# ANNUAL REPORT 2003

BANQUE CENTRALE DU LUXEMBOURG

EUROSYSTEM

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After sagging performances in 2001 and 2002, the Luxembourg economy did not perform much better in 2003.

The persistence of subdued growth and the absence of swift remedial measures could well jeopardise Luxembourg's enviable reputation.

While Luxembourg used to count among the best performers in terms of inflation, our economy has been characterised during the last few years by lower growth and higher inflation, the latter due to a large extent to the adjustment of administered prices and increased taxes. The resulting loss of competitiveness is even more pronounced relative to our main commercial partners.

The evolution of unit labour costs indicates that we live above our means and that we distribute more wealth than we create.

This state of affairs is also reflected in the worsening unemployment figures, where Luxembourg risks for the first time being put at a disadvantage by countries which are more attentive to their competitiveness.

Shall we observe an increasing divergence between the productivity of labour as a measure of economic performance and per capita income as an indicator of living standards?

In 2003, moreover, and for the first time in 20 years, the public sector incurred a small deficit. This is expected to increase as from 2004. According to the European Commission, the worst deterioration of public finances in 2003 occurred in Luxembourg. In 2005, the deficit might come dangerously close to the European limit of 3% of GDP.

The deterioration of the budgetary situation that has occurred since 2001 is explained by the implementation of a fiscal reform, which was not accompanied by a decrease in expenditure. On the contrary, the increase in the expenditure of the public sector has been buoyant. It is true that Luxembourg benefits from a healthy financial position, as witnessed by low levels of indebtedness and ample reserves. Nevertheless, to deplete these accumulated reserves while relying on a return to years of high growth would constitute a dangerous gamble.

The stability programme transmitted by the Government to the European Commission counts on a rapid deceleration of the growth in expenditure, which would fall from 10% in 2003 to 4.5%, on average, between 2004 and 2006. The stability programme, however, does not specify the measures that would be employed to achieve such a deceleration. Some categories of expenditure have nevertheless experienced marked increases over the last 10 years, particularly in the case of social transfers and personnel costs. In such an environment, structural reforms are unavoidable, notably in the area of social security.

I have confidence in the resilience of Luxembourg's economic dynamism. We must stimulate and give free rein to wealth-creating forces. We must make haste: the environment of such extremely low interest rates, well below their natural level, is favourable now but will not last forever.

**Yves Mersch**

# 1. ECONOMIC AND FINANCIAL SITUATION

## 1.1 Economic situation at the international level

### 1.1.1 Short term interest rates

The Governing Council of the ECB decided to cut interest rates twice in 2003: a 25 basis points cut on 6 March and a 50 basis points cut on 5 June. As a result, the interest rate on the main refinancing operation fell to 2%, while the rates on the marginal lending facility and on the deposit facility declined to 3% and 1%, respectively.

**TABLE 1: KEY INTEREST RATES OF THE EUROSYSTEM**

| | Deposit facility | | Main refinancing operations | | Marginal lending facility | |
|---|---|---|---|---|---|---|
| With effect from[1] | Level | Change | Level | Change | Level | Change |
| 11/05/2001 | 3.50% | -0.25 | 4.50% | -0.25 | 5.50% | -0.25 |
| 31/08/2001 | 3.25% | -0.25 | 4.25% | -0.25 | 5.25% | -0.25 |
| 18/09/2001 | 2.75% | -0.50 | 3.75% | -0.50 | 4.75% | -0.50 |
| 09/11/2001 | 2.25% | -0.50 | 3.25% | -0.50 | 4.25% | -0.50 |
| 06/12/2002 | 1.75% | -0.50 | 2.75% | -0.50 | 3.75% | -0.50 |
| 07/03/2003 | 1.50% | -0.25 | 2.50% | -0.25 | 3.50% | -0.25 |
| 06/06/2003 | 1.00% | -0.50 | 2.00% | -0.50 | 3.00% | -0.50 |

*Source: ECB*

These rate cuts were undertaken in a context of more favourable perspectives regarding medium term price stability. The first semester of 2003, during which the rate cuts took place, was characterised by considerable geopolitical uncertainties in the Middle East, the SARS epidemic in Asia, overall sluggish economic growth, structural deficits in the US and an appreciation of the euro.

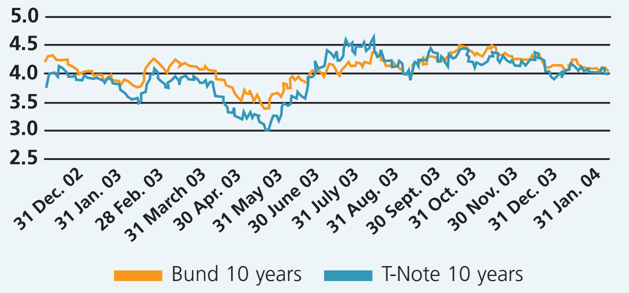
Uncertainties in the financial markets and low interest rates triggered a preference for short-term liquid investments. Therefore, the annual growth rate of broad money (M3) remained at high levels above the reference rate.

In the second semester of 2003, economic data were more favourable regarding global economic perspectives. Furthermore, the Governing Council expects prices to remain stable around 2% in the medium term and to fall below 2% in the long term. A recovery in financial markets should also favour portfolio arbitrages out of short-term liquid instruments, which will contribute to a slowdown in M3 annual growth rates.

[1] The date refers to the deposit and marginal lending facilities. For main refinancing operations, changes in the rate are effective from the first operation following the date indicated.

### 1.1.2 Long term government bond interest rates

GRAPH 1: BUND 10 YEARS AND T-NOTE 10 YEARS




*Source: Bloomberg*

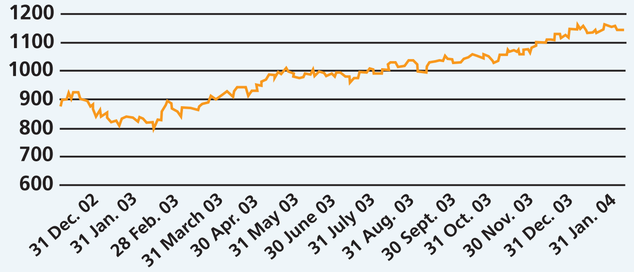
During the first semester of 2003, long-term interest rates declined in Europe and in the US. The decline in long-term interest rates was mainly due to geopolitical tensions and the publication of disappointing economic data. Between mid-June and September, long-term interest rates rose due to a more optimistic outlook regarding economic perspectives in the US and to a lesser extent in the euro area. In September, disappointing figures regarding US employment and consumer confidence triggered a decline in long-term interest rates. In October, investors were somewhat more optimistic. Finally, at the end of 2003 and at the beginning of 2004, market optimism waned and long-term interest rates declined slightly.

### 1.1.3 Stock markets

2003 was characterised by a recovery in international stock markets. The American S&P500 rose by 26% and the European DJ Eurostoxx rose by 18%.

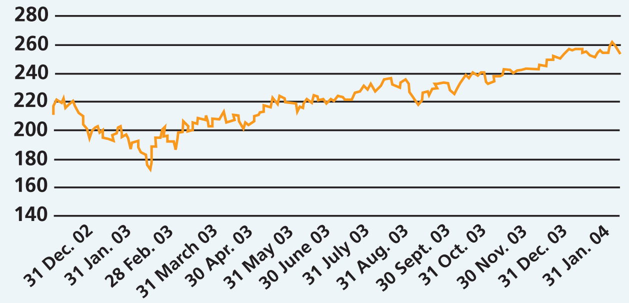
This recovery started in mid-March with the beginning of military operations in Iraq. Since then, the uncertainties prevailing in international stock markets gradually dissipated and markets benefited from a series of better-than-anticipated economic data. Stock prices stabilised during the summer and regained momentum in autumn. At the end of the year, stock markets were mainly boosted by higher-than-expected corporate profits and a positive outlook for future corporate results. Weaker long-term bond rates also contributed to a greater appetite for stocks.

GRAPH 2: S&P500




*Source: Bloomberg*

GRAPH 3: EUROSTOXX BROAD

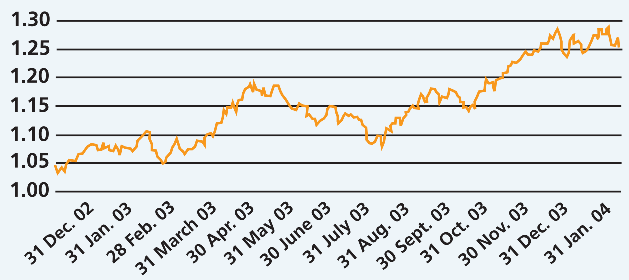



*Source: Bloomberg*

### 1.1.4 Exchange rates

In nominal effective terms, the euro rose by 11% in 2003. As regards the euro-dollar exchange rate, the euro appreciated by 19% between end-2002 and end-2003.

GRAPH 4: USD/EUR




*Source: Bloomberg*

driven by the rise in geopolitical tensions and a deterioration of the American fiscal situation. In the summer, the dollar regained some strength following better-than-expected data on consumer and business confidence. In September, the outcome of the G7 summit in Dubai, pleading for more flexible foreign exchange markets, triggered a general appreciation of the yen and a decline of the dollar. End-2003 and beginning of 2004, the dollar suffered from a rise in geopolitical tensions and a sluggish outlook for job creation in the US. In February 2004, European authorities voiced their worries regarding a possible negative impact of the weak dollar on European exports and the euro came down from a 1.29 USD peak, to levels around 1.21 - 1.24 USD.

### 1.1.5 Consumer prices

HICP inflation in the euro area averaged 2.1% in 2003, only 0.1 percentage point less than in 2002 despite subdued economic activity and the appreciation of the euro. The inflation persistence reflected unfavourable developments in the prices of unprocessed food related to the summer heat wave, oil prices that remained high and indirect tax increases in several countries of the euro zone.

**TABLE 2: DEVELOPMENTS IN THE HICP AND ITS COMPONENTS IN THE EURO AREA (ANNUAL PERCENTAGE CHANGES)**

| | 2001 | 2002 | 2003 | 2003 Jan. | 2003 Feb. | 2003 March | 2003 April | 2003 May | 2003 June | 2003 July | 2003 Aug. | 2003 Sept. | 2003 Oct. | 2003 Nov. | 2003 Dec. | 2004 Jan. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Overall HICP** of which: | 2.4 | 2.2 | 2.1 | 2.1 | 2.4 | 2.4 | 2.1 | 1.8 | 1.9 | 1.9 | 2.1 | 2.2 | 2.0 | 2.2 | 2.0 | 1.9 |
| **Goods** | 2.5 | 1.7 | 1.8 | 1.6 | 2.1 | 2.2 | 1.5 | 1.4 | 1.6 | 1.6 | 1.7 | 1.8 | 1.7 | 2.0 | 1.8 | 1.3 |
| *Food* | 4.5 | 3.1 | 2.8 | 1.4 | 2.0 | 2.2 | 2.3 | 2.4 | 2.9 | 3.0 | 3.1 | 3.6 | 3.6 | 3.9 | 3.6 | 3.1 |
| - Unprocessed food | 7.0 | 3.1 | 2.2 | -0.7 | 0.3 | 0.7 | 0.9 | 1.1 | 2.5 | 2.7 | 3.3 | 4.2 | 3.8 | 3.8 | 3.2 | 2.9 |
| - Processed food | 2.8 | 3.1 | 3.3 | 2.8 | 3.2 | 3.3 | 3.3 | 3.3 | 3.2 | 3.1 | 3.0 | 3.2 | 3.5 | 4.0 | 3.8 | 3.3 |
| *Industrial goods* | 1.2 | 1.0 | 1.2 | 1.7 | 2.2 | 2.2 | 1.1 | 0.9 | 1.0 | 1.0 | 1.0 | 1.0 | 0.8 | 1.1 | 0.9 | 0.4 |
| - Non-energy industrial goods | 0.9 | 1.5 | 0.7 | 0.6 | 0.7 | 0.8 | 0.8 | 0.9 | 0.8 | 0.7 | 0.6 | 0.8 | 0.8 | 0.7 | 0.7 | 0.6 |
| - Energy | 2.5 | -0.5 | 3.1 | 6.0 | 7.7 | 7.5 | 2.2 | 0.6 | 1.6 | 2.0 | 2.7 | 1.6 | 0.7 | 2.2 | 1.8 | -0.4 |
| **Services** | 2.7 | 3.1 | 2.5 | 2.8 | 2.7 | 2.6 | 2.9 | 2.5 | 2.5 | 2.3 | 2.5 | 2.5 | 2.5 | 2.4 | 2.3 | 2.5 |
| HICP excluding unprocessed food and energy | 2.0 | 2.5 | 2.0 | 2.0 | 2.0 | 2.0 | 2.2 | 2.0 | 2.0 | 1.8 | 1.9 | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 |

*Source: Eurostat*

The rather erratic pattern of overall inflation over 2003 reflected developments in the more volatile components, unprocessed food and energy.

Turning to consumer price developments in early 2004, headline inflation should - according to Eurostat's flash estimate - ease to 1.6% in February from 1.9% in January as a result of base effects in energy prices. Subsequently, the annual rate of change of overall HIPC could rise again, while inflation would remain in line with price stability over 2004 as a whole.

### 1.1.6 Output, demand and labour market developments

#### Economic growth

Recent data suggest the recovery of the world economy is clearly progressing. However, for the euro area, real GDP growth remained subdued in the last two quarters of 2003. According to the first estimate, in the fourth quarter of 2003, real GDP grew by 0.3% quarter on quarter, following growth of 0.4% in the third quarter. These data confirm that a gradual recovery in economic activity took place in the second half of the year. This is in line with the Eurosystem's projected scenario of a continued recovery in the course of 2004 and 2005.

#### Employment and unemployment developments

Labour market conditions in the euro area remain sluggish in 2003. The level of employment was unchanged in the third quarter of 2003, extending the period of the broadly stable employment to one and a half years. Standardised unemployment in the euro area remains broadly stable in 2003 at around 8.8% reflecting the usual lags in cyclical developments in the labour market relative to economic activity.

### 1.1.7 External trade

The external trade surplus reached 72 billion euros in 2003 compared with a surplus of 99 billion euros in the same period of 2002. This decrease results from a 2.5% decline of exports and a small decrease of imports. This mostly reflects the 11% appreciation of the euro against other currencies. Indeed, volume exports remained stable and volume imports increased 2.5%, whereas export and import prices diminished by 2.5% and by 3% respectively.

The fall in net trade in machines and transport vehicles explains most of the surplus reduction. Trade with China and Eastern countries rose while that with most other countries fell.

### 1.1.8 Balance of payments

1.1.8.1 Current account

In 2003, the current account surplus was 28 billion euros, against 67 billion euros in 2002. This decline mainly reflects a decrease of the surplus in goods trade and an increase in the deficits on net income and net current transfers, which were not offset by the improvement of net trade services. It also shows the appreciation of the euro exchange rate and the weakness of internal demand.

1.1.8.2 Financial account

The financial account components were affected by the geopolitical and economic tensions during the first months of 2003. However, investments in shares have recovered since the second quarter, from both the asset and liability sides, breaking a two-years bearish trend. Furthermore, investments of euro area residents in foreign security debt increased. Euro area and non-euro area investors both showed a preference for bonds rather than for money market instruments, reflecting better confidence in the future.

The decline of direct investment flows continued during 2003. Nevertheless, the decrease was slower than in the previous year and flows became stable at the end of the year.

## 1.2 Economic situation in Luxembourg

### 1.2.1 Prices and costs

1.2.1.1 Consumer prices

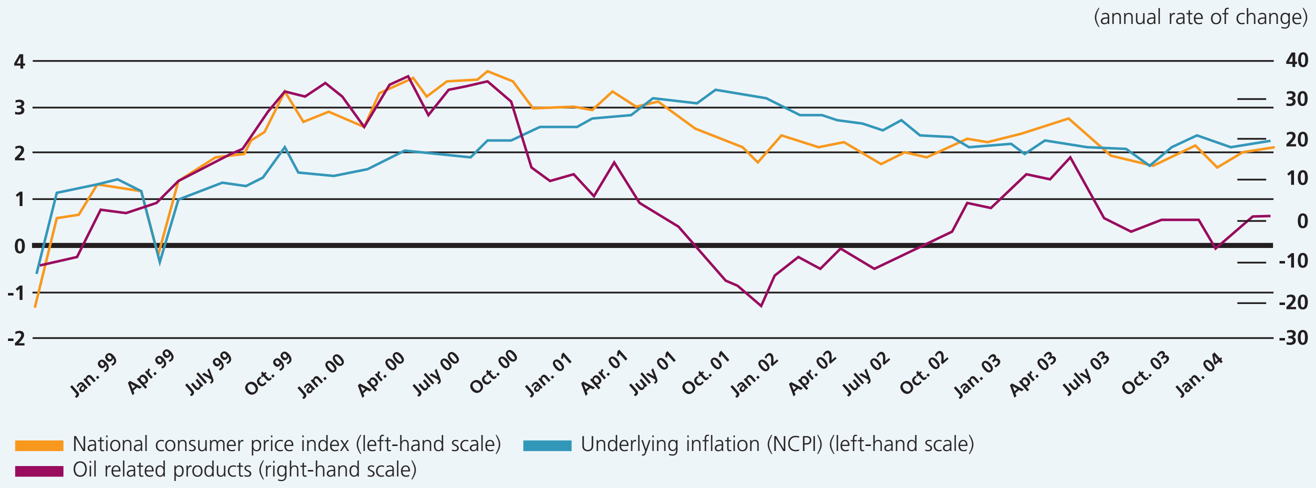
Luxembourg's National Index of Consumer Prices (NICP) increased on average by 2.0% in 2003, 0.1 percentage point (p.p.) less than in 2002. This development was paralleled by a 0.4 p.p. decrease in underlying inflation to 2.1% on average. This alternative measure tracks economic processes more closely by excluding more volatile prices.

The pattern of overall NICP developments was rather erratic throughout 2003. Indeed, an increase in the annual NICP rate in the first quarter, from 2.3% in January to 2.7% in March, was followed by a drop in the annual inflation rate to 1.6% in June, before inflation rose again to 2.1% in December.

By contrast, the pattern followed by underlying inflation in 2003 was somewhat more stable, with the annual rate hovering between 2.0 and 2.2% except for the month of July, when the annual rate fell to 1.7%. Numerous factors explain the stickiness of underlying inflation observed in 2004, notably, the increases in the prices of public utilities and tobacco, the increase in the minimum wage in the beginning of the year, the impact of the past two wage indexation tranches, the generalisation of parking fees in Luxembourg City, the rises in the prices of medical and dental services, as well as the impact of the summer heat wave on the prices of unprocessed food.

The inflation differentials between Luxembourg and the euro area and between Luxembourg and its neighbouring countries worsened in 2003.

GRAPH 5: INFLATION AND OIL RELATED PRODUCTS




*Source: STATEC*

### Assumptions

The underlying assumptions for the HICP energy projection follow the traditional scheme, i.e. a euro/dollar exchange rate kept constant over the forecast horizon and a pattern of oil prices as observed on the futures markets. In mid-February, the quote for one euro against the dollar stood at 1.26, which corresponds to an appreciation with respect to both 2003 and the previous exercise. The price of oil fluctuated around the 30$/bl level and the markets were anticipating a gradual fall to a level close to 28$/bl in December 2004, an upward revision overall compared to the previous exercise. All in all, the euro's appreciation could not totally compensate for the increase in oil prices, implying a worsening of the outlook for the HICP energy component. Detailed assumptions are given in the following table.

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

| | 2003 | 2004 | 03-Q4 | 04-Q1 | 04-Q2 | 04-Q3 | 04-Q4 |
|---|---|---|---|---|---|---|---|
| Price of oil in $ | 28.8 | 29.5 | 29.3 | 30.6 | 29.9 | 29.2 | 28.5 |
| Exchange rate $/€ | 1.13 | 1.26 | 1.26 | 1.26 | 1.26 | 1.26 | 1.26 |
| Price of oil in euros (in annual percentage changes) | -2.0 | -7.3 | -7.8 | -16.9 | 3.8 | -8.0 | -8.0 |

*Source: BCL*

The government has increased the level of excise duties on fuel by 7 cent/litre from 1st January onwards. While this measure is neutralised in the automatic wage indexation system the additional impact on the HICP energy component is estimated at about 6.5 p.p. The impact on the HICP and the NICP is anticipated to be respectively 0.7 p.p. and 0.15 p.p.

The HICP excluding energy is usually driven by imported inflation and wage developments. Beyond this, specific measures such as indirect tax adjustments, public charges and administered prices may also influence inflation developments. Despite the expected gradual improvement in economic activity in the euro area, imported inflation should remain muted reflecting a significantly negative output gap. In addition, the euro's recent appreciation against the dollar should also have a downward impact on consumer prices in the long run. Nevertheless, domestic inflation may decelerate only very slowly.

An automatic wage indexation was triggered in August 2003 leading to a relatively sharp increase in services' prices in September 2003.

An increase in tobacco prices has also been announced in the 2004 general government budget. Although the timing and the magnitude of price changes are difficult to forecast, gradual cigarette price rises have been incorporated into our projections.

The impact of increases in administered price in 2004 is expected to be somewhat less than in previous years. Indeed, the monthly change in inflation in January, a month when administered prices are usually adjusted, was only 0.38%. This compares rather favourably with recent years and, considering the persistence of these price increases, the impact on headline inflation should also be less than in the previous years. In fact this is a key element in the projected deceleration of the HICP excluding energy.

### Results

On the basis of the sole euro oil price assumptions, the energy component would evolve rather favourably over the forecast horizon. However, the indirect taxation measure implies a positive contribution in 2004 from energy prices to overall HICP. The deceleration process in the HICP excluding energy should continue over the coming months albeit at a slow pace and the annual rates of change are unlikely to fall below 2%.

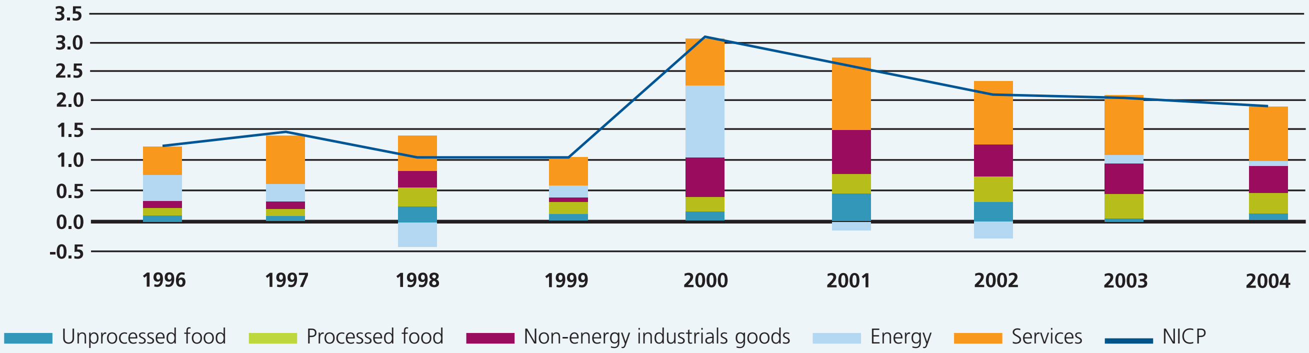
**TABLE 4: INFLATION PROJECTIONS (IN ANNUAL PERCENTAGE CHANGES)**

| | 2002 | 2003 | 2004 | 2003 2nd half | 2004 1st half | 2004 2nd half |
|---|---|---|---|---|---|---|
| NICP | 2.1 | 2.0 | 1.8 | 1.9 | 2.0 | 1.6 |
| HICP | 2.1 | 2.5 | 2.3 | 2.2 | 2.3 | 2.3 |
| HICP energy | -3.7 | 1.2 | 3.1 | -1.6 | 2.6 | 3.6 |
| HICP ex energy | 2.9 | 2.7 | 2.4 | 2.6 | 2.5 | 2.2 |

*Source: BCL*

Compared to the previous exercise, the projections for the NICP have hardly changed, whereas the upward revision to the HICP was somewhat more significant. Indeed, due to different weighting schemes for the energy component, the revisions to the euro oil price assumptions and the indirect taxation measure imply a more significant impact on the HICP.

### GRAPH 6: CONTRIBUTIONS TO ANNUAL PERCENTAGE CHANGES IN THE NICP




*Source: STATEC, BCL*

### Competitiveness: Update and two new effective exchange rate indicators

Real effective exchange rate indicators can help assess the competitiveness of Luxembourg's economy by providing a common currency comparison of prices or costs in Luxembourg and in its main trading partners. A study published in BCL bulletin 2003/3 presented real effective exchange rate indicators based on consumer prices, producer prices and unit labour costs in manufacturing. This box updates these three series and adds two new indicators based on unit labour costs for the whole of the economy and on the GDP deflator in the different countries. By widening the analysis beyond manufacturing to include the rest of Luxembourg's economy (especially the financial services industry), the results based on unit labour costs give a clearly more pessimistic view of competitiveness. Finally, the different real effective exchange rate indicators are forecast through to 2005 on the basis of the latest Eurosystem projection exercise. On these assumptions, Luxembourg's competitiveness should deteriorate further.

