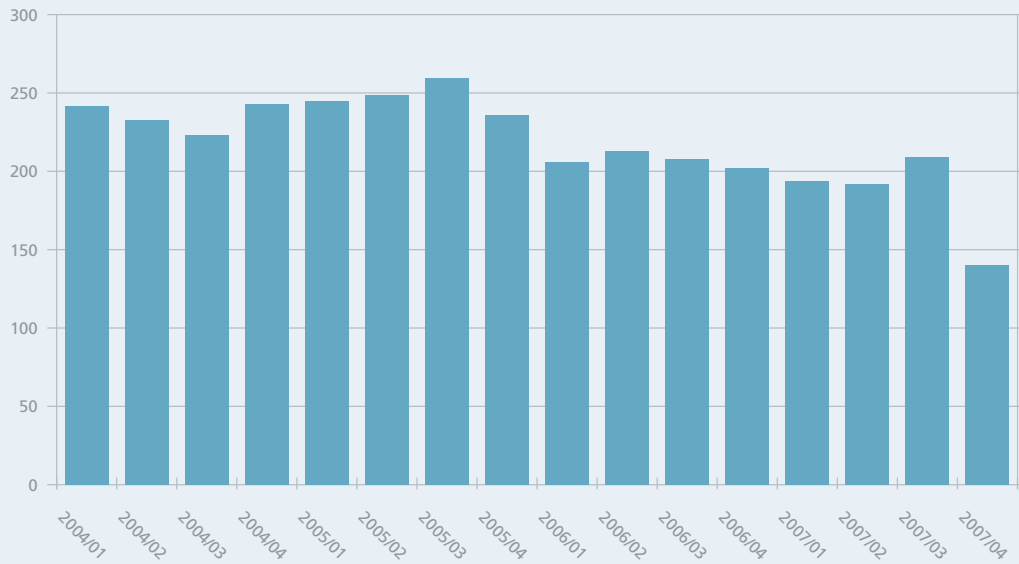
- Banknotes;
- Liabilities (linked to monetary policy operations) denominated in EUR towards credit institutions of the eurozone.
- Intra-Eurosystem liabilities (i.e. liabilities towards the ECB)

#### **b. Profit allocation of the ECB**

The ECB's profit is distributed to the national central banks. National central banks are also responsible for possible ECB losses.



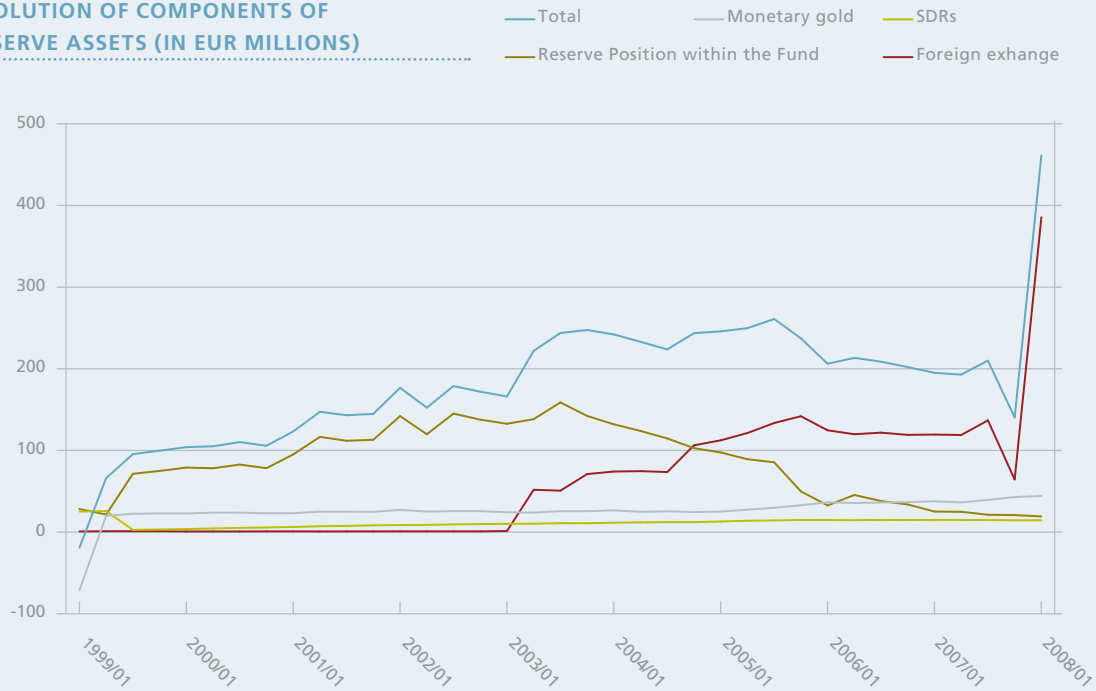
**CHART 30:**  
EVOLUTION<sup>1</sup> OF RESERVE ASSETS<sup>2</sup>  
(IN EUR MILLIONS)



Source : BCL

- 1 All charts are based on quarterly data  
2 2007 figures are subject to revisions

**CHART 31:**  
EVOLUTION OF COMPONENTS OF  
RESERVE ASSETS (IN EUR MILLIONS)



Source : BCL

**c. Income from banknotes and Target  
(payment system)**

**d. Income from fines enforced by the ECB**

**e. Income from reserve asset pooling**

**f. Income from collateral exchange**

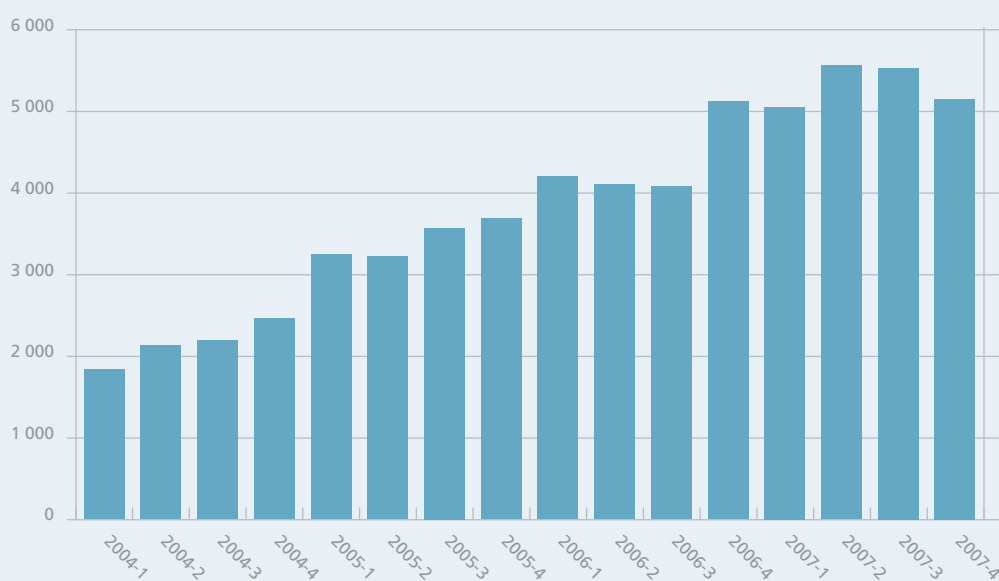
Monetary policy operations as well as the balance resulting from Target operations account for most of these amounts. The increase of end-2007 reflects the higher refinancing needs of Luxembourg's credit institutions. These refinancing operations were executed through the Target system. In addition, in December 2007, commercial banks participated in USD operations offered by the Eurosystem in response to the financial market turbulence.

The recent increase in the deficit on current transfers mainly reflects the reallocation of monetary income within the Eurosystem.

Inside the Eurosystem, income from seigniorage is transferred to the ECB before being attributed to national central banks. In this particular case, the BCL had to transfer funds to the Eurosystem because it issues a large volume of banknotes.

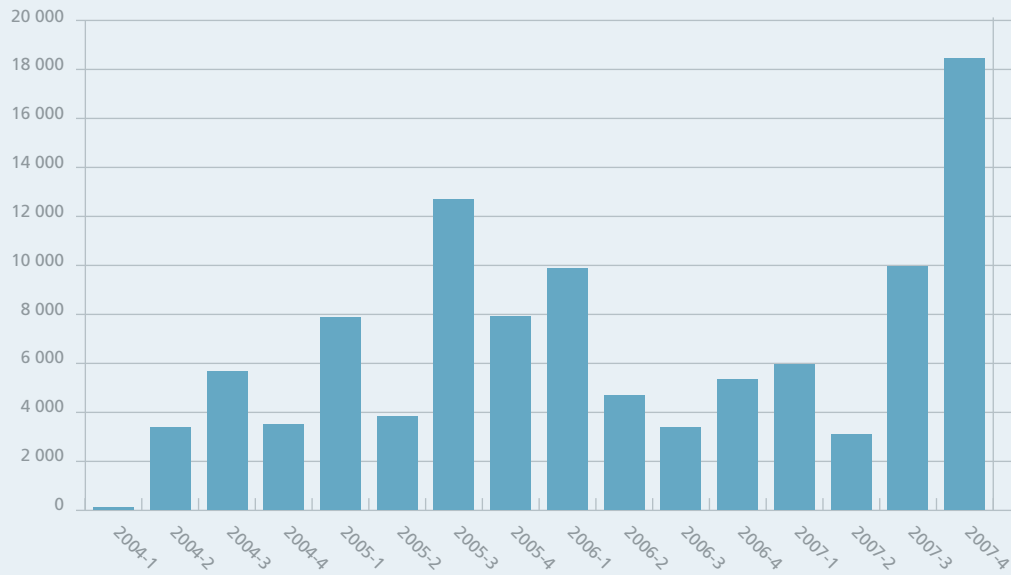
Finally, the following table identifies the operations described above within the BCL balance sheet.

**CHART 32:  
EVOLUTION OF PORTFOLIO INVESTMENTS –  
ASSETS – TOTAL STOCK (IN EUR MILLIONS)**



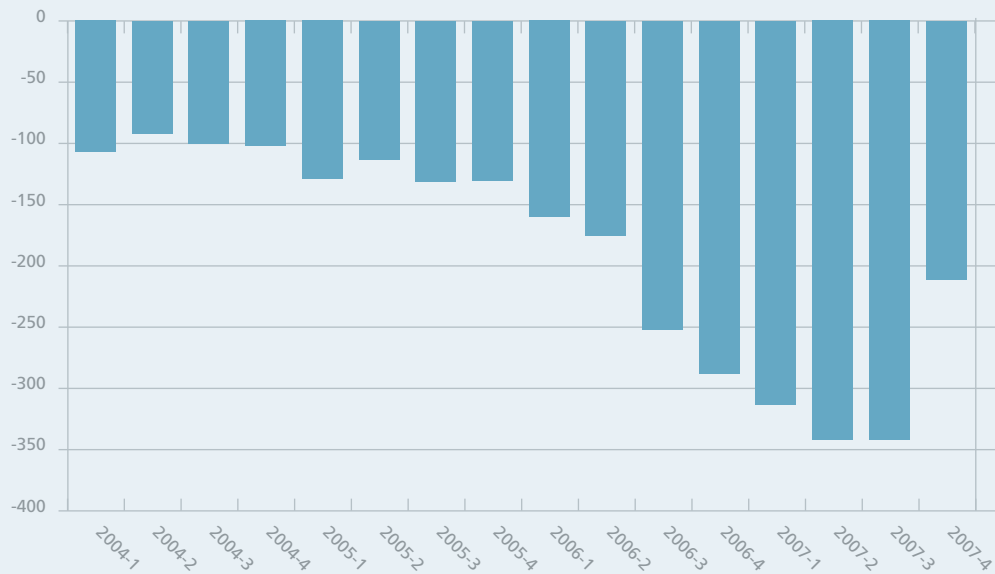
Source: BCL

**CHART 33:**  
**EVOLUTION OF OPERATIONS BETWEEN THE**  
**BCL AND THE ECB – ASSETS – TOTAL STOCK**  
**(IN EUR MILLIONS)**



Source : BCL

**CHART 34:**  
**IMPACT OF BCL OPERATIONS ON THE BALANCE**  
**OF CURRENT TRANSFERS (IN EUR MILLIONS)**



Source : BCL

**CLASSIFICATION BOP / IIP LEVEL****CLASSIFICATION AT BALANCE SHEET LEVEL**

<b>Assets</b>	<b>Assets</b>
<b>Portfolio Investment</b>	
Securities	Claims on non-euro area residents denominated in euro
Bonds and notes	Securities of euro area residents denominated in euro
Money market instruments	Other assets
<b>Other investments</b>	
	Intra-Eurosystem claims
Loans/currency and deposits	Intra-Eurosystem claims
Other assets	Intra-Eurosystem claims
<b>Reserve Assets</b>	
Monetary gold	Gold and receivables
SDRs	Receivables from the IMF
Reserve position within the Fund	Receivables from the IMF
Foreign Exchange	Balances with banks, security investments, external loans and other external assets
Currencies and deposits	Balances with banks, security investments, external loans and other external assets
Securities	Balances with banks, security investments, external loans and other external assets
Bonds and notes	Balances with banks, security investments, external loans and other external assets
Money market instruments	Balances with banks, security investments, external loans and other external assets
<b>Liabilities</b>	<b>Liabilities</b>
<b>Other investment</b>	
Loans/currency and deposits	Liabilities to non-euro area residents denominated in euro
	and
Other liabilities	Liabilities to non-euro area residents denominated in foreign currency

# 1. ECONOMIC AND FINANCIAL SITUATION

## 1.2.10 Macroeconomic projections

Since the finalisation of the previous projection exercise, Luxembourg's economy has fared slightly worse than expected. Real GDP growth in 2007 is currently estimated at 4.5%, at the lower end of our December projections. Furthermore, the quarterly growth profile has been adjusted downwards. A negative growth rate has been recorded for the third quarter, though it was followed by considerable rebound thereafter. Towards the end of 2007, the carry-over effect on annual real GDP growth in 2008 is estimated at 1.5%.

The business cycle probably peaked towards the turn of the year 2005/2006. While growth initially decelerated only gradually and remained at a high level, in the course of 2007 the slowdown grew sharper. According to our baseline scenario, the trough was probably reached in the first quarter of 2008, with a renewed decline in the level of activity, and a further substantial drop in annual growth rates. In that period, the financial turmoil resulted in a 10% drop of major stock-market indices, leading to a 7% decline of the net asset value of listed mutual funds, the first negative growth rate since the beginning of 2003. As a result, banks' income from trading fees also recorded a drop, both on a quarterly and on an annual basis. In the second quarter of 2008, as market sentiment gradually convinced itself that the worst of the financial crisis was over in the USA, equity markets turned the corner, which bodes well for activity in the banking sector and real GDP growth.

Overall, the short-term growth profile in Luxembourg was probably different from the euro area, and in particular from Germany, our main export market. However, this is hardly a surprise, given that Luxembourg's main sector of production, financial services, was at the centre of the turmoil.

Monthly indicators in manufacturing also suggest the downward phase of the business cycle. Although manufacturers have dampened their optimism, their sentiment falls short of outright pessimism. The confidence indicator remains above the medium-term value suggesting a more sustained drop in activity is not in the offing.

Overall, compared to the previous exercise, the outlook for the international environment has been significantly

adjusted downwards, both for 2008 and 2009. Growth slowed already in 2007, but international organisations now agree that the slowdown might reach at least until 2009. However, annual average growth rates are rather slow in identifying turning points. The quarterly projection profile suggests that the upturn could emerge as early as the second half of 2008.

The international scenario embodies generally very weak growth, if any, in the USA as the economy digests the downturn in the housing market. Faced with this weakness, other economies should also be affected, though a prolonged period of weak global growth is unlikely. US weakness should be partially compensated by dynamism in South-east Asia and the resilience of the euro area economy.

The euro area was characterised by a period of strong growth that extended well into the first quarter of 2008. In light of the international scenario, it could have also slowed down in the second quarter of 2008 before converging gradually back to trend growth. According to the recent Eurosystem projections, economic growth is expected to range between 1.5% and 2.1% in 2008 and between 1.0% and 2.0% in 2009, slightly lower than previously assumed.

Growth in Luxembourg's export markets declined sharply in 2007 after being particularly dynamic in 2006. The deceleration could continue in 2008 before a projected gradual recovery to trend growth. As for the international assumptions, this scenario has been revised downwards compared to the previous exercise.

On the basis of this analysis and especially in the euro area context, economic activity in Luxembourg is set to decelerate further in 2008. Thus the scenario remains unchanged compared to previous projections. However, the speed of the slowdown has increased in the context of the financial turmoil and its projected repercussions on the performance of the banking sector. Real GDP growth is now expected in a range between 2.9% and 3.5%, thus below trend growth. On the basis of the international scenario, and taking into account the different short-term growth profile, economic growth could rebound in 2009. These projections are based on the assumptions of faster growth in private and public consumption spending, which

**TABLE 20:**  
**PROJECTIONS OF INTERNATIONAL INSTITUTIONS**  
**(IN ANNUAL PERCENTAGE CHANGES, RESPECTIVELY**  
**IN PERCENTAGE POINTS)**

	2007	2008	2009	2010
World trade (EC)	6.8 (-0.7)	6.2 (-0.8)	5.8 (-1.4)	-
World GDP (EC)	4.6 (-0.5)	3.8 (-0.9)	3.6 (-1.2)	-
Real GDP euro area (EC)	2.6	1.7 (-0.5)	1.5 (-0.6)	-
Real GDP euro area (Eurosystem)	2.7	1.5-2.1	1.0-2.0	-
World demand for Luxembourg	4.7 (-0.3)	4.3 (-1.1)	4.4 (-1.4)	5.5
Oil in USD/barrel <sup>1</sup>	72.7 (0.1)	116.7 (28.1)	126.0 (42.3)	126.0
Exchange rate USD/EUR <sup>2</sup>	1.37	1.54 (0.1)	1.54 (0.1)	1.54
Short-term interest rate	4.3	4.9 (0.4)	4.3 (-)	4.2
Long-term interest rate	4.3	4.4 (0.1)	4.6 (0.3)	4.7

Sources : European Central Bank, European Commission, BCL

- 1 Revisions in USD/barrel  
 2 Revisions in USD/EUR

however cannot fully offset slower export growth and weaker investment.

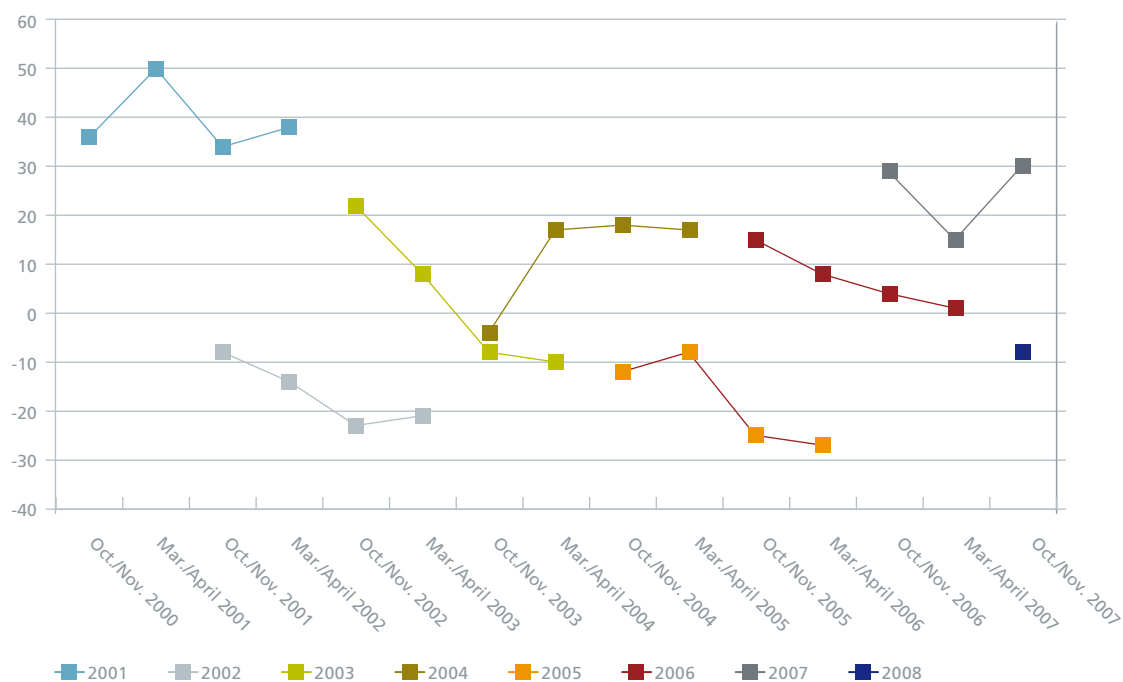
Exports suffer both from slowing world demand and from the impact of the financial turmoil on exports of financial services, which account for about 50% of total exports. The weakness in private investment is mostly the consequence of exceptional dynamism observed in 2007 rather than the result of endogenous factors such as more moderate growth prospects. In fact, for the year 2008 manufacturing has announced plans to keep investment spending flat – at a high level – after the 30% rise in 2007 (see chart). It also seems premature to attribute these developments to the financial turmoil and the tighter financing conditions following the sharp rise in 3-month Euribor rates. A credit crunch is not considered a realistic scenario either (see box on pages 41-42). Though it is relatively less important for the Luxembourg economy, private consumption growth could strengthen. Indeed, in recent years, it has increased very little despite the strong fundamentals such as employment and earnings growth.

Turning to wage developments, the projections remain unchanged for the short term. Indeed, given the government's decision to modify the wage indexation mechanism for the period 2006-2009, it has virtually fixed the part of the nominal wage increase that compensates for past inflation. The benefits of the Tripartite agreement appear clearly as the sharp rise in oil prices does not lead to a more protracted rise in compensation per employee. In 2010 however, the agreement is set to expire and there will be a major impact on wages if the previous mechanism is re-introduced without adjustments. According to the current inflation projections, wage compensation for past inflation would amount to 4.2pp, the highest contribution from indexation since 1984, with wages increased automatically by 2.5% on two occasions in 2010, starting in January. Compensation per employee would then rise sharply from 3.7% in 2009 to 5.4% in 2010.

The labour market will feel the brunt of the economic downturn only with a considerable lag. In 2007 and early 2008 employment growth has been surprisingly resilient, especially in the financial services sector. The lack of skilled staff probably weighed more on recruitment decisions than banks' short-term financial performance. Luxembourg may also be less exposed to

# 1. ECONOMIC AND FINANCIAL SITUATION

**CHART 35:**  
**BI-ANNUAL INVESTMENT SURVEYS IN THE**  
**INDUSTRIAL SECTOR (EXPENDITURES AT CURRENT**  
**PRICES, IN ANNUAL PERCENTAGE CHANGES)<sup>1</sup>**



Source: European Commission

<sup>1</sup> The surveys are carried out in October/ November and in March/April of each year.

**TABLE 21:**  
**MACRO-ECONOMIC PROJECTIONS AND REVISIONS**  
**COMPARED TO DECEMBER 2007 (IN ANNUAL**  
**PERCENTAGE CHANGES, RESP. IN PERCENTAGE POINTS)**

	2007	2008	2009	2010	2007	2008	2009
Real GDP	4.5	2.9-3.5	3.5-4.5	3.9-4.9	-0.5	-1.1	-0.5
HICP	2.7	4.5	2.8	2.3	-	1.2	0.9
HICP energy	2.7	16.9	3.8	0.0	-	9.6	5.7
HICP ex energy	2.7	2.8	2.6	2.7	-	-	0.1
NICP	2.3	3.6	2.4	2.1	-	0.7	0.6
NICP ex energy	2.3	2.4	2.2	2.4	0.1	0.2	0.3
Contribution of indexation to nominal wage increase	2.3	2.1	2.5	4.2	-	-	-
Compensation per employee	3.5	3.4	3.7	5.4	-1.0	-0.2	-
Employees	4.4	3.1	2.5	2.7	-0.1	-0.5	-0.5
Unemployment rate	4.4	4.4	4.6	4.6	-0.1	-0.3	-0.1

Source: BCL

the *sub-prime* crisis than other major financial services centres because of its concentration on mutual funds. Nevertheless, we expect employment growth to drop below 3%, which would be insufficient to generate a further decline in the unemployment rate. The rebound of the labour market is likely to be shallow, in line with the projected upturn for economic growth.

The favourable inflation dynamics observed in 2007 have come to an end, and headline inflation is set to accelerate sharply in 2008 to levels not seen since 1993. These developments stem largely from a high contribution from the energy component in the context of the surge in the oil price to above 120 USD/barrel. In spite of the economic slowdown, the effect is likely to be exacerbated by an acceleration of inflation excluding energy. This would be driven mostly by high services inflation and the rise in food prices. In the medium term, a decline of inflation is feasible. However, although the projections are conditional on a stabilisation of the oil price, a drop of NICP inflation below 2% is unlikely. The sharp rise in wages in 2010 following the return to automatic wage indexation should lead to higher services inflation, and therefore also to higher inflation in the NICP and the HICP excluding energy.

### Risks analysis

The BCL business cycle indicator is calculated using monthly data as available on 4 June 2008. The dataset used includes around 100 economic and financial time series. Among them 14 were available until May 2008, nine until April 2008 and 48 until March 2008 to date (4 June 2008).

Based on this monthly information, the provisional results for the indicator suggest that economic growth in Luxembourg remained sustained during the first semester 2008, despite the global slowdown. Therefore, the indicator favours the upper part of the range of BCL growth projections.

## 1.2.11 Public finances

### 1.2.11.1 Budgetary policy overview

2007 was marked by three fiscal policy milestones. First, the implementation of the budgetary consolidation measures agreed in 2006 by the *Comité de Coordination Tripartite*. The main measures were an increase of fiscal and para-fiscal pressure, the suspension of the indexation of family allowances, and the rescheduling of pensions' indexation to real wages. In addition, a public sector wage freeze was announced as well as closer monitoring of investment expenditure. Second, the ninth update of the Stability Programme, published in October 2007, confirmed the more cautious budgetary course. Even though the general government balance registered a surplus, public expenditure increase was to remain moderate compared to previous years. Third, a very favourable macroeconomic environment, especially in the financial sector, allowed general government to accumulate significant revenues, resulting in a surplus of 3% of GDP.

The general government budget adopted by the Chamber of Deputies in December 2007 marked a clear deceleration of expenditure growth compared to the last few years (5.3% in 2008). Revenues should grow faster than expenditures, allowing the central government deficit to fall significantly from €188 million in 2007 to €20.5 million the year after (see table below).

However, these figures should be interpreted with caution, as they incorporate allocations to extra-budgetary funds instead of their actual expenditures. In addition, the final 2007 budget is an inappropriate basis for comparison, as in Luxembourg budgetary executions diverge clearly from the final budget. After correcting for these two inconsistencies, total central government expenditure should increase by 11.1% in the period 2006-2008 (or 5.5% per year on average), reflecting significant growth in planned expenditures by the extra-budgetary funds and by some public institutions. On the other hand, central government revenues should increase by only 6.3% over the period 2006-2008<sup>28</sup>.

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For more details about the consolidation please see BCL Bulletin 2007/02.



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**TABLE 22:**  
**KEY FIGURES IN THE 2008 CENTRAL GOVERNMENT BUDGET**  
**(EUR MILLIONS, UNLESS OTHERWISE INDICATED)**

	Final 2007	2008 Budget	Increase in nominal terms
<b>Revenue</b>	<b>7 841.7</b>	<b>8 438.0</b>	<b>7.6%</b>
Current revenue	7 761.0	8 355.4	7.7%
Capital revenue	80.7	82.6	2.4%
<b>Expenditure</b>	<b>8 029.5</b>	<b>8 458.5</b>	<b>5.3%</b>
Current expenditure	7 239.6	7 631.3	5.4%
Capital expenditure	789.9	827.2	4.7%
<b>Balance</b>	<b>-187.8</b>	<b>-20.5</b>	<b>--</b>
of which current balance	521.4	724.1	--
of which capital balance	-709.2	-744.6	--

Source: 2007 and 2008 budget law.

## 1.2.11.2 General government revenue

After a significant fall in 2006, the revenue-to-GDP ratio rose in 2007. Revenues moved from 40.1% of GDP in 2006 to 41.1% the following year. Despite this increase, the revenue ratio remains low compared to the last decade, reflecting exceptionally high nominal GDP growth. According to the national accounts published in May 2008, nominal GDP increased about 7% in 2007, after 13% in 2006. In nominal terms, total general government revenue increased by 9.5% in 2007, which is significantly above the trend observed at the beginning of the century.

During 2007 the significant increase in total revenue benefited from exceptional growth in direct tax revenues (18% on an annual basis), mainly reflecting buoyant corporate taxes. Indirect tax receipts and social contributions followed the same trend in nominal terms, although at lower levels: 6.2% and 9.5% respectively. These positive effects reflected very favourable macroeconomic developments, an excellent financial sector performance, and strong employment growth.

Total general government revenue is expected to decrease in 2008 and 2009, before stabilising in 2010. This profile is dictated by the general economic slowdown following the sub-prime crisis. In addition, the introduction of the *statut unique* in 2009 could induce additional downward effects on social security revenues. Employment growth is also projected to slow.

It is important to mention that the projections are subject to a high degree of uncertainty. They basically set the high level of observed revenues in 2007 in a highly uncertain macroeconomic and financial context. Risk factors include the real effects of the financial market turmoil, higher inflation, and downward revision of world GDP growth. In addition, the additional revenues collected in the last three years, may be less persistent than assumed in the projections.