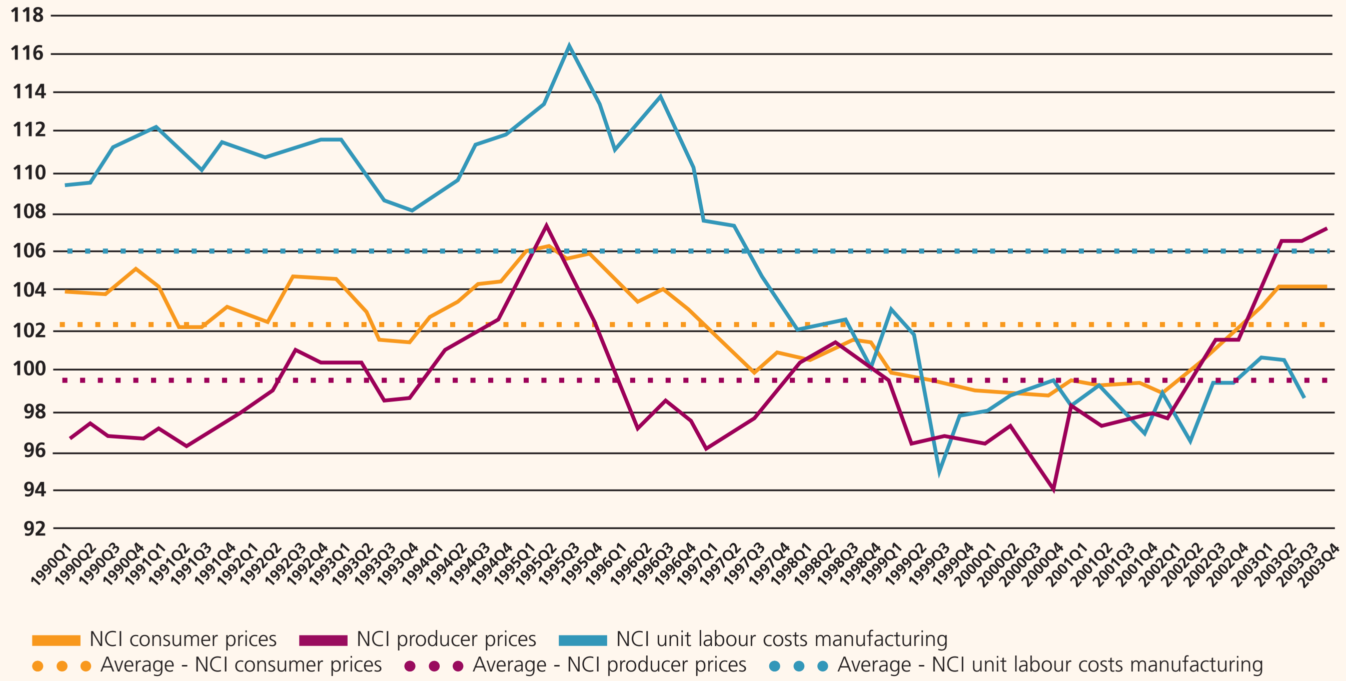
The real effective exchange rates presented here are calculated for what the ECB calls the "narrow" group of trading partners, representing 23 countries weighted by their share in Luxembourg's international trade. In the following figures, an increase in the real effective exchange rate suggests a decline in Luxembourg's national competitiveness. The indicators are normalised at 100 in 1999Q1, so meaningful comparisons should focus on relative movements rather than absolute levels.

The first figure updates figure 8 of the study published in BCL bulletin 2003/3 using data published or revised since 2003Q3. All three indicators now suggest a further deterioration of competitiveness. Of course, this is linked to the euro appreciation since 2003Q2. However, these indicators are mostly determined by the relative evolution of prices or costs in other euro area countries, since these are Luxembourg's main trading partners.

The second figure presents two new national competitiveness indicators (NCIs) based on relative movements in unit labour costs for the whole economy and the GDP deflator. The indicator based on consumer prices also appears for comparison purposes. The two new indicators are only available at quarterly frequency, but have the advantage that they can be extended into the future using the results of the Eurosystem projection exercise. It should be noted that for most of the projection exercise horizon bilateral exchange rates are assumed unchanged, so the forecast evolution of the real effective exchange rate mostly reflects anticipated movements in relative prices or costs.

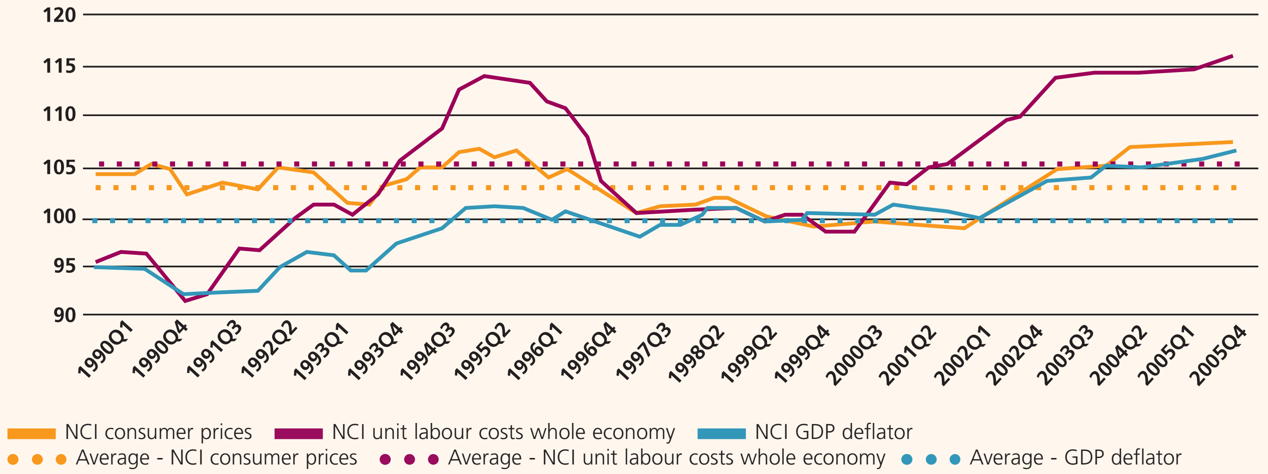
The unit labour cost indicator for the whole economy is the most volatile (much as its counterpart for manufacturing) but gives a more pessimistic view of Luxembourg's competitiveness. Since 2002Q2, unit labour costs in the overall economy have increased more rapidly than in Luxembourg's trading partners. Thus, the relatively mild increase in unit labour costs in manufacturing is not representative of the economy as a whole.

**GRAPH 7: NATIONAL COMPETITIVENESS INDICATORS BASED ON CONSUMER PRICES, PRODUCER PRICES, AND UNIT LABOUR COSTS IN MANUFACTURING**




*Source: ECB, IMF, EUROSTAT and BCL calculations*

**GRAPH 8: NATIONAL COMPETITIVENESS INDICATORS BASED ON CONSUMER PRICES, GDP DEFLATOR AND UNIT LABOUR COSTS IN THE WHOLE ECONOMY**




*Source: ECB, IMF, OECD, EUROSTAT and BCL calculations*

The national competitiveness indicators based on consumer prices, producer prices and the GDP deflator all rose above their historical averages between 2002Q2 and 2003Q4, appreciating by 4.4%, 7.5% and 3.6% respectively over the period under consideration. Projections of the NCI based on consumer prices and GDP deflators anticipate a further appreciation until 2005Q4. However, this deterioration in Luxembourg's price competitiveness should be less than that experienced between 2002Q2 and 2003Q4.

Between 2002Q2 and 2003Q4, the national competitiveness indicator based on unit labour costs in the whole economy appreciated twice as much as that for manufacturing alone (respectively 6.3% and 2.7%). Looking forward, the projected national competitiveness indicator using unit labour costs for the whole economy stabilises in 2004 (only +0.4%) reflecting both the slowdown in salary growth and the absence of automatic indexation given lower inflation.

Summarising, all national competitiveness indicators anticipate deterioration throughout the projection horizon as they all appreciate above their historical averages. It bears repeating that the projection assumes fixed exchange rates following 2003, implying that the competitiveness deterioration is mainly due to faster growth of consumer prices, the GDP deflator and unit labour costs in Luxembourg than in its main trading partners.

### 1.2.1.2 Producer prices in industry

The cyclical upturn of industrial producer prices that started in the second quarter of 2002 was continued into 2003 and was only briefly interrupted in the third quarter. On average, prices increased by 1.3% compared to a fall of 1.1% in the previous year. The cycle of producer prices is usually dominated by that in intermediate goods prices while prices for capital and consumer goods tend to exhibit a more stable pattern. Overall, it seems that over the last two years, the volatility in prices has decreased compared to a few years ago.

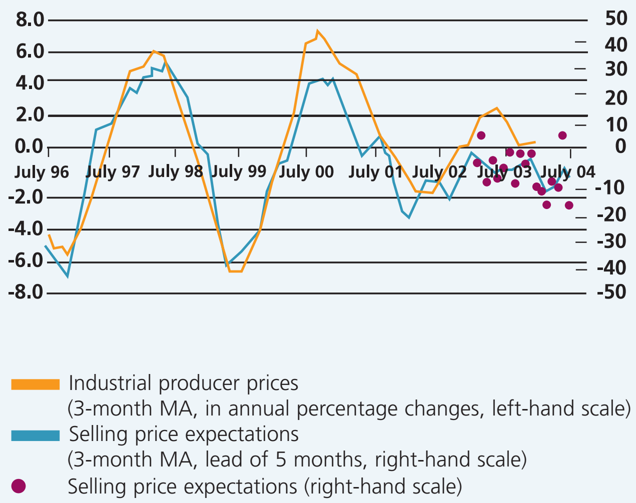
**TABLE 5: INDUSTRIAL PRODUCER PRICES (CHANGES WITH RESPECT TO THE PREVIOUS PERIOD)**

| | 2001 | 2002 | 2003 | 03-Q1 | 03-Q2 | 03-Q3 | 03-Q4 |
|---|---|---|---|---|---|---|---|
| Total | 1.1 | -1.1 | 1.3 | 0.6 | 0.3 | -0.5 | 0.1 |
| Intermediate goods | 0.4 | -2.1 | 1.0 | 0.5 | 0.2 | -0.8 | 0.3 |
| Capital goods | 1.8 | 1.1 | 1.6 | 0.9 | 0.3 | 0.1 | 0.3 |
| Consumer goods | 3.6 | 1.4 | 2.1 | 0.7 | 0.3 | 0.5 | -0.6 |

*Source: STATEC, BCL*

The muted pick-up in prices in 2003 results probably from several factors. Economic activity in the euro area gained pace only gradually. The oil price in dollars might have increased on average by 15%, but the impact was offset by an appreciation of the euro against the dollar of a similar magnitude. Despite exhibiting a volatile pattern, the euro oil price remained on average virtually unchanged in 2003 compared to 2002.

**GRAPH 9: INDUSTRIAL PRODUCER PRICES, PAST AND EXPECTED DEVELOPMENTS**



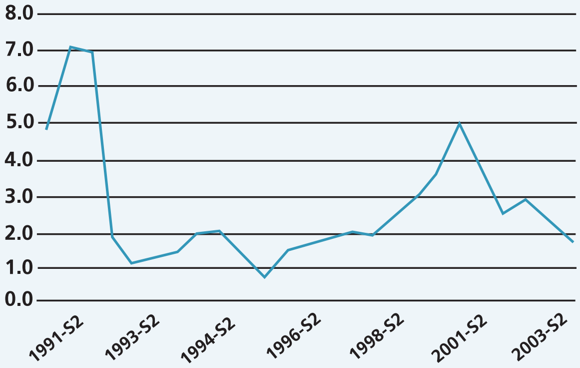

*Source: Eurostat, BCL*

The outlook for industrial producer prices remains slightly unfavourable at the beginning of 2004. Unless demand accelerates, prices are likely to stabilise, or even fall further (in annual percentage changes) according to the results of the harmonised business surveys (see graph).

1.2.1.3 Construction prices

Prices of construction services increased by 2.0% in 2003, in line with the NICP. On the one hand, in light of the high labour content of several construction services, the moderate developments are probably due to lower real wages in the sector. Weak economic activity in the building sector probably also entailed more moderate price increases.

**GRAPH 10: CONSTRUCTION PRICES (IN ANNUAL PERCENTAGE CHANGES)**




*Source: STATEC, BCL*

1.2.1.4 Sector-based activity

Industry

In 2003, the industrial sector faced stagnant international demand. In fact, euro area economic activity showed hardly any sign of acceleration and the 0.5% expansion of industrial production compensated only for the fall in 2002.

The Luxembourg business cycle usually coincides with the euro area cycle although it is slightly more volatile. Growth of industrial production around 3% seems to indicate that the Luxembourg sector benefited more quickly from the pick-up in economic activity in the second half of 2003 than its peers in the euro area. In several regards, 2003 was an improvement on 2002 although it can probably only be considered as a transitional year to a period of more sustained production. A higher level of production, combined with a rise in prices implied an increase in turnover in 2003 with respect to 2002. However, the adjustment process on the cost side continues, as companies lay off more staff and further cut hours worked.

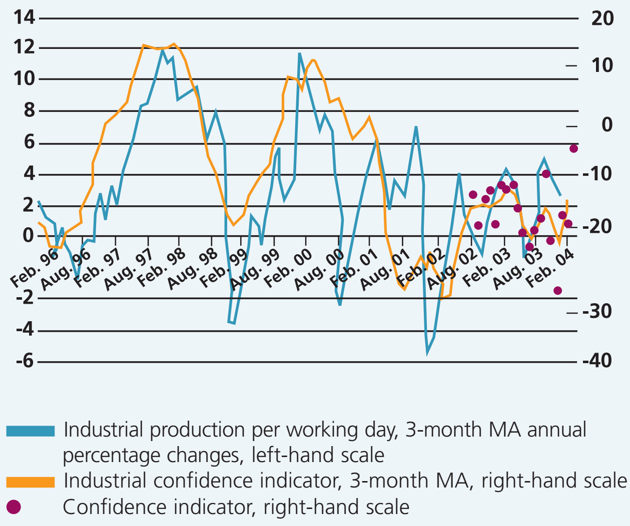
**TABLE 6: INDICATORS FOR THE INDUSTRIAL SECTOR (IN ANNUAL PERCENTAGE CHANGES)**

| | 2001 | 2002 | 2003 | Q1-03 | Q2-03 | Q3-03 | Q4-03 |
|---|---|---|---|---|---|---|---|
| Production per working day | 3.1 | 0.4 | 2.6 | 4.5 | -1.3 | 4.7 | 2.9 |
| Turnover | 3.4 | -1.0 | 3.9 | 7.9 | 4.5 | 0.3 | 2.8 |
| Employees | 0.6 | -1.6 | -1.4 | -1.7 | -1.6 | -1.3 | -1.2 |
| Hours worked | -1.0 | -3.1 | -0.7 | -1.5 | -1.7 | 0.9 | -0.1 |
| Wage cost | 4.5 | 0.5 | 0.9 | 0.5 | -0.3 | 1.9 | 1.4 |
| New orders | -2.2 | 1.6 | 5.3 | 13.9 | 3.9 | -2.6 | 6.1 |

*Source: STATEC, BCL*

Although industrial production showed some positive developments in the second half of 2003, there was no marked improvement in business confidence until February 2004.

**GRAPH 11: CONFIDENCE INDICATORS AND INDUSTRIAL PRODUCTION**




*Source: STATEC, BCL*

## Construction

Due to the nature of its activities, the construction sector might to some extent be shielded from the business cycle, but in 2003 it also suffered from the weak demand persisting since 2001. Turnover might have increased by 14.6%, but production per working day, which better reflects the current level of economic activity, fell by 1.2%.

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

| | 2001 | 2002 | 2003 | Q1-03 | Q2-03 | Q3-03 | Q4-03 |
|---|---|---|---|---|---|---|---|
| Employees | 3.2 | 2.6 | 0.8 | 1.7 | 1.2 | 0.6 | 0.9 |
| Wages and salaries | 8.5 | 8.2 | 2.7 | 13.3 | 3.5 | 0.6 | 5.1 |
| Turnover | -1.6 | 5.5 | 13.1 | 0.9 | 3.3 | 17.7 | 14.5 |
| Hours worked | 4.8 | 2.9 | 0.5 | -2.9 | -4.5 | -6.0 | 4.4 |
| Production per working day - Total | 4.4 | 3.6 | -0.2 | -1.9 | -6.3 | -5.9 | 3.3 |
| Production per working day - Building | 13.0 | 3.0 | -4.1 | -4.2 | -12.7 | -11.1 | -2.2 |
| Production per working day - Civil engineering | -4.0 | 4.2 | 3.9 | 0.7 | -0.7 | 0.2 | 9.9 |
| Building permits[1] | -10 | -2.7 | | 24.6 | -31.7 | 117.7 | |
| Loans for house purchases[2] | 13.7 | 21.1 | | 14.1 | 11.5 | 27.7 | 23.0 |
| Mortgage rates[3] | 5.4 | 4.4 | | 4.1 | 3.9 | 3.8 | 3.5 |

[1] *Number of dwellings.*

[2] *Total of mortgage loans to residents.*

[3] *Break in series since the beginning of 2003.*

*Source: STATEC, BCL*

Demand for civil engineering is slowing as some large projects near completion and are not to be replaced by new work on a similar order of magnitude. The deceleration in employment might have weighed on construction. However, short-term indicators in the beginning of 2004 are slightly more positive than in the second half of 2003. Building permits are up sharply and financing conditions are also very favourable. Both are probably reflected in the continuous growth of loans for house purchases.

## Commerce and other sectors

Weakness of demand might have influenced economic activity in the commercial sector in 2001 and 2002, but 2003 saw a turnaround. The improvement in turnover was especially significant for the wholesale branch, whereas the retail trade sector and the trade and repair of motor vehicles branch could maintain their performance of the previous year. It seems that the Luxembourg consumer has so far hardly been affected by the rise in unemployment.

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

| | 2001 | 2002 | 2003[1] | Q4-02 | Q1-03 | Q2-03 | Q3-03 | Q4-03 |
|---|---|---|---|---|---|---|---|---|
| Total trade | 2.9 | 2.2 | 9.3 | 6.6 | 11.2 | 8.2 | 11.0 | |
| Retail trade | 5.0 | 8.1 | 6.5 | 9.2 | 8.3 | 6.3 | 5.3 | |
| Trade and repair of motor vehicles | 5.2 | 8.1 | 10.9 | 9.7 | 14.1 | 8.4 | 11.3 | |
| Wholesale trade | 2.0 | -0.5 | 11.7 | 5.3 | 11.9 | 10.1 | 13.4 | |
| Hotels and restaurants | 2.5 | 3.5 | -5.2 | 2.0 | -5.3 | -4.8 | -5.4 | |
| Car registrations | 2.0 | 1.2 | 1.6 | -3.8 | 2.1 | -3.5 | 3.2 | 7.3 |

[1] *The figures refer to months from January to November except car registrations (January to December) and total trade and trade and repair of motor vehicles (January to September).*

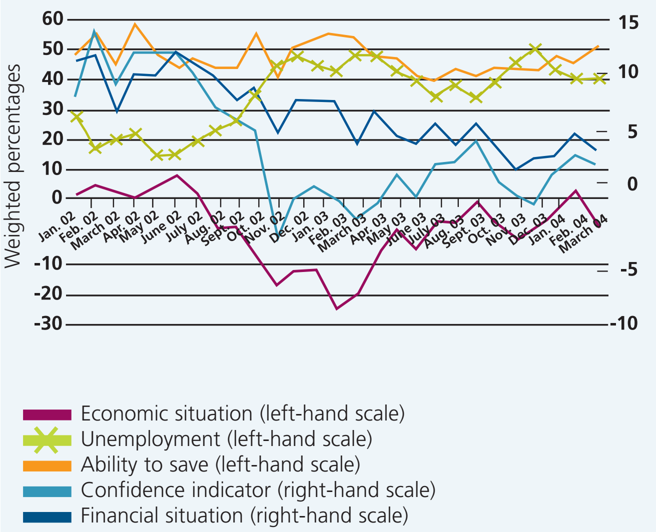
*Source: STATEC, BCL*

However, the hotel and restaurant branch seems to suffer from a slowdown in tourism. Unfavourable weather conditions, the repercussions of the general climate of uncertainty, the impact of the economic slowdown on business trips and on household disposable income probably explain to a large extent the fall in turnover in 2003.

### 1.2.2 Consumer survey on conjunctural conditions

The consumer confidence indicator stabilised at a low level over the first half of 2003 after a strong and continuous decrease in the second half of the previous year. Consumer confidence improved somewhat in the third quarter of 2003 without achieving the high level observed in the first half of 2003. This increase in consumer confidence was driven by more optimism with respect to the economic situation and unemployment. However, these two factors also explained most of the subsequent decline in consumer confidence observed in the fourth quarter of 2003. Consumer confidence increased again in January and in February 2004.

**GRAPH 12: THE CONSUMER CONFIDENCE INDICATOR AND ITS COMPONENTS**

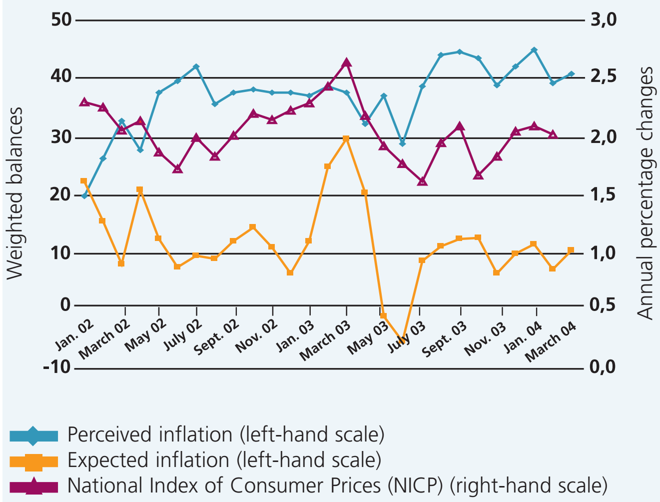



*Source: BCL*

In 2003, changes in public perception of past inflation seem to have been on average more in line with developments in actual inflation than the previous year.

Consumers' inflation expectations for the next 12 months were somewhat erratic in 2003. Inflation expectations increased sharply in February and March 2003 probably due to the geopolitical tensions related to the run-up to the conflict in Iraq. Expected inflation decreased again once the geopolitical uncertainty dissipated from April onwards.

**GRAPH 13: PERCEIVED, EXPECTED AND ACTUAL INFLATION**




*Source: BCL*

### 1.2.3 Economic activity

The overall assessment of economic developments in 2003 is hampered by the non-availability of the 2003 national accounts. However, according to our December 2003 projections, it would seem unconceivable that 2003 was a significant improvement on 2002. Luxembourg probably experienced a third consecutive year of low growth and 2003 can probably be considered a transition year to a period of more sustained growth.

However, several indicators hint at an acceleration of economic activity since the third quarter of 2003. On the external environment, the pick-up in international trade and the gathering pace of the euro area economy are encouraging signs. On the domestic side, the improvement in the industrial production figures in the final quarter of 2003 was confirmed by a strengthening of business confidence in the beginning of 2004. Regarding the financial sector, banks benefited from the decrease in uncertainty and the associated pick-up of equity markets in the second half of 2003. Overall, the short-term indicators seemed to be in line with our previous projection of a gradual improvement in 2004.

The appreciation of the euro against the dollar had been identified as a major source of risk to our forecast capable of derailing the anticipated recovery in the euro area and Luxembourg. Meanwhile, the exchange rate has gone from 1.17$/€ in November 2003 to 1.24$/€ by the end of February 2004. However, the most recent movements, partially a correction for a sustained under-valuation of the euro, have so far failed to dent business confidence. It seems that the positive impact from the acceleration of foreign demand, the cornerstone of our previous projections, more than outweighs the possibly negative currency effects. While exchange rate developments are likely to weigh on export prices and profit margins they are likely to be limited since. Luxembourg companies are trading mainly with the euro area.

Furthermore, trade is to a large extent concentrated in services, which, unlike goods, might suffer less from a deterioration in cost or price competitiveness. One might also recall that a currency appreciation does not necessarily imply an economic downturn. From 1985 to 1988, most European currencies appreciated against the dollar, but the European economies experienced a sustained expansion on the back of buoyant domestic demand. Of course, oil price developments were also very favourable, but the gains in the terms of trade provided major support for the disposable income of economic agents. Eventually, the scenario of more dynamic growth in both 2004 and 2005 remains credible although it seems unlikely that the Luxembourg economy will return to the growth rates seen in the late 90s.

### Potential output and the business cycle

Has the economic recovery reached Luxembourg? In the US, the beginning of a recovery is associated with the trough of the business cycle, as dated by an official committee of the NBER (National Bureau of Economic Research). The date of a trough often coincides with a GDP contraction over two successive quarters, but the NBER committee stresses that its dating is based on a much wider set of economic indicators. In any case, the US underwent a two-quarter GDP contraction in 2001 (when the NBER dating committee identified a trough) and Germany experienced the same phenomenon in 2003. Since Luxembourg does not publish quarterly GDP, the question here must be addressed using other economic data.

First of all, one must clarify that business cycle analysis uses the term "recession" not only to refer to actual contraction in economic activity around the trough of the cycle (as is common usage), but also to refer to the whole phase of the cycle from a peak to the following trough. The present slowdown represents such a period of weak growth. Likewise, the term "expansion" refers to the whole phase of the cycle from a trough to the following peak, representing periods of strong growth such as Luxembourg experienced until 2000. As a result, the business cycle is also known as "growth cycle" because it is a succession of periods of strong growth (expansion phases) and periods of weak or negative growth (recession phases).

Fluctuations in growth are clearly visible in published economic statistics, but the business cycle itself is not directly observable. To distinguish between phases of expansion and recession, one needs to refer to an equilibrium or sustainable growth rate. One may simply use the average growth rate observed over a sufficiently long period, but more often the equilibrium growth rate is associated with the concept of "potential output".

Potential output is the level of GDP obtained by the full utilisation of available resources that is compatible with price stability. Potential output increases with capital accumulation, growth of the workforce and technical progress. However, observed GDP does not growth at the same rate. When observed growth exceeds potential growth, the level of GDP increases until it is above potential, thus generating a positive "output gap". This gap increases as long as observed growth exceeds potential growth. The output gap reaches its maximum positive value (and the expansion reaches its peak) when observed growth slows, returning to the potential growth rate. This is the beginning of the recession phase of the business cycle, with observed growth below potential growth. During this phase, GDP grows less rapidly than potential growth and the output gap shrinks. When GDP drops below potential output, the output gap becomes negative. The recession reaches its trough when observed growth climbs back up to the potential growth rate, stabilising the output gap at its greatest negative value. In the expansion that follows, observed growth exceeds potential growth once again and the negative output gap diminishes and then turns positive.

Therefore, estimates of potential output and the output gap provide a picture of the business cycle. Peaks correspond to maximum positive values of the output gap and troughs to maximum negative values, thus allowing a separation into periods of expansion and recession. However, potential output and the output gap are not directly observable and must be estimated.

This box updates the output gap estimates published in the BCL annual report 2002. Since there is no generally accepted method for estimating potential output, several alternative methods are applied[2]. The degree of divergence between results allows an evaluation of the uncertainty surrounding the estimates and makes it possible to partially compensate the weak points of individual methods, which may be complementary at different points in the business cycle. The output gap estimates are based on a sample that extends to 2005 using macroeconomic forecasts published by the OECD in November 2003[3]. This approach seeks to minimise the end-sample bias that affects several methods and increases uncertainty around estimates of the most recent periods. These observations are the most important for the formulation and evaluation of economic policy.

[2] See BCL Working Paper n°4 for a description of the different methods.

[3] For each year between 2003 and 2005, OECD growth forecast for Luxembourg fall close to the centre of the intervals published in BCL bulletin 2003/3. Use of the OECD forecasts is preferred to aid comparison with results published in BCL annual report 2002.

The output gap estimates presented here differ from those published a year ago for several reasons. First, GDP for 2002 is now observed and no longer forecast. Second, the new output gap estimates are based on a sample that includes an additional observation, the year 2005, for which a forecast is now available. Third, the OECD has revised its forecasts for the years 2003-2004. Finally, GDP data for the years 1985-2001 have been slightly revised by the national accounts department of STATEC.

The upper panel of the following table presents different output gap estimates (in % of GDP) and the lower panel presents the revisions from the output gap estimates published in 2003. The first column shows real GDP growth in the upper panel and revisions to published data or updates to forecast GDP growth in the lower panel. One may note that the OECD followed several other institutions in lowering its growth forecasts for Luxembourg from 2.5% to 1.2% for 2003 and from 4.5% to 2.0% for 2004. For some methods, this had a strong influence on the estimated output gap. For example, assuming potential growth follows a linear trend, this has a lower value following the above-mentioned downward revisions. In fact, for 2000 and 2001 the output gap estimate from the first method has increased by more than 2% and that for 2002 by nearly 3%. These revisions suggest that at the peak of the cycle in 2000 the output gap was much more positive than was estimated with the data available a year ago.

For the year 2000, the upward revision of the output gap is common to all methods (except the Harvey-Jaeger unobserved components model, which finds a marginal downward revision). A greater output gap in 2000 implies that the 9.1% growth rate observed that year contained an even greater cyclical (or non-sustainable) component than implied in last year's estimates.

**TABLE 9: OUTPUT GAP ESTIMATES AND REVISIONS FROM ESTIMATES PUBLISHED IN 2003**

| | GDP growth | Linear Trend | Hodrick-Prescott | Harvey-Jaeger | Kuttner | Apel-Jansson | Function / Production |
|---|---|---|---|---|---|---|---|
| | | **Output gap estimates** | | | | | |
| 2000 | 8.8% | 7.8% | 7.1% | 4.0% | 3.2% | 5.0% | 6.4% |
| 2001 | 1.2% | 4.0% | 4.0% | 3.3% | 3.0% | 3.8% | 2.8% |
| 2002 | 1.3% | 0.3% | 1.3% | 2.0% | 1.9% | 1.9% | 0.2% |
| 2003 | 1.2% | -3.5% | -1.3% | 0.5% | 0.2% | -1.0% | -1.7% |
| 2004 | 2.0% | -6.5% | -2.8% | -0.5% | -1.4% | -3.8% | -2.3% |
| 2005 | 2.8% | -8.7% | -3.6% | -1.3% | -2.4% | -5.3% | -1.8% |
| | | **Revisions from estimates published in 2003** | | | | | |
| 2000 | -0.1% | 2.0% | 0.8% | -0.2% | 0.6% | 1.8% | 2.6% |
| 2001 | 0.2% | 2.3% | 1.1% | 0.0% | 0.6% | 1.5% | 2.0% |
| 2002 | 0.5% | 2.8% | 2.0% | 0.7% | 0.4% | -0.6% | 1.5% |
| 2003 | -1.3% | 1.6% | 1.2% | 1.1% | 0.1% | -2.0% | 1.9% |
| 2004 | -2.5% | -0.8% | 0.5% | 1.4% | -0.3% | -4.0% | 1.0% |

*Source: STATEC, OCDE, BCL calculations*

Revisions are weakest for the Kuttner method, which is based on an unobserved components model much as the Harvey-Jaeger method but also takes account of inflation. On the other hand, the Apel-Jansson method, which extends this approach to unemployment, features important downward revisions in 2003 and 2004. The contrast between these two approaches (which are methodologically quite similar) could mean that the Kuttner method is more robust (and thus more reliable) when data are revised. However, the Apel-Jansson method could prove more informative in the present context because it can take account of the sharp and unexpected increase in unemployment observed over the last months, a source of information neglected by the Kuttner method.

According to the latest estimates, the output gap remained positive in 2001 and 2002 despite the brutal slowdown in growth. In 2003, after a third year of weak growth, most methods find GDP is below its potential, generating a negative output gap. The two methods that still find a positive gap situate it very near zero. On the basis of OECD forecasts, all methods expect a negative output gap for 2004.

It should be stressed that the output gap fell each year between 2001 and 2004. This result is common to all estimation methods used. It implies that for each of these years observed (or forecast) growth was below the corresponding potential growth rate. However, the trough of the recession, and hence the beginning of the recovery, will be reached only once the output gap stabilises and changes direction, that is to say once observed growth exceeds potential growth once again. Only one method (production function) suggests this will be the case in 2005, as it anticipates a reduction in the output gap consistent with GDP rising once more towards its potential level. According to this approach, the 2.8% growth expected for 2005 may already mark the beginning of the next expansion phase. According to the other methods, potential growth in 2005 will be higher than this figure.

One must stress the high level of uncertainty surrounding all estimates of the output gap or potential growth. In Luxembourg this uncertainty is increased by the lack of quarterly data, which makes it necessary to base estimates on annual data, limiting the degrees of freedom and inducing a possible time aggregation bias. Furthermore, the table reveals the large size of revisions with respect to the previous year's estimates. This implies that the turning point anticipated by each method could easily be moved one year earlier (or later) following the publication of new data, whether forecast updates or even the official GDP figures for 2003.

In conclusion, on the basis of available data and OECD forecasts, Luxembourg's output fell below potential in 2003 and 2004. Conditional on these forecasts, most of the methods considered cannot yet identify the trough of the recession. Only one method suggests that the recovery could materialise in Luxembourg in 2005; the others suggest the expansion will begin still later.

## Concentration and sectoral changes of the Luxembourg economy from 1985 to 2002

Open economies, according to the classical theory of trade, will specialise in those sectors in which they have a "comparative advantage". As a consequence, international economic integration will lead to increasing sectoral specialisation and to diverging economic structures of the countries involved; also, trade will be inter-industrial. According to more recent theories, increasing integration will have the opposite effect, namely a progressive harmonization of production structures among the countries involved, along with trade flows that are intra-industrial rather than inter-industrial.

In both scenarios, however, the larger a given sector in a country, the more the economy as a whole will be affected in case of a shock to this specific sector. Also, the smaller an economy, the more likely it is to find one or several sectors that have an important relative weight in the economy as a whole. Hence the diversification policy led by Luxembourg Governments is meant to favour growth in a larger number of sectors, in order to prevent the appearance of a monolithic economic structure.

This box seeks to analyse the evolution of Luxembourg's sectoral shares and to investigate whether the economy has become more diversified since 1985 and the speed at which structural change has taken place. Following the steel sector in the seventies, today it is the importance of the financial sector for the economy that raises questions.

### Degree of openness

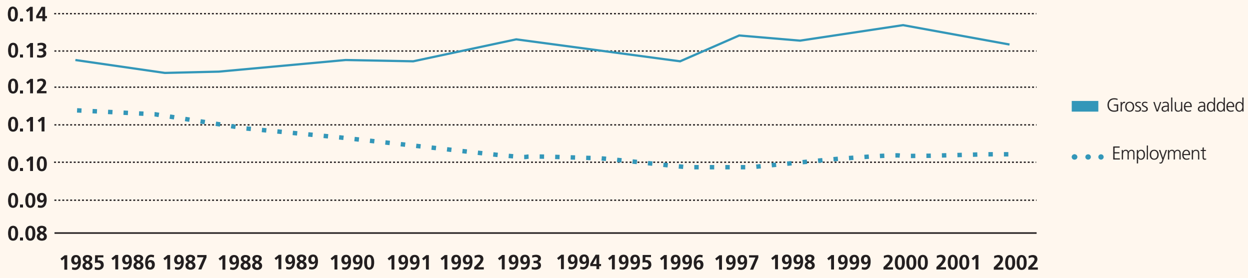
The degree of openness of the Luxembourg economy was already high in 1985, but increased strongly since 1995 and reached a record level in 2001. Exports of services are more important than exports of goods since 1992, while goods lost in relative importance (measured by their weight in GDP) already from the beginning of the period under review. Their share has virtually stagnated since then. Similarly, imports of services which could be linked to (re)exports of (financial services), have exceeded those of goods, -but only since 1999.

### Degree of sectoral concentration

The Herfindahl index constitutes a measure of concentration based on all the sub-sectors of the economy. It is obtained by summing the squares of the relative share of the different sectors. In the case of a highly concentrated economy, its value tends to one; if sectors all have a similar share, it takes the value of the inverse of the number of sectors.

The index calculated over 15 sectors provides diverging results for value-added and employment. While concentration in production has followed an increasing trend from 1989 to 2000, sectoral concentration in employment has decreased from 1985 to 1996, before stabilising. Concentration appears to be rather moderate in terms of both employment and production.

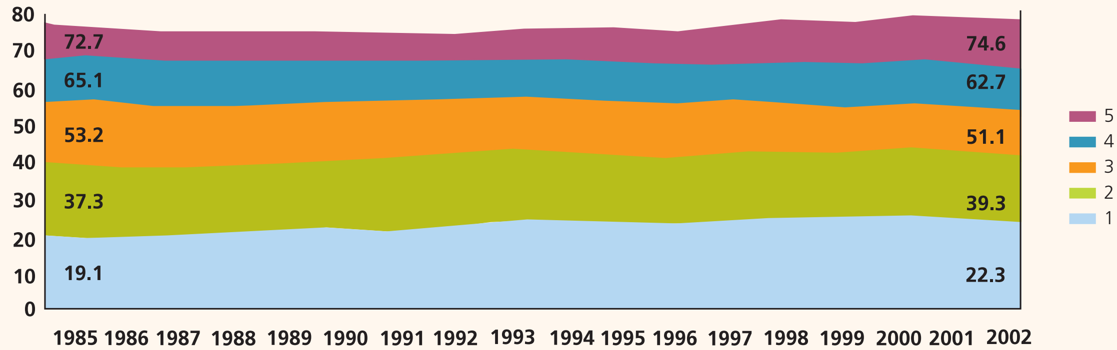
**GRAPH 14: HERFINDAHL INDEX OF SECTORAL CONCENTRATION**




*Source: STATEC, BCL calculations*

Concentration can also be measured using a simple ratio of the relative weight of two among the largest sectors of the economy. The two largest sectors taken together (financial intermediation and real estate, renting services) have seen their weight increase somewhat since 1985; for the three or four largest sectors, concentration has however decreased. It is the "transport and telecommunication" sector that has shown the fastest growth rates over the period observed. The financial services sector comes only third in terms of growth of real value added. The sectors with above-average growth belong to the service sector, which goes along with a clear increase in the relative weight of services as a whole.

**GRAPH 15: CONCENTRATION RATIO (FOR M FROM 1 TO 5)**




*Source: STATEC, BCL calculations*

### Speed of sectoral changes

On average, sectoral changes have been faster for output than for employment from 1985 to 2002. Change was faster for employment only during the period since 1995.

### Impact of sectoral changes on aggregate productivity

Changes in the employment share of individual sectors can influence the evolution of aggregate productivity. Productivity growth can be split into two components: On the one hand, there is a contribution within individual sectors ("intra" effect), typically reflecting improvements of workers' qualifications or increases in capital stock, technical progress etc. On the other hand, the re-allocation of workers to sectors with a different productivity level ("shift" effect) also affects the aggregate productivity level.

**TABLE 10: A SHIFT-SHARE ANALYSIS OF PRODUCTIVITY GROWTH**

| | Productivity | "Intra"-effect | "Shift"-effect |
|---|---|---|---|
| Total economy | 2.2 | 1.0 | 1.2 |
| Manufacturing | 4.3 | 4.3 | 0.0 |
| Collective services and market services | 1.4 | 0.2 | 1.2 |

*Source: STATEC, BCL calculations*

From 1985 to 2002, around half (1.2 p.p.) of the economy's average productivity growth (2.2%) is the result of sectoral changes, while progress within the various sectors accounts for the other half (1.0 p.p.).

A comparison between manufacturing and services shows strongly diverging evolutions.

In manufacturing and its sub-sectors, the 4.3% average productivity growth is almost exclusively due to "internal" productivity increase, i.e. productivity increases within the various sub-sectors. Sectoral reallocation did not contribute to an improvement of productivity.

In the various services sectors, the rather modest improvement in productivity (1.4% on average each year) is above all due to an increasing employment share of sectors with higher productivity levels. Only 0.2 p. p. of productivity growth appear to be the result of within-sector developments i.e. of "internal" increases in productivity.

**Conclusion**

Apart from an increased dependence on international trade, output has not become much more specialised since 1985. Employment has even become more diversified since then. Sectoral changes have been responsible for a large part of the increases in aggregate labour productivity. In services, productivity adjusted for sectoral changes virtually stagnated between 1985 and 2002.

### 1.2.4 Bank Lending Survey

This quarterly survey consists in a qualitative questionnaire sent to the seven major banks in Luxembourg's domestic market. The questionnaire deals with the supply as well as the demand side of credit extended to enterprises and to households.

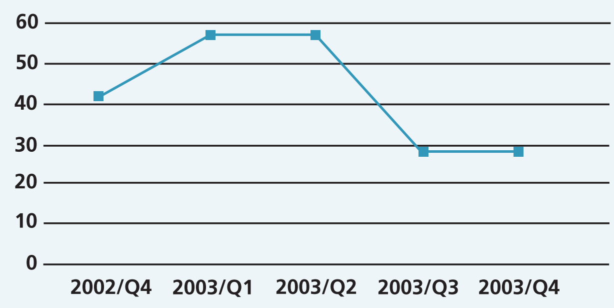
Credit extended to enterprises

Results show a tightening of the credit standards applied for the approval of loans in 2003. However, in the second semester the net percentage of banks reporting a tightening of credit standards was less important than in the first semester (57% in the first semester compared to 29% in the second semester). As regards anticipations for the first quarter of 2004, a net 43% of the participating banks expect a further tightening of their standards applied to the approval of loans to enterprises.

The tightening observed in 2003 was due to a higher perception of risk (regarding general economic activity as well as industry-specific outlook) and costs related to bank's capital position. The tightening mainly affected interest rate margins, the size and maturity of loans, collateral requirements and loan covenants.

**GRAPH 16: LUXEMBOURG - LOANS TO ENTERPRISES: EVOLUTION OF CREDIT STANDARDS APPLIED TO THE APPROVAL OF LOANS**

(net % of banks reporting a tightening)

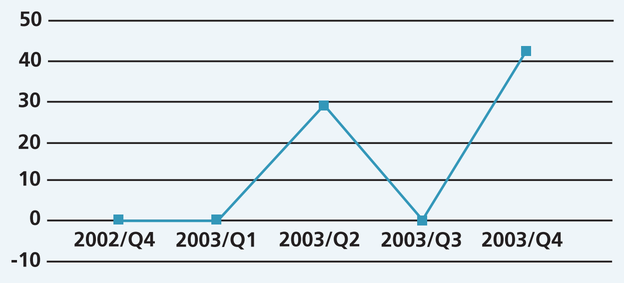



*Source: BCL*

As regards firms' demand for loans, the survey recorded a stationary demand in the first and third quarter and a rise in the second quarter and last quarter. The higher demand recorded at the end of the year reflected financing needs for fixed investments, inventories and working capital as well as debt restructuring. Fourteen % of the participating banks anticipate a rise in firms' demand for loans for the first quarter of 2004.

**GRAPH 17: LUXEMBOURG - LOANS TO ENTERPRISES: EVOLUTION OF DEMAND**

(net % of banks reporting a tightening)




*Source: BCL*

## Credit extended to households

As regards mortgage credit, survey results suggest that, credit standards were unchanged on average in the first quarter of 2003. In the second quarter a net 29% of the participating banks reported a tightening, but standards returned to a neutral position in the last quarter of the year. As regards anticipations for the first quarter of 2004, a net 14% of the participating banks expect a further tightening of their standards applied to the approval of loans for residential purchases.

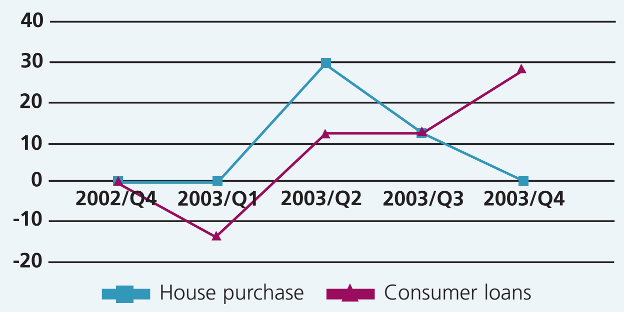
The tightening mortgage standards observed in the second and in the third quarter were linked to higher risk perceptions regarding general economic activity as well as the housing market. This resulted in larger interest rate margins on risky loans, and other stricter conditions regarding maturity, collateral requirements, loan-to-value ratios and non-interest-rate charges.

Regarding consumer loans, the survey shows easing credit standards during the first quarter and tightening standards during the rest of 2003. As regards anticipations for the first quarter of 2004, a net 14% of participating banks expect a further tightening of their standards applied to the approval of consumer loans.

This tightening observed since the second quarter, reflected doubts regarding general economic activity, the creditworthiness of consumers, and risks on collateral. This resulted in higher collateral requirements for consumer loans.

**GRAPH 18: LUXEMBOURG - LOANS OF HOUSEHOLDS: EVOLUTION OF CREDIT STANDARDS APPLIED TO THE APPROVAL OF LOANS**

(net % of banks reporting a tightening)



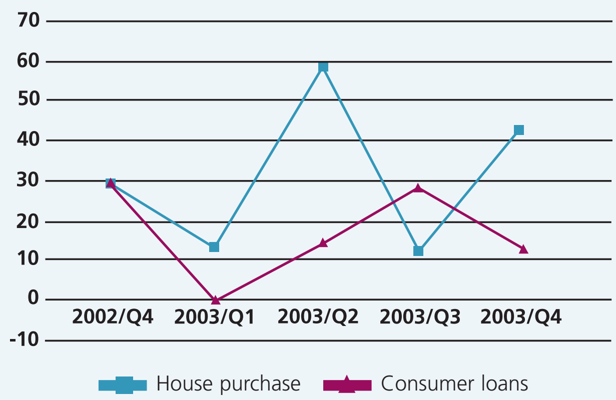

*Source: BCL*

On the demand side, banks reported a rise in the demand for house purchase throughout 2003. Demand for consumer loans rose during the second semester. The demand for loans was affected by consumer confidence, housing market prospects as well as higher demand for durable consumer goods (cars, furniture).

For the first quarter of 2004, participating banks anticipate a stable household demand for credit for house purchase as well as for consumer loans.

**GRAPH 19: LUXEMBOURG - LOANS TO HOUSEHOLDS: EVOLUTION OF DEMAND**

(net % of banks reporting a tightening)




*Source: BCL*

### 1.2.5 Labour market

Despite the deceleration in GDP growth observed in 2002, annual employment growth remained broadly stable at around 2.0% in 2003. Employment thus proved more resilient than might have been expected. This has in part reflected the usual lags in cyclical developments in employment. It may also suggest that companies retain workers despite weak activity, possibly because they expect the recovery to gather pace in the near future. However, against the background of a delayed recovery, companies may increasingly decide to reduce their staff. To some extent, this resilience may also have been caused by a measurement error in employment figures in some specific sectors.

The inflow of non-resident labour has continued to account for the largest part of employment growth. Cross-border commuters represent nearly 67.3% of newly created jobs. This share is greater than the previous year's figure. In 2003, the share of cross-border commuters in total domestic employment reached more than one third (36.7% annual average). This represents an increase of 3.8% in terms of individuals. Among the cross-border commuters, 52.7% come from France, 27.4% from Belgium and 19.9% from Germany.

Wages and social benefits increased automatically by 2.5% in August 2003 due to their indexation to consumer prices. This caused an acceleration of labour costs in the third quarter 2003.

### 1.2.6 External trade

Exports and imports of goods continued to decline in 2003 compared with 2002. However, the trade deficit fell 4.7% in 2003 reflecting a stronger drop in imports of goods (-1.8%) than in exports (-0.8%). In 2003, imports from the euro area represented 87% of the total value of Luxembourg's imports while 76% of exports were delivered to euro area partners. Intra-euro trade did not undergo significant changes in 2003 compared to its level in 2002. However trade with the US reduced significantly while that with Emerging Markets increased strongly.

### 1.2.7 Balance of payments

For 2003 as a whole, the current account surplus fell to 2.2 billion euros (a decline of about 16% compared to its level in 2002). The decline in the current account surplus originated from an increase in deficits on the goods, income and current accounts. This was only partly offset by a 1.4% rise in the services surplus.

The financial account experienced net outflows of 1.2 billion euros in 2003, compared with net outflows of 1.8 billion euros in 2002. This resulted from lower net inflows in portfolio investments and in financial derivatives, which were largely offset by net outflows in combined direct investments and other investments.

### 1.2.8 Luxembourg's International Investment Position

During 2003, the BCL began to compile Luxembourg's international investment position (IIP). At any given date, the IIP statistics show the stock of an economy's external financial assets and liabilities. The IIP and the balance of payments statistics, which together form the economy's external accounts, are useful for monetary and economic policy and for financial stability analysis.

At the end of December 2002, Luxembourg's financial assets were estimated at 1 894 billion euros while financial liabilities amounted to 1 872 billion euros. Consequently, Luxembourg's net IIP, e.g. the difference between the stock of financial assets and liabilities, was estimated at 21.5 billion euros. Among various components of the IIP, the stock of direct investment abroad was estimated at 525.7 billion euros while the stock of foreign direct investment in Luxembourg amounted to 511 billion euros. More than 77% of this direct investment represented equity capital and reinvested earnings. Investments in and from holding companies and other financial vehicles represented more than 90% of both inward and outward direct investment.