## 1.2.11.3 General government expenditure

The expenditure-to-GDP ratio declined sharply in 2007 for a second consecutive year. It reached 38.2% of nominal GDP compared to 38.8% in 2006. Although expenditure growth increased only slightly in 2007 – at 5% it is low compared to average growth in the last five years – it is still higher than in neighbouring countries.

Total expenditure in nominal terms should increase by 9.9% in 2008, mainly boosted by the introduction of a new tax credit for children. Expenditure growth should stabilize around 6.7% on average over 2009-2010. Continuing consolidation of expenditure is required in order to diminish the uncertainties related to future revenues.

Furthermore, lower expenditure growth in 2007 is in part due to a fall in social transfers, including the suspension of indexation of family allowances and the modulation of pension indexation to real wages.

**TABLE 23:**  
**GENERAL GOVERNMENT REVENUE**  
**(AS A PERCENTAGE OF GDP, UNLESS**  
**OTHERWISE INDICATED)**

	Official data May 2008						BCL projections June 2008		
	2002	2003	2004	2005	2006	2007	2008	2009	2010
Direct taxes	15.3	14.7	13.0	13.7	13.0	13.5	13.5	13.6	13.9
Payable by households	7.2	7.3	7.3	7.9	8.1	8.0	8.1	8.2	8.4
Payable by corporations	8.0	7.4	5.7	5.8	5.0	5.5	5.4	5.4	5.5
Indirect taxes	13.0	12.6	13.5	13.4	12.8	13.0	12.7	12.4	12.1
Social contributions	11.8	11.7	11.6	11.4	10.8	11.1	11.3	10.9	10.9
Other revenue	3.9	3.6	3.4	3.3	3.5	3.6	3.4	3.4	3.4
<b>Total revenue</b>	<b>43.9</b>	<b>42.6</b>	<b>41.5</b>	<b>41.8</b>	<b>40.1</b>	<b>41.1</b>	<b>40.9</b>	<b>40.3</b>	<b>40.4</b>
<b>Nominal increase in total revenue %</b>	<b>4.5</b>	<b>4.0</b>	<b>4.0</b>	<b>10.3</b>	<b>8.1</b>	<b>9.5</b>	<b>4.0</b>	<b>5.2</b>	<b>7.3</b>

Sources: IGF, IGSS, STATEC, UCM, BCL calculations.

**TABLE 24:**  
**GENERAL GOVERNMENT EXPENDITURE**  
**(AS A PERCENTAGE OF GDP, UNLESS**  
**OTHERWISE INDICATED)**

	Official data May 2008						BCL Projections June 2008		
	2002	2003	2004	2005	2006	2007	2008	2009	2010
Social transfers	20.3	20.9	21.1	20.7	19.4	19.0	20.1	19.9	19.9
Public investments	4.9	4.6	4.3	4.5	3.6	3.8	4.0	4.0	4.0
Composition expenditure <sup>1</sup>	11.5	11.4	11.5	11.4	10.4	10.4	10.6	10.6	10.7
Subsidies <sup>2</sup>	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6
Other expenditure	3.4	3.5	4.2	3.6	3.8	3.3	3.7	3.7	3.7
<b>Total expenditure</b>	<b>41.8</b>	<b>42.1</b>	<b>42.7</b>	<b>42.0</b>	<b>38.8</b>	<b>38.2</b>	<b>40.1</b>	<b>39.9</b>	<b>39.9</b>
<b>Nominal increase in total expenditure (%)</b>	<b>15.3</b>	<b>7.9</b>	<b>8.3</b>	<b>7.4</b>	<b>4.3</b>	<b>5.0</b>	<b>9.9</b>	<b>6.2</b>	<b>7.2</b>

Sources: IGF, IGSS, STATEC, UCM, BCL calculations

- 1 Compensation of employees and intermediate consumption.
- 2 Disregarding capital transfers.

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## 1.2.11.4 General government net lending or borrowing

The general government budget balance is obviously the difference between the expenditure and revenue ratios described above. After a period of deterioration, 2006 and 2007 have seen a return to a surplus position. This mainly reflects a very favourable economic environment, an excellent financial sector performance and the implementation of the budgetary consolidation measures agreed in 2006 by the *Comité de Coordination Tripartite*.

On the other hand, the gradual consolidation process since 2005 may come to a halt in 2008. The general government surplus should decrease from 3% of GDP in 2007 to 0.8% of GDP in 2008, mainly due to new measures adopted in the 2008 budget. These include the transformation of child allowance from tax deduction to tax credit, the partial indexation of tax brackets to past inflation up to 6%, and the reduction of the registration tax rate (*droit d'apport*) from 1% to 0.5%. Moreover, in 2008 the central government is projected to record a deficit once again, reaching -1.1% of GDP. As indicated in table below, the budgetary deterioration is mainly attributable to the central government in a broad sense, after consolidating the extra-budgetary

funds and some administrations of central government *sensu stricto*.

For 2009, the general government surplus is projected to deteriorate compared to 2008. The surplus should decline from 0.8% to 0.4% of GDP. This deterioration is explained on the one hand by a less favourable economic environment, and on the other hand, by the introduction of the *Statut unique* adopted by Chamber of Deputies in April 2008, coming into effect January 1<sup>st</sup> 2008.

So far, no new significant measure for 2010 has been announced. On this basis, the surplus should remain positive and stable in 2010.

The Prime Minister's speech on the state of the Nation, delivered on May 22, 2008, to the Chamber of Deputies, reviewed the economic, social and financial situation. It contained no concrete and quantifiable measure for 2010 that could have a significant impact on public finances.

Several measures were announced for 2009:

- Partial indexation of tax brackets to past inflation up to 6%;
- Transformation of the *abattement compensatoire* for wage-earners, the tax deduction for pensioners, and the *abattement monoparental* to corresponding tax credits;

**TABLE 25:**  
**GENERAL GOVERNMENT NET LENDING (+) OR NET BORROWING (-) (AS A PERCENTAGE OF GDP)**

	Actual balance (net lending (+) or net borrowing (-))									
	Official data May 2008						BCL Projections June 2008			
	2002	2003	2004	2005	2006	2007	2008	2009	2010	
<b>General government</b>	2.1	0.5	-1.2	-0.1	1.3	3.0	0.8	0.4	0.5	
of which central government	-0.4	-1.2	-2.6	-1.3	-0.7	0.6	-1.1	-1.1	-0.9	
of which local governments	0.1	0.0	-0.1	-0.3	0.2	0.0	-0.1	-0.1	-0.2	
of which social security	2.4	1.8	1.5	1.5	1.8	2.4	1.9	1.7	1.6	
<b>Stability Programme</b>	--	--	--	--	0.7	1.0	0.8	1.0	1.2	
<b>BCL projections December 2006</b>	--	--	--	--	0.7	1.3	0.9	0.6	--	
	Cyclically adjusted balances									
<b>BCL projections June 2008<sup>1</sup></b>	1.4	0.5	-0.6	0.3	1.8	2.6	1.0	0.6	0.6	
<b>Stability Programme estimate October 2008</b>					1.1	0.8	0.7	0.6	1.1	

Sources: IGF, IGSS, STATEC, UCM, BCL calculations.

1 These cyclically adjusted balances are based on a disaggregated Hodrick-Prescott approach.

- introduction of a tax allowance on motor vehicles for large families;
- increase of the minimum wage;
- regular adjustment of rents and pensions;
- and introduction of "Services" transfers to families with children.

These measures should have an impact on the budget balance in 2009 and 2010. Preliminary BCL estimates (limited to the partial indexation of tax brackets) suggest a possible negative effect of the order of 0.2% to 0.3% of GDP in 2009 and 2010. The official BCL projections presented above do not include this effect.

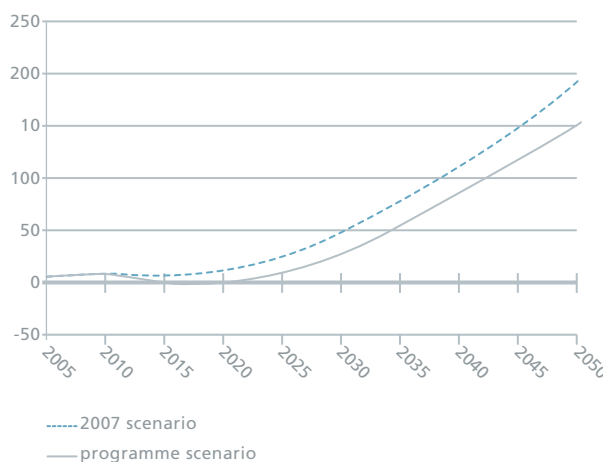
The modifications to the automatic indexation of wages agreed by the *Comité de Coordination Tripartite* in 2006, should expire 1st January 2010, assuming acceptable economic developments.

Luxembourg's public debt ratio remains among the lowest in the EU. In 2007 it was 6.9% of GDP, with an increasing trend mostly driven by central government. BCL projections anticipate a rising trend over the three next years, with the debt ratio reaching 7.7% of GDP in 2010. Although this remains very low compared to other European countries, vigilance is required, as the general pension regime could put severe strain on public finances if no significant reform is adopted in the near future. The BCL, along with all major international institutions, and in particular the European Commission, has repeatedly stressed the seriousness of the problem.

The European Commission projects Luxembourg's general government debt through 2050 under two alternative scenarios.

The first scenario (scenario 2007) assumes that the structural primary balance, ignoring the ageing effect, will maintain the level reached in 2007 over the projection period. The second scenario (scenario Programme) assumes that the budget objectives of the Stability Programme are respected. In both cases, the simulations take into account the ageing-related increase in general government expenditure. This has been estimated at 8.2% of GDP between 2010 and 2050. The estimated impact of ageing would lead to a spectacular increase of the general government debt ratio, as shown clearly in chart below. The debt ratio is projected to reach 60% of GDP by the mid-2030s.

**CHART 36:**  
**LONG TERM PROJECTIONS FOR THE GOVERNMENT DEBT RATIO UNDER TWO SCENARIOS (AS A PERCENTAGE OF GDP)**



Sources: European Commission (2008), An analysis of the October 2007 Update of the Stability Programme for Luxembourg, p.36.



## 2. The BCL's operations

### 2.1 Monetary policy operations

In the Grand-Duchy of Luxembourg, BCL is responsible for conducting the monetary policy as defined by the ECB, for the entire Euro zone.

The role of monetary policy is to steer interest rates and to control the liquidity in the money markets. To achieve this aim, instruments from three categories are being used:

#### *Open Market Operations*

The refinancing operations conducted by the BCL (open market operations), consist of funds granted by the BCL against eligible collateral submitted by its counterparties, the financial institutions in Luxembourg.

Open market operations are split into:

- Main refinancing operations (MRO), carried out by the Eurosystem on a regular basis. MROs are realised through weekly tenders, with a one-week maturity. Those operations play a leading role in the management of banking liquidity and in signalling the trend of monetary policy.
- Longer term refinancing operations (LTRO), carried out by the Eurosystem on a regular basis. LTRO are normally conducted through monthly tenders. They mostly have a three month-maturity. Those operations aim at providing additional longer term funding to the financial sector. They do not aim at giving signals about the orientation of the monetary policy.
- Fine tuning operations, executed by the Eurosystem on an ad hoc basis in order to counter temporary imbalances.

#### *Standing Facilities*

This instrument allows for the injection and withdrawal of liquidities on a day to day basis.

There are two types of standing facilities:

- the marginal lending facility: the counterparties benefit from a marginal lending facility at BCL, which they can use in the form of a current account overdraft (against a guarantee) until the following working day.

- the deposit facility: the counterparties benefit from the possibility to make deposits with BCL at the end of the day.

#### *Minimum Reserves*

The financial institutions of the Euro zone are subject to a system of mandatory minimum reserves to be held on accounts opened at their national central bank.

Those reserves aim at stabilising money market interest rates, and at creating a structural liquidity deficit.

### 2.1.1 Open market operations

#### 2.1.1.1 Main refinancing operations (MRO) in 2007

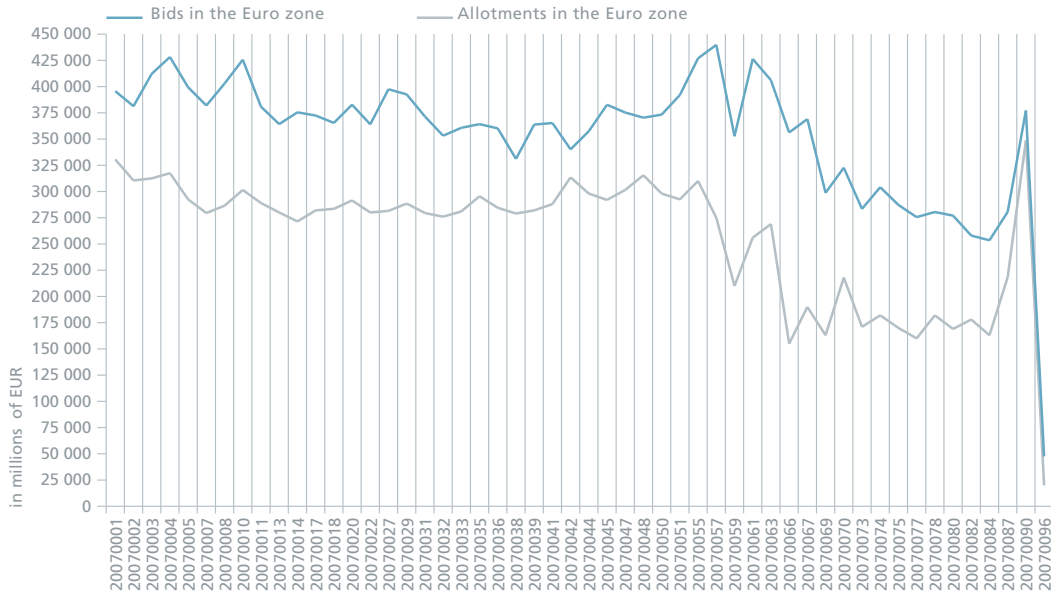
The year 2007 is divided in two halves: the first one, which was rather stable and similar in pattern to previous years, covers the period from January until the end of July; and a second one, much more volatile, which covers the period from August until the end of the year and beyond.

Chart 1 below, which shows the liquidity amounts that were bid and allotted in the Euro zone in 2007, illustrates well those two periods: until mid-2007 volumes allocated through main refinancing operations were rather stable. Afterwards, in order to face the turmoil, the ECB increasingly used the longer term refinancing operations (see below) and reduced the volume allocated through main refinancing operations accordingly. It should also be noted that the durations of the MROs at the end of the year were modified in order to take into account the public holidays. The Eurosystem extended the penultimate operation in order to provide the liquidities needed to span the year-end period. As a consequence, the last operation of the year between Christmas and New Year, was shortened and the amounts bid and allotted were very low as funding requirements were already met by the previous MRO.

1 Operation 20070050

## 2. THE BCL'S OPERATIONS

**CHART 1:  
MRO 2007 - BIDS AND ALLOTMENTS  
IN THE EURO ZONE**

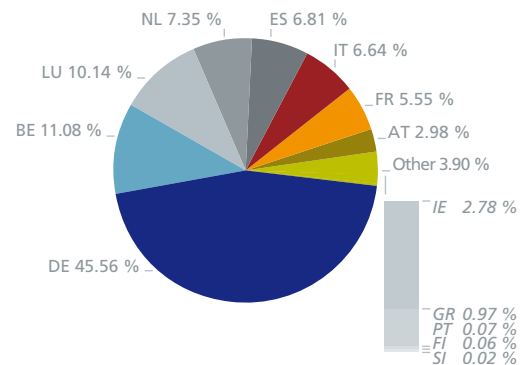


Luxembourg counterparties continued to take active interest in the main refinancing operations during 2007. On average, Luxembourg was allotted some 10.1% of all the liquidities allocated through MRO to the whole Euro zone (see chart 2).

As in 2006 and in the previous years, the share of Germany was the most important in the Euro zone with 45.6% of the liquidities allotted to German counterparties.

Since 2007, Slovenia participates to the open market operations of the Eurosystem.

**CHART 2:  
MRO 2007 – COUNTRY ALLOCATION  
OF LIQUIDITIES ALLOTTED IN THE EURO  
ZONE (IN %)**



### 2.1.1.2. Longer-term refinancing operations (LTRO) in 2007

During the second half of the year 2007, the “subprime crisis” strongly influenced the liquidity management via longer-term refinancing operations.

In order to face the turmoil, as from the end of August, the European Central Bank resorted to supplementary longer-term refinancing operations in addition to the regular LTRO. A first supplementary operation took place at the end of August and a second one mid-September. Those operations were renewed on several occasions<sup>2</sup>.

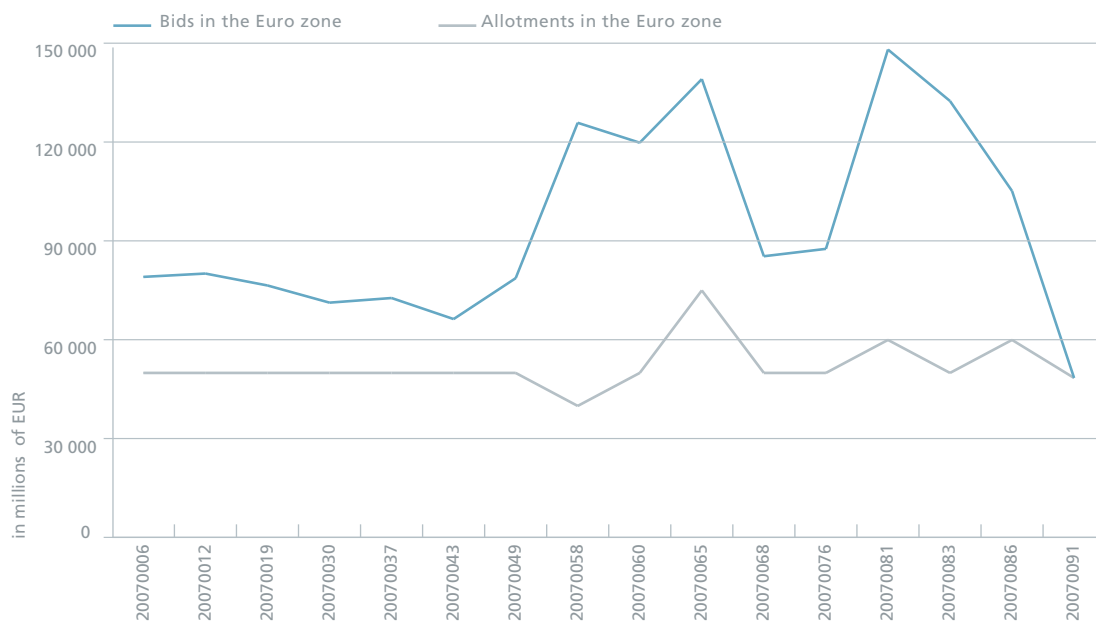
In April 2008, a longer-term operation with an exceptional maturity of 6 months was launched.

Chart 3 below clearly illustrates the increasing bid volumes starting from the operation 20070058 on 24 August 2007. Indeed, as from this point, volumes asked by the counterparties increased substantially.

It is noteworthy that the last two operations were separated by 8 days only. This, together with the abundance of liquidities available during the last days of the year, explains the sharp decline in those operations.

<sup>2</sup> Operations 20070058, 20070065, 20070081 and 2007086.

**CHART 3:  
LTRO 2007 - BIDS AND ALLOTMENTS  
IN THE EURO ZONE**

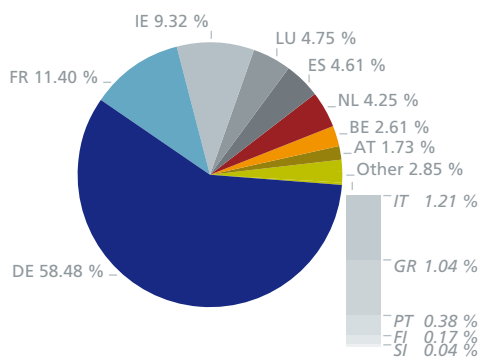


In 2007 the Luxembourg counterparties were allotted on average 4,8% of the long-term liquidities allocated to the global Euro zone. (see chart 4).



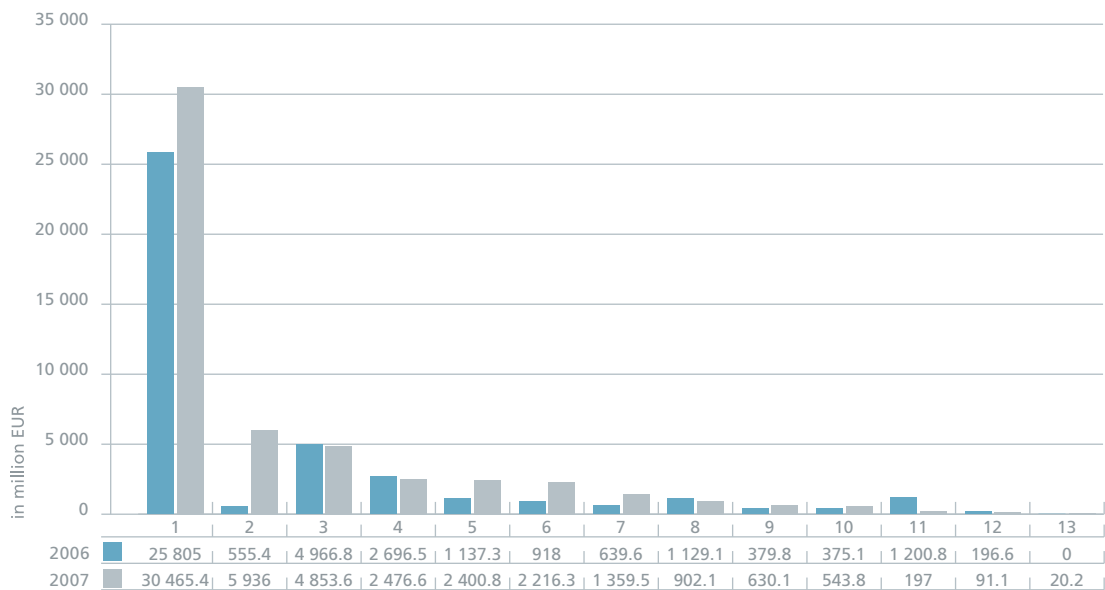
## 2. THE BCL'S OPERATIONS

**CHART 4:**  
**LTRO 2007: COUNTRY ALLOCATION OF**  
**THE LIQUIDITIES ALLOTTED TO THE EURO**  
**ZONE (IN %)**



Like in 2006 and the previous years, the share of Germany is the most important in the Euro zone, with 58.5% of the liquidities allocated to the German counterparties. It should also be noted that the share of French counterparties in those longer-term operations has increased substantially. (see Chart 5 here-below).

**CHART 5:**  
**LTRO 2007 – AVERAGE ALLOTMENT**  
**IN THE EURO ZONE (2007 VS 2006)**



### **2.1.1.3 Fine tuning operations in 2007**

Contrary to earlier years, 2007 saw great recourse to fine tuning operations.

From the beginning of the financial turmoil, the European Central Bank resorted to this instrument in order to re-establish balanced liquidity conditions on the money markets. Seven operations were launched between the beginning of August 2007 and the beginning of October 2007. In the beginning of the crisis, these operations were liquidity providing in order to fulfil the requirements of counterparties. As of September, fine tuning operations were always liquidity absorbing in order to drain excess liquidities from the markets. Nine liquidity absorbing operations were conducted during December only.

In the beginning of 2008, the European Central Bank continued to make use of this instrument more regularly to absorb as well as to provide liquidity on an ad hoc basis.

### **2.1.2 Standing facilities**

Luxembourg counterparties may have recourse to standing facilities at the BCL, these being either the deposit facility or the marginal lending facility. Recourse is made against predefined interest rates, which are directly related to the reference rate of the European central Bank.

Apart from a few exceptions, the counterparties have only used the deposit facility on the last day of the maintenance period.

### **2.1.3 Minimum reserves**

The counterparties of the Eurozone are required to hold minimum reserves at the national central bank of their country of residence. Those obligations have to be met on average over the maintenance period, which allows counterparties to make free use of their liquidities over the period. This feature helps stabilising the market.

The minimum reserves system was unchanged in 2007.

Luxembourg counterparties rarely failed their obligations in 2007. Only two counterparties were imposed a sanction in this respect.



## 2. THE BCL'S OPERATIONS

### 2.2 Foreign exchange reserves management by the BCL

In accordance with the Statute of the Eurosystem and in line with its share in the ECB's capital key, the BCL transferred €74.6 million in foreign exchange assets to the ECB.

The ECB's foreign exchange reserves have been managed in a decentralised way by the national central banks since January 1999. Since 1 January 2007, following the adjustment of the weightings, which takes place every five years, and the EU's enlargement on 1 May 2004, the BCL's share in the ECB's capital key has been 0.1575%, previously 0.1568%; an additional €3.5 million has been transferred to the ECB. As at 31 December 2007, the total market value of the ECB's reserves (including accrued interest) managed by the BCL corresponded to €236.6 million.

One goal of the foreign exchange reserves management of the ECB is to ensure that the ECB has sufficient liquidity available to intervene in the foreign exchange markets if need be. Security and liquidity are, therefore, basic requirements in managing these reserves. A tactical benchmark is set up for each currency by taking into account the strategic benchmark.

This tactical benchmark reflects the ECB's risk/return medium-term preference as regards market conditions. A change in the tactical benchmark may affect different risk categories (for example, modified duration or liquidity risk). The Value at Risk of the tactical benchmark may differ from that of the strategic benchmark in the context of fluctuation margins announced, in advance, by the ECB.

In the management of this portfolio, the prime task of the BCL is to invest the foreign exchange reserves on behalf of the ECB within the prescribed fluctuation bands and fixed risk limits, with the objective being return maximisation. The amount of actively managed assets in gold is specified by the ECB, taking account of strategic considerations and market conditions.

The BCL manages a US-dollar portfolio on behalf of the ECB.



## 2.3 Management of the BCL's assets

### 2.3.1 Institutional structure

Asset management is based on a five-level intervention structure, in addition to risk control:

- The Council (level 1),
- The Board of Directors (level 2),
- The Asset and Liability Management Committee (ALCO) (level 3),
- The tactical committees (level 4),
- The portfolio managers (level 5).

- **Level 1:** The Council

The Council approves the guidelines of the asset management framework. Thus, the Council has granted the BCL the possibility to provide asset management services to third parties and to hold own funds asset portfolios in order to diversify the Bank's income. The guidelines also include mitigation of the risk framework applied to asset management.

- **Level 2:** The Board of Directors

The Board of Directors defines the risk management framework. Thus, it determines the maximum risk allowance (MRA) in the management of the Bank's own assets. It also specifies the risk management measures, like the Value at Risk (VaR) method and the application of stress-testing scenarios. The Board of Directors also sets warning thresholds, which can lead to the calling of emergency meetings for assessment and arbitrage purposes. The Board of Directors sets the limits of the framework annually.

- **Level 3:** The Asset and Liability Management Committee ALCO

ALCO determines the strategic benchmark according to the framework fixed annually by the Board of Directors by examining the impact of each risk profile (market, credit and liquidity risk) which would result from the proposed investment policies, in respect of both the overall balance sheet and the profit and loss account of the BCL. During the year, ALCO regularly assesses the results of the investment policy.

- **Level 4:** The tactical committees

The tactical committees monitor the evolution of the portfolios on a shorter-term basis and work out proposals for tactical benchmarks that comply with the limits laid down by the strategic benchmark.

The tactical committees consist of the following:

- The *Comité de gestion*, for the BCL's own funds,
- The *Comité réserves de change* for the pooled reserves of the ECB,
- The *Comité tactical benchmark* for the pension fund of the BCL.

- **Level 5:** The portfolio managers

The transactions are executed by the portfolio managers, in strict compliance with the limits set, covering both the overall and specific investment limits.

### 2.3.2 Risk control

In addition, the important role played in the asset management framework by the Organisation and Risk Management unit (OR) and the Internal Audit unit (IA) should be mentioned.

The Risk Manager of the OR unit monitors the positions of all the portfolios in order to assess risks and to verify compliance with the pre-defined limits. This monitoring is carried out daily, independently of the Front Office. The IA unit complements the monitoring structure with specific missions at different levels of the organisation. In addition, the Middle and Back Offices also take part in the monitoring process.

### 2.3.3 Conceptual framework

#### *The investment policy objectives*

The main objectives are to generate a high income on a regular basis and to ensure a total return over the long term by taking into account considerations such as capital safety, stability of securities and liquidity. In order to achieve these goals and in accordance with the principle of risk diversification, the BCL implements

## 2. THE BCL'S OPERATIONS



a coordinated, progressive and pro-active investment policy based on modern portfolio theory.

**The investment approach** takes into account:

- the analysis of economies and international financial markets;
- the asset allocation decisions by assessing the returns on different international markets;
- the drawing-up of a clearly defined strategy;
- the capital value preservation of the assets under management by a policy of risk diversification and the application of specific qualitative requirements with regard to investments;
- the application of strict risk control measures.

**Investment decisions** are based on:

- market risks (interest rates, exchange rates, equity prices, commodity prices);
- credit risks (minimum credit ratings criteria by international rating agencies);
- liquidity risks (concentration limits by sector, by issuer, by issue and by geochartical diversification).

### **Performance measurement**

The quality of the investment decisions is measured by comparing the performance with the external benchmarks of leading investment banks. This permits a given performance to be assigned to a decision level (strategic, tactical) as well as to daily management.

### **2.3.4 Structure of portfolios**

The bulk of the BCL's own funds are invested in fixed-income securities denominated in euro. The strategic orientation permits a diversification into other asset categories.

The BCL manages five kinds of portfolios: Investment Portfolio, Liquidity Portfolio, Domestic Reserves Portfolio, Pension Fund Portfolio and Portfolios from third parties. In 2007 BCL has started to constitute a hold-to-maturity portfolio. The constitution of this portfolio will be completed in 2008 according to the rules of the Eurosystem.

#### **Investment Portfolio (Portfolio 1)**

This portfolio consists of assets (equity and bonds), which can be deemed to represent its own funds (with a longer-term investment profile). The main goal of the portfolio is to maximise the return by taking into account the above-mentioned risk constraints (see section 2.3.2). As of 31 December 2007 the total market value (including accrued interest) amounted to €1 598 million.

In 2007 the share of this portfolio invested in fixed income securities with a maturity above three years has been increased from 19% to 28%, whereas the percentage of bonds with a one to three year maturity declined from 36% to 29%. Moreover, by the end of 2007, variable rate and fixed rate bonds with maturity under one year represented 43% of Portfolio 1, about the same level as of 31 December 2006.

The securities included in this portfolio are widely diversified, not only geochartically but also in terms of sector and issuer.

#### **Liquidity Portfolio (Portfolio 2)**

This portfolio comprises the other assets that are largely attributable to a Eurosystem arrangement (Agreement on Net Financial Assets) and mirrors TARGET accounts and other liabilities. This portfolio, whose liability profile covers certain liquidity needs, also aims to maximise income. The instruments used are mainly fixed-income short-term bonds, variable rate

bonds and certificates of deposits (ECP), provided that they comply with strict and predefined rating criteria. As of 31 December 2007, the total market value (including accrued interest) amounted to €4 293.1million.

#### BREAK-DOWN OF RESERVES AS OF 31 DECEMBER 2007

Maturity	Portfolio 1	Portfolio 2
0-1 year	43%	85%
1-3 years	29%	12%
3-10 years	28%	3%

#### Domestic Reserves Portfolio

This portfolio aims to maintain an intervention portfolio in addition to the pooled foreign exchange reserves transferred to the ECB. Thus, the main requirements for this portfolio are security and liquidity. As of 31 December 2007, the total market value (including accrued interest) of this portfolio in foreign currencies amounted to €132 million.

#### Pension Fund Portfolio

The management of this fund is described further in section 4.3.4 of this report.

#### Investments Portfolios

The BCL provides non-standardised discretionary management services to institutional clients (central banks and international organisations). The Bank belongs to the Eurosystem service providers. Six central banks within the Eurosystem offer institutional clients (central banks, public authorities and international organisations) a comprehensive range of services for managing Euro-denominated reserve assets under a new framework of harmonised services defined by the ECB.

## 2.4 Banknotes and coins

Euro banknotes are produced to meet all the NCBS' banknote requirements, which are aggregated by the ECB. The production of one denomination is assigned to, at most, two NCBS. In 2007, the BCL was responsible for producing €9.6 million €100 banknotes for its own requirements. The production of these banknotes was entrusted to the specialised security printer *Johan Enschedé* in the Netherlands.

According to an agreement with the Luxembourg government, the BCL is in charge of the production of Luxembourg's euro coins. Following an invitation to tender, the BCL put the *Monnaie de Paris* (Mint of France) in charge of the production in 2007 of 43.5 million coins for its own requirements.



## 2. THE BCL'S OPERATIONS

### 2.4.1 Circulation of banknotes and coins

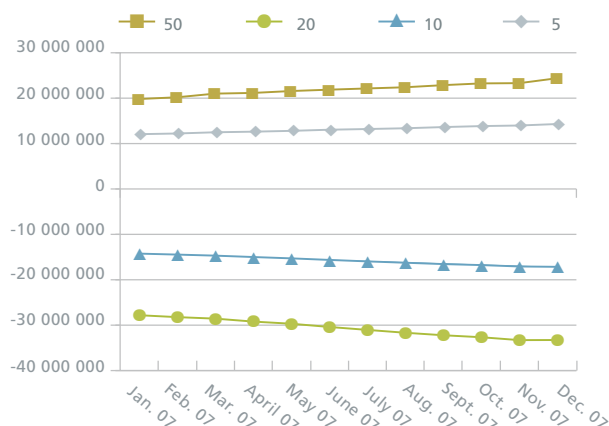
#### 2.4.1.1 Euro banknotes and coins

The volume of euro banknotes and coins put into circulation by the BCL exceeds, in the case of certain denominations, the volume effectively in circulation in Luxembourg, i.e. those used in the payment systems of Luxembourg, because of the movement of banknotes and coins inside the euro area.

The total net volume of euro banknotes put into circulation by the BCL in 2007 amounted to 17.7 million notes, compared with 19.3 million banknotes in 2006, a decrease of 8.3%. The volume of €10 and €20 denominations lodged with the BCL exceeds the volume issued. Credit institutions, which are BCL clients, deposited more banknotes than they withdrew from the BCL. This phenomenon can be explained by the fact that tourists and cross-border workers brought in these denominations in large quantities for their everyday expenditures in Luxembourg.

The chart below shows the change in the number of euro banknote denominations used for everyday expenditures.

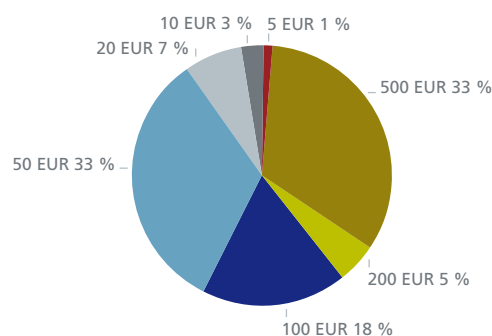
**CHART 6:**  
CHANGE IN THE NUMBER OF EURO BANKNOTES USED FOR EVERYDAY TRANSACTIONS PUT INTO CIRCULATION BY THE BCL



In comparison with other national central banks in the euro area, the BCL maintained its contribution to the total volume of banknotes put into circulation by the Eurosystem at 1.2%, in comparison with December 2006.

In Luxembourg and in the rest of the euro area, the year 2007, like 2006, was marked by a steady demand for higher denominations. The total value of euro banknotes put into circulation by the Eurosystem increased by 7.7% and amounted to €76.6 billion at the end of 2007, with the following value breakdown by denomination:

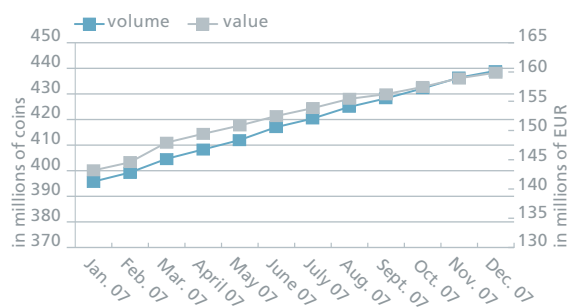
**CHART 7:**  
VALUE BREAKDOWN BY DENOMINATION OF EURO BANKNOTES PUT INTO CIRCULATION BY THE EUROSYSTEM



Public demand for euro coins issued by Luxembourg has remained strong. The total value of the coins put into circulation increased by 13.9% in 2007, compared with 14.5% in 2006. The total value rose from €141.3 million to €160.9 million. The volume of Luxembourg's euro coins issued in 2007 increased by 48.6 million coins, a rise of 12.4%, and amounted to 438.8 million coins at the end of 2007. As in previous years, the country's coins continued to be much sought after by collectors.

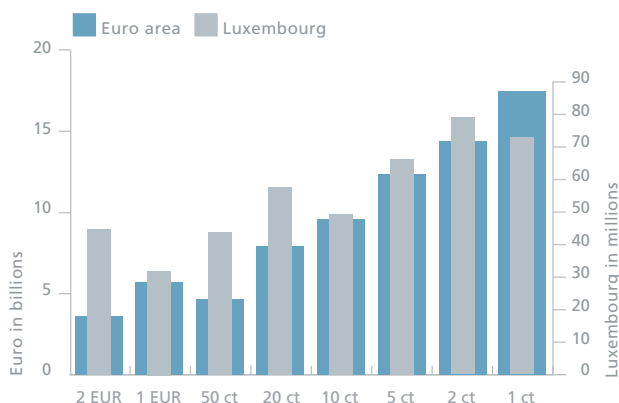
The average monthly volume of coins in circulation rose to 417.9 million. The following chart shows the changing volume and value of Luxembourg's euro coins in circulation throughout 2007. The demand for coins grew steadily in the year under review.

**CHART 8:  
TOTAL VOLUME AND VALUE OF LUXEMBOURG  
EURO COINS IN CIRCULATION**



Luxembourg contributes 0.6% of the total value issued by all the issuing authorities of the euro area. The average value of its euro coins in circulation amounts to 36 cent in comparison with an average of 26 cent for the other euro area coins. The following chart compares the volume of the different coin denominations put into circulation by Luxembourg with the volume corresponding to the rest of the euro area.

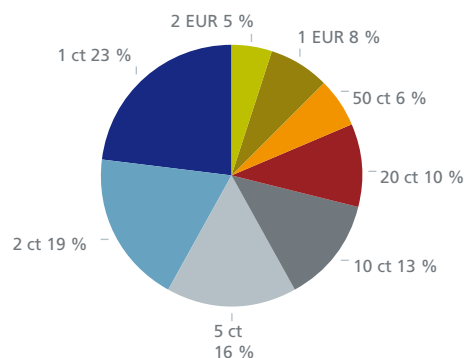
**CHART 9:  
COMPARISON OF THE CIRCULATION VOLUME OF  
THE DIFFERENT EURO COIN DENOMINATIONS IN  
LUXEMBOURG TO THAT OF THE EURO AREA**



Concerning Luxembourg's coins, the 2 cent denomination remained the most common in 2007. In descending order, the sequence is as follows: 2 cent, 1 cent, 5 cent, 20 cent, 10 cent, €2.50 cent and €1. The corresponding ranking for the euro area as a whole is: 1 cent, 2 cent, 5 cent, 10 cent, 20 cent, €1.50 cent, €2.

The total value of euro coins put into circulation by the Eurosystem increased from €17.9 billion at the end of 2006 to €19.2 billion at the end of 2007, whereas the total volume of coins reached 75.8 billion. The following chart shows the volume breakdown by denomination:

**CHART 10:  
BREAKDOWN BY DENOMINATION OF THE VOLUME  
OF COINS OF THE EURO AREA IN CIRCULATION**



**2.4.1.2 Luxembourg franc banknotes and coins**

In 2007, the total value of Luxembourg francs not yet exchanged fell by 1.1% from LUF 436.2 million to 431.5 million. This decline was due exclusively to the return of franc banknotes, the franc coins having ceased to be exchangeable at the end of December 2004. The volume of 5 000 Luxembourg-franc banknotes not yet returned underwent the most pronounced decline (- 5%), while that of 1 000 franc banknotes fell by 1.5%. The volume of unreturned 100 franc banknotes only decreased by 0.4%. These figures show that collectors prefer the lower denominations.

At the end of 2007, a total volume of 885 444 Luxembourg banknotes and 63.1 million coins, with a total value of LUF 398 million, had still not been exchanged. Numismatic products and collector coins still not exchanged amounted to LUF 33.5 million.



## 2. THE BCL'S OPERATIONS

### 2.4.2 Handling of banknotes and coins

The number of euro banknotes returned by financial institutions to the BCL – 66.5 million - remained nearly unchanged compared with the previous year.

The number of euro banknotes processed by sorting machines rose noticeably, by some 5.9%, from 59.7 million notes in 2006 to 61.4 million in 2007. The sorting machines carry out both authenticity tests and soiling tests. Nearly 15.9 million notes of all denominations had to be destroyed as they were unfit for circulation. The reject/destruction rate remained unchanged at 25.9% of the total number of euro banknotes sorted in 2007. Moreover, this percentage varied greatly from one denomination to another: 10.8% for the €500 banknote to 50.7% for the €5 note.

In the field of counterfeit monitoring, the BCL continued to work closely with the ECB and the national authorities in analysing discovered counterfeits.

### 2.4.3 Numismatic issues

Due to the ongoing collectors' interest for Luxembourg numismatic products, the BCL created several new distribution channels in 2007. Since January 2007, the retail to the public is located in the new numismatic premises of the BCL, at avenue Monterey 43, Luxembourg. In February 2007, the BCL introduced a mail order facility, followed in October 2007 by the launch of its Internet shop (eShop).

*In 2007, the BCL issued the following numismatic products:*

- Two €2 commemorative coins with a distinctive national side, put on sale respectively in February and May 2007. The first issue depicts the Grand-Ducal Palace, official residence of the Grand Duke, whereas the second is dedicated to the 50<sup>th</sup> anniversary of the Treaty of Rome. Both issues have been minted with 15 000 coins each in "Brilliant Uncirculated" quality (packed as coin cards) and with 1 million coins each in circulation quality.
- The "2007 BU set" comprises Luxembourg's euro coins (1 cent to €2, including both €2 commemorative coins), struck in "Brilliant Uncirculated" quality and dated 2007. The mintage is limited to 15 000 sets. This set is the third one of a series of 7 sets dedicated to the different architectural periods as depicted on the euro banknotes.

- The "2007 BENELUX set" contains the 2007 series of eight euro coins of the three BENELUX countries struck in "Brilliant Uncirculated" quality. It also includes a specially designed cupronickel medal.
- The "2007 Proof set" features Luxembourg's 10 euro coins (ranging from 1 cent to €2) plus both €2 commemorative coins, all struck in "Proof" quality and dated 2007. The mintage amounts to 2 500 sets.
- The silver coin dedicated to the 30th anniversary of the European Court of Auditors was issued at the anniversary date of October 17, 2007 and represents the sixth collector coin in the silver series "European institutions". The mintage amounts to 3 000 coins. This coin has a face value of €25 and is minted with a silver fineness of 925. It has a diameter of 37 mm and a weight of 22.85 gr. As all collector coins in precious metal issued by a euro area Member State, the silver coin is legal tender only in the issuing country.
- A set of eight Slovene euro coins in circulation quality (ranging from 1 cent to €2) was issued in October 2007. This set commemorates the adhesion of Slovenia to the euro area on January 1, 2007 and extends the "cube" collection issued in 2002 by the BCL, putting together one set of euro coins of each Member State having adopted the euro.

## 2.5 Developments in the area of statistics

### 2.5.1 Money and banking statistics

The Eurosystem continued its work on the revision of regulation ECB/1001/13 and ECB/2001/18 concerning the consolidated balance sheet as well as interest rates of MFIs in order to improve the availability of euro area statistics. The objective of this revision mainly consists in the inclusion of new financial instruments, statistics concerning payments systems as well as information on securitisation in money and banking statistics.

The BCL also participates in the statistical work of the Bank for International Settlements (BIS) and contributes to the international banking statistics collected and published by the BIS. In this context, it participated in the triennial survey on foreign exchange and derivatives conducted during April 2007. The results of this survey have been published in the BCL's Bulletin 2007/2.

Furthermore, the BCL provides information on the Luxembourg financial system to the International Monetary Fund (IMF) in order to publish it in the monthly International Financial Statistics review of the IMF as well as in the framework of the Special Data dissemination Standard (SDDS).

The BCL publishes on its website, as well as in its periodical Bulletin, monthly and quarterly statistics on the balance sheet of Luxembourg monetary financial institutions (MFIs) and Luxembourg credit institutions as well as the interest rates applied by credit institutions on loans and deposits. Finally, the BCL also publishes information on the profit and loss accounts of Luxembourg credit institution as well as on their staff.

### 2.5.2 External statistics

The BCL publishes on its website quarterly statistics of the Luxembourg balance of payments as well as International investment position, External debt and Reserve assets statistics. The BCL and the STATEC disseminate, after availability of a new dataset, on a quarterly basis, a joint press statement that aims to inform the public of the large evolutions touching the balance of payments.

The BCL participates in the annual Coordinated Portfolio Investment Survey of the IMF (the so-called CPIS). The results of this survey are available on the BCL website.

In the course of the year under review, the BCL has communicated the final set of instructions concerning transmission of own and third party position on a security by security basis to the banking sector. A first transmission is requested as regards data for end of December 2008. These substantial developments will enable the BCL to respect the deadlines fixed in the ECB guideline ECB/2004/15 dated July 16<sup>th</sup>, 2004.

Finally, the BCL has jointly decided with the STATEC to increase, as from July 2008 onwards, the threshold from 12 500 euros to 50 000 euros.

### 2.5.3 Economic and financial statistics

During 2007 the BCL contributed to the ECB's conceptual development of a new data collection for the sector of financial intermediaries (investment funds and securitisation entities) that are important actors on the capital markets. This work was finalised in 2007 and thus allowing the Governing Council to adopt a new regulation, ECB/200/9, concerning statistics on assets and liabilities of investments funds.

In order to allow Luxembourg to respond to this new information request by the ECB, the BCL, in close cooperation with the Luxembourg investment fund industry through the intermediary of the Luxembourg Investment Fund Association (ALFI), modified the statistical data collection for money markets funds and defined a new data collection for non monetary investment funds. The modified data collection for money market funds as well as the new data collection for investments funds will enter into force in January 2009.

Finally, the BCL publishes its periodic newsletter and on its website information on the situation of UCIs and PFS (professionals of the financial sector).

## 2. THE BCL'S OPERATIONS

### 2.5.4 Other statistics

Since some fifteen years, central banks of the ESCB collect in their respective jurisdictions statistics for the use of different means of payments and on the activity of payment systems and securities settlement. These statistics are published annually in the "Blue Book".

The ESCB is in the process of harmonizing the described data collection. Work on this project began in 2007 and should be finalised in the course of the year 2008.

### 2.6 Payment and securities settlement systems

#### 2.6.1 Real-time gross settlement systems

On 19 November 2007, the real-time gross settlement system, LIPS-Gross3, migrated its activities to the new TARGET2-LU system. As a consequence, the 2007 LIPS-Gross exercise was limited to 224 days of operation against 255 in 2006. Global figures of activity for the two years are therefore not directly comparable.

In 2007, the number of participants in LIPS-Gross decreased from 31 to 30.

##### 2.6.1.1 The activity of LIPS-Gross in 2007

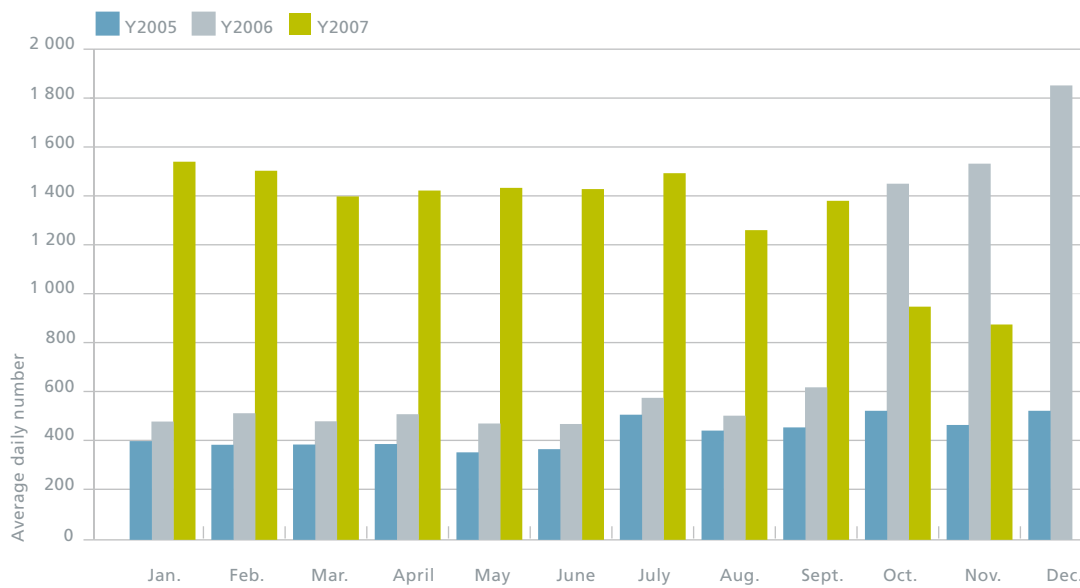
###### *Domestic payments<sup>4</sup>*

In 2007, participants in LIPS-Gross exchanged a total of 301 148 payments (against 197 744 in 2006) for a total value of €2.880 billion euros (compared to €3.387 billion in 2006). Compared to 2006, the volume exchanged increased by 52% while the value exchanged decreased by 15%. The important increase in volume was triggered mainly by a migration of payments from LIPS-Net (the system ceased its activities in October 2006) to LIPS-Gross. The average value per transaction was thus reduced to €9.6 million.

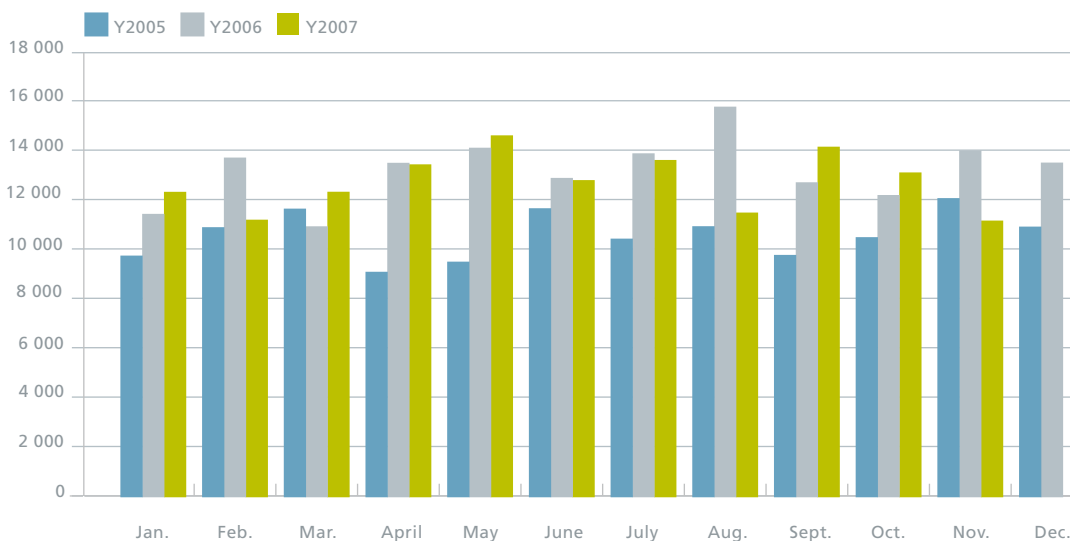
<sup>3</sup> Real Time Gross Settlement System (RTGS)  
<sup>4</sup> Domestic payments : payments exchanged between two LIPS-Gross participants

The following charts show the evolution of daily averages in volume and value of domestic payments.

**CHART 11:**  
DOMESTIC PAYMENTS:  
EVOLUTION OF AVERAGE DAILY VOLUME



**CHART 12:**  
DOMESTIC PAYMENTS:  
EVOLUTION OF THE AVERAGE DAILY VALUE



## 2. THE BCL'S OPERATIONS

### Cross-border payments<sup>5</sup>

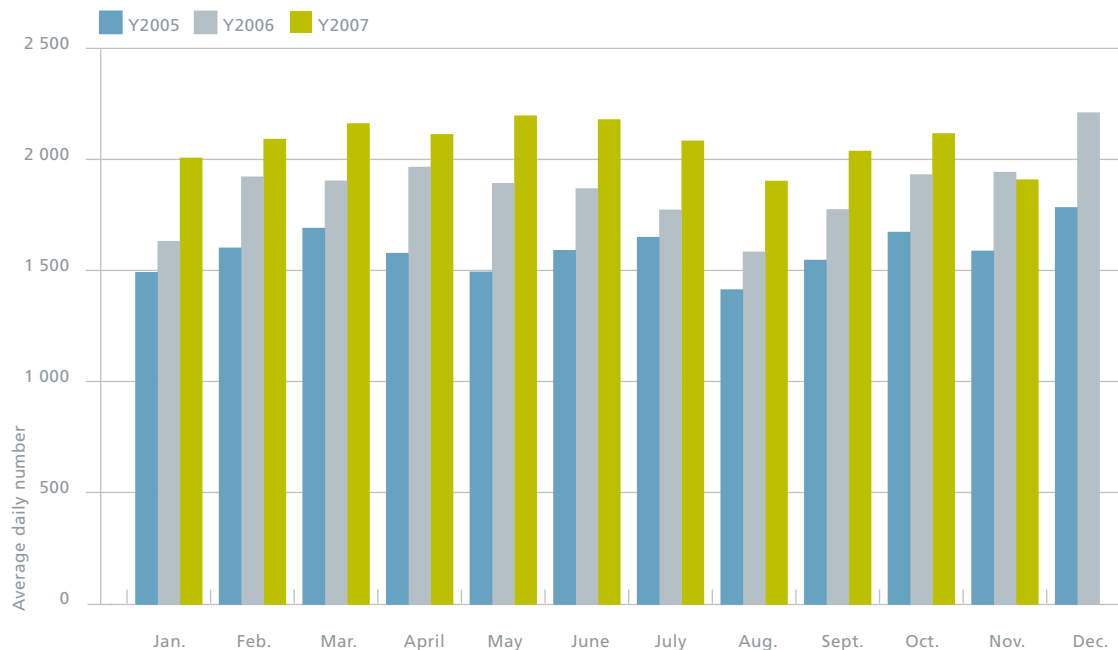
In 2007, participants in LIPS-Gross sent 464 295 payments to other EU countries (against 473 199 payments in 2006) for a total value of €5 437 billion (against €4 491 billion in 2006). They received 376 583 cross-border payments (compared to 404 176 payments in 2006) for a total value of €5 451 billion (€4 489 billion in 2006). The average value per cross-border payment sent was €11.7 million (increase of 23%). For a payment received the average value was €14.5 million

(increase of 30%). Members in LIPS-Gross received less cross-border payments than they sent. The value of cross-border payments received remained above the value of payments sent.

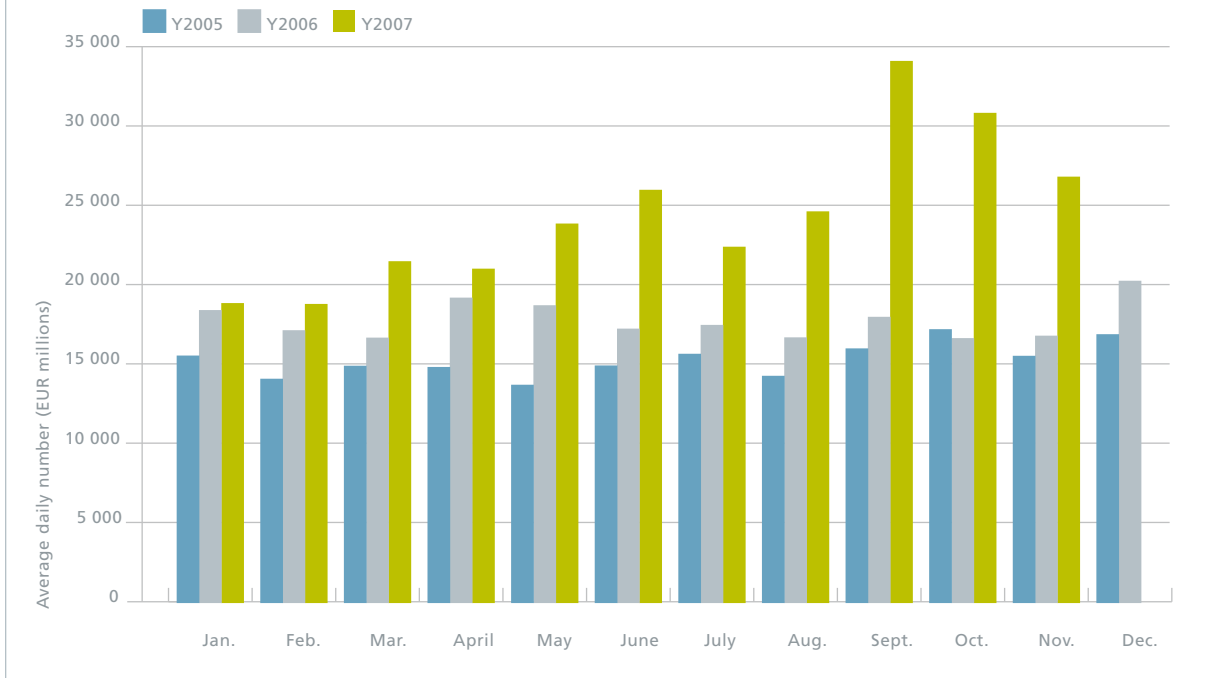
The following charts show the evolution of average daily volumes and values of cross-border payments sent by participants in LIPS-Gross.