With regard to stocks of portfolio investments, Luxembourg's net investment position was negative at the end of December 2002, with liabilities (933.6 billion euros) exceeding assets (880.5 billion euros).

"Other investments", one of the largest components of the IIP, covers stocks of trade credits, loans, currency and deposits. Here Luxembourg's net position was positive (52.5 billion euros) at the end of December 2002, as financial assets (480.3 billion euros) were more important than financial liabilities (427.8 billion euros).

**TABLE 11: LUXEMBOURG'S INTERNATIONAL INVESTMENT POSITION AT THE END OF DECEMBER 2002**

| In Millions of EUR | Assets | Liabilities | Net Position |
|---|---|---|---|
| **Total** | **1 894 085** | **1 872 598** | **21 487** |
| 1. Direct Investments | 525 678 | 511 071 | 14 607 |
| 2. Portfolio Investments | 880 518 | 933 593 | -53 075 |
| 3. Financial Derivatives | 7 407 | 126 | 7 281 |
| 4. Other Investments | 480 311 | 427 808 | 52 503 |
| 5. Reserve Assets | 171 | | 171 |

*Source: BCL*

### 1.2.9 Public finance

1.2.9.1 Central government budgetary policy

The Luxembourg Parliament adopted the 2004 central government budget in December 2003. Total revenue should grow by only 0.7% compared to the 2003 budget due to decreasing current revenue. Expenditure growth should also decelerate, reaching 2% in 2004. The central government deficit would therefore not exceed EUR 84 million or 0.35% of forecast GDP.

**TABLE 12: OVERVIEW OF THE 2004 CENTRAL GOVERNMENT BUDGET (EUR MILLION, UNLESS STATED OTHERWISE)**

| | 2003 budget | 2004 budget | Increase in nominal terms |
|---|---|---|---|
| **Revenue** | **6 349.7** | **6 392.6** | **+0.7%** |
| Current revenue | 6 305.3 | 6 242.7 | -1.0% |
| Capital revenue | 44.4 | 149.8 | +237.4% |
| **Expenditure** | **6 349.3** | **6 476.7** | **+2.0%** |
| Current expenditure | 5 521.5 | 5 809.7 | +5.2% |
| Capital expenditure | 827.9 | 667.0 | -19.4% |
| **Balance** | **0.4** | **-84.2** | **--** |
| Of which current balance | 783.8 | 433.0 | -- |
| Increase in nominal terms | -783.4 | -517.2 | -- |

*Source: 2004 budget*

These figures correspond to a limited notion of central government, which excludes important transactions of the so-called "special funds". In addition, the above-mentioned balance would be affected by a one-off operation that should not be considered in the ESA95 system of accounts, namely the sale of some participating interests to the SNCI (Société Nationale de Crédit et d'Investissement). Once the central government budget is adjusted to take into account the operations of the funds and to neutralise the impact of the sale, the deficit increases from 0.35% of GDP to 2.8% of GDP[4]. The discrepancy between the two figures reflects a substantial mismatch between the government transfers to the funds on the one hand - these transfers are considered on the expenditure side of the restricted central government budget - and the expenditure programme of the funds on the other hand.

[4] Assuming that only 90% of the special funds' expenditure programme will be implemented in 2004.

This deficit equal to 2.8% of GDP is only related to central government, disregarding social security and local government. For this reason, it should not be compared to the 3% reference value of the Treaty Establishing the European Community, as this criterion refers to the notion of general government. Revenue, expenditure and balances of the consolidated Luxembourg general government, including local governments and social security, are addressed in the rest of this section.

1.2.9.2 General government revenue

The revenue-to-GDP ratio surged significantly in 2002. In spite of decelerating total revenue, the ratio increased further to 47.5% of GDP in 2003. This favourable evolution is to a large extent the reflection of stronger indirect taxes, in a context where private consumption increased at a more sustained pace than GDP and where the provision of electronic services became more prominent.

Social contributions also increased at a sustained pace in 2003 owing to the resilience of total employment and wages to the economic deceleration observed since 2001. Direct taxes reached 16% of GDP, in line with levels observed over previous years, in spite of the implementation of a generous fiscal reform in 2001 and 2002. This somewhat counterintuitive pattern is attributable to the strong collection of back taxes observed in 2002 and 2003. However, this factor is bound to disappear in the foreseeable future. Already in 2004, the collection of back taxes will probably decelerate significantly, as expected in the 5th update of the stability programme presented at the end of November 2003.

**TABLE 13: GENERAL GOVERNMENT TOTAL REVENUE (% OF GDP, UNLESS STATED OTHERWISE)**

| | STATEC data March 2004 | | | | | | Stability programme | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **1998** | **1999** | **2000** | **2001** | **2002** | **2003** | **2003** | **2004** | **2005** | **2006** |
| **Current revenue** | **45.6** | **45.3** | **45.2** | **45.6** | **47.1** | **47.3** | **46.9** | **45.5** | **44.7** | **44.7** |
| Of which direct taxes | 16.4 | 15.7 | 15.5 | 15.6 | 16.3 | 16.0 | 30,0 | 28,7 | 27,9 | 28,0 |
| Of which indirect taxes | 13.5 | 14.2 | 14.7 | 14.1 | 14.2 | 14.4 | | | | |
| Of which social contributions | 11.2 | 11.4 | 11.2 | 12.0 | 12.4 | 13.0 | 12.8 | 12.7 | 12.8 | 12.6 |
| **Capital revenue** | **0.1** | **0.2** | **0.2** | **0.2** | **0.2** | **0.2** | **0.2** | **0.2** | **0.2** | **0.2** |
| **Total revenue** | **45.7** | **45.5** | **45.3** | **45.8** | **47.3** | **47.5** | **47.1**[1] | **45.7** | **44.9** | **44.9** |
| Nominal increase in total revenue (%) | 6.2 | 9.7 | 13.0 | 4.5 | 5.1 | 3.5 | 3.8 | 1.6 | 4.0 | 5.8 |

*Source: STATEC, 5th update of the Luxembourg stability programme 2002-2006, BCL calculations*

*Notes: the data on total revenue related to the 2003-2006 period, which are displayed in the last four columns of the table, are from the 5th update of the Luxembourg stability programme. The breakdown between current and capital revenue has been estimated by the BCL.*

*The level of expenditure in 2003 is different from one source to the other. This is due not only to different data vintages but also to the fact that the ESA 95 data displayed on the left side of the table include some transactions with European Union institutions.*

*As the stability programme does not distinguish direct business taxes and direct taxes on households, only the total amount of direct taxes is displayed in the last four columns of the table.*

1.2.9.3 General government expenditure

The revenue-to-GDP ratio increased from 2001 to 2003. However, the corresponding expenditure ratio displayed an even more pronounced surge due to high nominal expenditure growth in 2002 and especially in 2003 (+10.1%). This illustrates the difficulty of keeping expenditure growth in line with GDP growth during an economic slowdown. In order to ensure that expenditure and GDP increase at the same pace over the entire economic cycle, it is therefore essential that total expenditure grows less than GDP during the ascending phase of the cycle. Otherwise, the expenditure ratio will tend to drift upwards, resulting in higher taxes or in fiscal imbalances.

**TABLE 14: GENERAL GOVERNMENT EXPENDITURE (% OF GDP, UNLESS STATED OTHERWISE)**

| | STATEC data March 2004 | | | | | | Stability programme | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **1998** | **1999** | **2000** | **2001** | **2002** | **2003** | **2003** | **2004** | **2005** | **2006** |
| Social transfers | 19.9 | 20.1 | 18.8 | 20.2 | 21.9 | 23.4 | 22.1 | 22.2 | 22.2 | 21.8 |
| Government investment | 4.6 | 4.4 | 3.8 | 4.2 | 4.8 | 4.9 | 4.9 | 4.5 | 4.5 | 4.5 |
| Consumption expenditure (1) | 12.0 | 11.4 | 10.8 | 11.4 | 12.2 | 13.2 | 13.0 | 13.0 | 12.8 | 12.4 |
| Subsidies (2) | 1.9 | 1.6 | 1.7 | 1.7 | 1.9 | 1.9 | 1.9 | 1.8 | 1.7 | 1.7 |
| Other expenditure | 4.1 | 4.3 | 4.0 | 2.0 | 3.7 | 4.3 | 5.8 | 6.0 | 6.0 | 6.0 |
| **Total expenditure** | **42.5** | **41.8** | **39.1** | **39.5** | **44.5** | **47.7** | **47.7** | **47.5** | **47.2** | **46.4** |
| Nominal increase in total expenditure (%) | 6.1 | 8.2 | 6.0 | 9.8 | 9.4 | 10.1 | 11.0 | 4.3 | 5.2 | 4.0 |

*Source: STATEC, 5th update of the Luxembourg stability programme 2002-2006, BCL calculations*

*Notes:*
*(1) Compensation of employees and intermediate consumption.*
*(2) Disregarding capital transfers.*
*The data on total revenue related to 2003-2006, which are displayed in the last four columns of the table, are from the 5th update of the Luxembourg stability programme.*

*The level of expenditure in 2003 is different from one source to the other. This is due not only to different data vintages but also to the fact that the ESA95 data displayed on the left side of the table include some transactions with European Union institutions. Finally, the notion of "social transfers" considered in the stability programme is more restrictive, which also affects "other expenditure".*

High expenditure growth recorded since 2001 is mostly due to social transfers, which accounted for about half the increase in the expenditure ratio observed in 2003. This follows the sustained growth of social transfers in 2001 and 2002. The higher transfers are mainly attributable to more generous pensions and family allowances in the aftermath of the so-called pensions roundtable. The indexation of pensions on real wages in 2003 as well as significant expenditure drifts in healthcare and long-term care also played a prominent role.

Government consumption expenditure went up from 12.2% of GDP in 2002 to 13.2% in 2003. This results from the combination of a surge in the number of general government employees and higher average earnings in the public sector. The latter increased by about 6% in 2003 due to the latest wage agreement, the price indexation mechanism and the continuation of a pronounced wage drift in the public sector.

According to the 5th update of the stability programme, the expenditure-to-GDP ratio should decline significantly over the coming years, from 47.7% in 2003[5] to 46.4% in 2006. Such a development would be welcome after the expenditure drift observed in the recent past. However, the containment of the high rates of "spontaneous" expenditure growth, in particular in the social sector, would require the implementation of drastic measures. Such measures are not spelled out in the stability programme.

1.2.9.4 General government net lending or borrowing

The combination of high expenditure growth and a revenue slowdown, has led to a deterioration of the budgetary situation of the Luxembourg general government from a surplus of about 6% of GDP in 2000 and 2001 to a small deficit in 2003. The deficit should increase further in 2004 and 2005 according to both the 5th update of the stability programme and the BCL projections carried out in autumn 2003. In fact, the latter indicate that the general government borrowing requirement would amount to 2.8% of GDP in 2005. The stability programme foresees a significant decrease in the deficit in 2006, but this reflects optimist assumptions regarding the expenditure-to-GDP ratio.

According to BCL calculations, in cyclically adjusted terms the general government would be in deficit from 2003 onwards. This deficit would amount to 1.7 and 2.4% of GDP in 2004 and 2005, respectively, compared to cyclically adjusted surpluses of about 5% in 2000 and 2001. These results are strikingly different from those published by either the Commission or the stability programme (see the enclosed box for an explanation). They underline the structural nature of the fiscal deterioration observed in the last few years, following the generous social measures adopted on the occasion of the roundtable on pensions, the ambitious fiscal reform implemented in 2001 and 2002 and significant expenditure overruns, especially in the healthcare sector. The sustained increase in government consumption and investment observed from 2000 to 2003 was also a major contributing factor.

**TABLE 15: GENERAL GOVERNMENT NET LENDING (+) OR NET BORROWING (-) (% OF GDP)**

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|---|---|---|
| **Effective balance (net lending (+) or net borrowing (-))** | | | | | | | | | |
| **STATEC data March 2004** | **3.2** | **3.7** | **6.3** | **6.3** | **2.7** | **-0.1** | **--** | **--** | **--** |
| Stability programme | 3.2 | 3.5 | 6.4 | 6.2 | 2.4 | -0.6 | -1.8 | -2.3 | -1.5 |
| Autumn 2003 projections BCL | 3.2 | 3.5 | 6.4 | 6.2 | 2.4 | -0.5 | -2.0 | -2.8 | -- |
| **Cyclically adjusted balances** | | | | | | | | | |
| European commission | -- | -- | 1.4(1) | 3.3(1) | 2.6 | 1.1 | 0.9 | 1.0 | 2.2 |
| Stability programme | -- | -- | -- | -- | 5.4 | 2.4 | 1.0 | 0.6 | 1.2 |
| Autumn 2003 projections BCL | 3.5 | 3.4 | 5.1 | 5.0 | 1.8 | -0.5 | -1.7 | -2.4 | -- |

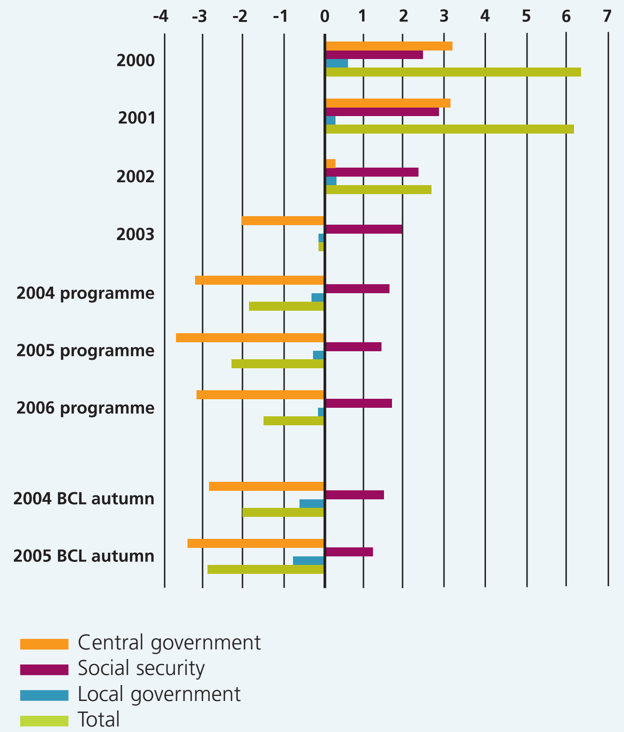
*Source: STATEC, 5th update of the Luxembourg stability programme 2002-2006, BCL calculations*

*Notes :*
*(1) These cyclically adjusted balances, related to 2000 and 2001, have not been published by the European commission. They have been calculated by the BCL in line with the Commission method, adopting the 0.6 GDP semi-elasticity of the fiscal balance used by the Commission and the Commission estimate of potential GDP growth for 2000 and 2001.*
*The cyclically adjusted balance (CAB) is equal to the effective balance less the cyclical component of the balance. In order to calculate the CAB, the BCL uses the so-called disaggregated method developed by the European System of Central Banks, which is based on the Hodrick-Prescott filter, and the effective balances in the BCL autumn 2003 projections (i.e. -2.0% and -2.8% of GDP in 2004 and 2005, respectively). By contrast, both the Commission and the 5th update of the programme implement the production function method and use the effective balances projected in the programme, namely -1.8% of GDP in 2004, -2.3% in 2005 and -1.5% in 2006.*

[5] Excluding transactions with European Union institutions.

From 2003 onwards, as illustrated in the chart below which refers to effective balances, the fiscal deterioration is mostly attributable to the substantial central government deficits.

**GRAPH 20: NET LENDING (+) OR NET BORROWING (-) BY GENERAL GOVERNMENT SUBSECTORS (% OF GDP)**

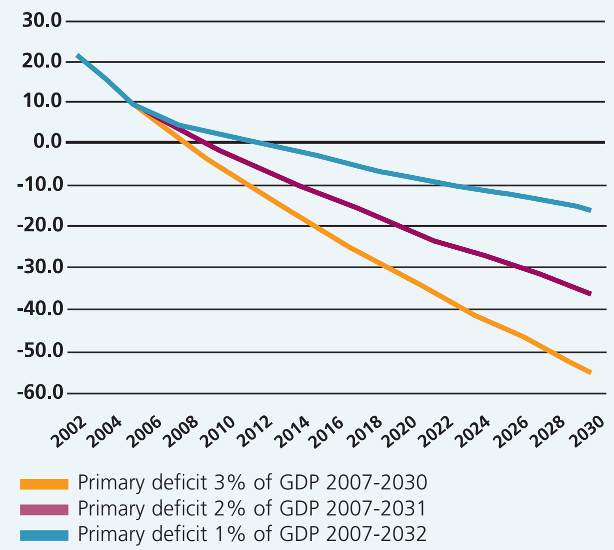



*Source: STATEC, 5th update of the Luxembourg stability programme 2002-2006, BCL autumn 2003 projections*

The deterioration in the fiscal balances has occurred against the background of an extremely favourable public debt situation. On the one hand, the Luxembourg public debt ratio is by far the smallest in the EU-15. Furthermore, total central government financial assets amounted to about 26% of GDP at the end of 2002 (including some illiquid participating interests)[6]. Net financial assets, which are equal to assets less the central government gross debt, reached 22.3% of GDP at the end of 2002[7].

As illustrated in the chart below, these substantial net financial assets would be exhausted around 2009 if the central government records the deficits projected in the 5th update of the stability programme from 2003 to 2006 and a primary deficit equal to 3% from 2007 onwards[8]. The net central government financial position would even turn negative afterwards, resulting in net financial liabilities equal to 19% of GDP in 2015, 33% in 2020 and 56% in 2030. Substantial liabilities would be observed even in the much more optimistic assumptions of central government primary deficits limited to 2% or 1% of GDP from 2007 onwards, thus highlighting the crucial importance of a balanced central government budget.

**GRAPH 21: EVOLUTION OF THE NET CENTRAL GOVERNMENT FINANCIAL ASSET POSITION UNDER VARIOUS PRIMARY DEFICIT ASSUMPTIONS (AS A % OF GDP)**




*The net financial position is equal to central government financial assets less the central government gross debt. It has been calculated for the base year 2002. Its evolution from 2003 onwards is projected assuming a stable interest rate (4%) and inflation and economic growth rates equal to 2 and 3.5%, respectively, from 2006 onwards. Inflation and growth rates related to the 2003-2005 period are from the BCL autumn 2003 projections and are also based on STATEC data. Over the 2004-2006 horizon, the primary balances have been estimated on the basis of data published in the 5th update of the stability programme, whereas the 2003 primary balance has been communicated by STATEC in March 2004. The different scenarios assume that primary deficits will be equal to 3%, 2% or 1% of GDP from 2007 onwards. Net interest charges move in line with net financial assets or liabilities from 2007 onwards.*

*Source: STATEC, Finance Ministry, 5th update of the Luxembourg stability programme, BCL calculations*

[6] Source: Finance Ministry, "Rapport d'activité 2002".

[7] Central government net financial assets are the result of the accumulation of central government surpluses. By contrast, the gross consolidated debt is not really in line with the evolution of fiscal balances, because it is not affected by a deficit financed via the sale of financial assets or by a surplus used to acquire new assets. Apart from the fiscal balance, net financial assets could be influenced by capital or foreign exchange gains.

[8] The primary deficit has been calculated considering net interest charges, namely interest payable less interest receivable.

The net asset position of the social security system, which also belongs to general government, is currently extremely comfortable in Luxembourg. The reserves of the pension system reached 23% of GDP at the end of 2002 according to the IGSS (*Inspection Générale de la Sécurité Sociale*). However, these reserves cannot be counted fully as assets available to cover central government and local government deficits, because they are matched by even higher implicit pension liabilities. Future social contributions are indeed likely to be insufficient to cover future pension expenditure under an unchanged policy assumption. In addition, the healthcare system will be financially strained from 2005 onwards if health expenditures continue to grow at the recent pace.

### Calculation of cyclically adjusted general government balances (CABs)

The European Commission calculated CABs for Luxembourg in its assessment of the 5th update of the Luxembourg stability programme, which served as a basis for the Council opinion on this programme. The Commission uses a standardised production function method, where potential GDP is estimated from a Cobb-Douglas production function with three inputs, capital stock, labour - a combination of the working age population, the labour market participation rate and the equilibrium unemployment rate - and total factor productivity. Output gaps can then be calculated and finally, the latter are multiplied by the GDP semi-elasticity of the budget balance in order to estimate the cyclical components of the effective budget balances. The CABs are obtained by difference.

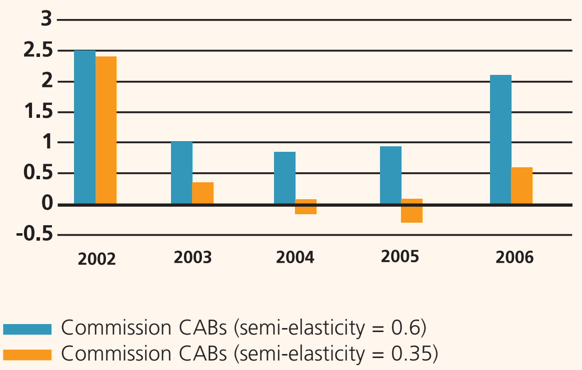
As illustrated in the table on general government net lending or borrowing, the CABs calculated by the Commission on the basis of the production function method are significantly different from those estimated by the BCL using a disaggregated method developed by the European System of Central Banks (ESCB), which relies on the Hodrick-Prescott filter with a smoothing parameter $\lambda$ equal to 30[9].

This difference reflects four major factors. First, the Commission calculates CABs based on the effective balances projected in the 5th update of the stability programme whereas the BCL relies on its autumn 2003 forecasts, which are more pessimistic, especially for 2005. Second, potential GDP growth estimated by the Commission over 2002-2006 is quite optimistic. This produces an output gap estimate of 5.5% and 6.2% of GDP in 2005 and 2006. An improbably strong economic recovery would be required in 2007 and 2008 to help close this gap. These optimistic assumptions may largely reflect the standardised Commission method's treatment of Luxembourg's large inflows of cross-border workers over the last decade. This leads to an overestimation of total labour productivity growth, which in turn affects the estimated potential growth rates. Third, the 0.6 GDP semi-elasticity of the fiscal balance considered by the Commission is quite high. As illustrated in Chart 22, a semi-elasticity equal to 0.35, which is more realistic considering the loose link between GDP and direct taxes paid by corporations, would result in strikingly different CABs. Fourth, the BCL uses the "disaggregated" ESCB method, based on five activity indicators, and not just GDP. These indicators (gross operating surplus, average wages, employment, number of unemployed persons and private consumption) exhibit a much closer link with the relevant tax bases than GDP. On the whole, they have been quite resilient to the deceleration of GDP observed since 2001. The estimated cyclical component of the fiscal balance is accordingly smaller, which results in less favourable CABs according to the ESCB method.

In spite of a stronger conceptual background, the production function method elaborated by the Commission suffers from the same shortcomings as the Hodrick-Prescott filter, because it relies on the latter to infer the "potential" level of labour market participation and "potential" productivity growth. It should also be noted that the less optimistic CAB results obtained by the BCL are only very partially attributable to the use of the Hodrick-Prescott filter. As illustrated in Chart 23, when output gaps estimated by the BCL with the production function approach are combined with a 0.35 GDP semi-elasticity of the budget balance, the resulting CABs are of about the same magnitude as those obtained by the ESCB approach.

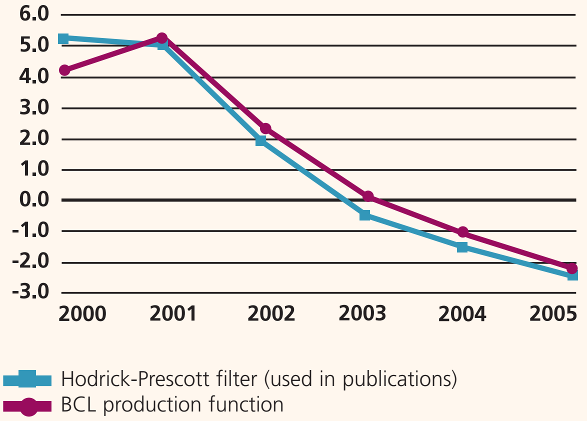
[9] See Bouthevillain et al. (2001) "Cyclically adjusted budget balances: an alternative approach" ECB Working Paper n°77. For a focus on Luxembourg, see "Les soldes budgétaires apurés des mouvements conjoncturels", BCL Bulletin 2002/1, pages 54 to 60.