5 Cross-border payment : a payment exchanged between a participant in LIPS-Gross and a participant in TARGET

**CHART 13:**  
**CROSS-BORDER PAYMENTS SENT:**  
**EVOLUTION OF AVERAGE DAILY VOLUME**

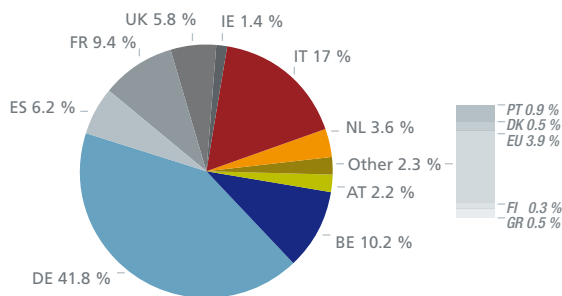


**CHART 14:**  
**CROSS-BORDER PAYMENTS SENT:**  
**EVOLUTION OF THE AVERAGE DAILY VALUE**

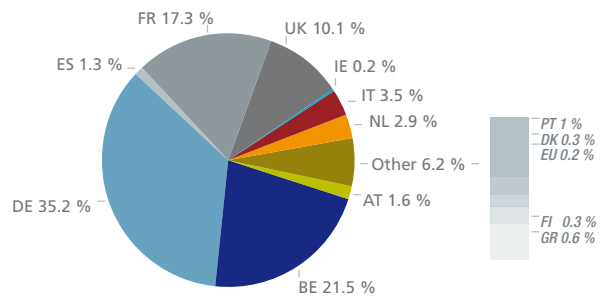


In 2007, cross-border payments sent globally decreased by 2% in volume, but they increased by 21% in value. Daily averages increased however by 11% in volume and by 37% in value.

**CHART 15:**  
**DISTRIBUTION OF CROSS-BORDER**  
**PAYMENTS SENT (VOLUME)**



**CHART 16:**  
**DISTRIBUTION OF CROSS-BORDER**  
**PAYMENTS SENT (VALUE)**



As in previous years, over 80% of cross-border payments (whether in volume or in value) were sent to five countries, among which we find our neighbouring countries.

## 2. THE BCL'S OPERATIONS

### *Aggregated figures of domestic and cross-border payments*

In 2007, the total number of payments in LIPS-Gross reached a figure of 1 142 026 transactions (an increase of 4% compared to 2006).

The following tables provide an overview of daily averages of volumes and values of payments exchanged per year. Globally, volumes and values exchanged continued to increase.

#### VOLUME OF PAYMENTS (DAILY AVERAGE)

	DOMESTIC PAYEMENTS		CROSS-BORDER SENT		CROSS-BORDER RECEIVED		TOTAL SENT AND RECEIVED
	Volume	(% volume sent)	Volume	(% volume sent)	Volume	(% total volume)	
2005	428	(21.20%)	1 591	(78.80%)	1 495	(42.54%)	3 514
2006	775	(29.46%)	1 856	(70.54%)	1 585	(37.59%)	4 216
2007	1 344	(39.33%)	2 073	(60.67%)	1 681	(32.97%)	5 098
<b>Change 2007-2006</b>	<b>+72%</b>		<b>+12%</b>		<b>+6%</b>		<b>+20%</b>

#### VALUE OF PAYMENTS (DAILY AVERAGE IN EUR MILLIONS)

	DOMESTIC PAYEMENTS		CROSS-BORDER SENT		CROSS-BORDER RECEIVED		TOTAL SENT AND RECEIVED
	Val	(% value sent)	Value	(% value sent)	Value	(%total value)	
2005	10 686	(41.21%)	15 243	(58.79%)	15 260	(37,05%)	41 189
2006	13 281	(42.99%)	17 612	(57.01%)	17 602	(36.30%)	48 496
2007	12 857	(34.63%)	24 271	(65.37%)	24 411	(39.59%)	61 465
<b>Change 2007-2006</b>	<b>-3%</b>		<b>+38%</b>		<b>+39%</b>		<b>+26%</b>

### *LIPS-Gross compared to other systems connected to TARGET*

In 2007, all national RTGS systems together executed a total of 72.6 million domestic payments (compared to 64.2 million in 2006) for a global value of €395 412 billion (compared to €348 765 billion in 2006). On daily average, payments between participants in Luxembourg represented 0.47% of the volume and 0.83% of the value of all national payments in TARGET.

In addition, 20.8 million of cross-border payments (19 million in 2006) for a value of €221 319 billion (€184 777 billion in 2006) were exchanged in the course of the year. On daily average, LIPS-Gross contributed 2.54% to the volume and 2.80% to the value exchanged.

### *Availability of TARGET*

The availability of TARGET as a whole increased from 99.87% in 2006 to 99.90% in 2007. The average availability of TARGET over its 9 years of existence is 99.73%.

The availability of LIPS-Gross reached 99.98% in 2007 (compared to 99.80% in 2006). Two minor technical incidents affected our system. The availability of LIPS-Gross was 100% for 10 months out of 11. Since its launch, LIPS-Gross' average availability is 99.73%.

#### **2.6.1.2 Migration to TARGET2-LU**

Following the decision of the Governing Council on 24 October 2002 to harmonize the national RTGS systems on a Eurosystem level, the new platform TARGET2 was developed and all national RTGS system agreed to migrate to the common infrastructure. Luxembourg was among the first wave of countries that joined the TARGET2-platform or Single Shared Platform (SSP) on 19 November 2007. Other not yet migrated RTGS systems followed in two additional migration windows on 18 February and on 19 May 2008. With migration completed, about one thousand banks participate directly in TARGET2 and offer an indirect access to a multitude of banks throughout the world. In addition, TARGET2 is the preferred system for the settlement

of its participants' positions for most European ancillary systems.

As a consequence of the migration, the system LIPS-Gross ceased its activities on 16 November 2007. On 19 November 2007, its successor, TARGET2-LU, took over the operations on the SSP of TARGET2. Twenty-three of the former LIPS-Gross participants are directly connected to TARGET2-LU.

The RTGS-L Gie, owner of the LIPS-Gross system, will be dismantled in 2008.

#### **2.6.2 The interbank netting system LIPS-Net**

LIPS-Net, the national automated clearing system for cheques and credit transfers, was developed in the early 90s as a substitute to the manual clearing house.

Considering the limited scope for increasing its activity, insufficient economies of scale as well as the ongoing integration process at the European level<sup>6</sup>, the managers of the SYPAL-Gie, the system's owner, decided to terminate LIPS Net operations in October 2006.

Cheques, whose volumes have been steadily declined over the past few years, are exchanged and settled on a bilateral basis since 1 July 2006.

Credit transfers and standing orders are processed on the pan-European STEP2 platform operated by the Euro Banking Association (EBA).

#### *Luxembourg participants' activity in STEP2*

The bulk of Luxembourg credit transfer and standing order transactions are since October 2006 processed by the pan-European system STEP2.

Transactions that are not processed in STEP2 are settled either via TARGET2 or on a bilateral basis.

In 2007, Luxembourg participants sent 57 000 transactions for a value of €88 million on a daily average

<sup>6</sup> The European financial sector is preparing the "Single Euro Payment Area" (SEPA), which is to be implemented by the end of the year 2010.



## 2. THE BCL'S OPERATIONS



through the Step2 system. Domestic transactions accounted for 77% in volume (close to 44 000 operations) and 70% in value (€61 million).

### 2.6.3 The general framework of eligible collateral in the Eurosystem credit operations

#### 2.6.3.1 The list of eligible assets

All credit operations of the ECB and the national central banks are effected “on the basis of adequate collateral”<sup>7</sup>. Consequently, each counterparty of the Eurosystem guarantees the credit received from a Eurosystem central bank by providing assets as collateral. These assets have to fulfill specific eligibility criteria defined by the Eurosystem, which are published on the ECB’s website.

In 2007, the Eurosystem replaced its two categories of eligible assets<sup>8</sup> by a single list. This single list comprises two different asset classes, marketable assets (securities) and non-marketable assets (in particular credit claims). The inclusion of non-marketable assets has required the development by each NCB of appropriate handling procedures, as well as the development and implementation of a euro area wide credit assessment framework. In this context, the Governing Council has accepted, amongst others, the following key elements:

- between 2007 and 2012 each national central bank will apply its own threshold for credit claims. As from 2012, a common minimum threshold of 500 000 will be applied by the whole Eurosystem.
- the debtors of the claims provided as collateral have to be financially sound. The Eurosystem will assess the financial soundness of the debtors according to the “Eurosystem Credit Assessment Framework (ECAAF)”, which details the rules governing the Eurosystem’s credit quality requirements. In this context, the Eurosystem also published its minimum

<sup>7</sup> Article 18 of the Statute of the ESCB and the ECB, article 22 of the founding law of the BCL.

<sup>8</sup> These were the tier 1 assets, debt instruments fulfilling uniform euro area wide eligibility criteria specified by the Eurosystem, and tier 2 assets, complementary assets on a national level.

rating threshold. This threshold is set at a rating of at least A-, or by means of a probability of default no higher than 10 basis points.

The law of 13 July 2007 concerning the market on financial instruments provides for the registration of credit claims at the central bank and establishes a regime for the pledging of credit claims that is like those offered in neighbouring countries.<sup>9</sup>

### 2.6.3.2 Eurosystem as a user of securities settlement systems

#### *Selection of depositories<sup>10</sup> at the domestic level*

In order to meet the requirement of “adequate collateral”<sup>11</sup>, the Eurosystem also assesses against specific safety criteria depositories that are safekeeping securities used in the framework of central bank credit operations. Thus, a national depository is eligible if it obtains, after verification of its compliance with the Eurosystem user standards, the formal approval of the Governing Council. In this context, the Governing Council approved in 2006 a new arrangement for the safekeeping of international securities in global bearer note form, the so-called “New Global Note” (NGN) arrangement, developed by Clearstream Banking Luxembourg (CBL), Euroclear Bank, and other market participants. The NGN arrangement is compliant with the user standards, provided that the respective NGN is safekept by an institution that has been positively assessed against these standards by the Eurosystem.

#### *Cross-border use of collateral*

Besides using eligible domestic securities settled via the national depository, which for Luxembourg counterparties is Clearstream Banking Luxembourg (CBL), all Eurosystem counterparties may receive credit from their local national central bank by using collateral issued in a depository located elsewhere in the European Union. The Eurosystem foresees two ways for

such cross-border use of collateral. Counterparties may use

- the CCBM<sup>12</sup>; and
- links established between securities settlement systems.

Currently two types of links are eligible: direct links and relayed links. In a given securities settlement system located in a country of the European Union, direct links make available securities issued in a system of another European Union country, thanks to bilateral accounts that the two systems maintain with each other. Relayed links enable the transfer of securities between two systems without bilateral accounts by using a third system with which the first two systems have bilateral accounts. Links have to be approved by the Governing Council before being used for the collateralisation of central bank credit operations. In 2007, Luxembourg counterparties had the possibility to use the direct links between CBL and Clearstream Banking Frankfurt A.G., Euroclear, the National Bank of Belgium, Monte Titoli (Italy), OeKB (Austria), and Euroclear Netherlands.

#### *Securities settlement in central bank money: TARGET2-Securities*

The aim of TARGET2-Securities (T2S) is to further financial market infrastructure integration. T2S will thus provide to the market settlement services in central bank money. In March 2007, the Governing Council decided after thorough evaluation that the T2S system is feasible. Moreover, the Governing Council decided that the T2S system will be implemented on the technical platform used by the payment system TARGET2.

Draft user requirements were defined in 2007 on the basis of general principles and high level proposals that were previously submitted to public consultation. These user requirements were elaborated in a six-month period of intensive collaboration of a team of experts composed of representatives of the

9 For more detailed information on these specific provisions see section 3.3.1.

10 A depository is an institution that operates a securities settlement system.

11 Article 18 of the Statute of the ESCB and the ECB, article 22 of the founding law of the BCL.

12 Correspondent Central Banking Model, see section 2.6.4.

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Eurosystem, central securities depositories as well as of banks. In the framework of a second public consultation launched in December 2007, the market was invited to comment on the draft user requirements. Moreover, the market was invited to comment on the methodology for the economic impact assessment the Eurosystem will apply in order to calculate the costs, the benefits and macroeconomic impacts of T2S. Market participants' comments will be assessed before submission of the final version of the user requirements for decision of the Governing Council in summer 2008.

### **2.6.4 Correspondent Central Banking Model (CCBM)**

The objective of the CCBM is to enable counterparties of the Eurosystem to use securities on a cross-border basis even if there is no eligible link between the national depository and the foreign depository in which the counterparty holds securities. For this purpose, in the CCBM each NCB acts on behalf of the other central banks as a custodian for securities held at the national depository. This procedure involves on the one side a central bank called a correspondent central bank (CCB), which differs from the central bank granting the credit to the counterparty. The CCB holds the account at the depository in which the securities deposited are registered. The home central bank (HCB) grants the credit to its counterparty on the basis of confirmations it receives from the CCB.

The CCBM has been a success with the counterparties and it remains the main channel for the cross-border mobilisation of collateral used in the Eurosystem's credit operations.

The most active correspondent central banks in 2007 have been those from Spain (26.2%), Luxembourg (24.0%), Belgium (23.0%), and Italy (10.7%). The most active home central banks have been those from Germany (54.7%), United Kingdom (11.0%), France (9.3%), the Netherlands (4.1%), and from Ireland (4.1%).

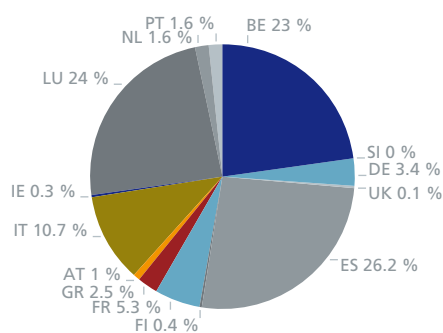
### **2.6.5 The future management of collateral by the Eurosystem**

In 2007 the Eurosystem reviewed its collateral management procedures and in particular the CCBM. In view of the evolution of the counterparties' needs and in order to realise synergies, the Governing Council decided to develop a single platform for the management of domestic and cross-border collateral. This platform will be called CCBM2 (Collateral Central Bank Management) and will offer central banks the necessary functionalities for the management of securities and credit claims received from their counterparties. In order to develop a platform that meets the market's needs, the Eurosystem launched in April 2007 a first public consultation on the general principles defined for this project. Participants' answers have been taken into account while defining the user requirements for the CCBM2. A new public consultation was launched in this context in February 2008.

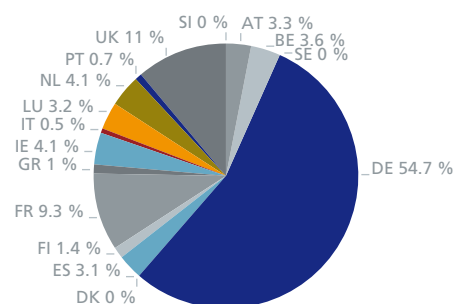
### **2.6.6 Night Time Link with Clearstream Banking Luxembourg**

Operation of the Night Time Link procedure with Clearstream was terminated with the migration of the Luxembourg banking community to the TARGET2 system. The functionalities of TARGET2 enable the concerned banks to continue using their collateral at the BCL to guarantee the credit granted by CBL in the night clearing.

**CHART 17 :**  
**CORRESPONDENT CENTRAL**  
**BANKS IN 2007**



**CHART 18 :**  
**HOME CENTRAL BANKS IN 2007**



Source: ECB

## 2.7 Financial stability

### 2.7.1 The macro-prudential surveillance

The BCL assesses regularly financial stability conditions from a macroprudential point of view based on quantitative information stemming from the prudential and statistical reporting of financial institutions established in Luxembourg. Besides this regular analysis, the BCL works on ad-hoc specific topics with a focus on risks to financial stability, which in 2007 were in particular related to the potential impact of the financial turbulences on the Luxembourg banking system. These analyses have been published in the BCL's Financial Stability Review in April 2008.

Albeit being primarily oriented towards private banking and investment fund business, the Luxembourg banking sector had to face indirect negative effects emanating from the international financial turbulences. Despite the less favourable international environ-

ment, the Luxembourg banking sector proved relatively resilient on an aggregate level due in particular to the high performances of the previous years and robust solvency ratios. A few individual banks have been affected by the crisis in a more pronounced way. The financial turmoil has highlighted risks related to complex financial instruments, evaluation and transparency issues and how fast liquidity problems can propagate across the international financial system. It has also pointed to the need for increased cooperation between central banks and supervisors at the national and international level.

Looking ahead, perspectives for 2008 remain uncertain at the international level. Banks may have to face potential further write-downs, higher refinancing costs, declining revenues from structured investment activi-

## 2. THE BCL'S OPERATIONS

ties and investment banking in general, potential new vulnerabilities as well as the impact from a less favorable macro economic environment.

Specific analytical work carried out in 2007 includes total factor productivity, z-core index, risk aversion indicator, extraction of investor's expectations through option prices, and the update of the vulnerability index of Luxembourg banking sector.

As a member of the European system of central banks, the BCL participates to the Banking Supervision Committee (BSC) and its sub-structures as well as in the work of the Committee of European Banking Supervisors (CEBS).

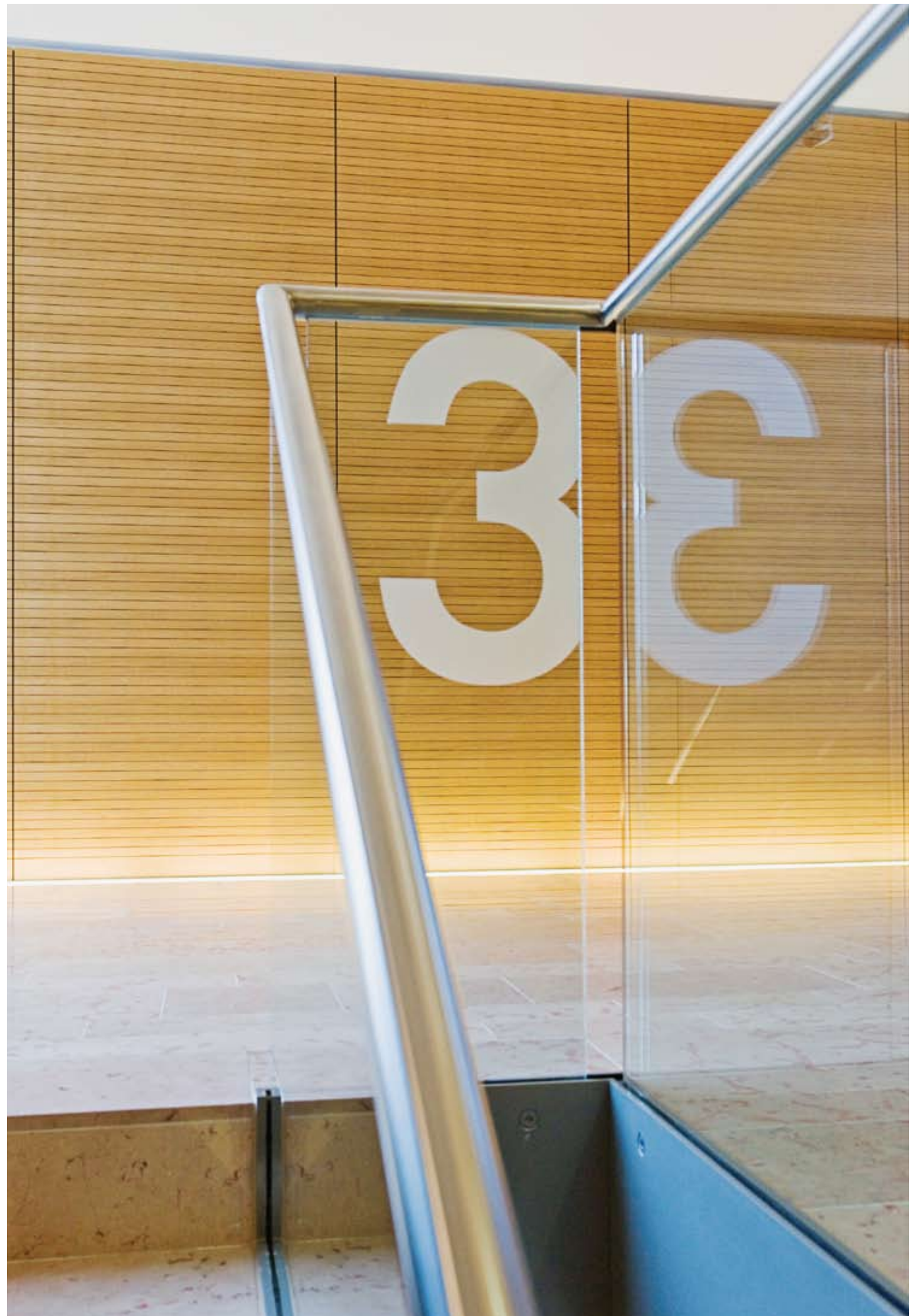
### **2.7.2 The oversight of payment and securities settlement systems**

In 2007, the BCL has pursued its oversight activities of payment and securities settlement systems.

The scope of its oversight covered the securities settlement system operated by Clearstream Banking Luxembourg and Lips-Gross, the real time gross payment system, until November 2007, date of its migration to Target2. Following this migration, Lips-Gross has been denotified with the European Commission in the context of the settlement finality Directive and Target2-LU, the Luxembourg legal component of Target2, has been notified. The oversight of the centralised features of Target2 is performed centrally at the level of the European system of central banks. A first assessment of the Target 2 design has been finalised in 2007.

The BCL also contributes to the work of the Payment and Settlement Systems Committee of the ESCB and its sub-structures. In this context, a framework for the oversight of euro card payment schemes has been designed and an assessment of these schemes will start in 2008. Discussions are going on as regards the oversight of other payment instruments.







## 3. External activities

### 3.1 Activities with the International Monetary Fund (IMF) and other organisations

The BCL President, being also Alternate Governor of the IMF, attended the Annual Meeting of the IMF and the meetings of the International Monetary and Financial Committee.

The BCL handles Luxembourg's financial transactions with the IMF. For this purpose, it manages Luxembourg's assets and liabilities vis-à-vis the IMF in both the general account and the special drawing rights (SDR) account. As at 31 December 2007, Luxembourg's quota, recorded in full on the BCL's balance sheet, amounted to SDR 279.1 million, whereas the reserve position (the difference between Luxembourg's total quota at the IMF and the euro-denominated assets held by the IMF at the BCL) represented 6.71% of Luxembourg's quota.

The IMF's operational budget defines the currencies to be made available to its members on a quarterly basis and the distribution of reimbursements among its members. During 2007, the BCL did not grant any credits related to IMF operations and was reimbursed to the tune of €11.8 million.

At the end of 2007, Luxembourg held 75.2% of its SDR allocation (72.1% in 2006) following the accumulation of net interest received on the SDR account and on the reserve position. As at 31 December 2007, the amount recorded on the SDR account was SDR 12.8 million.

One BCL staff member is on secondment to the IMF.

The BCL also attended the meetings of several working groups at the Organisation for Economic Cooperation and Development (OECD) and at the Bank for International Settlements (BIS), contributing, in particular, to the work of the OECD's Financial Markets Committee (FMC) and that of the BIS' Committee on the Global Financial System (CGFS).

The BCL President attended the BIS Annual General Meeting.

### 3.2 Activity at the European level

#### 3.2.1 Activity at the level of the ECB

During 2007 the Governor of the BCL participated in all meetings of the Governing Council and the General Council.

#### 3.2.2 The Lisbon Treaty and the enlargement of the euro area

The Treaty of Lisbon, amending the Treaty on European Union and the Treaty establishing the European Community, was signed in the Portuguese capital on 13 December 2007. The Treaty was intended to enter into force on the first of January 2009, subject to ratification by all Member States. Otherwise, the Treaty of Lisbon will enter into force on the first day of the month following ratification by the last Member State. On May 29, 2008, Luxembourg became the 15<sup>th</sup> Member State to ratify the Treaty.

On January 1, 2008, exactly one year after Slovenia, Cyprus and Malta introduced the euro, bringing the number of Member States having adopted the single currency to 15. On that date the central banks of Cyprus and Malta fully integrated the Eurosystem.

#### 3.2.3 The Economic and Financial Committee

A BCL representative participates in meetings of the Economic and Financial Committee (EFC). The Committee is composed of representatives from the finance ministries and central banks of EU Member States, the European Commission and the ECB. According to the Treaty, one of the tasks of the EFC is to "review the economic and financial situation of the Member States and of the Community and to report regularly thereon to the Council and to the Commission".

The EFC contributes to multilateral surveillance in order to monitor the compliance of Member States' economic policies with the broad economic policy guidelines and with the Stability and Growth Pact. Thus, the EFC examines the stability Programmes of the eurozone



## 3. EXTERNAL ACTIVITIES

Member States and the convergence Programmes of the Member States that have not yet adopted the euro. The EFC also prepares the ECOFIN Council decisions related to the excessive deficit procedure.

The EFC was briefed by the European Central Bank on preparation of its "Target2-Securities" initiative for the settlement in central bank money of securities transactions in euro. It prepared the related Council conclusions.

The EFC also discussed draft Council conclusions setting out further steps, at both EU and national levels, for the development of financial stability arrangements. The conclusions include common principles for cross-border financial crisis management and a roadmap for enhancing cooperation and preparedness and for reviewing the tools for crisis prevention, management and resolution. Furthermore, the EFC reviewed the Lamfalussy regulatory process for financial services and drafted Council conclusions on this matter.

The EFC also drafted Council conclusions on statistics, covering information requirements under the EU's economic and monetary union (EMU), reduction of the statistical burden on businesses, governance in the field of statistics and the communication of major statistical revisions.

The EFC also works on economic policy issues discussed at informal ECOFIN meetings, which are attended by the BCL's President.

The EFC meets six times a year in plenary session, but also meets in restricted composition. It is worth noting that the ECB participates in the Eurogroup Working Group, where it represents the Eurosystem.

### **3.2.4 The Committee on Monetary, Financial and Balance of Payments Statistics**

In the context of the mission of the Statistical Office of the European Communities (Eurostat), the Committee of Monetary, Finance and Balance of Payments Statistics (CMFB) works on the development and coordina-



tion of statistics categories that are required under the policy implemented by the Council, the Commission and various committees assisting them. Central Banks, National Statistics Institutes as well as the Commission and the ECB are represented in the CMFB. Under the leadership of this Committee, different "task forces" operate with specific duties assigned to them. The BCL has contributed actively in 2007 to this framework. Progress has been made particularly in terms of financial accounts, balance of payments, financial services and public finance statistics as well as national accounts.

## 3.3 National activities

### 3.3.1 Legal developments

During the year, the BCL followed the legislation and regulation concerning its field of activity just as other texts of importance for Luxembourg.

#### 3.3.1.1 Revisions of the organic law of the BCL

The organic law of the BCL has been revised on 13 July 2007 by the enactment of the law on markets in financial instruments<sup>1</sup>. Besides the Luxembourg government, the legislative process involved the European Central Bank<sup>2</sup>, the BCL<sup>3</sup> and the State Council<sup>4</sup>. As announced in the annual report of last year, the revision consists of three points formulated in Article 172 of the aforementioned law.

#### *The financial collateral*

...force on 1 January 2007 of the obligation incumbent on the central banks of the Eurosystem to accept credit claims as securities for loans that they grant.

#### - **The former situation**

Prior to the entry into force of Article 172 of the law of 13 July 2007 on markets in financial instruments<sup>5</sup>, the creation of a pledge on credit claims was governed by Article 5, third paragraph, of the law of 5 August 2005 on financial collateral arrangements, by virtue of which the creation of pledge on a credit claim is valid and enforceable against third parties upon the creation

being notified to the debtor of the pledged claims or being accepted by the latter.

At that time the BCL adapted their general terms and conditions by mainly establishing the recourse to a Master pledge agreement for credit claims, which was in line with the provisions applicable to pledges as set out in the law of 5 August 2005 on financial collateral arrangements. The mechanism put in place established that the banker-pledgor should notify the creation of the pledge to the debtor and that he was authorised to continue exercising the rights deriving from its claim, without prejudice to the rights of the BCL as beneficiary of the pledge. The cross-border use of claims was also catered for by some of the provisions.

#### - **The entry into force of Article 22-1**

The functioning of the mechanism put in place has been improved by the adoption of the law of 13 July 2007 on markets in financial instruments which notably aimed at modifying the organic law of the Banque centrale du Luxembourg of 23 December 1998 by introducing a new Article 22-1 whose purpose was to clarify the rules governing the creation of a pledge on credit claims in favour of the BCL<sup>6</sup>. Such provision aims at ensuring an efficient implementation of the new rules of the Eurosystem on eligible assets, which include credit claims in the list of eligible assets<sup>7</sup>.

A transitional regime prevailed until the 1 September 2007, date on which Article 22-1 entered into force, whereas the law of 13 July 2007 only entered into force on 1 November 2007. Indeed, the legislator established that the pledge agreements on claims concluded before the entry into force of Article 22-1 would be recorded in the register on the date of such entry into force

1 Law of 13 July 2007 on markets in financial instruments, which mainly aimed at implementing the Directive on markets in financial instruments (referred to as the «MiFID») Mémorial A – N°116 of 16 July 2007

2 Opinion of the European Central Bank of 11 December 2006 at the request of the Luxembourg Ministry of Finance on a draft law on markets in financial instruments (CON/2006/56), available on the website of the ECB ([www.ecb.int](http://www.ecb.int))

3 Observations from the Banque centrale du Luxembourg on Article 172 on the draft law on markets in financial instruments, 1 February 2007, available on the website of the BCL ([www.bcl.lu](http://www.bcl.lu))

4 Opinion of the State Council of 3 July 2007 on the draft law 5627

5 Mémorial A, 16 July 2007, N°116, p. 2076.

6 Since 1999, the BCL has essentially recourse to the technique of pledge for operational reasons. Notwithstanding the wording of Article 22-1, the BCL is not limited in its selection of the type of security to be used. If it deems it opportune, it may decide to have recourse to other techniques governed by the law of 5 August 2005 on financial collateral arrangements.

7 The ECB in its opinion of 13 December 2006 stated that it was favourable to such new provision.

### 3. EXTERNAL ACTIVITIES

without the initial date of recording being affected. Nonetheless, the effects described in paragraph (4) of Article 22-1, as set out hereinafter, only apply as from the date of recording.

#### - **The new enforceability rules**

Article 172 of the law of 13 July 2007 introduces in the organic law of the BCL an Article 22-1 which creates a *sui generis* method of perfection and enforceability for pledges of claims used as security for loans granted by the BCL. The law of 13 July 2007 creates a register where pledges of claims in favour of the BCL are recorded. The sole entry in the register of a pledge on a claim in favour of the BCL renders the pledge effective against all third parties. In doing so, the formality of the notification required in order to render the pledge enforceable and to perform the dispossession of the pledged object is abolished. Moreover, such notification ensures that the BCL's rights in respect of such claim have priority over any other rights created in favour of third parties after such entry. If a third party receives a payment from the debtor of a claim previously pledged to the BCL through an entry in the registry, this third party must transfer the amount to the BCL. Furthermore, no compensation may result in undermining the security granted to the BCL on such claims.

Paragraph (4) of Article 22-1 which establishes the principle of the primacy of the collateral received by the BCL and recorded in the register, is directly inspired from a provision proposed in Belgium in order to ensure the practical efficiency of the pledges provided to the *Banque Nationale de Belgique*<sup>8</sup>.

It has to be mentioned that the common regime applicable to financial collateral is in no way affected by the law of 13 July 2007. Hence, solely a new enforceability procedure against third parties is established in favour of the BCL.

#### - **The maintenance of the register**

Thus, by virtue of Article 22-1 (2), the BCL is in charge of maintaining a register of the pledge agreements on

claims which it accepts as security for its credit operations. Moreover, it is the responsibility of the BCL to define the functioning rules of the register as well as the related costs recovery rules. To that purpose, a certain number of modifications had to be made to the General Terms and Conditions of the BCL and more precisely to the *Conditions générales des opérations*, annexes 8 *Manuel de procédures des opérations*, 10 *Tarifs des opérations* and 14 Master pledge agreement for credit claims as well as to the Additional Terms and Conditions of Banque centrale du Luxembourg when acting as CCB and as assisting NCB for claims.

#### **Such modifications aimed at:**

- i. Complementing the procedures governing the use of credit claims as security by adding provisions relating to the functioning conditions of the register,
- ii. Clarifying the effects of the entry to the register as regards the obligation to notify the debtor,
- iii. Defining the conditions of the consultation of the register,
- iv. Establishing the transaction fees relating to the pledged claims,
- v. Determining the consultation fees of the register,
- vi. Requiring the fulfilment of additional formalities when the debtor is not established in Luxembourg, and
- vii. Adapting the legal and operational requirements applicable to the mobilisation of a claim.

The obligation of entry into the register is applicable in an exclusive manner. The counterparties which want to pledge credit claims do not have any other choice than using the register.

#### - **The publicity of the register**

The law of 13 July 2007 establishes the principle of the access of third parties to the register. The conditions of such access are determined by the BCL in its General Terms and Conditions, as well as in the document entitled *Registre des contrats de gage de créances: information à destination des tiers* available on the website of the Banque centrale du Luxembourg. The BCL considers that the access to the register is only possible for third parties having a legitimate interest.

#### - **The cross-border mobilization of credit claims**

The mechanism instituted by the law of 13 July 2007 also covers the situations in which the BCL acts as agent

<sup>8</sup> Belgian law of 20 July 2006 bearing divers provisions, Chapter VII – Modification of the law of 22 February 1998 establishing the organic statute of the *Banque Nationale de Belgique* (Moniteur belge of 28 July 2006 – Ed. 2, page 36950).

of other central banks of the Eurosystem in respect of the cross-border creation of securities for the credit operations of the Eurosystem. The issues of international private law are currently catered for by internal mechanisms specific to the Eurosystem which are disclosed on the websites of the national central banks.

### **3.3.1.2 Legal rate of interest**

The rate was fixed at 5.25 per cent for the year 2007 by a grand-ducal regulation of 22 December 2006 (published in the Mémorial A no. 237 of 29 December 2006). For 2008, this rate has been fixed at 5.75 per cent by a Grand-Ducal regulation of 13 December 2007 (published in the Mémorial A no. 226 of 19 December 2007). It is observed that these rates, being determined by regulatory means, do not correspond to specific rates of reference of the money or capital markets.

## **3.3.2 External committees**

### **3.3.2.1 The Economic Committee (Comité de conjoncture)**

The Economic Committee acts on the basis of the legislation which authorises the government to take measures to stabilise employment and growth. Thus, the Committee provides a framework for examining business cycle fluctuations in the country's economy and for monitoring economic policy issues as they arise.

The BCL belongs to the Economic Committee for two reasons: it collects information on Luxembourg's cyclical position and it contributes to the Committee's work by monitoring and commenting on the latest developments in the monetary domain and in the financial sector.

### **3.3.2.2 The Consumer Price Index Commission (Commission de l'indice des prix à la consommation)**

The BCL has observer status at the meetings of the Consumer Price Index Commission (CPIC), which is in charge of advising and assisting STATEC in the preparation of consumer price indices. This Commission also issues technical opinions on the design of the monthly consumer price index and supervises the compliance

of this index with national and European regulations. The BCL presents its inflation projections for Luxembourg to the CPIC and provides explanations related to BCL work in the area of consumer prices.

### **3.3.2.3 Committee «Comptabilité bancaire»**

The committee *Comptabilité Bancaire* set up by the Commission de surveillance du secteur financier (CSSF), aims to ensure an exchange of views between the supervisory authority, the BCL and players of the Luxembourg financial centre. The committee is consulted during the preparation CSSF circulars concerning bank accounting issues.

The committee members met several times in 2007 to discuss the implementation of the accounting standards IAS / IFRS, the new regulatory capital adequacy, financial reporting (FINREP) and the common reporting (COREP) defined by the *Committee of European Banking Supervisors*.

### **3.3.2.4 Higher Council for Statistics of Luxembourg**

The Higher Council for Statistics carries out advisory functions on behalf of the national statistical institute of Luxembourg (STATEC) and is mandated to provide appraisal on the STATEC's annual Programme.

The BCL contributes in two ways to the work of the Higher Council for Statistics: on the one hand, it provides its opinion on the documents elaborated during meetings and submitted to it and, secondly, it provides the STATEC with data collected on the financial centre to enable the STATEC to achieve its work Programme.

### **3.3.2.5 XRBL Luxembourg asbl**

XBRL (eXtensible Business Reporting Language) is a standard financial reporting based on XML whose main objective it is to improve the correct character, transparency and efficiency of internal and external reporting.

The non-profit association XBRL Luxembourg includes some twenty organisations using XBRL and / or providing services related to XBRL technology.

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The role of the association is to promote the XBRL standard within the Luxembourg economy.

The BCL, as a founding member of XBRL Luxembourg, will adopt the XBRL standard in the context of reporting statistics it collects from companies of the Luxembourg financial sector.

### 3.3.3. BCL Committees

The BCL committees gather experts that advise the Bank in some specific domains of its activity. In 2007, there were 8 committees.

#### 3.3.3.1 The Statistics committee

The Statistics Committee has been set up by the BCL to ensure a constant dialogue between the actors of the financial centre that are subject to statistical reporting requirements and the main users of these data.

During 2007, the committee's advice has been sought for the definition of a security by security reporting for credit institutions and undertakings for collective investment (UCIs) as well as for the new data collection for investment funds.

#### 3.3.3.2 The Monetary and financial statistics consultative commission

The Monetary and Financial Statistics Consultative Commission has been set up by the BCL to enhance the dialogue between reporting agents and the central bank. The commission also ensures the efficiency of the reporting procedures in the area of monetary and financial statistics.

During 2007, the Commission has been informed and consulted on various conceptual issues in relation with the introduction of a new statistical data collection for financial intermediaries (non-monetary UCIs), the security by security reporting for is and undertakings for collective investment as well as for the revision of the statistical data collection for monetary financial institutions.

#### 3.3.3.3 The Balance of payments statistics consultative commission

The Balance of payments statistics consultative commission acts as an advisory group and assists the BCL in its mission to collect data in the areas of balance of payments and international investment position. The Commission ensures the up keeping of an efficient organisation of the data collection so as to avoid redundancies and to limit the collection charge for the entities requested to submit statistical data.

During 2007, the Commission has been consulted in the framework of the finalisation of the instructions on security by security collection as well as for the increase of the exemption threshold from 12 500 euro to 50 000 euro.

#### 3.3.4 Training at the BCL

The internal training courses at the BCL cover essentially the Bank's areas of expertise such as monetary policy, payment and settlement systems, financial stability and European institutional matters. Such courses can be given to outsiders upon demand and depending on the availability of lecturers.

The BCL furthered its cooperation with the young University of Luxembourg where a staff member gave lectures on institutional aspects of the Eurosystem. Other staff members taught economics at the *Université catholique de Louvain*, at the *Fachhochschule Trier* and at the Dolibois European Campus of the Miami University (MUDEC) in Luxembourg.

The BCL is shareholder of the *Agence de Transfert de Technologie Financière* (ATTF). This agency, established in 1999 at the initiative of the Luxembourg government, shares with emerging countries Luxembourg's know-how in financial matters. In the context of ATTF seminars, the BCL held a presentation for managers of the People's Bank of China and the Shanghai Pudong Development Bank in June 2007. In July 2007 the BCL held a lecture for bankers from Uzbekistan participating in the ATTF's Summer Executive Programme.

In May 2007 a staff member of the BCL participated in a technical assistance mission organised by the World Bank for the State Bank of Vietnam, Vietnam's central bank. The purpose of this mission was to review the legal and institutional framework in which the State Bank of Vietnam operates.

In September 2007, the BCL gave for the third consecutive year a presentation for senior Indian managers on the occasion of a visit jointly organised by the Administrative Staff College of India and the Maastricht School of Management.

### **3.3.5 External events**

#### **3.3.5.1 Conferences and international meetings**

The Governor of the BCL attended the Spring Meetings as well as the Annual Meetings of the IMF and the World Bank in October 2007 in Washington. In April 2007 the Governor of the BCL was the key-note speaker of The Transatlantic Roundtable on Finance and Monetary Affairs organised by the European Institute on the topic of "The US, the Eurozone and Global Financial Markets".

The Governor of the BCL also participated in the half-yearly informal ECOFIN Council of Ministers Meetings.

In May 2007, the Governor of the BCL took part in the 15<sup>th</sup> annual meeting of the governors of French-speaking countries in Switzerland and held a presentation about human resources management. End of June the Governor of the BCL attended the festivities celebrating the 100<sup>th</sup> anniversary of the Swiss National Bank and the annual general assembly of the Bank for International Settlements in Basel.

The *Bridge - Forum Dialogue*, the President of which is the Governor of the BCL and which is made up of the executives of the European and national institutions in Luxembourg and the live forces of the country, organised a conference on 25 April 2007 on "Research Policy in the European Union". Speakers were Janez Potočnik, European Commissioner for Science and

Research, Rolf Tarrach, President of the *Université de Luxembourg*, Michael Sohlman, Executive Director of the Nobel Foundation and Lars Heikensten, member of the European Court of Auditors.

In February 2007, the Governor of the BCL took part in a Eurosystem seminar with the central banks of west and central Africa, jointly organised by the Banque de France and the ECB. The seminar provided a platform for multilateral dialogue among governors on regional economic integration, the impact of commodity price developments on monetary and fiscal policies and the governance of central banks.

In March 2007, the Governor of the BCL took part in the fourth Euro-Mediterranean seminar, which brings together Eurosystem and non-euro area Mediterranean central banks. The seminar, which was jointly organised by the Banco de España and the ECB, focused on recent economic and financial developments in Mediterranean countries, fiscal policy in Mediterranean countries' macroeconomic frameworks and the recent developments and prospects for Euro-Mediterranean trade.

On the cultural scene, the BCL inaugurated on 12 January 2007 the exhibition "Greek coins - Celtic coins" in the presence of Governors Yves Mersch, Guy Quaden, National Bank of Belgium, and Nicholas C. Garganas, Bank of Greece. This exhibition was organised by the BCL and the Bank of Greece with the assistance of the *Cabinets des Médailles de la Bibliothèque royale de Belgique*, the *Musée national d'Histoire et d'Art* (Luxembourg) and the Embassy of the Hellenic Republic in Luxembourg. The exhibition displayed classic Greek coins, Greek coins used in everyday life as well as Celtic coins used in Luxembourg and neighbouring regions.

#### **3.3.5.2 Bilateral relations**

On 26 February 2007, the Governor of the BCL received Mr. Ardian Fullani, Governor of the Bank of Albania for a working visit.

The Governor of the BCL participated in May 2007 in the fourth Islamic Financial Services Board Summit, organised on the topic of "The Need for a Cross-

### 3. EXTERNAL ACTIVITIES

Sectoral Approach to the Supervision of Islamic Financial Services” in Dubai. He chaired a discussion panel on “The relevance of a cross-sectoral approach to the supervision of Islamic Financial Services- recent Experience and Prospects”.

Within the context of an official visit to Luxembourg, the Governor of the BCL received in June 2007 the Prime Minister of Laos, H.E. Mr B. Bouphavanh, accompanied by an official delegation, for a working visit. This was followed by the visit of Mr T. Thammavong, President of the National Assembly of the People’s Democratic Republic of Lao in November 2007.

In 2007 the annual meeting between the BCL and the Belgian national Bank (BNB) took place in Luxembourg. These meetings provide an opportunity to strengthen the bilateral cooperation between the two central banks. Upon invitation by the Governor of the BCL, Mr Guy Quaden, Governor of the BNB, accompanied by Mr Luc Coene, Vice-governor and other members of

the Executive Board of the BNB, were received at the BCL in July 2007 for a working meeting between the executive boards of the two central banks. The meeting focused on cooperation in the areas of bills and coins financial stability, the collateral system for credits and international relations.

On the invitation of the Governor of the Central Bank of Algeria, Mr Mohammed Laksaci, the Governor of the BCL visited Algeria in July 2007 and held a speech on financial regulation « Principles versus rules ».

In September 2007 the Governor of the BCL accompanied the Luxembourg Prime Minister during an official visit to Estonia and Bulgaria.

Upon invitation by the Governor of the central bank of Cape Verde, Mr Carlos de Burgo, the Governor of the BCL made a working visit to Cape Verde in September 2007. During this visit the Governor of the BCL held discussions with the President of the Republic, the Minister of Finance and Public Administration and the Governor of the Central Bank of West African States. Governor Mersch held a speech on the topic of “The development of a financial system in the light of Luxembourg’s experience”.

During a seminar concerning the introduction of the euro which was held in Prague in October 2007, the Governor of the BCL held a presentation “Not only financial markets benefit from the euro – Relevance of Luxembourg’s experience for the new members of the euro zone”.

During his official visit to Luxembourg, Mr Justin Damo Baro, Governor of the *Banque centrale des Etats de l’Afrique de l’Ouest (The Central Bank of West African States)*, accompanied by an official delegation, was received by the Governor of the BCL in November 2007. The discussions focused on the role of central banks with respect to micro-finance, risk management and private sector supervision.

The BCL was also represented at the fourth Joint High-Level Eurosystem – Bank of Russia Seminar held in October 2007 in Moscow. The purpose of the seminar was to further strengthen the dialogue and to enhance relations between the Bank of Russia and the Eurosystem,





which have intensified in recent years. The main issues addressed at the seminar pertained to the current state of the Russian economy and the challenges for monetary policy as well as to the enlargement of the European Union and its implications for the Russian Federation.

In March 2007 the BCL organised a visit for a delegation from the Democratic Republic of Vietnam, mainly consisting of representatives from the *State Bank of Vietnam*. The first days of this visit were devoted to a presentation of the BCL's activities.

### **3.3.5.3 Relations with the Luxembourg Parliament**

On 20 November 2007, the BCL's Governor presented the opinion of the Bank on the state budget motion to the Financial and Budget Commission of the Luxembourg Parliament.



## 3. EXTERNAL ACTIVITIES

### 3.4 Communication Activities

#### 3.4.1 Annual reports

As required by its statutes, the BCL publishes each year a report on its activities. This annual report is published in French and in English.

#### 3.4.2 Periodical Bulletins

Beside its presentations on the economic and financial situation in Luxembourg and bulletins issued on current topics, the following papers and analyses have been published.

##### *Financial Stability Review:*

- Mesure de la vulnérabilité du secteur bancaire luxembourgeois
- Co-variation des taux de croissance sectoriels au Luxembourg : l'apport des corrélations conditionnelles dynamiques
- Analyse long terme du compte de profit et pertes des établissements de crédit luxembourgeois
- Bank's liquidity management regimes and inter-bank activity in a financial stability perspective
- Securities lending

##### *Bulletin No 2007/1*

- Un indicateur d'activité pour le Luxembourg
- Présentation désagrégée des finances publiques : application au Luxembourg
- Aktuelle Qualitätsmesszahlen zur Luxemburger Zahlungsbilanzstatistik
- Nicht-technische Zusammenfassung des Arbeitspapiers "Eine Analyse regionaler Pendlerströme in der Europäischen Union"

##### *Bulletin 2007/2*

- La position extérieure globale du Luxembourg
- Le marché de change et des produits dérivés luxembourgeois dans le contexte international
- Analyse de l'évolution du secteur des OPC au plan international et au Luxembourg

- Résumé non technique du cahier d'études « Taux d'intérêt de détail au Luxembourg : une étude au niveau agrégé et au niveau individuel »
- Résumé non technique du cahier d'études « Un indicateur d'activité pour le Luxembourg »

Articles are published in their original language.

#### 3.4.3 Working papers

In its working papers the BCL publishes the results of research conducted by its staff. Each working paper contains a non-technical summary. In 2007, five working papers were published:

- N° 24 : Mesure de la vulnérabilité du secteur bancaire luxembourgeois, by Abdelaziz Rouabah, April 2007
- N°25: Co-variation des taux de croissance sectoriels au Luxembourg : l'apport des corrélations conditionnelles dynamiques, by Abdelaziz Rouabah, April 2007
- N°26: Commuters, residents and job competition in Luxembourg, by Olivier Pierrard, May 2007
- N°27: Banking output and price indicators from quarterly reporting data, by Abdelaziz Rouabah and Paolo Guarda, June 2007
- N°28 : An analysis of regional commuting flows in the European Union, by Jordan Marvakov and Thomas Y. Mathä, November 2007

#### 3.4.4 The BCL's website

The BCL's website, [www.bcl.lu](http://www.bcl.lu), provides information about the Bank's activities and services, its internal organisation, as well as statistics about Luxembourg and the Eurosystem. It also contains links to other central banks of the ESCB and to the ECB's website.

Based on its search engine and its configurable mailing list, the site offers to each visitor a clearly structured information package, suitable for professionals as well as private individuals.

All BCL publications can be viewed and downloaded from the Publications section at [www.bcl.lu](http://www.bcl.lu). Hard copies are available from the BCL on request, as long as stocks last.

The website exists in English and French: Publications are displayed in their original language (English, French or German).

### **3.4.5 The library**

The library, opened in 2005, uses the ALEPH library management systems as do a number of other central banks. The library is open to the public upon request, either by fax (+352 4774 4910), or by e-mail (*bibliotheque@bcl.lu*).

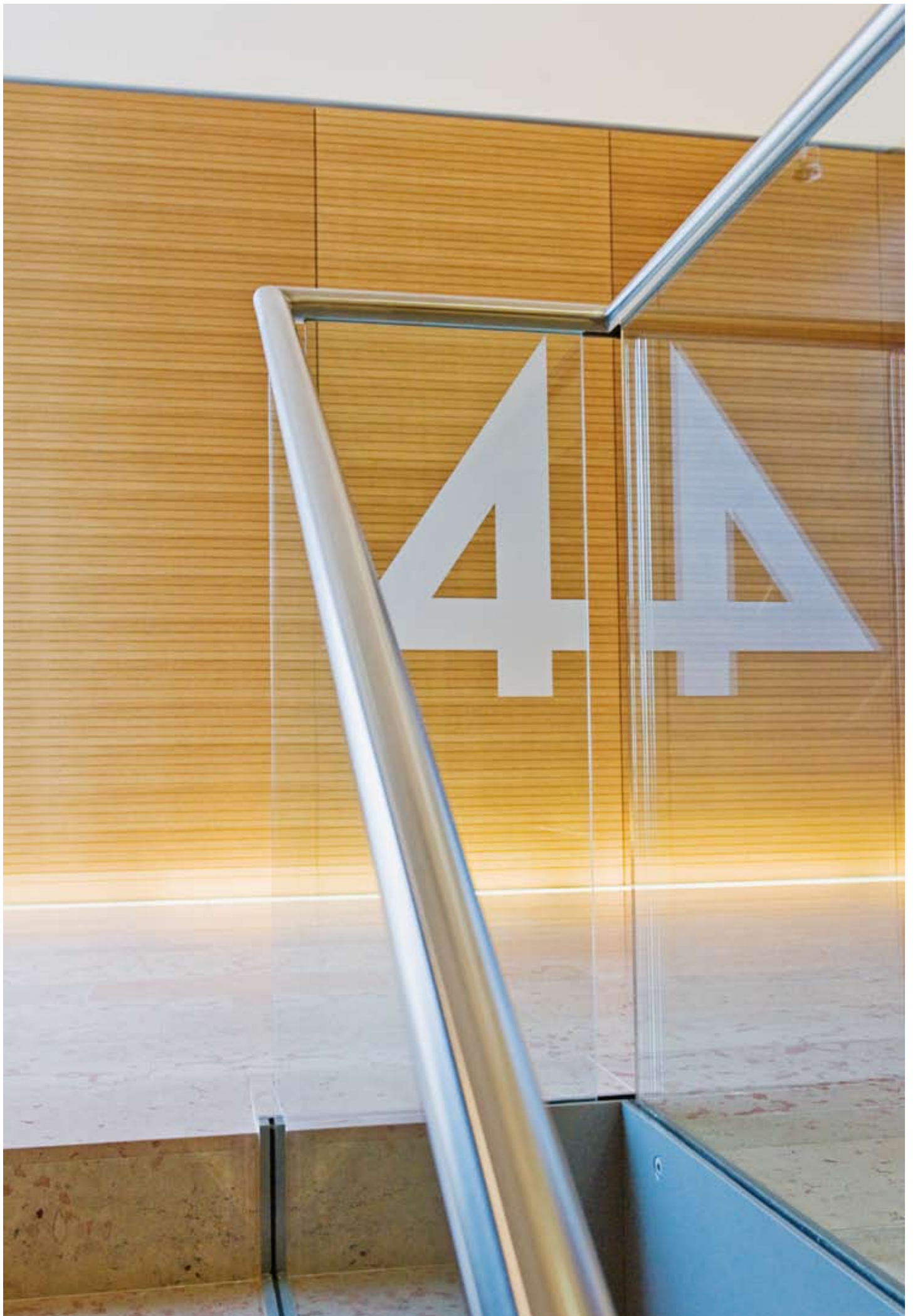
### **3.4.6 Press relations**

In 2007, six press conferences were held. They were related to BCL publications, the presentation of the Bank's financial results as well as the participation of representatives from the financial centre in the Islamic Financial Services Board Summit in Dubai.

A total of 84 press releases were published.

In October 2007, the BCL organised seminars for members of the Luxembourg press. These seminars covered monetary policy, payment and settlement systems, financial stability and European institutional matters.





## 4. The BCL as an organisation

### 4.1 The Council and the Executive Board

#### 4.1.1 The Council

Article 6 of the Founding Law of 23 December 1998 defines the powers of the Council of the Bank. In 2007, the Council consisted of the following members:

**Governor:** *Yves Mersch*  
**Members:** *Andrée Billon*  
*Jean Hamilius*  
*Pit Hentgen*  
*Mathias Hinterscheid*  
*Serge Kolb*  
*Patrice Pieretti*  
*Jacques F. Poos*  
*Michel Wurth*



Row 1, from l. to r.: Mr. Pit Hentgen, Mr. Yves Mersch, Mrs Andrée Billon, Mr. Jean Hamilius; Row 2, from l. to r.: Mr. Jacques F. Poos, Mr. Serge Kolb; Row 3, from l. to r.: Mr. Michel Wurth, Mr. Mathias Hinterscheid, Mr. Patrice Pieretti.

During 2007, the Council held six meetings. Within the framework of monitoring the financial situation of the Bank, the Council approved the financial accounts as per 31 December 2006, the budgetary trends and subsequently, the budget and the organisation chart of the Bank for the 2008 financial exercise.

The Council also observed and commented on economic and financial developments on a national and international basis and was kept informed of the decisions taken by the Governing Council of the ECB.

#### *The Audit Committee*

Created by the Council in 2001, the Audit Committee's objective is to assist the Council in its choice of the statutory auditor to be proposed to the Government, in specifying the scope of the potential specific controls to be performed by the statutory auditor and in the approval of the financial accounts by the Council. It is kept informed on the internal audit plan. It may invite the head of the internal audit unit and the statutory auditor of the Bank to participate in its work.

At its meeting on 13 December 2007, the Council nominated the non-executive members of the Audit Committee for 2008: Mr Pit Hentgen, Mr Patrice Pieretti and Mr Jacques F. Poos. Mr Yves Mersch is an *ex officio* member in his capacity as President of the Council. The Audit Committee is chaired by Mr Pit Hentgen.

The Audit Committee held six meetings in 2007.

#### 4.1.2 The Board of Directors

The Board of Directors is the superior executive authority of the BCL. It takes the decisions and draws up the measures necessary for the Banque centrale du Luxembourg to carry out its tasks.

Without prejudice to the independence of the Director-General with regard to all instructions in his capacity as a member of the Governing Council of the ECB, the decisions of the Board of Directors shall be taken collectively.

The Board of Directors consists of a Director-General and two Directors:

**Director-General:** *Yves Mersch*  
**Directors:** *Andrée Billon and Serge Kolb*

## 4. THE BCL AS AN ORGANISATION

### THE BCL'S ORGANISATION CHART 2007

Executive Board		
Executive Board Secretariat		
Unit	Unit	General Secretariat
Internal Audit	OR - Organisation and Controlling	GS - General Secretariat
		Sections
		G51 Governor's Office G52 Legal Services G53 External Relations and Communication
General Department A	General Departments	
	General Department B	General Department C
	Sections	
	B0.1 Procurement	
Department	Department	Department
<b>A1 - Economics and Research</b>	<b>B1 - Human Resources</b>	<b>C1 - IT</b>
Sections		Sections
A1.1 Monetary Analysis and Economic Research A1.2 Economic and Business Cycle Analysis		C1.1 Infrastructure C1.2 Software and Development C1.3 IT Security, Planning and Support
Department	Department	Department
<b>A2 - Cashier's Office</b>	<b>B2 - Internal Finance</b>	<b>C2 - Statistics</b>
Sections		Sections
A2.1 Cashier's Services A2.2 Banking Relations		C2.1 Banking and Monetary Statistics C2.2 External Statistics C2.3 Economic and Financial Statistics
Department	Department	Department
<b>A3 - Operations</b>	<b>B3 - Numismatics and Logistics</b>	<b>C3 - Financial Stability</b>
Sections	Sections	Sections
A3.1 Front Office A3.2 Investments A3.3 Back Office - Securities A3.4 Payments	B3.1 Numismatics B3.2 Administration B3.3 Security	C3.1 Supervision and Oversight C3.2 Market Infrastructures

The members of the Board of Directors receive a salary according to the wage scale in the public sector as well as different allowances. They receive, in accordance with the legal provisions of the law of 22 June 1963 determining the salary scheme for civil servants, a family allowance depending on their domestic situation and a thirteenth month's allowance.

Besides, in relation to their function within the Bank, board members are entitled to the payment of a representation allowance (for a total amount of 66 955 euro in 2007) and to a BCL's Council allowance (for a total amount of 31 390 euro in 2007).

The salary components are subject to the current legal tax rates in Luxembourg. Contributions to the pension system are neither due with regard to the thirteenth month's allowance nor with the representation and BCL's Council allowances.

The basic salary paid to the board members is as follows:

	2007 €	2006 €
Yves Mersch (Director-General)	151 788	147 330
Andrée Billon (Director)	141 118	136 974
Serge Kolb (Director)	141 118	136 974
<b>Total</b>	<b>434 024</b>	<b>421 278</b>

## 4.2 The Corporate Governance

### 4.2.1 The restructuring of the BCL in 2007

Based on a detailed analysis of the existing structure by a consulting company, the Executive Board decided to change the internal organisation of the Bank, in order to strengthen its efficiency and its accountability.

The internal reorganisation, which came into effect on 1 May 2007 transformed the seven departments into three general departments. In order to assist the Executive Board in the decision making process, an Executive Committee was created. It comprises the Board members and the heads of the general departments.

Senior management was granted more autonomy and larger responsibilities, but with reinforced control mechanisms. To this end, new positions for a controller and a compliance officer were created.

Concerning Eurosystem/ESCB matters, the main tasks of the Eurosystem/ESCB Coordination Committee have been restructured and are now performed by three coordinators/experts. The Committee assists the Governor in his capacity as a member of the Governing Council of the ECB.

Three other existing units have undergone no changes: the Secretariat general, the Internal Audit and the Organisation and Risk Management unit.

The new structure of the bank also lead to changes within the general departments, i.e. various tasks being reallocated among different sections and new sections being created like a procurement office.

### 4.2.2 The internal supervisory mechanisms

The BCL's internal supervisory system is based on general rules and regulations, which are widely accepted as standards by the financial sector, and also takes into consideration the BCL's specific needs as a central bank.