**GRAPH 22: IMPACT ON GENERAL GOVERNMENT CABS OF A LOWER GDP SEMI-ELASTICITY OF FISCAL BALANCES (% OF GDP)**




*Source: European Commission, STATEC, BCL calculations*

**GRAPH 23: GENERAL GOVERNMENT CABS ON THE BASIS OF ALTERNATIVE ESTIMATES OF THE OUTPUT GAP (% OF GDP)**




*Source: STATEC, BCL calculations*

Finally, the CABs estimated by the Commission are difficult to reconcile with the generous discretionary measures adopted by the Luxembourg authorities in the recent past (e.g. much higher pensions and family allowances, ambitious tax cuts implemented in 2001 and 2002) and also with the significant expenditure drift, for instance in healthcare, government investment and public consumption. Considered together, these factors should imply a deterioration of the cyclically adjusted balance by at least 6% of GDP since 2000. However, no such evolution is reflected in the CABs calculated according to the standard Commission production function approach, although the latter may be considered correct from a purely technical viewpoint.

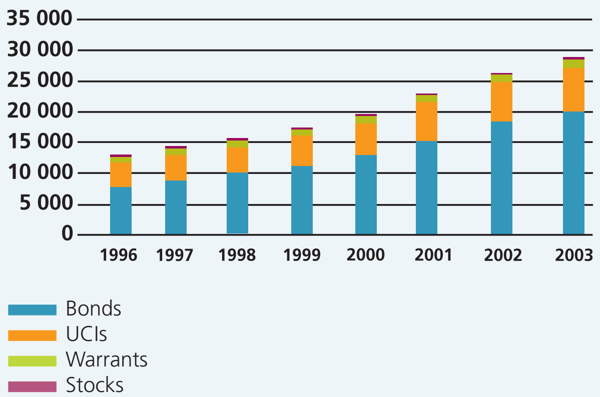
This clearly suggests that Luxembourg's budgetary strategy should not be based on the cyclically adjusted surpluses estimated by the standardised production function approach. The Commission itself underlined the need for caution in its assessment of the 5th update of the stability programme.

### 1.2.10 The Luxembourg stock market

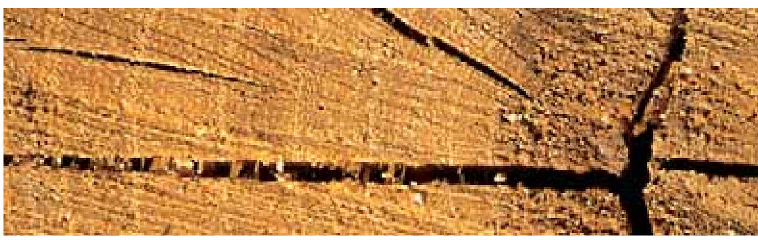
Following the rise recorded in international stock markets, the Luxembourg LUXX index recovered strongly in 2003 (+29% between end 2002 and end 2003).

In 2003, the Luxembourg Stock exchange listed an additional 8 246 securities compared to 7 513 new listings in 2002. At the end of 2003, the total number of listings amounted to 29 102 securities, i.e. a 10% rise compared to end-2002. The bond share is by far the most important (73% of total listings) followed by UCIs (20% of total listings), warrants (6% of total listings) and stocks (1% of total listings).

**GRAPH 24: NUMBER OF LISTED SECURITIES**




*Source: Luxembourg Stock Exchange*



# 2. OTHER BCL FINANCIAL ACTIVITIES

## 2.1 Monetary policy operations

In Luxembourg, the BCL is in charge of the execution of monetary policy as formulated by the ECB for the whole euro area. The open market operations performed by the BCL consist in providing liquidity against collateral assets to BCL counterparties i.e. the Luxembourg credit institutions.

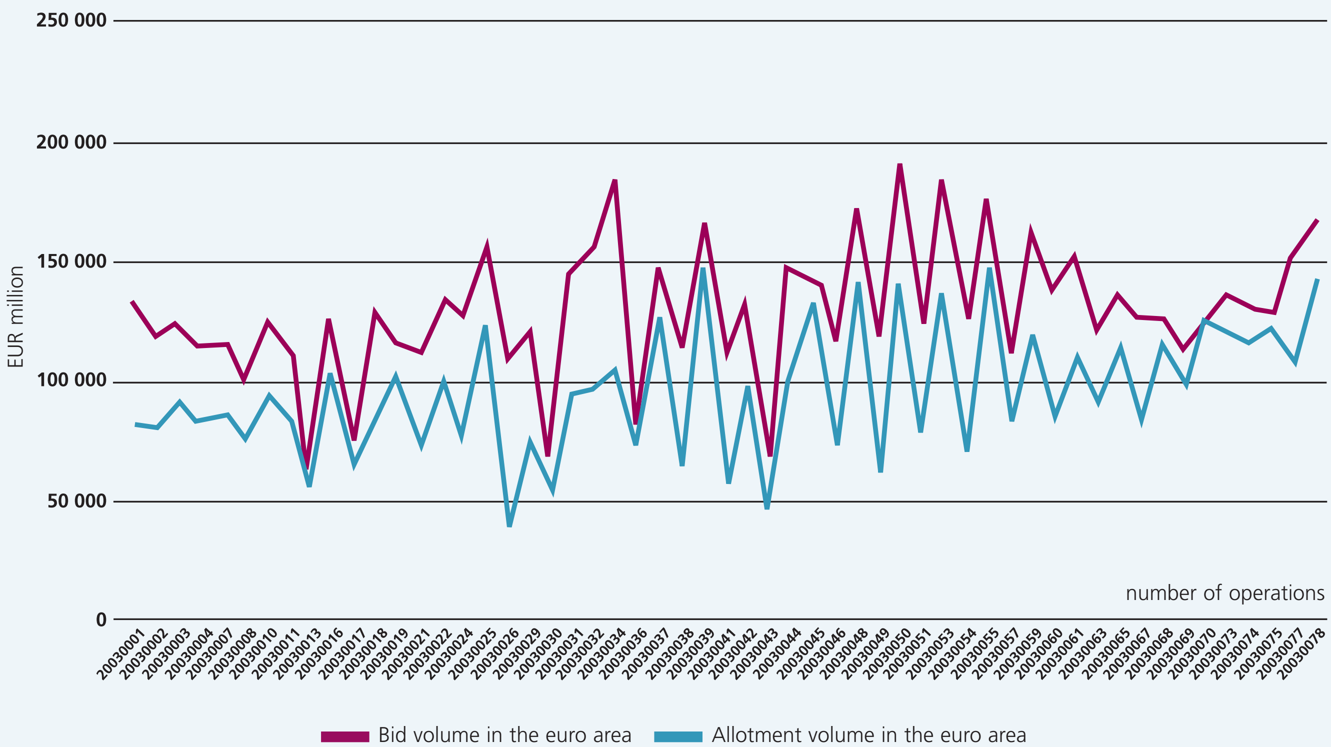
Open market operations are divided into:

- main refinancing operations -MRO- which are conducted regularly through weekly standard tenders,
- longer-term refinancing operations -LTRO- which are executed regularly through monthly standard tenders with a maturity of three months.

- The main refinancing operations (MRO)

Main refinancing operations of the Eurosystem are conducted as variable rate tenders, using the multiple rate auction technique.

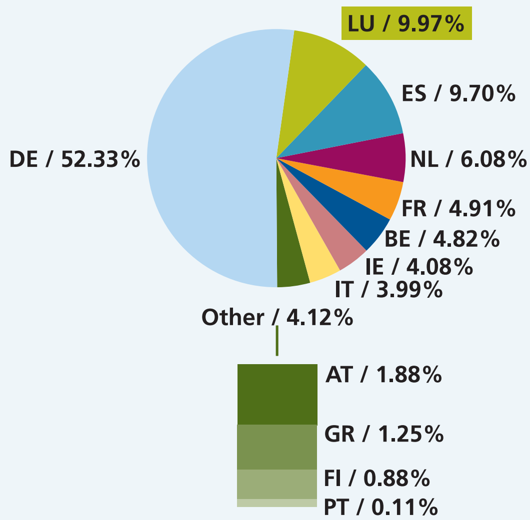
GRAPH 1: MRO IN 2003 - BID AND ALLOTMENT VOLUME IN THE EURO AREA



With regards to the allotment volume in the whole euro area, Luxembourg ranked, on average, on the second place behind Germany in 2003, as it did in 2002.

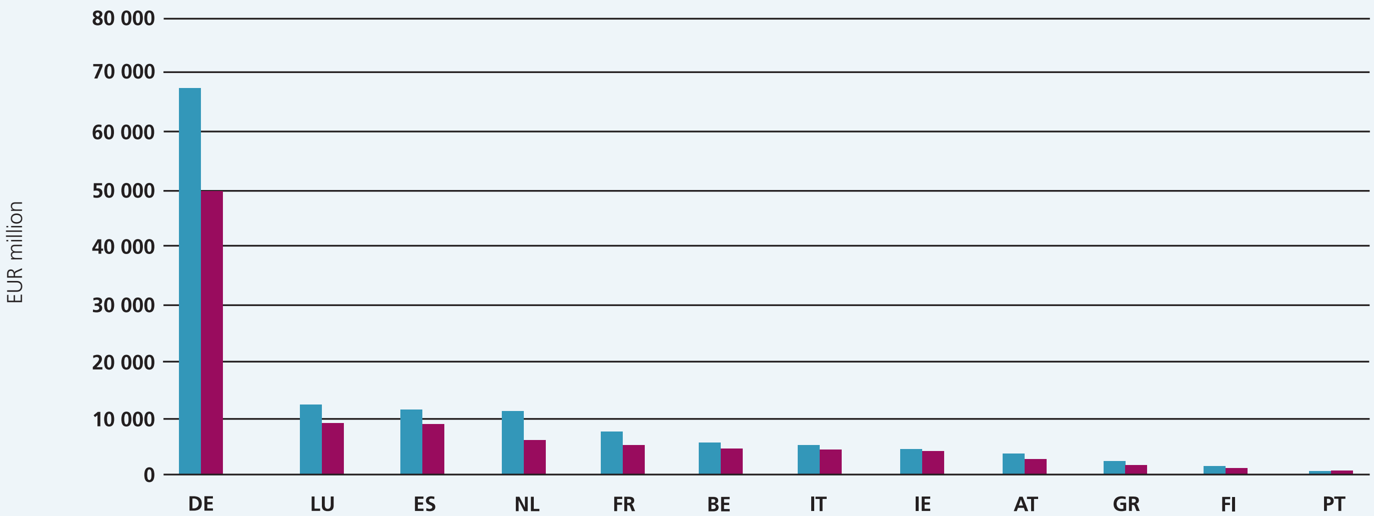
Compared to 2002, the average percentage allotted to Luxembourg in 2003 decreased from 12.04% to 9.97%.

GRAPH 2: MRO IN 2003 - AVERAGE ALLOTMENT VOLUME IN THE EURO AREA




The average number of participating counterparties in MRO remained stable with an average of 18.7 counterparties in comparison with 18.2 in 2002.

GRAPH 3: MRO IN 2003 - AVERAGE BID AND ALLOTMENT VOLUME IN THE EURO AREA

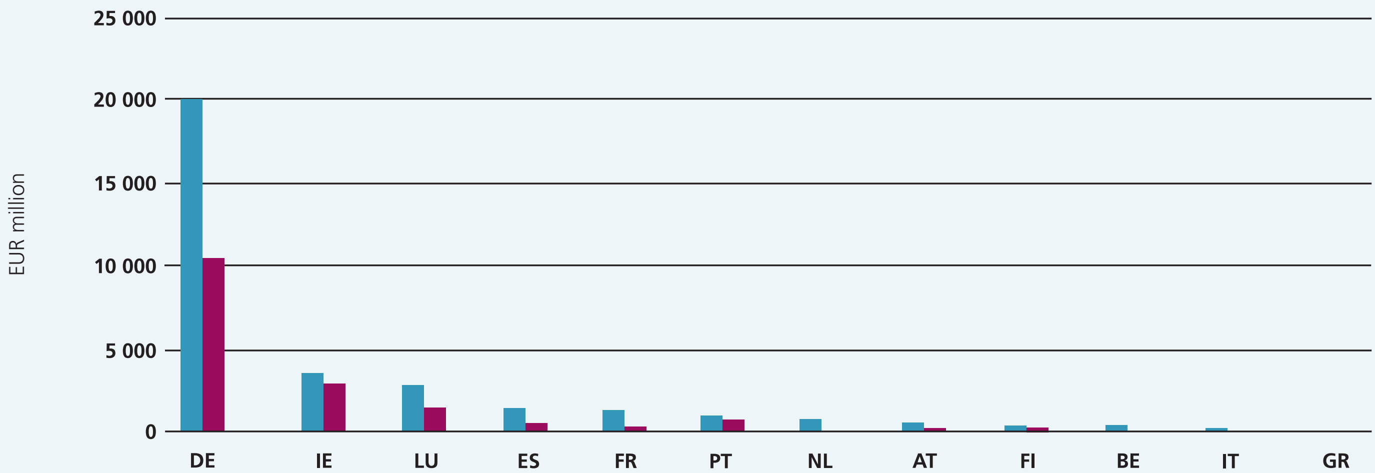



| | DE | LU | ES | NL | FR | BE | IT | IE | AT | GR | FI | PT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bid | 67 214.3 | 11 689.6 | 11 171.8 | 10 972.8 | 7 536.9 | 5 664.5 | 4 768.1 | 4 264.8 | 2 698.3 | 1 520.1 | 1 293.2 | 125.8 |
| Allotment | 50 169.8 | 9 555.6 | 9 296.6 | 5 825.5 | 4 708.4 | 4 624.8 | 3 822.4 | 3 912.1 | 1 804.5 | 1 196.4 | 843.1 | 109 |

- The longer-term refinancing operations (LTRO)

With regard to the allotment volume in the whole euro area, Luxembourg ranked, on average, on the third place in 2003. The average number of counterparties decreased from 10.8 in 2002 to 7 in 2003. This trend is also observed in the whole euro area (185.6 counterparties in 2002 in comparison to 132.5 in 2003).

**GRAPH 4: LTRO IN 2003 - AVERAGE BID AND ALLOTMENT VOLUME IN THE EURO AREA**




| | DE | IE | LU | ES | FR | PT | NL | AT | FI | BE | IT | GR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bid | 19 946.55 | 3 131.67 | 2 147.33 | 1 030.73 | 994.08 | 721.06 | 557.92 | 399.58 | 387.5 | 279.58 | 89.29 | 24.58 |
| Allotment | 10 537.37 | 2 295.01 | 1 027.59 | 246.78 | 125.69 | 515.02 | 32.82 | 121.15 | 72.78 | 0.7 | 17.34 | 7.76 |

In January 2004, the Governing Council decided to increase the amount to allot for each LTRO from 15 to 25 billion euros.

- Fine-tuning operations

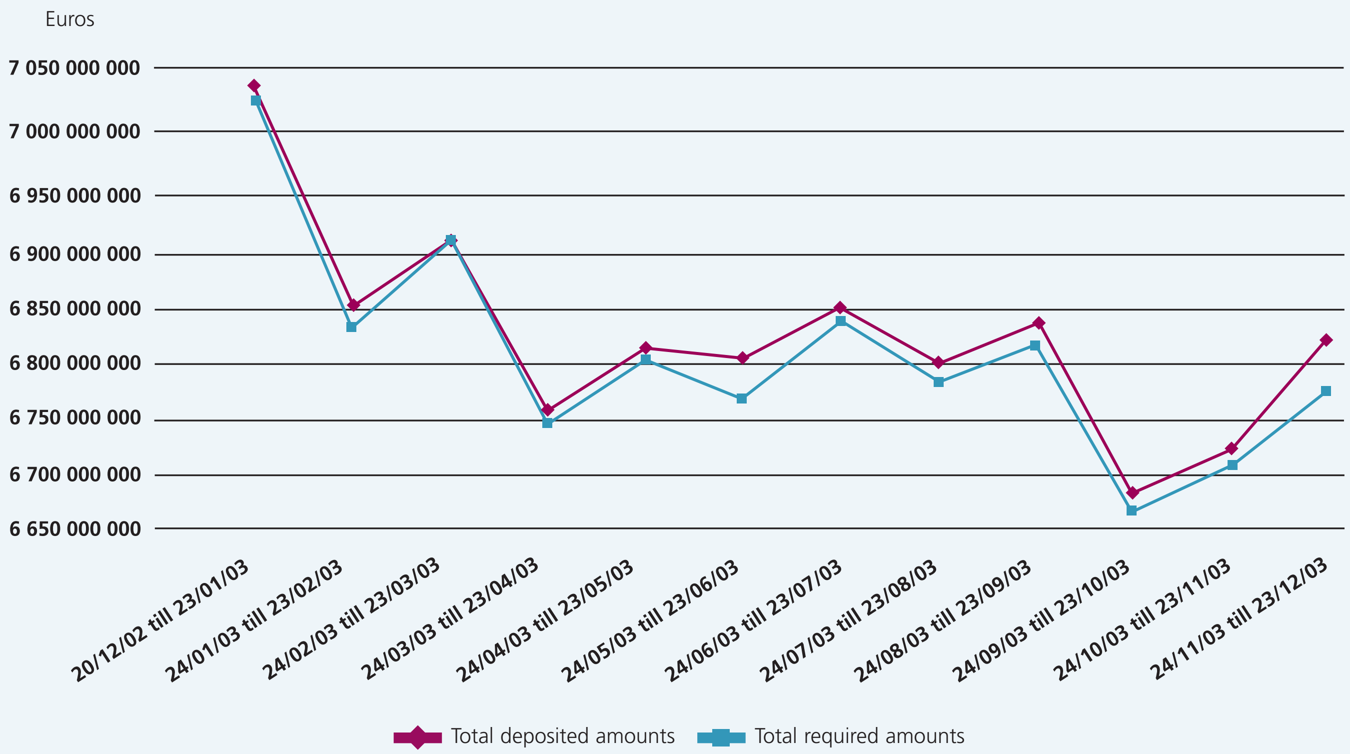
On May 2003, the ECB launched a fine-tuning operation (liquidity absorbing) in order to re-establish normal conditions on the liquidity market.

### The minimum reserves system

In 2003, the average amount of minimum reserves held by credit institutions in Luxembourg was estimated at 6.8 billion euros.

The deposited amounts are remunerated at the average MRO rate of the ECB during the maintenance period.

**GRAPH 5: DEVELOPMENT OF THE AVERAGE REQUIRED AND DEPOSITED MINIMUM RESERVES**



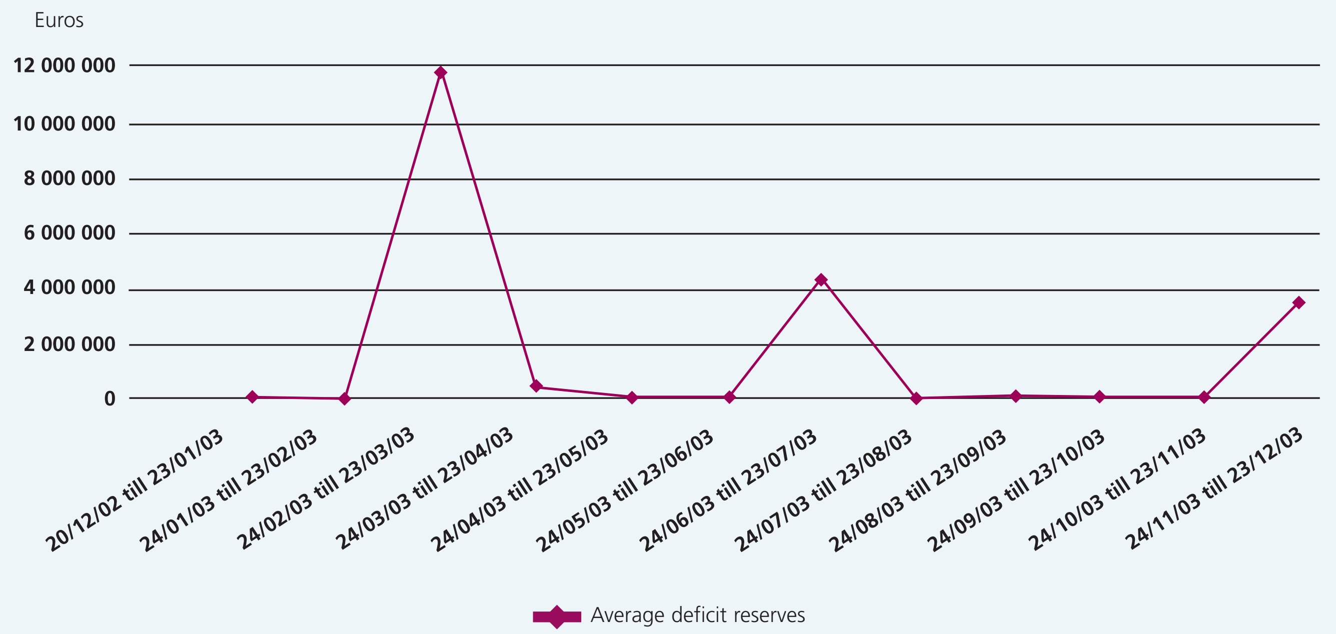
### Evolution of the remuneration rate in 2003

In 2003, the rates at which minimum reserves were remunerated passed from 2.87% to 2.00%.

It is noteworthy that 6 sanctions for not respecting minimum reserves requirements have been paid in 2003 in comparison to 17 in 2002.

| Period | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rate (%) | 2.87 | 2.78 | 2.67 | 2.53 | 2.54 | 2.34 | 2.09 | 2.06 | 2.07 | 2.05 | 2.03 | 2.00 |

**GRAPH 6: DEVELOPMENT OF AVERAGE DEFICIT RESERVES**



**GRAPH 7: DEVELOPMENT OF AVERAGE EXCESS RESERVES**


Excess of minimum reserves -that are not remunerated- remained at a high level during the whole year.

**Changes to the Eurosystem's operational framework for monetary policy**

During the first quarter of 2004, two major changes to the Eurosystem's operational framework came into effect:

1) The timing of the reserve maintenance period has been changed in order to always start on the settlement day of the MRO following the Governing Council meeting at which the monthly assessment of the monetary policy stance is scheduled. Furthermore, the implementation of changes to the standing facility rates will, as a rule, be aligned with the start of the new reserve maintenance period.

2) The maturity of the MROs has been shortened from two weeks to one week.

Finally, the LTRO will no longer be allotted on the first Wednesday of the reserve maintenance period but normally on the last Wednesday before the end of the calendar month. These two measures will tend to suppress anticipations of interest rates changes during a maintenance period, since ECB reference interest rates modifications apply generally in the next maintenance period and applying liquidity conditions during a period does no longer refer to the next period. Also, as a consequence of the new definition, reserve maintenance periods will always start on a TARGET operating day and will rarely end on a non-TARGET day.

## 2.2 Foreign exchange reserves management by the BCL

According to the Statute of the European System of Central Banks (ESCB), the BCL had to contribute to the ECB's capital. As a result, the BCL transferred an amount of 74.6 million euros in foreign exchange assets to the ECB. This corresponds to the BCL's capital key, equivalent to 0.1492% of the ECB's capital. The ECB's foreign exchange reserves are managed in a decentralised way by NCBs including the BCL (since September 1999). As of 31 December 2003, the total market value (including accrued interests) owned by the BCL corresponded to 69.2 million euros. On 1 January 2004, the BCL's capital key was raised to 0.1708% and an additional amount of 10.8 million euros was transferred to the ECB.

One goal of the foreign exchange reserves management of the ECB is to make sure that if required, the ECB has sufficient liquidity available to intervene in the foreign exchange markets. Security and liquidity are therefore basic requirements for the management of these reserves.

The "tactical benchmark" is established with regard to the "strategic benchmark" for each currency. It reflects the ECB's medium term preference as regards revenue and risk with reference to market conditions. A modification of the "tactical benchmark" may affect different risk categories (*e.g.* modified duration or liquidity risk). The modified maturity of the "tactical benchmark" may differ from the modified maturity of the "strategic benchmark" in the context of fluctuation margins announced in advance by the ECB.

In the management of this portfolio, the first task of the BCL is to invest the foreign exchange reserves on behalf of the ECB within the foreseen fluctuation margins and fixed risk limits with an aim of revenue maximisation. The amount of assets in gold that are managed actively is fixed by the ECB by taking into account strategic considerations as well as market conditions.

## 2.3 The management of the BCL's assets

The management of the BCL's own assets is done in accordance with the ECB principles. The investment policy underlying the management of the assets is based on the following criteria:

- cautious investment approach;
- fundamental macroeconomic analysis;
- organisation of the portfolio scheme;
- choice of the investment decisions;
- thorough control and well calculated risk-taking.

The BCL's investment policy is trying to achieve the following goals: generate regular high yields and provide, in the long term, a lasting return on investment by allowing for capital security, stability of the securities and liquidity. For that reason and with respect to the principle of equal risk distribution, the BCL implements a coordinated, pro-active and progressive investment policy based on modern portfolio theory.

The bulk of the BCL's own assets is invested in fixed income securities denominated in euros. Yet, the BCL's strategic orientation allows a diversification to other categories of assets.