An initial internal supervisory system concerning the general management of the BCL has been put in place by the Executive Board. The senior management of the BCL and their staff are responsible for the proper functioning of this supervision. Some functional checks are carried out by specific administrative units, ensuring a separation of the tasks to be carried out by the BCL.

The **risk management** section is now part of the Organisation and Risk Management unit. Whereas the senior supervisors from the general departments are responsible for identifying the risks linked to their fields of activities and for taking appropriate actions to mitigate these risks, the risk manager has the following responsibilities:

- Establish a common methodology for risk analysis;
- Evaluate (quantify) the risks taken;
- Check whether risks are sufficiently mitigated;
- Deliver periodic reports to the Executive Board; concerning the general situation.

On a regular basis, the risk management section evaluates different types of risk (credit, liquidity, solvency, funds, operational risk, IT risks) to which the Bank is exposed and checks the mitigation measures.

Moreover, the section is in charge of controlling financial risks linked to investment operations and the analysis and follow-up of operational risks.

Daily and independently from the investment department, it monitors and reports on the various investment positions within the portfolio of the bank.

The **Controlling** section, also managed by the Organisation and Risk management unit, includes the following tasks:

- Ensure the good execution of the budgetary procedures
- Supervise the execution of the budget
- Authorise certain expenditures and accounting
- Evaluate new activities

## 4. THE BCL AS AN ORGANISATION

- Provide budgetary and financial follow-up of projects
- Provide operational performance follow-up

The purpose of the **Compliance** function is to assist the central bank in managing its compliance risk, defined as the risk the bank may suffer from as a result of its failure to comply with all applicable laws, regulations, codes of conduct and standards of good practice.

The scope of intervention of the Compliance Officer has been substantially enlarged. The Compliance Officer is currently responsible for the implementation of the compliance policy of the central Bank. In addition to the implementation of AML/CFT policies and regulations, the scope of his function includes ethics and integrity, the prevention of insider trading operations, the prevention of misuse of confidential information, compliance with internal procurement rules and data protection. The Compliance Officer has been certified as Data Protection Officer by the *Commission Nationale de Protection des Données* in November 2007.

The BCL's strategic orientations are defined on the basis of performance measurement according to the Balanced Scorecard method and of the principles laid out in the Official Stance, a document describing the Bank's positioning which has been approved by the Council and published on the BCL's website.

The Internal Audit analyses and evaluates, on the basis of predefined objectives and a precise methodology, the appropriateness and efficiency of the existing supervision. Internal Audit is a supervisory unit independent of the BCL's other administrative units and reports directly to the President of the Council.

The Head of Internal Audit may also be involved in the work of the Audit Committee. Generally speaking, the Internal Audit pursues the objectives and follows the reporting procedure of the ESCB.

### 4.2.3 The external supervisory mechanisms

An initial external supervision of the BCL's activities, namely the checking of its accounts, is carried out by the Bank's independent external Auditor, who is nominated yearly in a proposal sent by the Council of the Bank to the government. At the request of the Council, the independent Auditor carries out specific complementary checks and analyses during the year. At the European level, the Auditor of the Bank is approved by the Council of Ministers upon the recommendation of the Governing Council of the ECB. In this context, the Auditor is given responsibility for particular tasks with regard to the Eurosystem.

### 4.2.4 The code of conduct

In 2001, the BCL established a code of conduct, which defines internal and external rules of conduct applicable to all its staff. Without prejudice to public service law, social legislation or pre-existing contractual obligations, the code of conduct provides for ethical standards based on nondiscrimination, solidarity, efficiency and independence which are to be strictly observed by all staff members. The code of conduct is currently being revised and a new version will be available in 2008.

The ECB has required, since 2002, that all members of the Governing Council observe a code of conduct which lays down the highest standards of professional ethics. The members are expected to act honestly, independently, impartially, with discretion and without regard to self-interest and to avoid any situation liable to give rise to a personal conflict of interests. They must continue to abide by these standards for one year after leaving office.

The code has been revised at the end of 2006. Participation in conferences, receptions or other events are subject to clear conditions. Governors should carefully handle personal invitations and their spouses or partners should behave according to accepted standards in international relations.

#### 4.2.5 The Eurosystem Procurement Co-ordination Office (EPCO)

In December 2007, the Governing Council of the ECB decided that the BCL should host and implement the Eurosystem Procurement Co-ordination Office (EPCO).

EPCO has been mandated with three main tasks :

- co-ordinating the Eurosystem procurement agenda ;
- facilitating the adoption of best practices within the Eurosystem ;
- developing the infrastructure to enable the pooling of purchasing power.

### 4.3 The BCL staff

#### 4.3.1 Quantitative evolution

During 2007, the BCL staff increased by 5.3 % to reach a total of 219 members of staff on 31 December 2007, equivalent to 204.5 full time positions and representing a 6 % increase compared to 2006. Staff members are of ten different nationalities, thus contributing to the diversity of the human capital and to its cultural enrichment.

On December 31, 2007, twenty-five staff members worked part-time:

- Part-time work (50%) : **10 staff members**
- Part-time work (75%) : **8 staff members**
- Leave for part-time work : **7 staff members**

Three staff members were on full-time parental leave and two staff members were on part-time parental leave.

Finally, two staff members were on unpaid leave on this date and two staff members were on special leave.

The average number of staff members working at the BCL in 2007 was of 211, compared to 206.5 in 2006.

The overall approved headcount for the year 2007 was of 217 full time equivalent positions. This ceiling was increased to 226 full time equivalent positions for the year 2008.

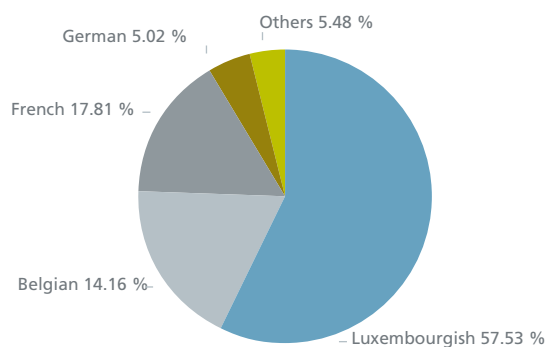
During 2007, six staff members left the BCL while eighteen new staff members joined the Bank. The BCL received 300 spontaneous job applications and 210 applications for internships or student jobs.



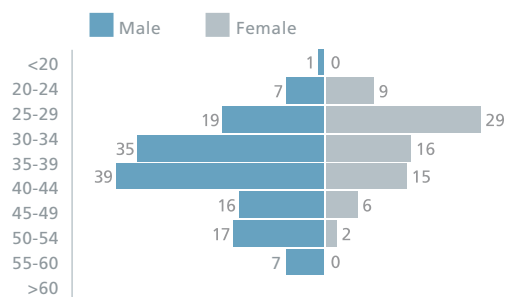
## 4. THE BCL AS AN ORGANISATION

The average age of BCL staff members has slightly increased from 38.8 years in 2006 to 39.3 years on December 31, 2007. On this date, the staff counted 35 % females and 65 % males.

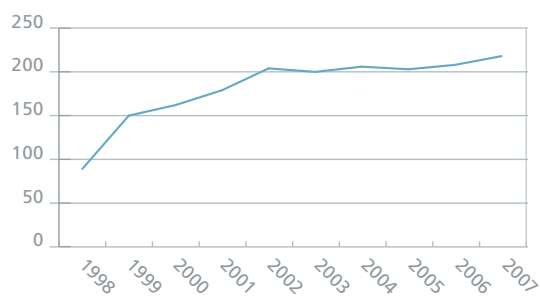
**CHART 1:**  
**STAFF MEMBERS BY NATIONALITY**



**CHART 2:**  
**DISTRIBUTION OF STAFF MEMBERS PER AGE GROUP**



**CHART 3:**  
**EVOLUTION IN STAFF NUMBERS SINCE 1998**



The BCL offered internships for a period from six weeks to two months to nine students attending university studies in relation with the bank's activities as well as a one-year internship within the Economic and Research Department to a PhD student.

The staff evolution in full time equivalent during 2007 was as follows:

	2007	2006
On 1 <sup>st</sup> of January	196.00	197.50
Recruitments	17.25	14.00
Resignations <sup>1</sup>	5.75	15.50
On 31 December	207.50	196.00
Average head-count	197.96	196.83

#### 4.3.2 Human resources management

The year 2007 was mainly focused on the implementation of the new organisational structure for the Bank. In the framework of this reorganisation, it should be mentioned that a certain number of staff members was lead to carry out new functions and therefore a particular attention was put on aligning the staff members' skills to the requirement of their new function. The BCL is very conscious that such efforts have to continue and identified different working tracks potentially leading to a more active human resources management. Hence particular importance is given to the performance appraisal of staff members as regards their career development. During 2007, some of these considerations were carefully examined. Finally, the implementation of the competencies management system within the BCL represents a priority insofar as it is a crucial tool of the future human capital management around which other tools such as training plans, career plans as well as mobility plans will be developed.

During 2007, the recruitment policy was slightly amended in order to allow for more flexibility. Until now, the recruitment process was based on a competitive entrance exam which was organised once or twice a year depending on staff requirements of the Bank. This recruitment process turned out to be too rigid, not allowing the Bank to react to unexpected situations, as it was necessary, in case of a vacancy to wait for

the next entrance exam. The aim of the new procedure is to react promptly so as to be able to initiate at any time the recruitment process which is composed of a theoretical written and modular part and of interviews. This new procedure will be assessed critically during 2008 to check whether the expected results have been reached.

#### 4.3.3 Staff training

From the point of view of the construction of a commune future orientation for the Bank, the BCL intends to develop its human resources. The Bank is determined to develop the capacities of its staff members by giving them opportunities at the appropriate time and by supporting them in their career development. In order to help the staff members in their career development and progress, a combination of levers may turn out to be available and relevant such as training and internal and external mobility. In addition to what was told in the above paragraph, it should be mentioned that the competencies management has been identified to be the tool improving the staff members' skills regarding the required competencies to carry out a specific job. The question therefore is essentially to favour the definition of training needs expressible in required competencies and goals to reach in order to make a decision on training. The identification of these training needs gives rise to the setting up of a training plan for each staff member which is considered to be a form of contract between the bank and the staff member as regards the training sessions the latter has to complete in order to obtain the competencies required for the function. The training plans are also going to play an essential part in the framework of the mobility policy within the BCL as they will determine the training sessions to be completed and therefore also the competencies to be acquired by a staff member to be able to align his skills to those of the position. All these initiatives could be completed with internship opportunities aiming to create an open environment where staff members have attractive opportunities inside and outside the bank.

<sup>1</sup> This item also takes into account the effects in relation to changes from full time work to part-time work.

## 4. THE BCL AS AN ORGANISATION

### 4.3.4 The Pension Fund

Article 14 of Founding Law of 23 December 1998 relating to the monetary status and the Banque centrale du Luxembourg provides that legal pension entitlements of BCL agents are determined by their status (i.e., civil servant, State employee, private employee or worker).

Paragraph 4(b) of this article provides that:

“The pensions of the Bank’s agents shall be paid by the Bank. These costs shall be financed by a pension fund of the Bank. The pension fund shall be financed on the one hand by statutory deductions from agents’ salaries in accordance with the rules governing the pension scheme corresponding to their status, on the other hand by contributions made by the Bank itself.”

The BCL’s pension fund, which started operating in 2001, is governed by a set of internal rules and two committees, one executive and one consultative. The executive committee is the *Comité directeur* composed of the BCL’s Board of Directors, two elected representatives from the staff, two co-opted members acting as delegated managers and one member designated by the Staff Committee. The consultative committee is the Tactical Benchmark Committee.

The Bank meets the representatives of social security bodies as well as civil servants and administrative coordination Administration. The aim is to reconcile the need for workers’ mobility with the principles of financial independence of the Bank and its functional autonomy.

It has been agreed that a draft law amending the law of 28 July 2000 coordinating the different national pension schemes and any other texts dealing with individual pension rights and beneficiaries of the BCL’s pension fund be prepared by the government department responsible for monitoring social security and submitted to the national legislator in order to insure the recognition of the BCL’ pension fund as social security body.

Until now, the draft law is not yet available as articles not related to BCL’s pension fund are still in debate.

### 4.3.5 Legal disputes

By its decision of 12 June 2007 the Luxembourg Administrative Court of Appeal rejected the appeal lodged by a former staff member of BCL and member of the BCL staff representation A-BCL.

The Court confirmed the entire judgment of first instance which did not annul the decision of dismissal of this staff member by ruling: *“It follows from the foregoing elements that the BCL’s Executive Board is not to be reproached concerning the dismissal of the appellant so that the appeal is declared unfounded and the judgment of 23 November 2006 is confirmed”*. (informal translation).

The Court concluded that the decision of dismissal was not due to the staff member’s activity as a member of the staff representation, but to multiple professional faults, which had undermined BCL’s Executive Board confidence in the appellant.



#### 4.4 Facilities

Key elements of 2007 for the Facilities and Logistics section were cost reduction, the optimisation of energy consumption and consumables, the planning of investments and medium-term operational costs as well as the finalisation of the waste management concept to be established in 2008.

The review of BCL's organisation chart which was set up at the beginning of 2007, engendered moving some 85 staff within the 3 buildings of the BCL.

These moves were realised by considering both organisational needs as well as an optimal use of the available space.

The new building of the BCL, located 43, avenue Monterey, was operational during the full year. Its technical installations proved reliable.

## 4. THE BCL AS AN ORGANISATION

### 4.5 Internal finance

BCL continued to update its accounting system and its procedures in order to meet its internal quality standards and those of the Eurosystem. In 2007, the accounting techniques relating to the operations on financial assets were modified in the BCL's systems.

The Eurosystem requires the daily reporting of balance sheet data according to harmonised rules. The transmission techniques were modified in accordance to new reporting rules and the introduction of Target 2.

The controlling systems in place proved to be effective during the year.

The Bank regularly checks the development of balance sheet, off-balance-sheet and profit and loss items. Investments, revenues and expenses are in particular closely monitored with special attention paid to signing powers.

The cost accounting system gives an indication concerning costs and invoicing of services. The methodology follows the rules recommended by the Eurosystem. It consists of allocating BCL's operational expenses according to their destination, i.e. according to the respective sections and units, and it permits to allocate the costs of each of the Bank's activities. In 2008, harmonised techniques relative to project costs will be introduced.

The monthly balance sheet of the Bank is published on its Internet site.

The management information system meets the need to follow the Bank's activities. It is based on a set of indicators, which are calculated daily, weekly, monthly, quarterly and annually. These tables include all activities of the Bank. The analysis of the profit and loss items is complemented by an analysis concerning the net profit of the various activities. The Bank strictly controls the development of the interest margin and compares the profitability of its investments to benchmarks.

The Bank performs static and dynamic assessments of its long-term financial situation. It carries out prospective analyses of external factors like interest rates,

exchange rates and other variables of the Eurosystem and of the economic situation.

The Bank's decision-making bodies are regularly informed of the results in order to be in a position to decide on the future directions and actions to take.

The asset/liability committee closely follows the risk exposure and the financial situation during the year, and in particular the risk resulting from the appropriateness of assets and liabilities. It checks the investment limits imposed by the balance sheet positions of the NCBs and the ECB.

As at 1 January 2008, Cyprus and Malta entered into the Eurosystem. Consequently, the BCL's key in the Eurosystem changed from 0.22659% to 0.22598%.

## 4.6 The budget

The establishing of the annual budget of the BCL is part of a long term planning exercise which aims to ensure the financial balance of the accounts of the Bank over a long term horizon. The budget of the BCL reflects the corporate values of the Bank, which are:

- professionalism;
- quality in the services provided;
- stability ensured by a long-term perspective;
- objectivity resulting from an impartial application of precise rules;
- integrity resulting from the transparency of its internal operations and the respect for professional ethics.

The 2007 budget of the Bank has been established in conformity with the budgetary procedures and the orientations formulated by the Council. The 2007 budget has been approved by the Council on 14 December 2006.

### *The main orientations for 2007 were:*

- Non structural revenues are hoarded in order to increase the Bank's own funds;
- An optimal output of the portfolio is targeted through diversified and high quality investments as well as by a meticulous management of the risks inherent to such investments;
- The development of new activities generating additional revenues for the Bank is emphasised;
- The strict control of cost is reinforced in 2007 by the implementation of a procurement office and a controlling entity;
- The recruitment of new staff is linked to the development of new activities generating revenues for the Bank.

The orientations formulated by the Council have been respected and the figures of the 2007 profit and loss account confirm that the operational costs have stayed within the budgetary limits.

## 4.7 The Internal Audit Activities

In accordance with internationally accepted professional standards, the internal audit is an independent and impartial activity designed to add value by improving an organisation's operations and the control thereover.

The Internal Audit helps the Bank to accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control and management processes.

The Internal Audit unit reports directly to the President of the Bank.

The annual internal audit plan comprises audit engagements on a national level, as well as audit objects that are coordinated by the Internal Auditors Committee of the ESCB in compliance with the ESCB audit policy.

During the year 2007, the Internal Audit unit performed various reviews in the areas of the management of business continuity/disaster recovery, the handling of euro banknotes and coins, monetary policy operations, numismatics, accounting, payments systems, information technology as well as in the context of various projects.

The Internal Audit unit is in charge of following-up on the recommendations issued during its audit activities.

## 4. THE BCL AS AN ORGANISATION

### 4.8 Financial statements as at 31 December 2007

#### 4.8.1 Key figures

##### KEY FIGURES AS AT YEAR-END (IN EURO UNLESS OTHERWISE INDICATED)

	2006	2007	Change in % 2007/2006
Total assets	52 445 571 857	59 009 304 594	13%
Banks' current accounts	9 741 868 456	10 779 720 531	11%
Claims on credit institutions	41 511 620 450	32 914 774 230	-21%
Own funds (1), revaluation accounts, administrative provisions and specific banking risks	583 121 841	586 004 467	0.49%
Net result of banking activities (2)	89 252 485	54 540 273	-39%
Total net revenues	42 659 591	42 366 352	-1%
Administrative expenses	30 181 332	32 504 561	8%
Net profit	7 309 279	4 421 374	-40%
Cash Flow (3)	80 517 799	93 670 323	16%
Staff	208	219	5%
BCL's part in the capital of the ECB	0.1568%	0.1575%	
<b>BCL's part in the Eurosystem's monetary policy opérations</b>	<b>9.214%</b>	<b>5.166%</b>	

- (1) Capital, reserves, provisions for general banking risks and net profit to be affected to the reserves  
 (2) Net interest income, net result from fees and commissions, net result on financial operations  
 (3) Net profit plus depreciation of tangible / intangible assets and write-downs on financial assets, as well as net transfers to administrative provisions and provisions for banking risks

##### Preamble

Only the French version of the present financial statements has been reviewed by the Independent Auditor. Consequently, the financial statements only refer to the French version of the financial statements; other versions result from a conscientious translation made under the responsibility of the Board of Directors. In case of differences between the French version and the translation, the French version is binding.

## **4.8.2 Report of the Independent Auditor**

**March 3, 2008**

**To the Council of the Banque centrale du Luxembourg**

**To the Government**

**To the Chamber of Representatives**

*We have audited the accompanying financial statements of Banque centrale du Luxembourg, which comprise the balance sheet as at December 31, 2007 and the profit and loss account for the year then ended, and a summary of significant accounting policies and other explanatory notes.*

### **Directors' responsibility for the financial accounts**

*The financial statements are the responsibility of the Directors and are approved by the Council. The Directors are responsible for the preparation and fair presentation of these financial statements in accordance with generally accepted accounting principles and those defined by the European System of Central Banks. This responsibility includes: designing, implementing and maintaining internal control relevant to the preparation and fair presentation of financial statements 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.*

### **Responsibility of the réviseur d'entreprises**

*Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing as adopted by the Institut des réviseurs d'entreprises. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.*

*An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the judgment of the réviseur d'entreprises, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the réviseur d'entreprises considers internal control relevant to the entity's preparation and fair presentation of the financial statements 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 the Directors, as well as evaluating the overall presentation of the financial statements. 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 financial statements give a true and fair view of the financial position of Banque centrale du Luxembourg as of December 31, 2007, and of the results of its operations for the year then ended in accordance with generally accepted accounting principles and those defined by the European System of Central Banks.*

**Deloitte S.A.**

**Réviseur d'entreprises**

**Pascal Pincemin**

**Partner**

**Vafa Moayed**

**Partner**



## 4. THE BCL AS AN ORGANISATION

### 4.8.3 Balance sheet as at 31 December 2007

ASSETS			
	Note	2007 EUR	2006 EUR
Gold and gold receivables	3	42 228 333	35 923 514
Claims on non-euro area residents denominated in foreign currency	4	97 132 215	164 244 740
- Receivables from the IMF		33 809 923	47 085 746
- Balances with banks, security investments, external loans and other external assets		63 322 292	117 158 994
Claims on euro area residents denominated in foreign currency	5	1 305 521 707	37 207 591
Claims on non-euro area residents denominated in euro	6	1 254 267 732	1 301 410 536
- Balances with banks, security investments and loans		1 254 267 732	1 301 410 536
Lending to euro area credit institutions related to monetary policy operations denominated in euro	7	32 914 774 230	41 510 822 665
- Main refinancing operations	7.1	24 125 912 740	32 668 047 500
- Long-term refinancing operations	7.2	8 788 861 490	8 842 774 865
- Marginal lending facility	7.5	0	300
Other claims on euro area credit institutions denominated in euro	8	730 661 572	797 785
Securities of euro area residents denominated in euro	9	2 085 440 047	2 349 504 488
Intra-Eurosystem claims	10	18 399 192 673	5 314 683 608
- Participating interest in ECB	10.1	10 668 158	9 660 235
- Claims related to the transfer of foreign reserves	10.2	90 730 275	87 254 014
- Other claims within the Eurosystem	10.3	18 297 794 240	5 217 769 359
Items in course of settlement		0	35
Other assets	11	2 180 086 085	1 730 976 895
- Tangible and intangible fixed assets	11.1	65 289 790	66 243 324
- Other financial assets	11.2	1 818 366 874	1 500 684 573
- Off-balance sheet instruments revaluation differences		21 010 787	2 426 000
- Accruals and prepaid expenses	11.3	255 827 288	130 924 829
- Sundry	11.4	19 591 346	30 698 169
<b>Total assets</b>		<b>59 009 304 594</b>	<b>52 445 571 857</b>

The accompanying notes form an integral part of the financial statements.

LIABILITIES	Note	2007 EUR	2006 EUR
Banknotes in circulation	12	1 414 171 330	1 269 044 800
Liabilities to euro area credit institutions related to monetary policy operations denominated in euro	13	10 779 720 531	9 741 868 456
- Current accounts (covering the minimum reserve system)	13.1	10 779 720 531	9 741 868 456
Liabilities to other euro area residents denominated in euro	14	433 531 161	472 942 949
- General government	14.1	433 531 161	472 942 949
Liabilities to non-euro area residents denominated in euro	15	81 828 278	32 189 061
Liabilities to non-euro area residents denominated in foreign currency	16	296 404 985	37 757 173
Counterpart of special drawing rights allocated by the IMF	17	18 209 670	19 355 828
Intra-Eurosystem liabilities	18	44 786 358 600	39 811 803 645
- Net liabilities related to the allocation of euro banknotes within the Eurosystem	18.1	44 786 358 600	39 811 803 645
Items in course of settlement	19	23	12 605 068
Other liabilities	20	524 643 538	387 451 120
- Off-balance sheet instruments revaluation differences	-	0	2 940 000
- Accruals and income collected in advance		492 407 914	343 796 110
- Sundry	-	32 235 624	40 715 010
Provisions	21	470 849 312	461 392 192
Revaluation accounts	22	31 245 895	31 241 667
Capital and reserves	23	167 919 897	160 610 619
- Capital	23.1	25 000 000	25 000 000
- Reserves	23.2	142 919 897	135 610 619
<b>Profit of the year</b>		<b>4 421 374</b>	<b>7 309 279</b>
<b>Total liabilities</b>		<b>59 009 304 594</b>	<b>52 445 571 857</b>

The accompanying notes form an integral part of the financial statements.

## 4. THE BCL AS AN ORGANISATION

### 4.8.4 Off-balance sheet as at 31 December 2007

	Note	2007 EUR	2006 EUR
Foreign exchange swap	24	944 569 699	0
Custody deposits	25	219 720 485 682	189 738 667 501
Commitments and similar instruments	26	0	1 700 000 000
Foreign currency reserve assets managed on behalf of the ECB	27	236 640 755	117 520 445
Forward transactions	28	0	274 612 652
Numismatic collection		181 470	180 767
		<b>220 901 877 606</b>	<b>191 830 981 365</b>

### 4.8.5 Profit and loss account for the year 2007

	Note	2007 EUR	2006 EUR
Interest income	29	2 165 460 459	1 378 860 061
Interest expense	29	(2 028 764 753)	(1 276 252 841)
<b>Net interest income</b>	<b>29</b>	<b>136 695 706</b>	<b>102 607 220</b>
Realised gains / (losses) arising from financial operations	30	2 059 326	4 954 221
Write-downs on financial assets and positions	31	(85 351 506)	(18 874 943)
Transfer to/from provisions for foreign exchange rate and price risks	32	1 542 974	(54 336 253)
<b>Net result of financial operations, write-downs and risk provisions</b>		<b>(81 749 206)</b>	<b>(68 256 975)</b>
Fees and commissions income	33	14 820 860	11 605 170
Fees and commissions expense	33	(13 684 113)	(11 039 183)
<b>Net result from fees and commissions</b>	<b>33</b>	<b>1 136 747</b>	<b>565 987</b>
Income from participating interest	34	-	-
Net result of pooling of monetary income	35	(28 534 340)	(12 450 016)
Other income	36	14 817 445	20 193 375
<b>Total net income</b>		<b>42 366 352</b>	<b>42 659 591</b>
Staff costs	37	(20 965 916)	(19 751 606)
Other administrative expenses	38	(8 348 065)	(7 295 424)
Depreciation of tangible and intangible fixed assets	11.1, 39	(5 440 417)	(5 118 980)
Banknote production services	40	(901 044)	(840 406)
Other expenses	41	(2 289 536)	(2 343 896)
<b>Profit for the year</b>		<b>4 421 374</b>	<b>7 309 279</b>

The accompanying notes form an integral part of the financial statements.

#### **4.8.6 Notes to the financial statements as at 31 December 2007**

##### **Note 1 - General**

The Banque centrale du Luxembourg ("BCL") was founded in accordance with the law of 22 April 1998. The Founding Law of 23 December 1998 stipulates that the main task of the BCL shall be to contribute to the accomplishment of the tasks of the European System of Central Banks (ESCB) so as to achieve the objectives of the ESCB. The BCL is a public institution, endowed with legal personality and financial independence.

##### **Note 2 - Accounting policies**

The accounting policies applied in preparing the financial statements are described below :

###### **2.1 Layout of the financial statements**

The financial statements of the BCL have been prepared and drawn up in accordance with the generally accepted accounting principles and the rules adopted by the ESCB.

###### **2.2 Accounting principles**

The following accounting principles have been applied:

- economic reality and transparency;
- prudence;
- recognition of post-balance sheet events;
- accruals principle;
- consistency and comparability.

###### **2.3 Basic principles**

The financial statements are based on historical cost and are adjusted to take account of the valuation at market prices of securities, financial instruments, gold and of all the elements, both on-balance-sheet and off-balance-sheet, denominated in foreign currencies.

Transactions in financial assets and liabilities are reflected in the accounts of BCL on their settlement date.

###### **2.4 Gold, assets and liabilities in foreign currencies**

Assets and liabilities denominated in foreign currencies (including gold) are converted into euro at the exchange rate in force on the balance sheet closing date.

Income and expenses are converted at the exchange rate prevailing on the date of the transaction.

Foreign currencies are revalued on a currency-by-currency basis including on-balance-sheet and off-balance-sheet items.

Securities are revalued separately from the revaluation of foreign exchange for securities denominated in foreign currencies.

Gold is revalued on the basis of the euro price per fine ounce as derived from the quotation in US dollars established at the time of the London fixing on the last working day of the year.

###### **2.5 Securities**

Negotiable securities denominated in foreign currencies and in euro are valued at the market price prevailing on the balance sheet date. Securities held to maturity are valued at purchase or transfer price adjusted by premiums and discounts.

The revaluation took place item-by-item on the basis of their ISIN code.

###### **2.6 Recognition of gains and losses**

Income and expenses are assigned to the financial year during which they are earned or incurred.

Realised gains and losses on foreign exchange transactions, securities and financial instruments linked to interest rates and market prices are taken to the profit and loss account.

At the end of the year, unrealised revaluation gains on foreign currencies, securities and financial instruments are not considered in the profit and loss account, but transferred to a revaluation account on the liabilities side of the balance sheet.

Unrealised losses are recognised in the profit and loss account when they exceed previous revaluation gains registered in the corresponding revaluation account. They may not be reversed against new unrealised gains in subsequent years. Unrealised losses regarding a specific security, financial instrument, currency or in gold holdings are not netted with unrealised gains in

## 4. THE BCL AS AN ORGANISATION

other securities, financial instruments, currencies or gold holdings.

In order to calculate the acquisition cost of securities or currencies that are sold, the average cost method is used on a daily basis. If any negative revaluation differences are taken to the profit and loss account, the average cost of the asset in question is adjusted downwards to the level of the current exchange rate or market price thereof.

For fixed-income securities, the premiums or discounts arising from the difference between the average acquisition cost and the redemption price are calculated and presented on a prorata basis as part of the interest positions and amortised over the remaining life of the securities.

### **2.7 Post-balance-sheet events**

Assets and liabilities are adjusted to take account of events occurring between the balance sheet date and the date on which the BCL's Council approves the annual accounts if such events have a material effect on the assets and liabilities on the balance sheet date.

### **2.8 Banknotes in circulation**

The European Central Bank (ECB) and the participating National Central Banks (NCBs), which together comprise the Eurosystem, have issued euro banknotes as from 1 January 2002. The total value of euro banknotes in circulation is allocated on the last working day of each month in accordance with the banknote allocation key.

The ECB has been allocated a share of 8% of the total value of euro banknotes in circulation from 2002, whereas the remaining 92% has been allocated to NCBs according to their weightings in the capital key of the ECB. The share of banknotes allocated to each NCB is disclosed under the balance sheet liability item "Banknotes in circulation".

The difference between the value of the euro banknotes allocated to each NCB in accordance with the banknote allocation key and the value of the euro banknotes that it actually puts into circulation gives rise to remunerated intra-Eurosystem balances. These claims or liabilities, which incur interest, are disclosed

under the sub-item "Intra-Eurosystem: Net claim/liability related to the allocation of euro banknotes within the Eurosystem".

The intra-system balances arising from the allocation of euro banknotes are adjusted in order to avoid significant changes in NCBs' relative income positions as compared to previous years. The adjustments are effected by taking into account the differences between the average value of banknotes in circulation of each NCB during a reference period and the average value of banknotes that would have been allocated to them during that period under the ECB's capital key. The adjustments will be reduced in annual stages to finally result in an allocation of income on banknotes fully in proportion to the NCBs' paid-up shares in the ECB's capital.

The interest income and expense on these balances is cleared through the accounts of the ECB and is disclosed under "Net interest income."

The Governing Council of the ECB has decided that the seigniorage income of the ECB, which arises from the 8% share of euro banknotes allocated to the ECB, shall not be distributed in 2007. This income has been allocated, in the ECB's accounts, to a provision for foreign exchange rate, interest rate and gold price risks.

### **2.9 Intra-Eurosystem claims and liabilities**

Intra-Eurosystem balances arising from the allocation of euro banknotes within the Eurosystem are included as a net single asset or liability under "Net claim/liability related to the allocation of euro banknotes within the Eurosystem".

Intra-Eurosystem claims and liabilities arising from TARGET balances and counterparties accounts are shown as a single net asset or liability on the balance sheet.

### **2.10 Treatment of tangible and intangible assets**

The tangible and intangible assets are recorded at their acquisition cost less depreciation. Depreciation was calculated on a straight-line basis over the expected economic lifetime of the assets :

	Years
Buildings	25
Renovation of buildings	10
Furniture and equipment	3-5
Computer hardware and software	4

### 2.11 Pension fund

As at 1 January 1999, after the entry into force of the Founding Law of 23 December 1998, the pension claims of the BCL's staff members are fully supported by the BCL. The pension fund aims to cover the risks related to ageing, infirmity and survival, was set up in 2000. The actuarial method for determining the BCL's liabilities towards its agents was approved by the pension fund's Management Committee as at 12 February 2001.

The actuarial method determines the pension fund's liability related to ageing, infirmity or survival for each agent. The model is based on each agent's personal and career data, on the level of inflation for the next 60 years as well as on an average rate of return generated by the fund's assets.

The BCL's liabilities related to pensions are shown in the account "Provisions for pensions". The provision increases as a result of regular transfers by the agent and by the BCL as employer. In addition, if necessary, periodic transfers from the account "Booking reserve of the pension fund", equivalent to the revenues generated by the fund's assets, to adjust the account "Provision for pensions" to its actuarial value are booked. In cases where transfers are insufficient cover the BCL's pension liabilities, the difference between the existing provision and the effective claim is covered by a special transfer to be supported by the BCL.

### 2.12 Provision for banking risks

The BCL's provision policy is intended to cover specific and general risks resulting from the Bank's activities.

### Note 3 - Gold and gold receivables

As at 31 December 2007, BCL held 2 314.78 ounces of fine gold amounting to 1.3 million euro (2 423.88 ounces of fine gold amounting to 1.2 million euro as at 31 December 2006) and a top-rated gold bond issued by the International Bank for Reconstruction and Development purchased in 2002 and valued at 40.9 million euro (34.7 million euro as at 31 December 2006).

On the balance sheet date, gold is valued on the basis of the euro price per fine ounce derived from the quotation in US dollars established at the London fixing on 31 December 2007.

### Note 4 - Claims on non-euro area residents denominated in foreign currency

	2007 EUR	2006 EUR
Receivables from the IMF	33 809 923	47 085 746
Balances with banks, security investments, external loans and other external assets	63 322 292	117 158 994
	<b>97 132 215</b>	<b>164 244 740</b>

Under this item are recorded the BCL's foreign exchange reserve holdings with counterparties situated outside the euro area (including international and supranational institutions and central banks that are not members of the Eurosystem).

This item is broken down into two sub-items :

- receivables from the International Monetary Fund (IMF) are made up of reserve tranche position and SDR holdings. SDR are reserve assets created ex nihilo by the IMF and allocated by it to its members. A country's SDR holdings initially amount to the SDR allocated. Afterwards, SDR holdings are subject to fluctuations as a result of encashments and transactions with others SDR holders. The reserve tranche position corresponds to the net amount of the quota and the IMF's currency holding and takes into account the re-evaluation of the general account.

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- balances held on accounts with banks outside the euro area as well as securities, loans and other foreign currency assets issued by non-residents of the euro area. This sub-item includes in particular the US dollar securities portfolio which could be used, if needed, for monetary policy operations.

This portfolio, which amounts to 59.8 million euro as at 31 December 2007 (115.3 million euro as at 31 December 2006), only contains government bonds and top-rated bonds issued by international and supranational institutions denominated in US dollars. Securities are valued at market prices. As at 31 December 2007, their value at market prices included an unrealised gain amounting to 1.2 million euro (unrealised gain amounting to 0.3 million euro as at 31 December 2006).

Balances with banks amounted to 3.5 million euro as at 31 December 2007 (1.9 million euro as at 31 December 2006).

### *Note 5 - Claims on euro area residents denominated in foreign currency*

This item includes mainly a claim arising from reverse operations with Eurosystem counterparties amounting to 940.8 million euro, in connection with the US dollar Term Auction Facility. Under this Programme, 20 billion USD were provided by the Federal Reserve to the ECB by means of 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 NCBs that have adopted the euro, which used the resulting funds to conduct liquidity-providing operations with the Eurosystem counterparties. These back-to-back swap transactions resulted in non-remunerated inter-Eurosystem balances between the ECB and the NCBs reported under "Other claims within the Eurosystem(net)".

This item includes also BCL's balances denominated in foreign currency with counterparties inside the euro area.

### *Note 6 - Claims on non-euro area residents denominated in euro*

	2007 EUR	2006 EUR
Balances with banks	10 143 289	10 959 298
Security investments	1 244 124 443	1 290 451 238
	<b>1 254 267 732</b>	<b>1 301 410 536</b>

This item contains balances held on accounts with banks outside the euro area as well as securities, loans and other euro-denominated assets issued by non-residents of the euro area.

This portfolio only contains government bonds and first rated bonds issued by companies outside the euro area denominated in euro. Securities are valued at market prices. As at 31 December 2007, their value at market prices included an unrealised loss amounting to 39.0 million euro (unrealised loss amounting to 15.5 million euro as at 31 December 2006).

### *Note 7 - Lending to euro area credit institutions related to monetary policy operations denominated in euro*

This balance sheet item represents the liquidity-providing transactions executed by the BCL with Luxembourg credit institutions.

The item is divided into various sub-items depending on the type of instrument used to provide liquidity to the financial sector :

	2007 EUR	2006 EUR
Main refinancing operations	24 125 912 740	32 668 047 500
Longer-term refinancing operations	8 788 861 490	8 842 774 865
Fine-tuning reverse operations	-	-
Structural reverse operations	-	-
Marginal lending facility	-	300
Credits related to margin calls	-	-
	<b>32 914 774 230</b>	<b>41 510 822 665</b>

#### **7.1 Main refinancing operations**

This sub-item records the amount of liquidity provided to credit institutions by way of weekly one-week tenders and of exceptional tenders allocated at year end.

#### **7.2 Long-term refinancing operations**

This sub-item records the amount of credit extended to credit institutions by way of monthly three-month tenders and of exceptional tenders allocated at year end.

#### **7.3 Fine-tuning reverse operations**

This sub-item records open market operations carried out on a non-regular basis, intended primarily to meet unexpected fluctuations in market liquidity.

#### **7.4 Structural reverse operations**

These are open market operations carried out with the primary intention of bringing about a lasting change in the structural liquidity position of the financial sector vis-à-vis the Eurosystem.

No such transactions were made during the year under review.

#### **7.5 Marginal lending facility**

This sub-item records a standing facility enabling counterparties to obtain 24-hour credit from the Bank at a pre-specified interest rate, against eligible collateral.

#### **7.6 Credits related to margin calls**

This sub-item records additional credit extended to credit institutions and resulting from the increase in the value of the securities pledged as collateral for other credits extended to these same institutions.

No such operation took place during the year just ended.

#### **Note 8 - Other claims on euro area credit institutions denominated in euro**

This item includes the BCL's current accounts and fixed-term deposits not related to monetary policy operation with credit institutions inside the euro area.

#### **Note 9 - Securities of euro area residents denominated in euro**

This item covers the BCL's portfolio in euro issued by residents of the euro area which could be used, if needed, for monetary policy operations. This amounted to 2 085.4 million euro as at 31 December 2007 (2 349.5 million euro as at 31 December 2006).

This portfolio only contains government bonds in euro issued by Member States of the European Union and first rated bonds issued by companies of the euro area. Securities are valued at market prices. As at 31 December 2007, their value at market prices included an unrealised loss amounting to 28.8 million euro (against 14.7 million euro as at 31 December 2006).

#### **Note 10 - Intra-Eurosystem claims**

##### **10.1 Participating interest in the ECB**

Pursuant to Article 28 of the ESCB Statute, the ESCB national central banks are the sole subscribers to the capital of the ECB. Subscriptions depend on shares which are fixed in accordance with Article 29.3 of the ESCB Statute and which are subject to adjustment every five years. On 31 December 2007, the share that the BCL holds in the capital of the ECB was 0.1575%, which amounts to 10 668 158 euro, on a total of subscribed capital of the ECB of 5.761 billion euro (this corresponds to 0.1568% or 9 660 235 euro, on a total of subscribed capital of the ECB of 5.565 billion euro as at 31 December 2006).



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The share that the BCL held in the accumulated net profits of the ECB reflects the repayment of 0.9 million euro by the ECB.

On 1 January 2007 the national central banks of Bulgaria and Romania joined the ESCB while the national central bank of Slovenia joined the Eurosystem. As a result the BCL's capital keys changed in both systems. More over, the calculations on population and GDP were revised. BCL's key in the ESCB changed from 0.1568% to 0.1575% and BCL's key in the Eurosystem changed from 0.21933% to 0.22659%.

### **10.2** *Claims equivalent to the transfer of foreign reserves*

This sub-item represents the euro-denominated claims on the ECB in respect of the transfer of part of BCL's foreign reserves. The claims are denominated in euro at a value fixed at the time of their transfer.

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.

On 31 December 2007, the claim of the BCL amounted to 90 730 275 euro (87 254 014 euro on 31 December 2006).

### **10.3** *Other claims within the Eurosystem*

This sub-item represents the BCL's net claims towards the Eurosystem, mostly from transactions resulting from cross-border payments initiated for monetary or financial operations, made via the TARGET system, between the BCL and the other NCBs as well as the ECB. This claim amounts to 18.3 billion euro as at 31 December 2007 (5.2 billion euro as at 31 December 2006).

The net position vis-à-vis the ECB bears interest at the marginal interest rate applying to the main refinancing operations.



## Note 11 – Other assets

### 11.1 Tangible and intangible assets

Tangible and intangible fixed assets developed as follows:

	Buildings EUR	Furniture and equipment EUR	Software EUR	Total EUR
Cost as at 1 January 2007	87 695 681	11 447 327	5 583 458	104 726 466
Disposals	-	-	-	-
Acquisitions	3 609 069	701 145	176 669	4 486 883
<b>Cost as at 31 December 2007</b>	<b>91 304 750</b>	<b>12 148 472</b>	<b>5 760 127</b>	<b>109 213 349</b>
Accumulated depreciation as at 1 January 2007	26 147 057	8 435 710	3 900 375	38 483 142
Disposals	-	-	-	-
Depreciation	3 923 441	975 602	541 374	5 440 417
Accumulated depreciation as at 31 December 2007	30 070 498	9 411 312	4 441 749	43 923 559
<b>Net book value as at 31 December 2007</b>	<b>61 234 252</b>	<b>2 737 160</b>	<b>1 318 378</b>	<b>65 289 790</b>

The sub-item “Buildings” comprises the acquisition cost of the premises located on the 2, boulevard Royal, the costs incurred in relation to the reconstruction and transformation of the Pierre Werner building and the renovations made to the Siège Royal (main building). The building located on the avenue Monterey was completely written off in 2003, having been demolished in order to construct a new one. Construction of this new building was finished in 2006.

The Pierre Werner building and the Avenue Monterey building are considered as new buildings and are being amortised over a period of 25 years while the costs incurred in relation to the transformation of the Siège Royal are considered as renovations and are being amortised over 10 years.

### 11.2 Other financial assets

The components of this item are as follows:

	2007 EUR	2006 EUR
Other participating interests	170 226	216 994
Pension fund	88 987 746	83 271 152
Securities portfolio	1 729 208 902	1 417 196 427
	<b>1 818 366 874</b>	<b>1 500 684 573</b>

The other participating interests comprise the BCL’s investments in RTGS-L GIE, in liquidation, Swift and ATTF.

The assets of the pension fund are recorded in the accounts under “Pension fund BCL”. The balance of this account corresponds to the net asset value of the fund as calculated by the depositary bank as at 31 December 2007.

#### **The securities portfolio recorded under this heading includes:**

1) As at 31 December 2007 the securities held by the BCL for the purpose of investment amounting to a total of 1 362.6 million euro (1 417.2 million euro as at 31 December 2006). Securities are valued at market

## 4. THE BCL AS AN ORGANISATION

prices. As at 31 December 2007, their value at market prices included an unrealised loss amounting to 32.3 million euro (unrealised loss amounting to 12.8 million euro as at 31 December 2006).

2) The "Hold to maturity" portfolio was created in 2007. These securities are held until maturity.

This portfolio is valued at amortised cost, purchase or transfer price adjusted by premiums and discounts. Securities already in portfolios as at 31 December 2006 were transferred at accounting value as at 1 January 2007. Securities bought in 2007 were transferred at acquisition value. Securities held to maturity are valued as described and not at market price.

As at 31 December 2007 these securities amounted to 366.6 million euro. An unrealised loss of 17.8 million is not booked as at 31 December 2007 but would be booked if the decline in value became permanent.

### 11.3 Accruals and prepaid expenses

Most of this item consists of the accrued interests on monetary policy operations, securities and receivables from the IMF.

Are also included under this item the commissions receivables, prepaid expenses (including salaries paid for January 2008) and other income receivable.

### 11.4 Sundry

	2007 EUR	2006 EUR
Withdrawals in advance	-	12 605 000
Others	19 591 346	18 093 169
	<b>19 591 346</b>	<b>30 698 169</b>

The sub-item "Withdrawals in advance" corresponds to the amount of euro banknotes ordered by the credit institutions as at 31 December 2006 and which were not put into circulation by that date.

The sub-item "Others" consists mainly of the counterpart of the unrealised loss on SDR recorded in the financial statements of the BCL which is guaranteed by the State according to the agreement signed in May 1999 establishing the

financial relationship between the State of Luxembourg and the BCL as well as a claim in relation to the pension fund (17 726 152 euro as at 31 December 2007).

### Note 12 - Banknotes in circulation

This item includes the BCL's share of the total euro banknotes put into circulation by the central banks of the Eurosystem according to their weightings in the capital of the ECB, which totalled 1 414.2 million euro (1 269.0 million euro as at 31 December 2006).

### Note 13 - Liabilities to euro area credit institutions related to monetary policy operations deominated in euro

	2007 EUR	2006 EUR
Current accounts (covering the minimum reserves)	10 779 720 531	9 741 868 456
Deposit facility	-	-
Fixed-term deposits	-	-
Fine-tuning reverse operations	-	-
Deposits related to margin calls	-	-
	<b>10 779 720 531</b>	<b>9 741 868 456</b>

This item primarily comprises credit institutions' accounts held within the framework of the requirements of the minimum reserve system.

### 13.1 Current accounts (covering the minimum reserves)

This sub-item records accounts denominated in euro of credit institutions which mainly serve to meet minimum reserve requirements. These requirements have to be respected over an average unsettled period starting the Wednesday following the Governing Council's meeting to set the interest rate.

### 13.2 Deposit facility

This sub-item records the standing facility allowing credit institutions to make 24-hour deposits with the bank at a pre-specified interest rate.

### 13.3 Fixed-term deposits

This sub-item records deposits made at the Bank for the purpose of absorbing market liquidity in connection with fine-tuning operation in the Eurosystem.

### 13.4 Fine-tuning reverse operations

This sub-item records other monetary policy operations aimed at tightening liquidity.

No such operation took place in 2007.

### 13.5 Deposits related to margin calls

This sub-item records deposits made by credit institutions to compensate for the decrease in the value of securities pledged as collateral for other credits granted to these same institutions.

## Note 14 – Liabilities to other euro area residents denominated in euro

### 14.1 Liabilities to general government

This item records the amounts as follows:

	2007 EUR	2006 EUR
Current accounts	2 204 291	84 691
Account related to euro coins issued by the Treasury	161 326 870	142 858 258
Fixed-term deposit	270 000 000	330 000 000
	<b>433 531 161</b>	<b>472 942 949</b>

The item current accounts records an amount of 2 204 261 euro owed to the Luxembourg Treasury and an amount of 30 euro owed to the CCPL.

In accordance with the amendment of 10 April 2003 to the agreement between the State of Luxembourg and the BCL establishing their financial relationship, the "Account related to euro coins issued by the Treasury" corresponds to the amount of coins issued by the BCL in the name and for the account of the Treasury.

The fixed-term deposit renewed on a monthly basis relates to the above-mentioned agreement.

## Note 15 - Liabilities to non-euro area residents denominated in euro

This item includes current accounts held by central banks, international and supranational institutions and other account holders outside the euro area.

## Note 16 - Liabilities to non-euro area residents denominated in foreign currency

This item includes current accounts in foreign currency held by central banks outside the euro area.

## Note 17 - Counterpart of special drawing rights allocated by the IMF

The amount shown under this item represents the countervalue of SDR, converted to euro at the same rate as applied to the SDR assets, which should be returned to the IMF if SDR are cancelled, if the SDR Department established by the IMF is closed or if Luxembourg decides to withdraw from it. This liability, of unlimited duration, amounts to SDR 17.0 million, or 18.2 million euro as at 31 December 2007 (SDR 17.0 million, or 19.4 million euro as at 31 December 2006).

## Note 18 - Intra-Eurosystem liabilities

### 18.1 Net liabilities related to the allocation of euro banknotes within the Eurosystem

This item consists of the liabilities of the BCL vis-à-vis the Eurosystem relating to the allocation of euro banknotes within the Eurosystem. The net position bears interest at the marginal interest rate applying to the main refinancing operation.

## Note 19 - Items in course of settlement

This item contains mainly the counterpart of the euro banknotes ordered by credit institutions as at 31 December 2006 which were not put into circulation by that date.

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### Note 20 - Other liabilities

This item comprises mainly the negative revaluation differences on financial instruments linked to interest rates and market prices, accrued interest, including accrued interest on intra-Eurosystem liabilities, as well as miscellaneous expenses payable, including suppliers, and the Luxembourg banknotes not yet returned.

The Luxembourg banknotes still circulating as at 31 December 2007 amount to 5.3 million euro (5.4 million euro as at 31 December 2006).



### Note 21 - Provisions

Provisions developed as follows :

	2007 EUR	2006 EUR
Provisions for banking risks	379 975 432	381 518 406
Provisions for pensions	90 823 880	79 823 786
Other provisions	50 000	50 000
	<b>470 849 312</b>	<b>461 392 192</b>

#### 21.1 Provisions for banking risks

Provisions for banking risks include the following items:

	2007 EUR	2006 EUR
Provision covering credit and market risk	176 811 696	178 365 669
Provision covering operational risk	8 840 000	10 925 000
Provision covering liquidity risk	14 829 513	14 318 659
Provision covering interest rate risk	200 000	200 000
	<b>200 681 209</b>	<b>203 809 328</b>

#### Provisions for general banking risks

	2007 EUR	2006 EUR
Provision for liabilities resulting from monetary agreements	32 341 954	32 341 954
Other provision for general banking risks	146 952 269	145 367 124
	<b>179 294 223</b>	<b>177 709 078</b>
	<b>379 975 432</b>	<b>381 518 406</b>

### 21.1.1 Provision covering credit and market risk

The provision for 176.8 million euro (178.4 million euro as at 31 December 2006) corresponds to :

- 4% of the BCL's own securities portfolio existing as at 31 December 2003 and still kept as at 31 December 2007 (portfolio allocated to monetary policy operations if necessary and structural portfolio) and participations other than the participating interest in the ECB ;
- 2% of the increase, between 31 December 2003 and 31 December 2007, of the BCL's own securities portfolio and participations other than the participating interest in the ECB ;
- 2% of firm commitments on stock exchange indexes existing as at 31 December 2007;
- 4% of the average amount lent by the Eurosystem as at year-end for monetary policy reasons multiplied by the capital key corresponding to the BCL.

Provision on stock exchange index was created in 2006. There was no outstanding amount at the end of 2007.

The BCL's aim is to attain a rate of 4% on all items in the medium term.

### 21.1.2 Provision covering operational risk

This provision is intended to cover the risk of losses resulting from the inadequacy or fault attributable to procedures, to the human factor or to the BCL's systems or to external causes. Because of a lack of relevant statistics on the dimension of risk, the transfer to the provision is based on the Basic Indicator Approach described in the consultative working paper of the Basel Committee as being 15% of the average for the last three years of the net banking product (including payments allocated on monetary income).

### 21.1.3 Provision for liabilities resulting from monetary agreements

The provision for liabilities resulting from monetary treaties created in order to face any future monetary liabilities monetary liabilities did not change in 2007.

### 21.1.4 Other provision for general banking risks

In 2006, for prudence's sake and to safeguard its assets, the BCL transferred 1.6 million euro (17.4 million euro for the financial year 2006) to the provision for

general banking risks to cover any inherent risks related to central bank activities.

### 21.2 Provisions for pensions

Provisions for pensions include the following items:

	2007 EUR	2006 EUR
Provision for pensions	88 432 010	77 431 916
Provision for equalisation and financial risks	850 252	850 252
Provision for increase of PBO	1 541 618	1 541 618
	<b>90 823 880</b>	<b>79 823 786</b>

#### 21.2.1 Provision for pensions

The pensions claims of its agents are fully supported by the BCL. The corresponding liability is calculated on the basis of the actuarial method described in note 2.11 in consideration of current factors and amounted to 88.4 million euro as at 31 December 2007 (77.4 million euro as at 31 December 2006).

The increase of the provision during the year results from :

- monthly deductions from the gross salaries of BCL agents (employee's part) as well as the employer's share ;
- periodic transfers from the account "Booking reserve of the pension fund" to adjust the account "Provision for pensions" to its actuarial value ;
- a transfer, if needed, to adjust the account "Provision for pensions" to its actuarial value.

#### 21.2.2 Provision for equalisation and financial risks

This provision for equalisation and financial risks was intended to cover fluctuations in the pension fund's liabilities in its early years and/or to compensate for a lower return on assets. The provision was partially used but did not changed in 2007.

#### 21.2.3 Provision for increase of Projected Benefit Obligation

This provision was intended to cover the liability (Projected Benefit Obligation or PBO) for new agents or the

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changes of present value of potential payments taking into account individual parameters and the actuarial method used. The provision did not change in 2006.

### *Note 22 – Revaluation accounts*

This item includes positive revaluation differences related to the spread between the exchange rate as at year-end and the average exchange rate of BCL's currency and gold positions, as well as positive revaluation differences related to the spread between the market value as at year-end and the amortised cost for securities positions.

### *Note 23 - Capital and reserves*

#### **23.1 Capital**

The State of Luxembourg is the sole shareholder of the BCL's capital, which is fixed at 25 million euro.

#### **23.2 Reserves**

The reserves amount to 142.9 million euro (135.6 million euro as at 31 December 2006). This amount was increased by 7.3 million euro in 2007 following the allocation of profit for 2006 according to the decision of the BCL's Council and its Founding Law (Article 31).

### *Note 24 - Foreign exchange swap*

This item includes forward liabilities to the ECB as at 31 December 2007 which arose in connection with the US dollar Term Auction Facility established by the Federal Reserve (see also note 5 "Claims on euro area residents denominated in foreign currency").

### *Note 25 – Custody deposits*

This item includes the securities given into custody by Luxembourg credit institutions to cover their liabilities related to refinancing operations, marginal lending facilities and intra-day credits.

This item also includes the securities given into custody in Luxembourg and used as a guarantee by commercial banks incorporated in other member states according to the Correspondent Central Banking Model (CCBM). This agreement allows commercial banks to obtain

funding from their country of residence's central bank by using the securities held in another Member State as a guarantee.

As at 31 December 2007, the market value of these securities amounts to 219.7 billion euro (189.7 billion euro as at 31 December 2006).

### *Note 26 – Commitments and similar instruments*

	2007 EUR	2006 EUR
Commitments and similar instruments	-	1 700 000 000

This item corresponded to the guarantee issued by the BCL for the Night Time Link project. This commitment was guaranteed by assets received in custody for the same amount. This procedure was replaced by Target 2 at the end of 2007.

### *Note 27 - Foreign currency reserve assets administrated on behalf of the ECB*

This item includes the foreign currency reserves at market value managed by BCL on behalf of the ECB.

### *Note 28 – Forward contracts*

BCL can be engaged in bond and stock index futures. These instruments are mainly held for hedging purposes of interest rate risks related to the securities portfolio and for the purpose of adjusting the duration of the existing portfolio depending on market conditions.

As at 31 December 2007, no such liabilities existed (274.6 million euro as at 31 December 2006). One security has been given as a guarantee in order to cover the initial margin deposit. This security remains on the BCL's balance sheet for an amount of 10.0 million euro as at 31 December 2007, no change compared to 2006.

### *Note 29 – Net interest income*

This item includes interest income, after deduction of interest expense, on assets and liabilities in foreign currency and in euro. Interest income and expense are as follows:

## COMPOSITION OF INTEREST INCOME

	Amounts in foreign currency EUR		Amounts in euro EUR	
	2007	2006	2007	2006
IMF	1 273 454	1 521 372	-	-
Monetary policy	-	-	1 468 637 585	1 062 362 643
Intra-Eurosystem claims	-	-	456 897 715	173 380 646
Securities	4 899 994	4 460 338	221 992 931	134 366 145
Gold	331 612	366 298	-	-
Other	7 550 781	2 127 297	3 876 387	275 322
<b>Total</b>	<b>14 055 841</b>	<b>8 475 305</b>	<b>2 151 404 618</b>	<b>1 370 384 756</b>

## COMPOSITION OF INTEREST EXPENSE

	Amounts in foreign currency EUR		Amounts in euro EUR	
	2007	2006	2007	2006
IMF	(762 600)	(726 090)	-	-
Current accounts (including minimum reserves) and deposits related to monetary policy operations	-	-	(341 757 536)	(226 747 634)
Liabilities related to the reallocation of euro banknotes in the Eurosystem	-	-	(1 667 852 566)	(1 039 347 699)
Other intra-Eurosystem liabilities	-	-	(41 847)	(35 255)
Interests on term deposits	-	-	(8 597 639)	(6 150 833)
Other liabilities	(5 755 533)	(1 573 198)	(3 042 037)	(1 672 132)
Interest on swap operation	(954 995)	-	-	-
<b>Total</b>	<b>(7 473 128)</b>	<b>(2 299 288)</b>	<b>(2 021 291 625)</b>	<b>(1 273 953 553)</b>

The increase in interest results from an increase in average amounts outstanding during the year and from a change in the interest rates.



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### *Note 30 - Realised gains / (losses) arising from financial operations*

This item includes the result from transactions in foreign currencies, from securities and from financial instruments linked to interest rates and market prices, i.e. gains realised minus loss realised on these transactions. In 2007, they amounted to 26.0 million euro (23.6 million euro as at 31 December 2006) and to 23.9 million euro (18.6 million euro as at 31 December 2006) respectively, making a net income of 2.1 million euro (5.0 million euro as at 31 December 2006).

### *Note 31 - Write-downs on financial assets and positions*

This item includes revaluation losses on securities for 74.6 million euro and on currency for 10.7 million euro (revaluation losses on securities for 15.9 million and on financial instruments linked to interest rates and market prices for 2.9 million euro in 2006).

### *Note 32 - Transfer to/from provisions for foreign exchange rate and price risks*

This item includes the transfers to and from provisions for banking risks.