The ALCO -Asset and Liability Committee- is in charge of the investment policy of the BCL's financial resources. Taking into account goals and constraints on an annual basis, the ALCO steers for a strategic orientation in the management of the portfolios by defining an appropriate framework for the investment policy and the determination of the "strategic benchmark" oriented to revenue collection and performance calculation.

The management committee is in charge of the tactical allocation and defines the main thrust of investment on a monthly basis. The "tactical benchmark" is set up according to the "strategic benchmark", taking into account fluctuation margins. It focuses on the short term tactical investment strategy.

Investment decisions are made by taking into account:

- the interest rate risks (average portfolio duration, yield curve position);
- the risk degree of markets (chosen sectors, portfolio asset selection according to the risk degree of a given security and, to a lesser extent, to the geographic distribution by country).

Investment decisions are taken on the basis of technical and fundamental analyses, as well as quantitative assessments. The management committee's role is to define reference factors that guide the management of the bank's assets, to monitor the investments, to review the strategy and the achieved performance. External standard benchmarks allow a regular comparison of the performance.

The cautious investment approach takes into account:

- the analysis of various economies and of the international financial markets;
- the allocation decision of the assets under management by appraising the investment returns on the different international markets;
- the definition of a clear strategy;
- the preservation of the capital value of the assets under management by a policy of risk diversification and the maintenance of a particular quality requirement of investment;
- the applying of strict risk control measures.

*"Investment Portfolio"* (Portfolio 1)

The investment portfolio is composed of assets which are akin to own funds (in terms of their relevancy to exploitation, the obligations to the Eurosystem, longer term investments *etc*…). The main goal of this investment portfolio is to maximise yield by taking into account particular requirements in terms of risk, revenue and liquidity. As of 31 December 2003, the total market value (including accrued interests) represented 550.1 million euros plus 70.8 million euros of assets in foreign currencies.

In 2003, a significant part of the BCL's own funds has been invested in long-term bonds, given that market conditions for that kind of investment were very favourable. However, around the end of the year, the underlying duration of the portfolio has been reduced.

It is worth noting that the securities included in this portfolio are largely diversified according to the geographic location and activity of the issuer. Counterparties and credit risk limits are regularly set up and checked by the risk management team.

*"Liquidity Portfolio"* (Portfolio 2)

This portfolio represents the other assets in compensation of TARGET accounts and other liabilities. This operational portfolio's aim is to offer liquidity to face up to cash-flow fluctuations. The instruments used are mainly short term interbank deposits, CDs, commercial papers, operations of transfer and retrocession and the purchase of variable rate bonds. As of 31 December 2003 the total market value (including accrued interests) amounted to 1 244.4 million euros.

*"Pension Fund Portfolio"*

The management of this fund is described further in section 4.2.4 of this report.

*"Institutional portfolios"*

The BCL provides discretionary management services to public institutions and other central banks.

**TABLE 1: ASSETS ALLOCATION AS OF 31 DECEMBER 2003**

| Maturity | Portfolio 1 | Portfolio 2 |
|---|---|---|
| 0-1 year | 47% | 70% |
| 1-3 years | 11% | 30% |
| 3-5 years | 3% | 0% |
| 5-10 years | 9% | 0% |

## 2.4 Banknotes and circulation of fiduciary money

The BCL has assumed its responsibilities for the organisation of the production and the management of the quality of euro banknotes. As during the previous years, the total needs of banknotes of the participating NCBs have been aggregated by the ECB and subsequently the production of one denomination is assigned to at most two NCBs. In 2003, the BCL was thus responsible for the production of 1.9 million 200-euro banknotes, for its own needs. The production of these banknotes has been entrusted to the specialised printing works "Bundesdruckerei" established in Berlin, Germany.

As of 1 May 2003, according to a new agreement between the Luxembourg Government and the BCL, the BCL has been entrusted with the production of the Luxembourg euro coins. In accordance with its organic law of 23 December 1998, the BCL already assumed the task of putting euro coins into circulation. During 2003, the BCL entrusted the Royal Dutch Mint with the production of the Luxembourg euro coins.

### 2.4.1 Evolution of the circulation of currency

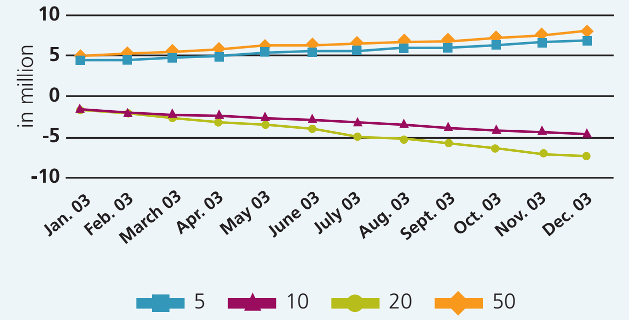
#### 2.4.1.1 Euro coins and banknotes

The volume of euro coins and banknotes put into circulation by the BCL does not necessarily correspond to the volume effectively in circulation in Luxembourg, i.e. those used in the Luxembourg payment systems, as a result of the migration of euro banknotes and coins inside the euro area.

The total net volume of euro banknotes put into circulation by the BCL during 2003 amounts to 27.80 million banknotes, compared to 23.78 million banknotes in 2002, an increase of 16.9%. The volume of the 10-euro and 20-euro banknotes put into circulation by the BCL continued to be negative, which is rather exceptional for a central bank. Credit institutions, which are BCL clients, deposited more banknotes than they have withdrawn from the BCL. This phenomenon can be explained by the fact that tourists and cross border workers massively brought in this denomination for their everyday transactions in Luxembourg.

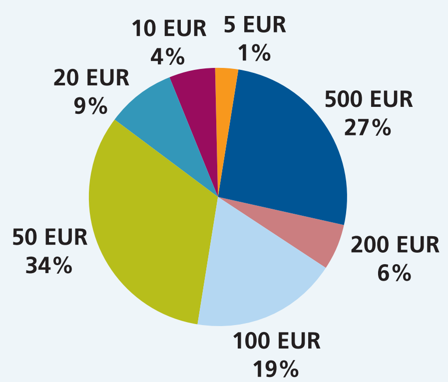
The graph below illustrates the divergent evolution in the volume of the denominations mainly used in everyday transactions:

**GRAPH 8: EVOLUTION OF THE NUMBER OF CERTAIN EURO BANKNOTE DENOMINATIONS PUT INTO CIRCULATION BY THE BCL**




In comparison with the whole euro area, the BCL has increased its contribution to the total volume of banknotes put into circulation by the Eurosystem, passing from 0.47% at the end 2002 to 0.74% in December 2003. In Luxembourg and in the euro area, the year 2003 has been characterised by a steady demand of higher denominations used mainly for hoarding purposes. This development can be seen as a sign of increased trust in the new currency. The total value of euro banknotes put into circulation by the Eurosystem increased by 21.64%, thus amounting to 436.13 billion euro at the end of 2003 and showing the following total value breakdown per denomination:

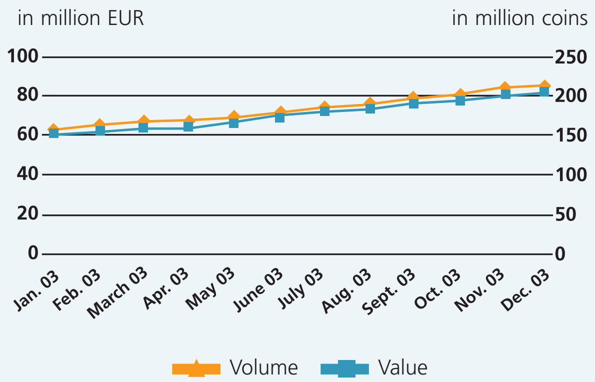
**GRAPH 9: BREAKDOWN OF THE VALUE OF EURO BANKNOTES PUT INTO CIRCULATION BY THE EUROSYSTEM PER DENOMINATION**



The Luxembourg euro coins have also been subject to an important demand by the Luxembourg and foreign public. The total value of Luxembourg euro coins in circulation increased by 41% in 2003, passing from 57.65 million euros to 81.30 million euros. The volume of Luxembourg euro coins in circulation increased by 62.44 million coins, growing by 39.8% and amounted to 219.51 million coins at the end of 2003. This volume represents a weight of 1 071 tons of coins, which statistically represents 490 coins per inhabitant or a weight of 2.39 kg coins per inhabitant. As in 2002, the Luxembourg euro coins were in great demand from collectors.

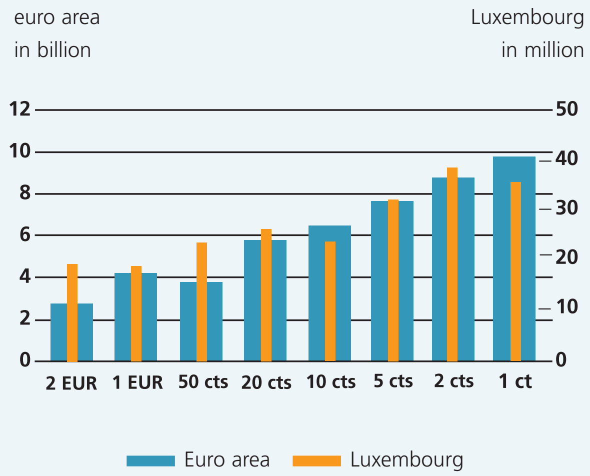
The average monthly volume of coins in circulation amounts to 186.78 million. The following graph shows the evolution of the volume and the value of Luxembourg euro coins in circulation in 2003. The demand for Luxembourg coins has kept increasing, notably as of May 2003, when the BCL took over the production of Luxembourg euro coins.

**GRAPH 10: TOTAL VOLUME AND VALUE OF THE LUXEMBOURG EURO COINS IN CIRCULATION**




In comparison with the euro area, Luxembourg contributes to 0.45% of the total number of coins put into circulation by the participating Member States, whilst Luxembourg contributes to 0.58% of the total value issued by all the issuing authorities of the euro area. The average value of Luxembourg euro coins in circulation amounts to 37.0 cent in comparison to an average of 28.7 cent for the euro area coins. The following graph compares the volume of the different coin denominations put into circulation by Luxembourg to the corresponding volume in the euro area.

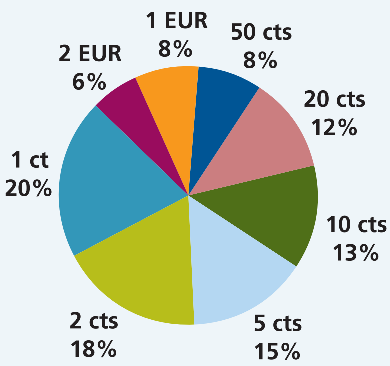
**GRAPH 11: COMPARISON OF THE CIRCULATION VOLUME OF THE DIFFERENT EURO COIN DENOMINATIONS IN LUXEMBOURG TO THAT OF THE EURO AREA**




Concerning the Luxembourg coins, the 2-cent denomination remains the most widespread in 2003. However, compared to 2002, the classification according to the volume has slightly been modified in 2003, confirming a certain preference of the public for the denominations with a face value starting with 2. The classification in descending order is as follows: 2 cent, 1 cent, 5 cent, 20 cent, 10 cent, 50 cent, 2 euro, 1 euro. The same classification for the euro area gives the following result: 1 cent, 2 cent, 5 cent, 10 cent, 20 cent, 1 euro, 50 cent, 2 euro.

The total value of euro coins put into circulation by the Eurosystem has grown from 12.43 billion euro at the end of 2002 to 14.07 billion euro at the end 2003, whereas the total volume of coins reaches 49.01 billion. The following graph shows the breakdown per denomination of this volume of the euro area:

**GRAPH 12: BREAKDOWN PER DENOMINATION OF THE VOLUME OF COINS OF THE EURO AREA IN CIRCULATION**




2.4.1.2 Luxembourg franc coins and banknotes

In 2003, the total value of Luxembourg currency[1] still in circulation and not yet exchanged declined from 505.77 million to 470.02 million Luxembourg francs, i.e. a decrease by 7.07%. The average monthly value for last year amounts to 479.17 million Luxembourg francs, against 702.03 million in 2002. The circulation of the 5 000-Luxembourg-franc-banknote decreased most strongly, that is to say by 14.0% and that of the 1 000-franc-banknote by 5.6% while the denomination of 100 Luxembourg franc only decreased by 2.1%. These figures show that collectors prefer the lower denominations. The following table shows the evolution of the outstanding Luxembourg franc banknotes for the five last years:

**TABLE 2:**

in LUF

| End of period | 5 000 LUF | 1 000 LUF | 100 LUF | Withdrawn LUF banknotes abroad | Total |
|---|---|---|---|---|---|
| 1999<br>variation* | 3 190 680 000<br>-0.1% | 853 482 000<br>-21.7% | 168 913 800<br>-9.1% | -159 980 000 | **4 053 095 800**<br>**-9.4%** |
| 2000<br>variation* | 3 054 750 000<br>-4.3% | 676 114 000<br>-20.8% | 153 731 500<br>-9% | -168 910 000 | **3 715 685 500**<br>**-8.3%** |
| 2001<br>variation* | 2 398 720 000<br>-21.5% | 435 327 000<br>-35.6% | 141 357 900<br>-8.1% | -198 966 000 | **2 776 438 900**<br>**-25.3%** |
| 2002<br>variation* | 93 855 000<br>-96.1% | 83 749 000<br>-80.8% | 83 781 100<br>-40.7% | 0 | **261 385 100**<br>**-90.6%** |
| 2003<br>variation* | 80 720 000<br>-14.0% | 79 038 000<br>-5.6% | 82 003 000<br>-2.1% | 0 | **241 761 000**<br>**-7.5%** |

* In comparison to the precedent year

[1] Coins and banknotes altogether, numismatic and commemorative coins included.

It can be noted that the global circulation volume of Luxembourg notes has decreased by 94.0% between the end of 1999 and the end of 2003. The flow back of the notes in 2003 takes the form of a nearly linear curve. As to the value of coins in circulation, there has been a decrease of not yet exchanged coins of 7.6% in 2003 reaching the amount of 194.02 million Luxembourg francs at the end of 2003.

At the end of 2003, a total volume of 915 212 Luxembourg notes and 64 176 374 coins was still not presented for exchange, representing a global value of 435.78 million Luxembourg francs. This figure excludes numismatic productions as well as collector coins.

### 2.4.2 Management of fiduciary money

The number of Luxembourg franc notes returned to the BCL by the financial institutions came close to 5 200, whereas the return of Belgian franc notes slightly exceeded the volume of 95 000 notes. As to the euro notes returned by the financial institutions to the BCL, their number reached 47.67 million. Globally, these returned notes required more than 1 730 different operations managed and registered by the cash department. Furthermore, the number of withdrawals of euro notes by the financial institutions has nearly reached 5 000 operations for the same department.

The public also took advantage of the services offered by the BCL through its public counter for the exchange of notes and coins. More than 14 000 operations were handled at the public counter during 2003, averaging some 55.7 operations per workday.

The number of processed euro notes by sorting machines increased by more than 25%, from 39 million processed notes in 2002 to 49.34 million in 2003. The sorting machines do not only operate authenticity tests, but also soiling tests. Considering denominations altogether, nearly 14.2 million notes were destroyed for unfitness for circulation. The reject/destruction rate sharply progressed, rising from 3% in 2002 to 29% of the total number of euro notes sorted. Moreover, this rate showed a huge variation depending from the different denominations treated, varying from 11% for the highest denomination to 58% for the lowest denomination.

In the field of counterfeit monitoring, the BCL has closely cooperated with the ECB and the national competent authorities in the analysis of the discovered counterfeits.

### 2.4.3 Numismatic issues

The introduction of the single currency has generated a continued interest for new euro-denominated numismatic issues. In Luxembourg, the following numismatic products have been put into circulation by the BCL in 2003:

- The "2003 yearly BU-set" displayed the Luxembourg euro coins in "Brilliant Uncirculated" quality with the year date 2003.
- The gold coin "BCL-ESCB", issued in June 2003, was the first Luxembourg collector coin in euro commemorating the 5th anniversary of the Banque centrale du Luxembourg and of the European System of Central Banks. This coin has a face value of 5 euro and is minted in gold fineness of Au 999. Its diameter is 20 mm and its weight 6.22 g. It is legal tender only in Luxembourg.


## 2.5 Developments in the area of statistics

### 2.5.1 Monetary and financial statistics

The introduction of ECB regulations no. 2001/13 and 2001/18 in January 2003 allowed for a considerable improvement of the statistical framework in the monetary and financial sector.

Since January 2003, the BCL collects MFI balance sheet data established according to the modified classification introduced by regulation BCE/2001/13 on the consolidated balance sheet of the MFI sector. Detailed monthly information on loans and deposits as well as revaluation adjustments of balance sheet positions are collected via enlarged reporting forms. Monthly information is now broken down by type of instrument for agreed loans to private household and non-profit organisations (NPISH) and also by economic sector of the counterparty. Furthermore, revaluation adjustments allow for a considerable improvement in the statistical quality of derived flows calculated by the Eurosystem at a monthly frequency.

In line with the improved statistical reporting on consolidated MFI balance sheet data, the BCL has started collecting data on interest rates applied by credit institutions on loans and deposits for households and non-financial corporations in Luxembourg and the euro area.

Through its website and its periodical bulletin, the BCL regularly publishes statistics relating to the MFI aggregated balance sheet data, as well as interest rates applied by credit institutions on loans and deposits. In addition, press releases report regularly on balance sheet totals, employment in the financial sector and minimum reserve requirements.

### 2.5.2 Balance of payments and international investment position

Through its website and periodical publications, the BCL publishes quarterly statistics on the balance of payments and the international investment position. The BCL and the STATEC communicate the most recent balance of payments data for Luxembourg via press releases.

During 2003, the BCL published Luxembourg's international investment position for the first time. This statistic, which summarises the outstanding amounts of assets and liabilities for a given moment in time and differentiates between direct investment, portfolio investment, reserve assets and other investment components, had so far only been established for the Belgian-Luxembourg Economic Union.

The BCL plans to produce the international investment position on a quarterly basis in 2004. The production process for the portfolio investment component will be based mainly on quarterly off-balance sheet tables provided by the banking sector. Finally, the production of balance of payments data will have to be adapted to new statistical requirements[2].

### 2.5.3 The IMF special dissemination standard

In 1996, the IMF introduced the Special Dissemination Standard (SDDS), which is aimed at improving the production and the publication of a large set of macroeconomic statistics. The objective is to improve economic analysis by enriching the scope and quality of published statistics at the disposal of policy-makers and financial markets.

In 2003, the Luxembourg institutions have continued their progress to adapt their statistical framework to fit this standard. During the first quarter of 2004, the BCL completed the preparation of statistics on the analytical accounts of the BCL, the MFI sector, balance of payments (jointly with STATEC), the international investment position and reserve assets.

[2] As put forward in the guideline ECB/2003/7 of 2 May 2003.

## 2.6 Payment and securities settlement systems

### 2.6.1 LIPS-Gross

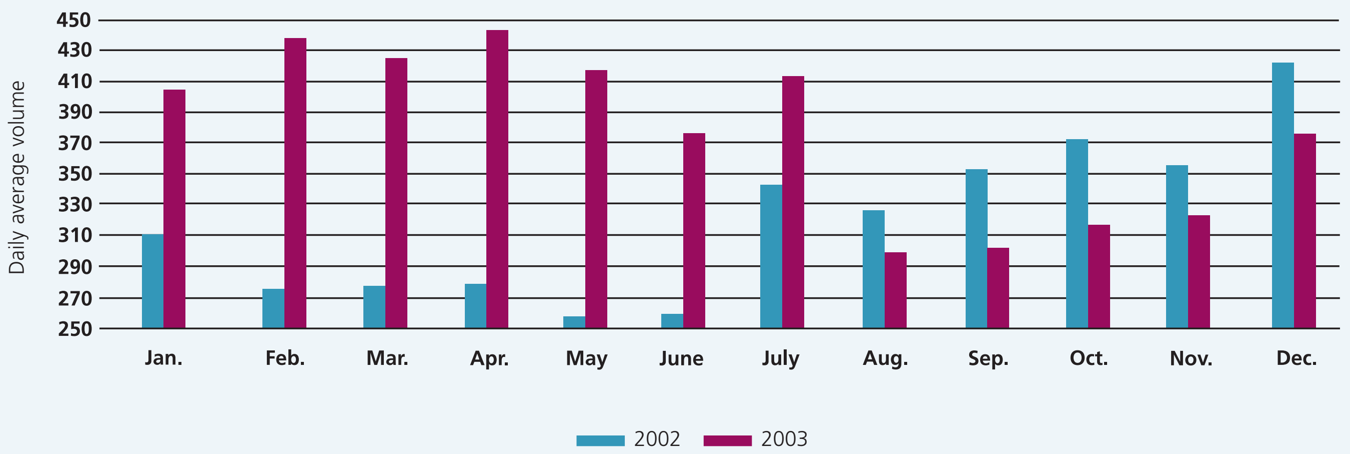
The number of participants in LIPS-Gross, Luxembourg's interbank gross payment system, remained stable in 2003 at 31. Details on transactions handled in 2003 are presented below.

#### Domestic payments

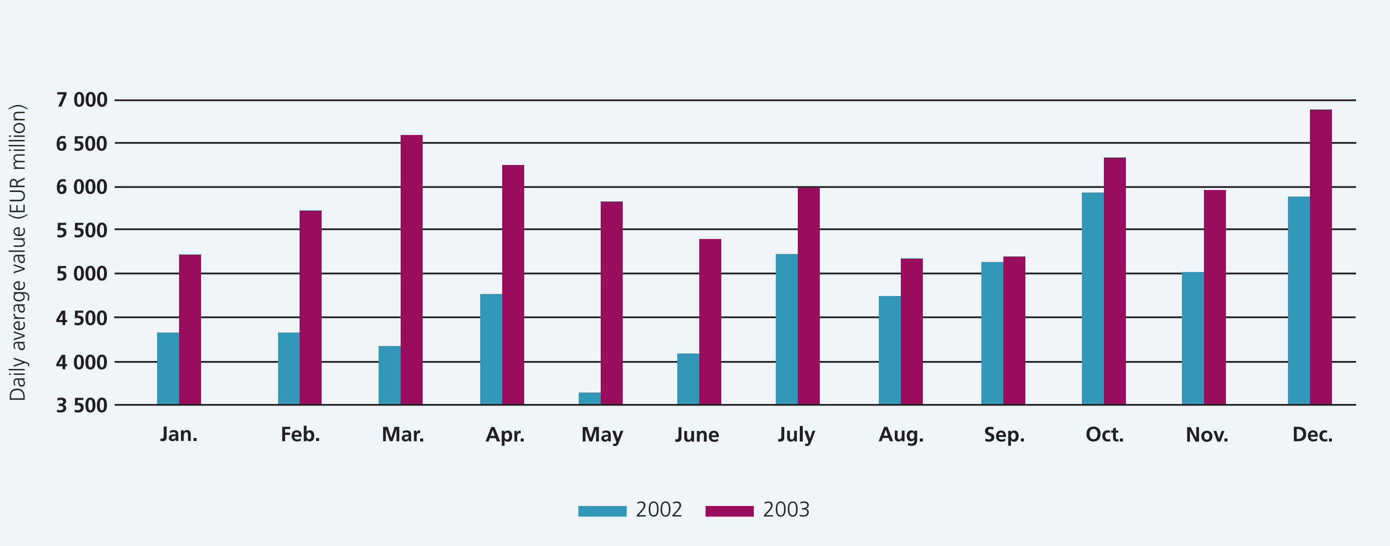
In 2003, LIPS-Gross participants sent a total of 96 525 payments (81 749 in 2002) for a total value of 1 513 billion euros (1 231 billion in 2002). In comparison with 2002, the volume increased by 18% and the value exchanged by 23%. The average value per payment was 15.7 million euros. A daily average of 379 payments for a value of 5.93 billion euros went through LIPS-Gross. The following graph shows the evolution of the average daily volume per month.

After an important increase during the first semester, volumes then dropped to lower levels than in 2002. Nevertheless, the global trend remains upward. Values exchanged in 2003 were higher than in 2002.