### *Note 33 - Net result from fees and commissions*

Fees and commissions income and expense are as follows :

	Fees and commissions income EUR		Fees and commissions expense EUR	
	2007	2006	2007	2006
Securities	13 705 964	10 812 837	(13 556 025)	(10 932 676)
Others	1 114 896	792 333	(128 088)	(106 507)
<b>Total</b>	<b>14 820 860</b>	<b>11 605 170</b>	<b>(13 684 113)</b>	<b>(11 039 183)</b>

### *Note 34 - Income from participating interest*

This item may include the dividend distributed by the European Central Bank.

No dividend was distributed in 2007.

In 2007, the ECB's income on euro banknotes in circulation amounting to 2 004 million euro was used in full by the ECB in accordance with a decision of the Governing Council with respect to the establishment of a provision for foreign exchange rate, interest rate and gold price risks.

### *Note 35 - Net result of pooling of monetary income*

The monetary income of each Eurosystem NCB is determined by measuring the actual annual income that derives from the earmarkable assets held against its liability base. The liability base consists of the following items:

- banknotes in circulation;
- liabilities to credit institutions related to monetary policy operations denominated in euro;
- net intra-Eurosystem liabilities resulting from TARGET transactions;
- net intra-Eurosystem liabilities related to the allocation of euro banknotes within the Eurosystem.

Any interest paid on liabilities included within the liability base is to be deducted from the monetary income to be pooled.

The earmarkable assets consist of the following items:

- lending to euro area credit institutions related to monetary policy operations denominated in euro;
- intra-Eurosystem claims equivalent to the transfer of foreign reserve assets to the ECB;
- net intra-Eurosystem claims resulting from TARGET transactions;
- net intra-Eurosystem claims related to the allocation of euro banknotes within the Eurosystem;
- a limited amount of each NCBs' gold holdings in proportion to its capital key.

Gold is considered as generating no income.

Where the value of an NCB's earmarkable assets exceeds or falls short of the value of its liability base, the difference shall be offset by applying to that difference the average rate of return on the earmarkable assets of all NCBs taken together.

The monetary income pooled by the Eurosystem is allocated among NCBs according to the subscribed capital key (0.22659% for the BCL in 2007).

**Calculation of net monetary income allocated to the BCL:**

	(EUR millions)	
	2007	2006
Monetary income pooled by BCL	(81.0)	(45.2)
Monetary income reallocated to BCL	52.5	32.7
Net result arising from the calculation of monetary income	(28.5)	(12.5)

**Note 36 - Other income**

Other income includes revenue for services rendered to third parties, transfers from administrative provisions, rents from the Monterey building renting and income from numismatic activities.

Other income includes also BCL's revenue from financial agreement between the State of Luxembourg and BCL.

**Note 37 - Staff costs**

This item includes the salaries and compensations as well as the employer's share of contributions to the pension and social security schemes. The compensations paid to the Board of Directors amounted to 500 980 euro for the year 2007 (486 737 euro for the year 2006).

As at 31 December 2007, the BCL employed 219 persons (208 as at 31 December 2006). The average number of persons working for the BCL from 1 January to 31 December 2007 was 211 (206 for the year 2006).

**Note 38 - Administrative expenses**

This item includes all general and recurring expenses, meaning leasing, cleaning and repair of buildings and equipment, small goods and materials, fees paid and other services and supplies as well as training expenses. The compensations paid to the members of the Council amounted to 74 493 euro in 2007 (72 289 euro in 2006).

**Note 39 - Depreciation of tangible and intangible fixed assets**

This item shows the depreciation applied on buildings, renovations on buildings, furniture and office equipment, computer hardware and software.

**Note 40 - Banknote production services**

This item shows mainly the costs related to the production and issue of banknotes denominated in euro.

**Note 41 - Other expenses**

This item shows mainly the transfer to the administrative provisions and costs related to numismatic activities.

## 4. THE BCL AS AN ORGANISATION



#### Note 42 - Post-balance-sheet events

On 1 January 2008 following the entry of national central banks of Cyprus and Malta in the Eurosystem, the BCL's Eurosystem participation key changed from 0.22659% to 0.22598%. BCL's key in the ESCB did not change.

BCNs participations are as follows:

Country	ESCB key from 1 January 2007 onwards	Eurosystem key from 1 January 2008 onwards
Belgium	2.4708	3.54509493
Denmark	1.5138	
Germany	20.5211	29.44360031
Greece	1.8168	2.60673809
Spain	7.5498	10.83242582
France	14.3875	20.64313314
Ireland	0.8885	1.27481660
Italy	12.5297	17.97756839
Luxembourg	0.1575	0.22598043
Netherlands	3.8937	5.58666672
Austria	2.0159	2.89240605
Portugal	1.7137	2.45881058
Finland	1.2448	1.78603455
Sweden	2.3313	
United Kingdom	13.9337	
Czech Republic	1.3880	
Estonia	0.1703	
Cyprus	0.1249	0.17920607
Latvia	0.2813	
Lithuania	0.4178	
Hungary	1.3141	
Malta	0.0622	0.08924434
Poland	4.8748	
Slovenia	0.3194	0.45827397
Slovak Republic	0.6765	
Bulgaria	0.8833	
Romania	2.5188	
	<b>100.000000</b>	<b>100.00000000</b>



## 5. Annexes

### 5.1 List of BCL circulars published in 2008

- **BCL Circular No 2007/203 of 2 May 2007** – Surveys on foreign direct investment – sent to all credit institutions as well as to the financial services of the Postal and Telecommunications Services Company (giro accounts service).
- **BCL Circular No 2007/204 of 20 August 2007** – Cyprus and Malta's adoption of the Euro, as from 1st January 2008 - sent to all Undertakings for Collective Investment (UCI).
- **BCL Circular No 2007/205 of 20 August 2007** – Cyprus and Malta's adoption of the Euro, as from 1st January 2008 - sent to all credit institutions.
- **BCL Circular No 2007/206 of 20 August 2007** – Cyprus and Malta's adoption of the Euro, as from 1st January 2008: Impact over the statistical statements referring to the balance of payments – sent to all credit institutions as well as to the financial services of the Postal and Telecommunications Services Company (giro accounts service).
- **BCL Circular No 2007/207 of 1 October 2007** – Amendments to the BCL's general terms and conditions – sent to all credit institutions as well as to the financial services of the Postal and Telecommunications Services Company (giro accounts service).
- **BCL Circular No 2007/208 of 8 October 2007** – Dates of submission of statistical reports to the BCL, and determination of the periods of holding minimum reserves in 2008 – sent to all credit institutions.
- **BCL Circular No 2007/209 of 8 October 2007** – Dates of submission of statistical reports to the BCL in 2008 – sent to all Luxembourg-based Undertakings for Collective Investment (UCI).
- **BCL Circular No 2007/210 of 16 October 2007** – Balance of payments reporting – Modification of the instructions – sent to all credit institutions as well as to the financial services of the Postal and Telecommunications Services Company (giro accounts service).
- **BCL Circular No 2007/211 of 15 October 2007** – New statistical data collection for investment funds - modification of the statistical data collection for money market funds – sent to all Luxembourg-based Undertakings for Collective Investment (UCI).
- **BCL Circular No 2007/212 of 7 November 2007** – Updated instructions for the collection of statistical data at the BCL – sent to all credit institutions.
- **BCL Circular No 2007/213 of 7 November 2007** – Balance of payments reporting – New statistical data collection for investment funds; Modification of the statistical data collection for money market funds - sent to all credit institutions.
- **BCL Circular No 2007/214 of 16 November 2007** – Amendments to the BCL's general terms and conditions – sent to all credit institutions as well as to the financial services of the Postal and Telecommunications Services Company (giro accounts service).
- **BCL Circular No 2007/215 of 14 December 2007** – Amendments to the BCL's general terms and conditions – sent to all credit institutions as well as to the financial services of the Postal and Telecommunications Services Company (giro accounts service).
- **BCL Circular No 2007/216 of 28 December 2007** – Transmission of statistical data to the BCL by means of telecommunications – sent to all credit institutions.

### 5.2 BCL Publications

#### BCL Working Papers

- *Working Paper N°24, April 2007*  
"Mesure de la vulnérabilité du secteur bancaire luxembourgeois", by Abdelaziz Rouabah
- *Working Paper N°25, April 2007*  
"Co-variation des taux de croissance sectoriels au Luxembourg : l'apport des corrélations conditionnelles dynamique", by Abdelaziz Rouabah

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- *Working Paper N°26, May 2007*  
"Commuters, residents and job competition in Luxembourg", by Olivier Pierrard
- *Working Paper N°27, June 2007*  
"Banking Output & Price Indicators from Quarterly Reporting Data", by Abdelaziz Rouabah
- *Working Paper N°28, November 2007*  
"An analysis of regional commuting flows in the European Union", by Jordan Marvakov and Thomas Y. Mathä

### *External Publications of BCL Staff*

- Olivier Pierrard, "Microeconomic Uncertainty and Macroeconomic Indeterminacy", with J-F. With J-F. Fagnart and H. Sneessens, In *European Economic Review* 2007, 51(6), p. 1564-1588
- Abdelaziz Rouabah, "L'inflation et la Rentabilité des actions: Une Relation Enigmatique et un Casse-tête pour les banques centrales", in *Economie et Prévision*, 2007, N°177, p 19-34

### *BCL Brochures*

- Brochure des produits numismatiques de la Banque centrale du Luxembourg, édition 2007
- "Chronique de l'immeuble Monterey", René Link, January 2007
- "Exposition Monnaies Greques- Monnaies Celtes", January 2007

### *BCL Information Material on the Euro*

#### *General Conditions for the BCL's operations*

Paper copies of publications may be obtained at then BCL's counters as long as stocks last and according to the BCL's conditions. The BCL's publications may be downloaded from the website [www.bcl.lu](http://www.bcl.lu).



## 5.3 Statistics series of the BCL

Statistical tables listed under are available on the BCL's website ("Statistics") and are regularly updated. These tables are also published in the BCL's bulletin in French

- |  |  |      |   |
|--|--|------|---|
| <b>1. Monetary Policy Statistics</b>   |  |      |   |
| 1.1. <i>Financial statement of the Banque central du Luxembourg</i>  |  | 4.3  | <i>Employment in the Luxembourg credit institutions (1972-1991)</i>                         |
| 1.2. <i>Luxembourg minimum reserve statistics</i>  |  | 4.4  | <i>Geographic origin of credit institutions established in Luxembourg</i>                   |
| 2. <i>Monetary and financial developments</i>  |  | 4.5  | <i>Geographic origin of credit institutions established in Luxembourg (1970-2002)</i>       |
| 2.1. <i>Aggregated balance sheet of the Luxembourg (excluding the Banque centrale du Luxembourg)</i>                   |  | 4.6  | <i>interim aggregated profit and loss accounts of Luxembourg banks</i>                      |
| 2.2. <i>Liabilities of the Luxembourg MFIs included in the Euro area monetary aggregates (1973-1990)</i>               |  | 4.7  | <i>Aggregated profit and loss account of the Luxembourg banks as at year-end</i>            |
| 2.3. <i>Liabilities of the Luxembourg banks included in the Euro area monetary aggregates (1991- 1998)</i>             |  | 4.8  | <i>Long term aggregated profit and loss accounts of the Luxembourg banks as at year-end</i> |
| 2.4. <i>Liabilities of the Luxembourg banks included in the Euro area monetary aggregates (1991-1998)</i>              |  | 4.9  | <i>Aggregated balance sheet of the Luxembourg banks</i>                                     |
| <b>3. Capital markets and interest rates</b>   |  | 4.10 | <i>Aggregated balance sheet of the Luxembourg banks (1970-1985)</i>                         |
| 3.1. <i>Luxembourg bank interest on Euro-denominated deposits and loan by Euro area residents – new business</i>       |  | 4.11 | <i>Aggregated balance sheet of the Luxembourg banks (1986-1992)</i>                         |
| 3.2. <i>Luxembourg bank interest on Euro-denominated deposits and loan by Euro area residents- Outstanding amounts</i> |  | 4.12 | <i>Aggregated balance sheet of the Luxembourg banks (1993-1998)</i>                         |
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| 3.7. <i>Stock market indices</i>   |  | 4.17 | <i>Banks holdings of securities other than shares by currency</i>                           |
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| <b>4. General data on the Luxembourg financial system</b>  |  | 4.19 | <i>Number of undertakings for collective investment</i>                                     |
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- 5. International banking activity**
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- 7.2 *Selected other real economy indicators*
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- 8. Luxembourg public finances**
- 8.1 *General government budgetary outcome in Luxembourg*
- 9. Luxembourg trade balance**
- 9.1 *External trade of Luxembourg*
- 10. Luxembourg balance of payments**
- 10.1 *Luxembourg balance of payment: summary*
- 10.2 *Luxembourg balance of payment: current account*
- 10.3 *Luxembourg balance of payment: direct investment*
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- 10.8 *Reserves and related assets of the Banque Centrale du Luxembourg*
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- 11.5 *International investment position of Luxembourg: Gross External Debt*
- 11.6 *International investment position of Luxembourg: geographic breakdown of portfolio investment assets held by Luxembourg residents*

## 5.4 List of abbreviations

<b>ABBL</b>	<i>Association des Banques et Banquiers, Luxembourg</i>
<b>AGDL</b>	Association pour la garantie de dépôts, Luxembourg
<b>ALCO</b>	Asset and liability management committee
<b>BCL</b>	<i>Banque centrale du Luxembourg</i>
<b>BIS</b>	Bank of international settlements
<b>BLEU</b>	Belgian Luxembourg Economic Union
<b>BNB</b>	<i>Banque Nationale de Belgique</i>
<b>CBL</b>	Clearstream Banking Luxembourg
<b>CCBM</b>	Correspondent central banking model
<b>CERS</b>	Committee European Securities Regulators
<b>CPI</b>	Consumer Price Index
<b>CMFB</b>	Committee on monetary, financial and balance of payment statistics
<b>CSSF</b>	<i>Commission de surveillance du secteur financier</i>
<b>EBRD</b>	European Bank for Reconstruction and Development
<b>ECB</b>	European Central Bank
<b>EFC</b>	Economic and Financial Committee
<b>EIB</b>	European Investment Bank
<b>EMI</b>	European Monetary Institute (1994-1998)
<b>EMS</b>	European Monetary System
<b>ESCB</b>	European System of Central Banks
<b>ESP</b>	European Service Providers
<b>EU</b>	European Union
<b>EUR</b>	Euro
<b>Eurostat</b>	Statistical office of the European Communities
<b>FATF</b>	Financial Action Task Force against money laundering
<b>FASP</b>	Financial sector Assessment Program
<b>GDP</b>	Gross domestic product
<b>HICP</b>	Harmonised Index of Consumers Prices
<b>IADB</b>	Inter American Development Bank
<b>IGC</b>	Intergovernmental conference

<b>IMF</b>	International Monetary Fund
<b>IML</b>	<i>Institut Monétaire Luxembourgeois (1983-1998)</i>
<b>LIPS-Gross</b>	Luxembourg inter bank payment system real-time Gross Settlement System
<b>LIPS-Net</b>	Luxembourg Interbank Payment System Real-Time Net Settlement System
<b>MFI</b>	monetary financial institution
<b>MRA</b>	maximum risk allowance
<b>MRO</b>	main refinancing operation
<b>NAV</b>	net asset value
<b>NCB</b>	National central bank
<b>OECD</b>	Organisation for Economic Cooperation and Development
<b>OFI</b>	Other Financial Intermediaries
<b>OPEC</b>	Organisation of Petroleum Exporting Countries
<b>LTRO</b>	Longer term refinancing operation
<b>PBO</b>	Projected Benefit Obligation
<b>ROA</b>	Return on Assets
<b>ROE</b>	Return on Equity
<b>RTGS system</b>	Real-Time Gross Settlement system
<b>RTGS-L GIE</b>	Economic interest grouping for real-time gross settlement of payments in Luxembourg
<b>SDDS</b>	Special Data Dissemination Standard
<b>SDR</b>	Special Drawing Rights
<b>SEC</b>	European System of National Accounts
<b>SWIFT</b>	Society for Worldwide Interbank Financial Telecommunication s.c.
<b>SYPAL-GIE</b>	Economic interest grouping for the promotion and management of payments systems in Luxembourg
<b>STATEC</b>	Central service for statistics and economic studies
<b>Target System</b>	Trans-European Automated Real-time Gross settlement Express Transfer system
<b>UCI</b>	Undertaking for Collective Investment
<b>UCITS</b>	Undertaking for Collective Investments in Transferable Securities
<b>VaR</b>	Value at Risk

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## 5.5 Glossary<sup>1</sup>

**Acquis communautaire:** Term commonly used to all community law including EU treaties, regulations and directives, Countries joining the EU must have implemented the existing equips communautaire by the time of accession.

**Base effect:** When analyzing business cycles, the evolution of annual variation rates of a variable are often explained by "base effects", A base effect occurs when the evolution of a variable's annual rate from month t+1 varies because of the evolution of the variable's level 12 months before and not because of the variation of the variable's level between month and month n+1.

**Central securities depository (CSD):** An entity which holds and administers securities or other financial assets and enables securities transactions to be processed by book entry, assets may exist either physically (but immobilized within the CSD) or in a dematerialized form (i.e. only as electronic records).

**Counter trade/ counterparty:** The opposite party in a financial transaction.

**Credit Institution:** Any institution covered by the definition contained in Article 1(1) of Directive 2000/12/EC, as amended. Accordingly, a credit institution is "(I) an undertaking whose business is to receive deposits or other repayable funds from the public and to grant credits 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." The most common types of credit institutions are banks and savings banks. See also electronic money (e-money).

**Correspondent central banking model (CCBM):** A mechanism established by the European System Central Banks with the aim of enabling counterparties to obtain credit from the central bank of the country in which they are based using collateral held's in another country. In the CCBM, an NCB acts as custodian for the other NCBs with regard to the securities held's in its domestic securities settlement system (SSS).

**Consolidated MFI balance sheet:** This is obtained by netting out inter-MFI positions (e.g. inter-MFI loans and deposits) on the aggregated MFI balance sheet, It provides statistical information on the MFI sector's assets and liabilities statistical information on the MFI sector's assets and liabilities vis-à-vis non MFI Euro area residents (i.e. general government and other Euro area residents) and on its external assets and liabilities (i.e. balance vis-à-vis non Euro area residents). This consolidated balance sheet is the main statistical source for the calculation of monetary aggregates and it provides the basic for the regular analysis of the counterparts of M3.

**Economic and Monetary Union (EMU):** The treaty describes the process of achieving EMU in the European Union (EU) in three stages. Stage three started on 1 January 2002 completed the set-up of EMU.

**European Central Bank (ECB):** The ECB lies at centre of the European System of Central Banks (ESCB) and the Eurosystem and has legal personality under Community law. It ensures that the tasks conferred upon the Eurosystem and the ESCB are implanted either through its own activities or the national central banks, pursuant to the statutes of the European of Central Banks of Central Banks and of the European central Bank. The ECB is governed by the Governing Council and the Executive Boards, and, as a third decision-making body, by the General Council.

**EURIBOR (Euro interbank offered rate):** The rate at which a prime bank is willing to lend funds in Euro to another prime bank.

**Euro:** The name of the European single currency adopted by the European council at its meeting in Madrid on 15 and 16 December 1995 and used instead of the term ECU originally employed in the Treaty.

**Euro Area:** The Area encompassing the EU Member states which have adopted the Euro as their 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

<sup>1</sup> A comprehensive and detailed glossary can be found on the ECB's website.

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Governing Council of the European Central Bank. The Euro area currently comprises of Belgium, Germany, Greece, Spain, France, Ireland, Italy, and Luxembourg. The Netherlands, Austria, Portugal, Slovenia and Finland.

### **Effective exchange rate (EER) of the Euro (nominal/real):**

Effective (nominal/real) exchange rates (EERs):

Nominal EERs consist of a geometric weighted average of various bilateral exchange rates. 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. The European Central Bank calculates nominal EER indices for the Euro against the currencies of a narrow and a broad group of trading partners of the Euro area. Since January 2001, the narrow group has consisted of 12 industrial and newly industrialized partner countries, while the broad group has been made up of 38 trading partners including emerging market and transition economies. The real EER indices for the Euro are calculated using alternative measures of prices and costs.

**Eurosystem:** Comprises of the European Central Bank (ECB) and the national central banks (NCBs) of the member states which have adopted the euro in stage three of Economic and Monetary Union (see also Euro area). The eurosystem is governed by the Governing Council and the Executive Board of the ECB.

**European System of Central Banks (ESCB):** Composed of the European Central bank (ECB) and the national central banks of all EU member states. The ESCB includes, in addition to the member states which have not yet adopted the Euro in stage three of Economic and monetary Union (see also Euro area). The Euro system is governed by the Governing Council and the Executive board of the ECB.

**Electronic money (e-money):** An electronic store of monetary value on a technical device that may be widely used as prepaid bearer instrument for making payments to undertakings other than the issuer, without necessarily involving bank accounts in the transactions.

Executive board: Second decision-making body 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.

**ERM II (Exchange rate mechanism II):** The exchange rate arrangement which provides the framework for exchange rate policy cooperation between the Euro areas from the start of stage three of Economic and Monetary Union. Membership of the mechanism is voluntary. Nevertheless, member states with derogation are expected to join the mechanism. Foreign exchange intervention and financing at the margins of the standard or narrower fluctuation bands are, in principle, automatic and unlimited, with very short-term financing available. The European central bank and the participating non-Euro area national central banks could, however, suspend automatic intervention if this were to conflict with their primary objective of maintaining price stability.

**European Monetary Institute (EMI):** A temporary institution established at the start of stage two of Economic and Monetary Union on 1 January 1994. The two main tasks of the EMI were to strengthen central bank co-operation and monetary policy co-ordination and to make the preparations required for establishment of the European System of Central Banks, for the conduct of the single monetary policy and for the creation of a single currency in stage three. It went into liquidation upon the establishment of the European Central Banks on 1 June 1998.

**Eurosystem's international reserves:** These comprise the reserve assets of the European Central Bank (ECB) and the reserve assets held by the national central banks (NCBs) of the participating Member States. Reserve assets must be under the effective control of the relevant monetary authority, whether the ECB or the NCB of one of the participating Member States, and comprise highly liquid, marketable and creditworthy foreign (i.e. non-euro) currency-denominated claims on non-Euro area residents, plus gold, special drawing rights and the reserve positions in the International Monetary Fund of the participating NCBs.

Foreign exchange swap: Simultaneous spot and forward transactions exchanging one currency against another. The can execute open market operations in the form of foreign exchange swaps, where the national central banks (or the European central bank) buys or sells Euro spot against a foreign currency and, at the same time, sell or buy them back in forward transaction.

**General council:** One of the decision-making bodies of the European Central Bank (ECB). It comprises of the members of the executive boards of the ECB and the governors of the national central banks of the member states that have adopted the Euro.

**Governing council:** The supreme decision-making body of the European Central Bank (ECB). It comprises of all the members of the executive Board of the ECB and the governors of the national central banks of the member states that have adopted the Euro.(e.g. any party transacting with a central bank).

**Guarantee:**

Harmonized index of the consumer prices (HICP): The measures of prices used by the governing council for the purpose of assessing price stability. The HICP was developed by the European Commission (Eurostat) in close developed by the national Statistical institutes and the European Monetary Institute, and later the European Central Bank, in order to fulfill the Treaty requirement for a consumer on a comparable.

**Longer- term refinancing operation:** A regular open market operation executed by the Eurosystem in the form of a reverse transaction, Longer-term refinancing operations are carried out thought monthly standard tenders and have a maturity of three months.

**Main Refinancing Operation:** A regular open market operation executed by the Eurosystem (in the form of a reverse transaction) for the purpose of providing the banking system with the amount of liquidity that the former deems to be appropriate. Main refinancing operations are conducted through weekly standard tenders (in which banks can bid for liquidity) and normally have a maturity of one week. See also open market operation.

**Marginal lending facility:** A standing facility of the Eurosystem which counterparties may use to receive overnight credit from a national central bank at a pre-specified interest rate against eligible assets.

**Monetary financial institutions (MFIs):** Financial institutions which from the money-issuing sector of the Euro area. Theses include the Eurosystem, resident credit institutions (as defined in community law) and all other resident financial institutions whose business in to revive 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 basis, taking into account differences in national definitions.

**M1, M2, M3:** See monetary aggregates

**Monetary aggregates:** Currency in circulation, plus outstanding amounts of certain liabilities of monetary financial institutions and central governments that have a relatively high degree of liquidity and are held by non-MFI Euro area residents outside the central government sector. The narrow monetary aggregate M1 has been defined as currency in circulation plus overnight deposits. The "intermediate" monetary aggregate M2 comprises of M1 plus deposits with agreed maturity of up to two years and deposits redeemable at notice of up to three months. to broad monetary aggregate M3 includes M2 plus repurchase agreements, money market funds shares and units, money market paper and debt securities with a maturity of up to two years, In October 1998 the Governing Council announced a reference value for the growth of M3, which it has since reconfirmed (see also reference value for monetary growth).

**Open market operation:** An operation executed on the initiative of the central bank in the financial markets. 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 instrument used, reserve transactions are the main open market instrument of the European and can be employed in all four categories of operations. In addition, the issuance

## 5. ANNEXES

for debt certificates and outright transactions, foreign exchange swaps and the collection of fixed-term deposits are available for the conduct of fine-tuning operations.

**Outright transaction:** A transaction whereby assets are bought or sold up to their maturity (spot or forward).

**Price stability:** The maintenance of price stability is the primary objective of the European Central Bank. In October 1998, the governing council published a quantities definition of price stability in order to give clear guidance to expectations of future price developments and to be accountable. The Governing Council defined price stability as a year-on-year increase in the Harmonized Index of Consumer Prices (HICP) for the Euro area of below 2%. In May 2003, the governing council announced clarified that, in its pursuit of price stability, it aims to maintain inflation rates below, but close to, 2% over the medium term.

**Provisional transfer:** A conditional transfer in which one or more parties retain the right by law or agreement to rescind the transfer.

**Quick tender:** The tender procedure used by the Eurosystem for fine-tuning operations, Quick tenders are executed within a time frame of one hour and are restricted to limited set of counterparties.

**Real Time Gross Settlement express transfer system:** The real-time gross settlement (RTGS) system for the Euro. It is a decentralized system consisting of 15 national RTGS systems and the European Central Bank payment mechanism. These are interconnected by common procedures (Interlinking mechanism) to allow cross-border transfers throughout the EU to move from one system to another.

**Reserve requirement:** The minimum amount of reserves a credit institution is required to hold with a central bank. In the minimum reserve framework of the Eurosystem, the reserve requirement of a credit institution is calculated by multiplying the reserve ratio for each category of items in the reserve base by the amount of those items on the institution's balance sheet. In

addition, institutions are allowed to deduct a lump-sum allowance from their reserve requirement.

**Reserve ratio:** The ratio defined by the central bank for each category of eligible balance sheet items included in the reserve base. The ratios are used to calculate reserve requirements. See also reserve requirements.

**Reference value for monetary growth:** In order to assess monetary developments, the Governing Council has announced a reference value for the broad monetary aggregate M3. This reference value refers to the rate of M3 growth that is deemed to be compatible with price stability over the medium term. The reference value is derived in a manner that is consistent with and serves the achievement of the Governing Council's definition of price stability on the basis of medium-term assumptions regarding trend real GDP growth and the trend in the velocity of circulation of M3. Substantial or prolonged deviations of M3 growth from the reference value would, under normal circumstances, signal risks to price stability over the medium term. However, the concept of the reference value does not entail a commitment on the part of the Governing Council to correct mechanically deviations of M3 growth from the reference value.

**Reserve base:** The sum of the balance sheet items (in particular liabilities) which constitute the basis for calculating the reserve requirement of a credit institution.

**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.

**Standardized deduction:** The fixed percentage of the amount outstanding of debt securities with an agreed maturity of up to two years (including money market paper) which can be deducted from the reserve base by issuers that cannot present evidence that such outstanding amount is held by other institutions subject to the minimum reserve system of the Eurosystem, by the ECB or by a national central bank. See also reserve base.

**Standard Tender:** A tender procedure used by the Euro system in its regular Open market operations standard tenders are carried out within 24 hours, All counterparties fulfilling the general eligibility criteria are entitled to submit bids.

**Securities settlement system (SSS):** A system which permits the holding and transfer of securities or other financial assets, either free of payment or against payment (delivery versus payment).

**SEC 95:** The European System of National Accounts is an accounting framework applicable on an international level and allowing to describe in a systematic and detailed way what is called a "total economy" (i.e. a region, a country, a group of countries), its components and its relations with other total economies.

**TARGET (Trans-European Automated Real-time Gross settlement Express Transfer system):** The real-time gross settlement (RTGS) system for the Euro. It is a decentralized system consisting of 15 national RTGS systems and the European Central Bank payment mechanism. These are interconnected by common procedures (Interlinking mechanism) to allow cross-border transfers throughout the EU to move from one system to another.

**Target 2:** A new generation of the Target system which replaces the former decentralized system consisting structure with a single shared platform offering a harmonized service with a uniform pricing scheme.

**Treaty:** The treaty establishing the European Community. The initial treaty of the Rome was amended on several occasions, notably by the treaty on European Union (Maastricht Treaty) which constitutes the basis for Economic and Monetary Union and defines the status of the ESCB.





Banque centrale du Luxembourg  
2, boulevard Royal - L-2983 Luxembourg

P: (+352) 4774 - 1  
F: (+352) 4774 - 4910

[www.bcl.lu](http://www.bcl.lu)  
E: [sg@bcl.lu](mailto:sg@bcl.lu)