GRAPH 13: DOMESTIC PAYMENTS: EVOLUTION OF THE DAILY AVERAGE VOLUME



## GRAPH 14: DOMESTIC PAYMENTS: EVOLUTION OF THE DAILY AVERAGE VALUE (EUR MILLION)

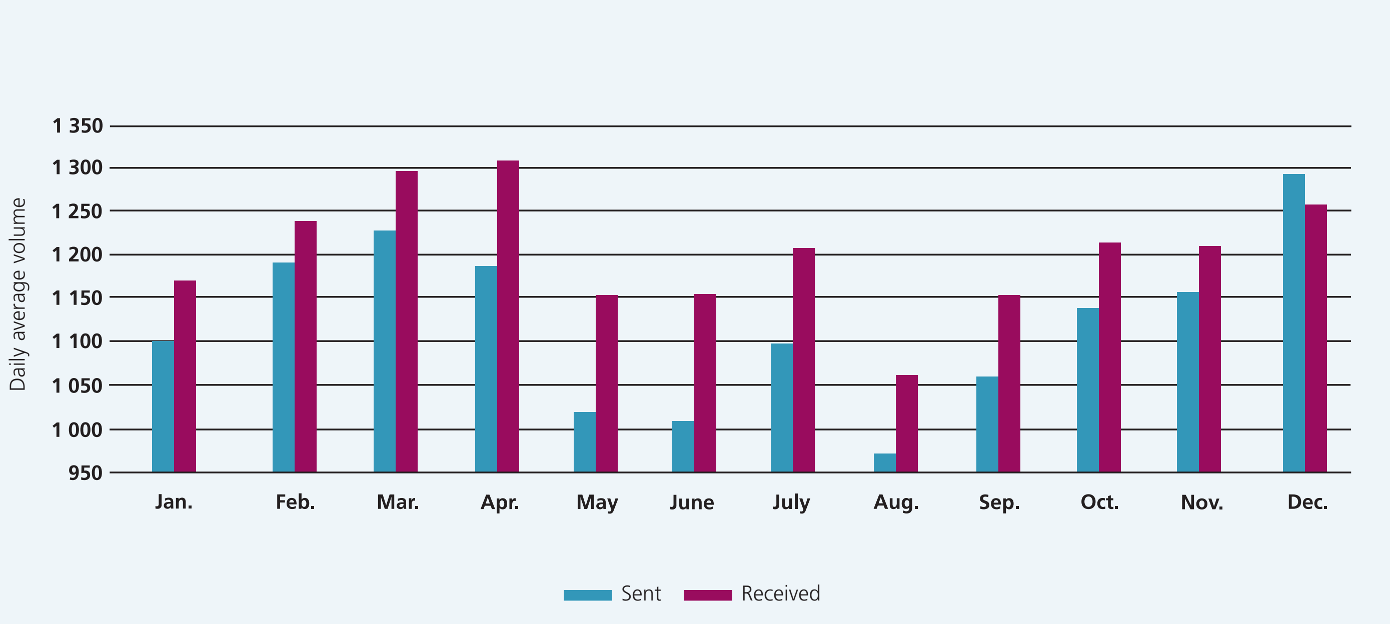



### Cross-border payments

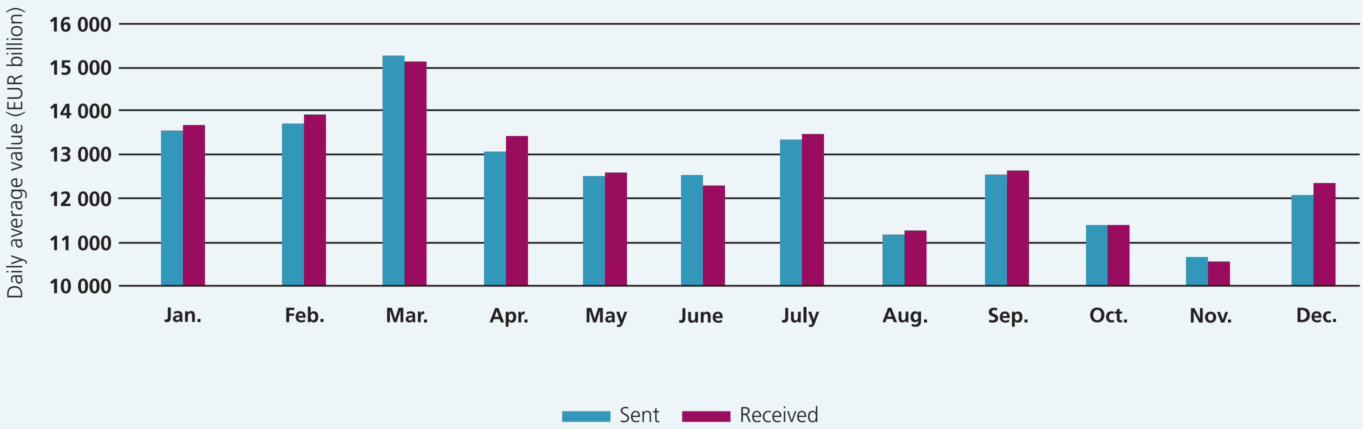
In 2003, LIPS-Gross participants sent 286 798 payments to other RTGS systems linked to TARGET (265 757 in 2002) for a global value of 3 242 billion euros (3 197 billion euros in 2002). They received 307 246 cross-border payments (297 862 payments in 2002) for a global value of 3 254 billion euros (3 199 billion euros in 2002). The volume of cross-border payments continued to increase in 2003, respectively by 7.9% for sent payments and by 3.2% for received payments. The value of payments exchanged remained rather stable.

Due to a stronger increase of domestic payments, the share of cross-border payments (in and out) in the overall number of payments treated by LIPS-Gross declined respectively to 86% (87.3% in 2002) in volume and to 81.1% (83.9% in 2002) in value. The following graphs show the evolution of the daily average volume and value of cross-border payments per month. They confirm the traditional trend of RTGS-L members receiving more payments than sending.

## GRAPH 15: CROSS-BORDER PAYMENTS: EVOLUTION OF THE DAILY AVERAGE VOLUME



GRAPH 16: CROSS-BORDER PAYMENTS: EVOLUTION OF THE DAILY AVERAGE VALUE (EUR BILLION)




As in 2002, the majority of cross-border payments (in value) is exchanged with Germany (43.6% against 47.5% in 2002), Belgium (14% against 12.3% in 2002) and France (11.5% against 10.5% in 2002). The total share of the value exchanged with the neighbouring countries is however on the decrease: 69.1% in 2003 against 70.3% in 2002. Payments exchanged with the United Kingdom represented 11.2% of the total value and those with Italy 4.8%.

In 2003, the Luxembourg banks achieved a positive balance of 11.6 billion euros (1.3 billion euros in 2002) with foreign banks. Due to its role as clearing bank for CLS and EURO1(EBA), the ECB is an important supplier of liquidities for Luxembourg. The highest variations in terms of volumes exchanged are observed with Germany and Italy.

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

The following table provides a global overview of daily average volumes and values exchanged per year. Volumes continue to increase whereas values exchanged have remained stable for the last three years.

TABLE 3: VOLUME OF PAYMENTS (DAILY AVERAGE)

| | Domestic | Cross-border sent | Cross-border received | **Total** |
|---|---|---|---|---|
| **1999** | 206 | 624 | 702 | **1 532** |
| **2000** | 240 | 809 | 973 | **2 022** |
| **2001** | 246 | 915 | 1 056 | **2 217** |
| **2002** | 320 | 1 053 | 1 159 | **2 532** |
| **2003** | 379 | 1 125 | 1 205 | **2 709** |

TABLE 4: VALUE (EUR MILLIONS) OF PAYMENTS (DAILY AVERAGE)

| | Domestic | Cross-border sent | Cross-border received | **Total** |
|---|---|---|---|---|
| **1999** | 2 805 | 8 675 | 8 657 | **20 137** |
| **2000** | 3 937 | 11 069 | 11 044 | **26 050** |
| **2001** | 4 750 | 12 717 | 12 726 | **30 193** |
| **2002** | 4 830 | 12 539 | 12 569 | **29 938** |
| **2003** | 5 932 | 12 715 | 12 760 | **31 407** |

LIPS-Gross compared to other systems connected to TARGET

In 2003, national RTGS systems in the EU altogether processed a total of 51.4 billion domestic payments (50.8 billion in 2002) for a value of 283 870 billion euros (271 916 billion in 2002). With 96 525 domestic payments for a total amount of 1 513 billion euros, Luxembourg represents 0.19% of the total volume and 0.53% of the total value.

In addition, TARGET treated 15.3 billion payments (13.7 billion payments in 2002) for a total value of 136 878 billion euros (123 722 billion euros in 2002). Luxembourg contributed 1.95% to this volume and 2.37% to the value exchanged.

Availability of TARGET

The global availability of TARGET reached 99.79% in 2003 (99.77% in 2002). TARGET's average availability figure covering its 5 years of existence is 99.63%.

The availability of LIPS-Gross averaged 99.74% in 2003 (99.92% in 2002). The availability of LIPS-Gross was 100% eight months out of twelve in 2003 and in 2002. LIPS-Gross' average availability figure covering its 5 years of existence is 99.57%.

### 2.6.2 Evolution of the Interbank netting system LIPS-Net

The year 2003 can be qualified as a special year for LIPS-Net as Regulation no. 2560/2001 of the European Parliament and of the Council of 19 December 2001 on cross-border payments in euros, which requires the harmonisation of domestic and cross-border fees for credit transfers, came into effect on 1 July 2003. As a result, modifications to the pricing for payments services have led to a decrease in interbank credit transfers volumes since 1 July 2003. Nevertheless the volume remained globally stable for the year as a whole. The number of participants in LIPS-Net remained stable and amounted to 13 on 31 December 2003.

At a European level, 2003 was the year of the launch of the pan-European clearing system STEP2. LIPS-Net participants are considering the evolution of the national clearing system in the framework of the "*Single European Payments Area (SEPA)*". Regarding the LIPS-Net activity, the main information is quoted below.

Concerning the volumes exchanged in 2003, the total number of transactions decreased by 1.9% to achieve a total of 13.13 billion. On the other hand, values exchanged in LIPS-Net showed an increase of 12.24% in comparison with 2002, the total value exchanged for 2003 being 54.06 billion euros. The daily average number of transactions exchanged amounts to 53 376. The highest volume was recorded on 2 December with 119 360 operations.

**TABLE 5:**

| | 2002 | 2003 | Variation |
|---|---|---|---|
| Number of **credit transfers** | 13 292 580 | 13 131 658 | -1.21% |
| Value of credit transfers (EUR millions) | 40 026 | 45 079 | 12.63% |
| Average value per credit transfer (EUR) | 3 011 | 3 433 | 14.01% |
| Number of **cheques** | 379 373 | 275 563 | -27.36% |
| Value of cheques (EUR millions) | 3 334 | 3 182 | -4.57% |
| Average value per cheque (EUR) | 8 788 | 11 545 | 31.38% |
| Number of transactions related to the **settlement of balances of debit and credit cards** | 17 938 | 21 841 | 21.76% |
| Value of transactions related to the settlement of balances of debit and credit cards (EUR millions) | 4 803 | 5 800 | 20.74% |
| Average value per transaction related to the settlement of balances of debit and credit cards (EUR) | 194 893 | 267 775 | 37.40% |
| **Total number of operations** | **13 689 891** | **13 429 062** | **-1.91%** |
| **Total value of operations (EUR millions)** | **48 163** | **54 060** | **12.24%** |
| **Average value per operation** | **3 518** | **4 026** | **14.42%** |

### Credit transfers

A slight decrease in the number of credit transfers exchanged in LIPS-Net succeeded the growth registered in the previous years . The year 2003 is to be split in two: the first half of the year showed a 2.8% increase in the number credit transfers exchanged in comparison with the first half of 2002, whereas during the second half of 2003 this number decreased by 5.1% in comparison with the same period in 2002. This change of trend can be explained by the European Regulation on the pricing of credit transfers which came into effect as of 1 July 2003. In terms of value, the credit transfers exchanged increased by 12.6% in 2003.

### Cheques

With regard to cheques, the significant decrease in volume since the withdrawal of the Eurocheque guarantee at the end of 2001 continued (-27.36% in comparison with 2002). The value of cheques diminished as well but to a lesser extent (-4.57%). The average value of cheques exchanged in LIPS-Net increased from 8 788 euros in 2002 to 11 545 euros in 2003.

### Debit and credit card operations

In May 2003, the clearing of credit cards balances has been integrated in LIPS-Net, which already processed debit cards. As a result, settlement operations of balances between card issuers have considerably increased in 2003.

Unlike clients' payment transactions (credit transfers and cheques), this type of interbank settlement transactions is limited in volume (1% of the volume), but represents a quite considerable share of the values exchanged in LIPS-Net (11%).

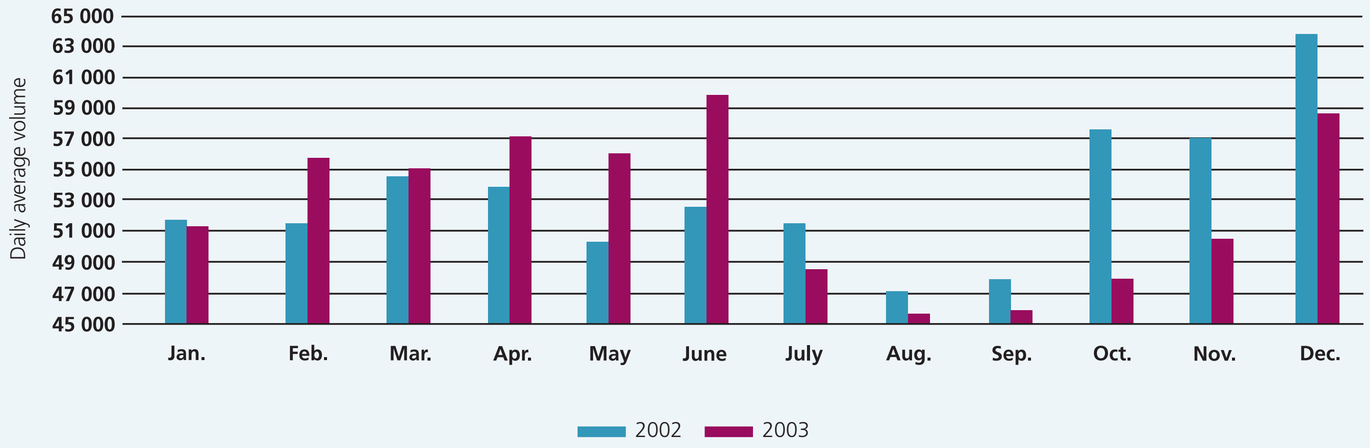
## 2.6.3 The general framework of eligible collateral in the Eurosystem credit operations

### 2.6.3.1 The list of eligible assets

All credit operations of the ECB and the national central banks are performed "on the basis of adequate collateral"[3]. Consequently, each counterparty guarantees the credit received from a Eurosystem central bank by providing securities as collateral. These securities have to fulfil specific eligibility criteria defined by the Eurosystem.

The Eurosystem has established a distinction between two categories of assets eligible for credit operations. Tier 1 consists of debt instruments fulfilling uniform euro area wide eligibility criteria specified by the Eurosystem. Tier 2 consists of additional assets that are of particular importance to national financial markets and banking systems.

**GRAPH 17: CREDIT TRANSFERS: EVOLUTION OF THE DAILY AVERAGE VOLUME**




[3] Article 18 of the Statute of the ESCB and the ECB, article 22 of the founding law of the BCL.

In order to further improve its collateral framework, the Eurosystem is preparing the gradual implementation of a single list of collateral eligible throughout the euro area. In a public consultation launched by the Eurosystem a majority of banks has expressed overall support for this project. This was also the position of Luxembourg counterparties. A first measure taken in the context of the single list has been the exclusion of "out collateral" from the list of securities eligible for intraday credit operations in TARGET. The term "out collateral" refers to eligible securities deposited in a EU Member State, but issued in a country not being part of the euro area.

Decisions concerning the composition of the single list will be taken by the Eurosystem only after thorough analysis of various criteria, such as the legal framework, the risks related to each category of assets, the counterparties' needs, or the procedures to be implemented for an efficient handling of each category of collateral.

2.6.3.2 The Eurosystem as a user of securities settlement systems

Selection of depositories[4] at the domestic level

In order to meet the requirement of "adequate collateral"[5] the Eurosystem also assesses against specific safety criteria depositories that are safekeeping securities used in the framework of central bank credit operations.

Cross-border use of collateral

Besides using eligible domestic securities settled via the national depository (Clearstream Banking Luxembourg - CBL - for Luxembourg counterparties), all Eurosystem counterparties may receive credit from their local NCB by using collateral issued in a depository located in another Member State of the European Union. The ESCB foresees two ways for such cross-border use of collateral. Counterparties may use

- the CCBM[6]; and
- links established between securities settlement systems.

In a given securities settlement system located in a country of the EU these links make available securities issued in a system of another EU country, thanks to bilateral accounts that the two systems maintain at each other. In order to be used in the framework of Eurosystem credit operations these links have to be approved by the Governing Council of the ECB. Therefore, the links, just as national depositories, are assessed against safety standards elaborated by the Eurosystem. On the basis of these links, a Luxembourg counterparty can pledge to the BCL on its account at CBL eligible securities issued into Clearstream Banking Frankfurt A.G., Euroclear, the National Bank of Belgium, Monte Titoli (Italy), VP (Denmark), OeKB (Austria), and Euroclear Netherlands.

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

In the framework of 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 correspondent central bank (CCB) that is different 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. On the other side, the home central bank (HCB) grants the credit to its counterparty on the basis of confirmations received from the CCB.

At the beginning the CCBM was conceived as an interim solution to respond to the segmentation of European capital markets. As the model has been successful with the counterparties and as it remains the main channel for the cross-border mobilisation of collateral, the Governing Council has decided to continue the CCBM until 2007. Moreover, the efficiency of the model should be further increased by the decision to limit the maximum processing time to one hour for each operation (this decision will take effect as of 2004).

Across the euro area the usage of the CCBM has remained very disparate. The most active correspondent central banks have been those from Italy (23%), Luxembourg (20%), Belgium (16%) and Germany (13%).

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

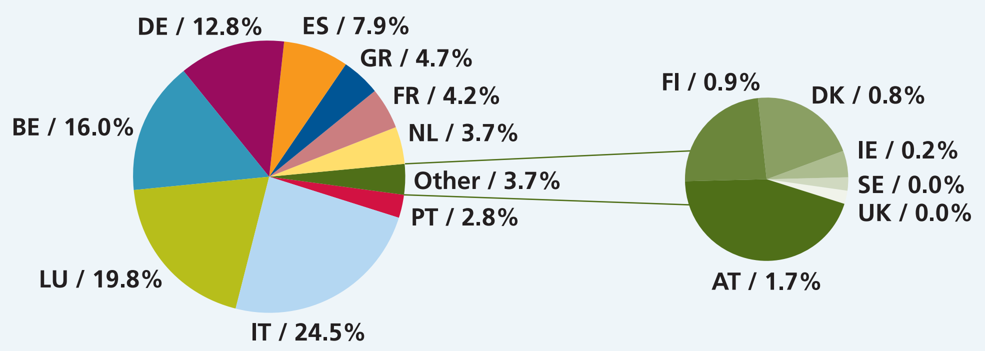
5 Article 18 of the Statute of the ESCB and the ECB, article 22 of the founding law of the BCL

6 Correspondent Central Banking Model, see section 2.6.2 hereafter.

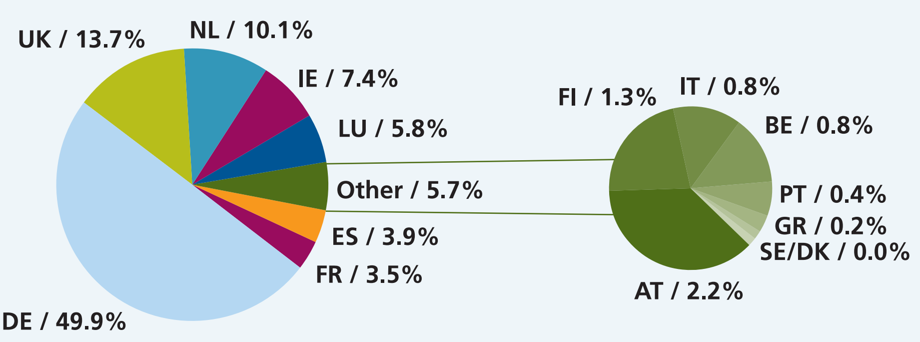
The most active home central banks have been those from Germany (51%), United Kingdom (14%), the Netherlands (10%), Ireland (7%), and from Luxembourg (6%).

As in previous years the cross-border use of tier 2 assets has remained marginal.

**GRAPH 18: CORRESPONDENT CENTRAL BANK**




**GRAPH 19: HOME CENTRAL BANK**



### 2.6.5 Night Time Link with Clearstream Banking Luxembourg

The procedure Night Time Link (NTL) is a complementary service introduced by the BCL and CBL in 2002. This procedure enables Luxembourg banks to improve the use of their cash and securities deposited with BCL, while at the same time increasing financial safety of the night time securities settlement operated by CBL.

The NTL procedure is subdivided in 2 parts:

1. A customer of CBL can use its cash and collateral available at BCL to guarantee credit granted by CBL for the clearing process taking place at night. The guarantee is issued by BCL in favour of CBL on behalf of the customer.
2. At the end of the night time processing, reimbursement of credit granted by CBL is automatically effected by BCL on behalf of the customer.

BCL considers that NTL, by offering new collateralisation possibilities to the banking community, contributes to improving safety of securities transactions. This procedure also enables banks to manage in a more centralised way their liquidity.

# 3. EXTERNAL ACTIVITIES

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

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. On 31 December 2003, Luxembourg's quota, entirely recorded in the BCL 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 43.1% of the Luxembourg 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 2003, the BCL was instrumental in making advances for 40.7 million euros related to IMF operations and was reimbursed 21.6 million euros.

At the end of 2003, Luxembourg held 48.9% of its SDR allocation (39.6% in 2002) following the accumulation of net interests received on the SDR account and on the reserve position. On 31 December 2003, the amount recorded on the SDR account was SDR 8.3 million.

The BCL also participated in several working groups of the Organisation for Economic Cooperation and Development (OECD) and the Bank for International Settlements (BIS), such as the OECD Financial Markets Committee (FMC) and the BIS Committee on the Global Financial System (CGFS). The latter Committee continued monitoring international capital markets and developments in the global financial system.

## 3.2 European activities

### 3.2.1 Enlargement of the European Union

The Accession Treaty between the Member states of the European Union and the 10 acceding countries was signed on 16 April 2003 and will enter into effect on 1 May 2004.

In the acceding countries, ratification has been carried out on the basis of referenda, except in the case of Cyprus.

Following the signature of the Accession Treaty the Governors of the NCBs of these 10 countries have been able to participate in the meetings of the General Council of the ECB as observers. Moreover, representatives of the acceding countries' NCBs have been granted observer status at the ESBC Committees meeting in enlarged composition.

### 3.2.2 Draft European Constitution

On 19 September 2003, the Governing Council of the ECB adopted its opinion on the draft Treaty establishing the European Constitution in the framework of the Intergovernmental Conference (IGC) convened by the Italian Presidency. The draft Constitution established by the Convention in July 2003 served as basis for the forthcoming ICG. In its opinion the ECB welcomed the draft Constitution as it considers that it simplifies, streamlines and clarifies the legal and institutional framework of the European Union and enhances the Union's ability to act at both the European and the international levels.

The Constitution will not entail any substantial institutional changes with regard to Monetary Union, which is treated in parts I and III of the Constitution. In its opinion, the ECB attaches great importance to the fact that the objective of price stability be mentioned among the fundamental objectives of the Union.

Moreover, to the extent that the ECB would acquire the status of "another institution" alongside the three political institutions (Parliament, Council and Commission), the ECB proposes the recognition of the financial independence of the NCBs, and not only of the ECB, and to give formal recognition to the widely used term "Eurosystem" in the Constitution. The acronym "ESCB", utilised in the Treaty, has indeed two distinct meanings, the first one referring to the ECB and the NCBs of all the members of the European Union, and the second, generally known as the Eurosystem, referring to the ECB and the NCBs of the countries having adopted the euro.

In an additional opinion, the ECB also made suggestions for the adaptation of the statute of the ESBC / ECB which should, as is the case until now, be annexed to the Treaty and, therefore, to the future Constitution. The ICG failed to reach an agreement under the Italian presidency in 2003.

#### 3.2.3 Amendment of the ESCB statutes and of the ECB

As mentioned in the 2002 Annual Report of the BCL, the EU Council, meeting in its composition of Heads of State or Government, in March 2003, unanimously adopted a recommendation of the ECB to amend Article 10.2 of the Statute of the ESCB and the ECB[1]. The purpose of this amendment is to maintain the Governing Council's capacity for efficient and timely decision-making in an enlarged euro area. As from the moment the number of countries having adopted the euro reaches 16, voting among the NCB governors who are members of the Governing Council will be subject to a rotation system. This system will respect five fundamental principles, namely (1) one member, one vote, (2) ad *personam* participation, (3) representativeness, (4) automaticity and solidity and finally (5) transparency. Governors will then be divided into two groups, until their number reaches 22, when they will be allocated between three groups. The allocation of Governors among the different groups will be based on an indicator made up of two components:

- the relative weight of the economy, measured by GDP at market prices, of their country within the euro area;
- the relative weight of the aggregate balance sheet of monetary financial institutions of their country within the euro area.

This second component, particularly important for Luxembourg, reflects the necessity to allow for the relative importance of Member States' financial sectors when taking monetary policy decisions. A weighting of 5/6 is given to GDP at market prices and of 1/6 to the aggregate balance sheet of monetary financial institutions. This decision will enter into force after its ratification by all Member States.

In Luxembourg, the decision of the European Council, meeting in its composition of Heads of State or Government, of 21 March 2003 relative to the modification of Article 10.2 of the statutes of the ESCB and the ECB was approved by the law of 16 March 2004 as published in the *Mémorial, Recueil de Législation*, A, no 33, p.450 of 16 March 2004.

## 3.3 National activity

### 3.3.1 Legal activities

3.3.1.1 <u>Securitisation</u>

On 2 September 2003, the Minister of the Treasury and the Budget submitted to the Parliament a draft law relating to securitisation and amending several laws.

The explanatory memorandum advises that this draft law aims to create in Luxembourg "a suitable legal framework for the development of securitisation of assets in Luxembourg".

The draft law adopts a very progressive approach; it widely defines all securitisable assets as "all risks linked to the holding of any property, movable or immovable, corporeal or incorporeal as well as those resulting from liabilities taken on by third parties or inherent to all or part of the activities carried out by third parties"[2]. It admits that securities undertakings be established in the form of a company (of which statutes are similar to those of funds) or funds without a separate legal personality. These companies or funds may in addition create segments and acquire additional claims or assets, so as to be in a position to issue continuously securities representing portfolios of assets or risks acquired successively. In addition, the draft law admits all methods used by international investors in order to amend the rating of the securities issued within one program, such as credit enhancement techniques. The draft law also authorises the securities undertakings to issue debt securities.

The draft law intends nonetheless to counter-balance this openness with an increased security. To this end, the draft law:

- sets out rules intended to ensure the remoteness of the securities undertaking to any insolvency measure which may impact the originator;
- requires that the securities be safe kept with a licensed credit institution;
- establishes the function of fiduciary representative; and it
- organises the possible liquidation of securities undertaking.

[1] This decision was published in the Official Journal of the European Union on 1 April 2003.

[2] Article 53 of the draft law.

This project was the subject matter of an opinion of the ECB, to the drafting of which the BCL has taken part. While welcoming this draft law, the ECB stresses the importance in this draft law of the rules intended to ensure the protection of investors and the control of risks. In this prospect, the ECB recommends firstly better defining some concepts to which the draft law refers (such as concepts of securities, debt instruments, investors). The ECB also suggests clearly specifying the information to be disclosed to investors, more specifically in relation to securitisation transactions at stake. The ECB advises in addition to clarify the extent of the supervision performed by the CSSF over these transactions. In view of the possible use of asset-backed securities as collateral for central bank operations, the ECB recommends furthermore the communication of information by supervisory authorities to national central banks. The ECB recommends finally adding a provision to the draft law in order to allow the BCL to collect statistical information on securitisation transactions. The BCL is following-up this matter, especially the consequences of the opinion of the ECB.

#### 3.3.1.2 Financial collateral

On 25 November 2003 the draft law, (hereinafter referred to as "the Draft Law") aiming at implementing in national legislation Directive 2002/47/EC of the European Parliament and of the Council of 6 June 2002 on financial collateral arrangements, (hereinafter referred to as "the Directive"), was deposited with the Luxembourg Parliament.

The BCL's activities are directly affected by the Draft Law. Indeed the granting by the BCL of facilities within the framework of its monetary policy operations and intraday facilities in relation to the payment systems is based on the provision of adequate collateral.

Three specific objectives have been assigned to the Draft Law. These objectives are the following: (i) to group all financial collateral arrangements in a single text, (ii) to maintain the *acquis* of the national legislation to the extent that it goes beyond the minimum laid down by the Directive and (iii) to establish equivalent levels of legal certainty and soundness for the various types of financial collateral arrangements.

The Draft Law groups various texts currently in force. For instance, the law of 21 December 1994 on purchase and repurchase agreements and the law of 1st August 2001 on the transfer of title for security purposes are taken over in their entirety by the Draft Law. Moreover, the Draft Law incorporates specific provisions of the Commercial Code on pledges, Article 9 of the law of 1 August 2001 on the circulation of securities and other fungible instruments, and Article 61-1 of the law of 5 April 1993 on the financial sector.

The Draft Law introduces new concepts, which characterise the matter. First, there is the notion of "assets" which covers at the same time "financial instruments" and "claims" and the notion of "finance professionals" which covers at the same time the professionals encompassed within the scope of the Directive and those referred to in the scope of the texts currently in force, provided that they are not mentioned in the Directive.

As required by the Directive, the Draft Law abolishes the requirement to give prior notice of the intention to enforce the financial collateral, and introduces the possibility for the creditor to sell the financial instruments - public adjudications having, however, to be managed by the Stock Exchange.

The "conflict of law" rule laid down by the Directive is exactly reproduced in the Draft Law which states that the patrimonial aspects of book entry securities collateral will be governed by the law of the country in which the relevant account is maintained.

The Draft Law does not take over any of the three options proposed in the Directive.

The Draft Law expressly recognises the retention right - resulting from the transfer of possession - of the creditor and introduces an exception to Article 67 (3) of the law of 10 August 1915 on commercial companies and to Article 195 of the same law, by allowing the contracting parties to provide that the possessor of the shares or units can attend the shareholders' meetings at which he can exercise the voting rights of the owner.

As in Belgian legislation, the Draft Law extends the privilege of the securities settlement systems by complementing Article 17 of the law on the circulation of securities and other fungible instruments. In addition to the existing privilege on the own assets of the participant, the system will thus have a new privilege that covers the assets of the customers of the participants in relation to transactions effected on their behalf.

Finally, the Draft Law provides a clear legal regime for pledges of an inferior ranking and establishes a legal regime not only for the pledging of units of private limited liability companies but also for the cash claims collateral arrangements.

### 3.3.2 BCL committees

The BCL participates actively in a number of Committees which it established. These are:

The Information Technology Committee

The Legal Committee

The Fiduciary Money Committee

The Market Operations Committee

The Statistics Committee

The Balance of Payments Consultative Commission

The Monetary and Financial Statistics Consultative Commission

The Settlement and Clearing Systems Committee

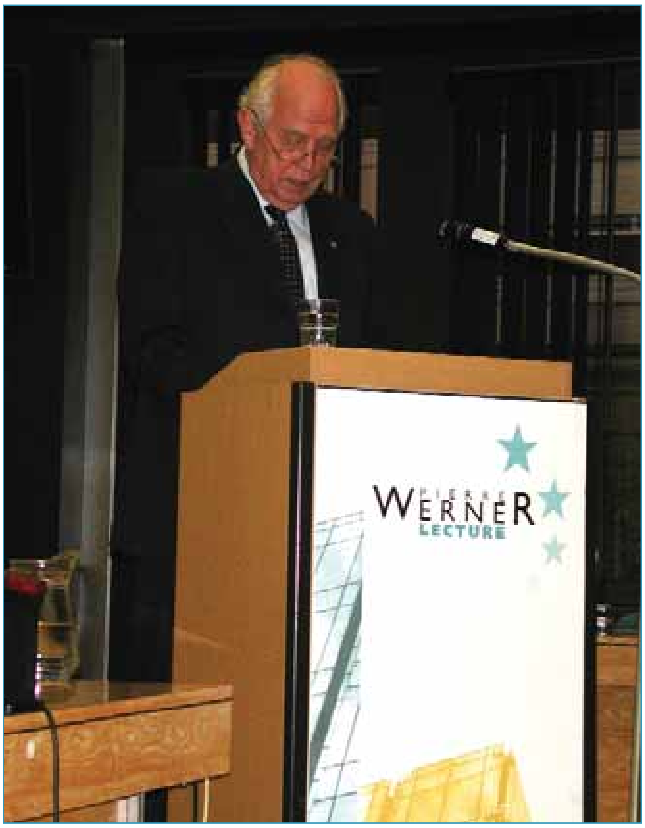
### 3.3.3 Professional training actions of the BCL

The BCL is a shareholder of the Agency for the Transfer of Financial Technology (ATTF) and is a member of its board of directors. The ATTF offers training programs and consulting regarding banking and financial matters to transition and developing countries. Moreover the ATTF contributes to the promotion of the financial centre. BCL staff contributed to ATTF seminars for bankers and executives coming from Egypt, Laos, Mongolia, Uzbekistan and Vietnam.

### 3.3.4 External events

Pierre Werner Lecture

Within the context of its 5th anniversary celebrations, the Bank organised the first Pierre Werner Lecture. On 21 October 2003, Mr. Hans Tietmeyer, former President of the Bundesbank, held a speech entitled "From the Werner report to the euro".



## 3.4 BCL communication

In 2003, the BCL published a new brochure, intended for the general public, introducing its organisation and its missions. This brochure has been presented to the members of the national committees in charge of the Luxembourg secondary school syllabus. It has been distributed to the students of the two last school years in Luxembourg.

### Periodical Bulletins

In 2003, the BCL published 3 bulletins (no. 2003/1, 2003/2 and 2003/3). Besides the news messages and the economic and financial reports regarding the European and national economy, the BCL bulletins provided in 2003 analyses on following subjects:

- "*Introduction d'une enquête sur le crédit bancaire au Luxembourg*";
- "*L'inadéquation entre l'offre et la demande sur le marché de l'emploi luxembourgeois*";
- "*Politique monétaire et rigidités*";
- "*La règle de Taylor : présentation et application pour la zone euro et pour le Luxembourg*";
- "*Les taux d'intérêts de détail sur la place de Luxembourg tels que recensés par la mise en place d'une enquête mensuelle*";
- "*Les taux de change effectifs en tant qu'indicateurs de compétitivité*";
- "*La situation budgétaire de l'assurance maladie-maternité*".

### Working papers

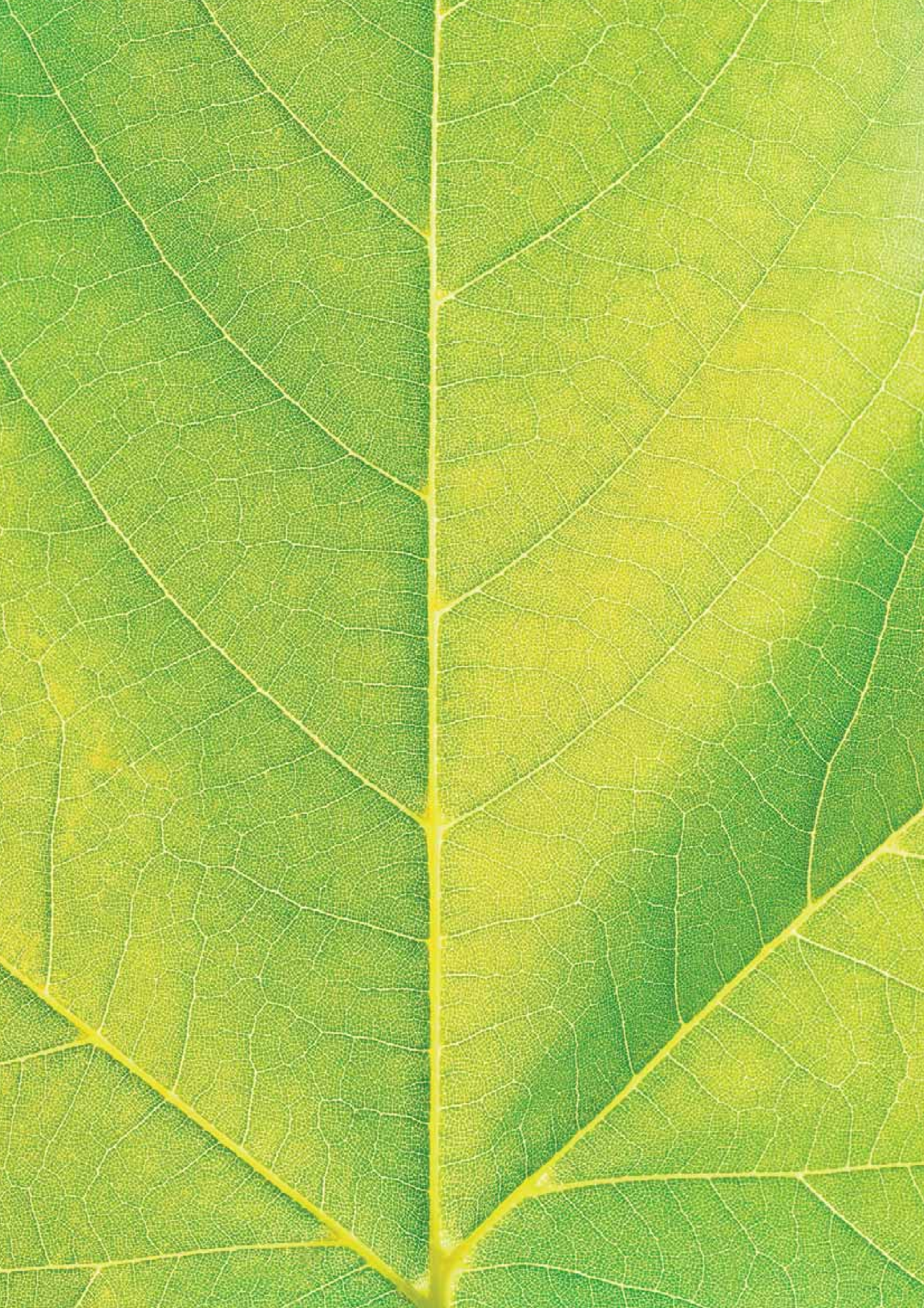
The BCL working papers contribute to presenting the research of their respective authors. Five working papers have been published on the following subjects:

- "The sustainability of the private sector pension system from a long-term perspective: the case of Luxembourg" (Working paper no. 6);
- "The analysis of risk and risk mitigation techniques in payment and securities settlement systems and the impact on central bank's oversight" (Working paper no. 7);
- "What to expect of the euro? Analysing price differences of individual products in Luxembourg and its surrounding regions" (Working paper no. 8);
- "*Règle de Taylor : estimation et interprétation pour la zone euro et pour le Luxembourg*" (Working paper no. 9);
- "*Nouveaux instruments de paiement : une analyse du point de vue de la Banque centrale*" (Working paper no. 10).

### Internet site

The Internet site **www.bcl.lu** is an information and broadcasting channel, which is complementary to the other communication channels of the BCL. Currently, the site is mainly intended for professionals (bankers, economists, statisticians, researchers…), but also for university students. The site offers news and information on the Bank's organisation and services. A new version of the Internet site, which will be more accessible to the general public, is planned to go online in 2004.

**All BCL publications can be viewed and downloaded on the Internet site www.bcl.lu. Hard copies can be obtained at the BCL within the limit of available stocks.**



# 4. THE BCL AS AN ORGANISATION

## 4.1 Organisation of the BCL

### 4.1.1 The Council

4.1.1.1 <u>The Council</u>

Article 6 of the law of 23 December 1998 defines the powers of the Council of the Bank. In 2003, the members of the Council were.

- President: Yves Mersch
- Members: Andrée Billon
  Jean Hamilius
  Pit Hentgen
  Mathias Hinterscheid
  Serge Kolb
  Patrice Pieretti
  Nico Reyland
  Michel Wurth

From left to right and from above to below: *Pit Hentgen, Jean Hamilius, Nico Reyland, Patrice Pieretti, Michel Wurth, Mathias Hinterscheid, Andrée Billon, Serge Kolb, Yves Mersch*

During 2003, the Council held 5 meetings.

- Within the framework of monitoring the financial situation of the Bank, the Council has approved the financial accounts as of 31 December 2002, the budgetary trends and subsequently, the budget for the 2004 financial exercise. At its meeting of 9 May 2003, the Government in council has decided to give its discharge to the organs of the Bank for the financial exercise of 2002. The Council has proposed the appointment of the external auditor to the Government and has appointed the members of the Audit Committee for 2004. The Council has assisted in the drafting of this Central Bank annual report.
- Having regard to the business policy of the Bank, the Council has decided that the BCL shall take over the minting of euro coins, an activity assured previously by the State Treasury. The pre-existing convention signed by the BCL and the Treasury has therefore been amended on 10 April 2003, the amendment entering into force on 1 May 2003. The Council has mandated the BCL Board to set up and develop a commercial policy in order to promote the marketing of numismatic products. The Council has also decided to develop the management of the BCL's own funds as well as the provision of asset management services to third parties. The Council agreed on the BCL participating in the future TARGET 2 shared platform (successor of TARGET 1), the trans-European automated real-time gross settlement express transfer system.
- Within the framework of monitoring the general organisation of the Bank, the Council has approved the organisation chart of Bank staff and has agreed with a training strategy based on national and international cooperation, in order to allow the BCL to offer, *inter alia*, its skills and knowledge of monetary policy operations and payment systems to the Financial Sector, developing thereby the corporate image of the BCL.
- In its role as an observer of ESCB missions, the Council regularly observed and commented on the economic and financial evolution at the national and international levels and has been kept informed of the decisions made by the Governing Council of the ECB.

#### 4.1.1.2 The Audit Committee

The Audit Committee was created by the Council at its meeting of 13 December 2001. Its objective is to assist the Council in the performance of its missions related to the approval of the financial accounts[1] and to the work of the statutory auditors of the BCL[2].

The Committee has a preparatory role and has no power of decision. It reports to the Council. It counts 3 non-executive members of the Council and the President of the Council. Members are appointed by the Council for a renewable mandate of one year. It may invite the internal audit manager and the statutory auditor of the Bank to participate in its work. Each member of the Council has the right to request to be invited to its meetings.

Being chaired by one of its non-executive members, the Committee has several missions:

- It assists the Council in its choice of the statutory auditor to be proposed to the Government;
- In addition to the legal mandate of the statutory auditor, the Committee assists the Council in specifying the scope of the potential specific controls to be performed by the statutory auditor[3];
- In order to assist the Council in the analysis of the reports issued by the statutory auditor, the Committee is kept informed of the audit programme of the statutory auditor;
- It is kept informed of the internal audit plan in order to assist the Council in the analysis of the internal audit activity report;
- It is kept informed of the follow-up of the statutory auditor's and internal audit's recommendations.

The Committee holds at least three meetings a year. The logistical support necessary to the tasks of the Committee is provided by the BCL.

In 2003, the Audit Committee held four meetings. During its meeting of 11 December 2003, the Council renewed the mandates of the non-executive members of the Audit Committee Mr. Jean Hamilius, Mr. Pit Hentgen and Mr. Nico Reyland for 2004. Mr. Mersch is an *ex officio* member in his function as President of the Council.

In the framework of its missions, the Committee was involved in the selection process of the new statutory auditor appointed for 2004.

[1] Articles 6 (c) and 29 (1) of the law of 23 December 1998 concerning the monetary status and the Central Bank of Luxembourg

[2] Articles 6 (f) and 16 of the Law.

[3] Article 16 of the Law.

### 4.1.2 The Board of Directors

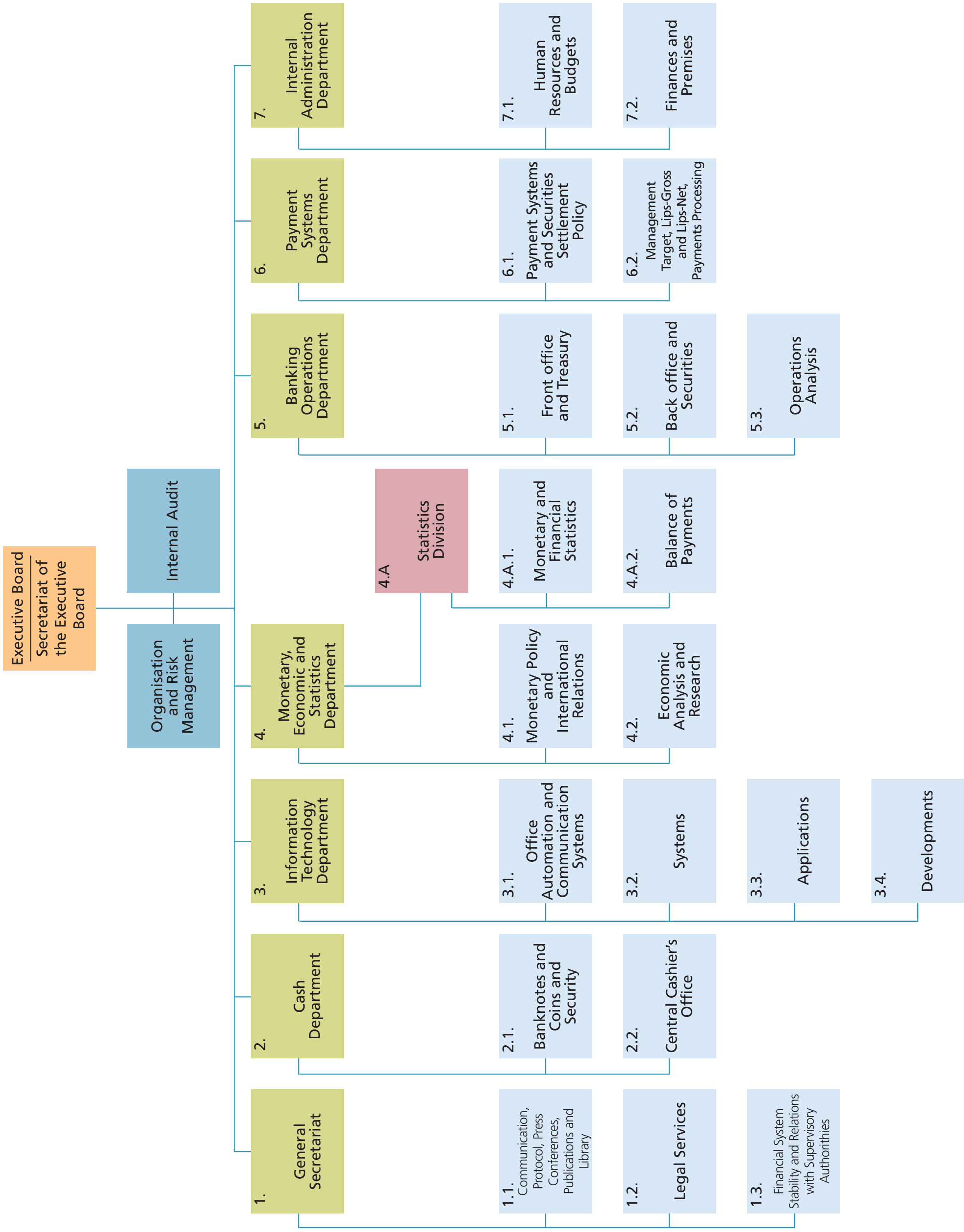
The Board of Directors is the superior executive authority of the Central Bank. It shall draw up the measures and take the decisions required for the fulfilment of the tasks of the Central Bank.

The Board of directors shall comprise the Director-General and two Directors. The three members of the Board are appointed by the Grand Duke, on a proposal from the Government for a term of office of 6 years and their appointments shall be renewable (art 11). The salaries of the members of the Board are determined on the basis of degree 18 of the category "I. General Administration" of annex A "classification of functions" for the directors and on the basis of degree S1 of category VI "Functions with fixed index", for the Director-General. Besides the basic salaries, the two directors are entitled to receiving an allowance for representation purposes of 131 index points (employee value) and the Director-General is entitled to receiving an allowance of 122 index points.

Director-General: Yves Mersch
Directors: Andrée Billon et Serge Kolb

From the left to the right: *Yves Mersch, Andrée Billon, Serge Kolb*

**4.1.3 Organisation chart of the Banque centrale du Luxembourg 2004**



## 4.2 The BCL staff

### 4.2.1 Quantitative evolution

During 2003, the BCL staff decreased by 1.9 % to reach a total of 203 agents on 31 December 2003 (including Executive Board members), equivalent to 196.5 full time positions. On 31 December, nine agents worked part-time and two agents were on part-time parental leave. The BCL has recruited two new agents, while six agents left, of whom one has been granted three years leave of absence without pay.

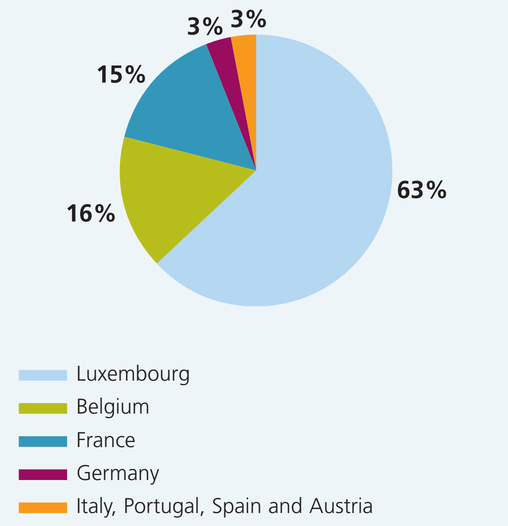
There has been no increase in positions in the organizational chart for 2003 in comparison with the previous year. In a difficult economic context with cost reduction being a major objective, recruitment has been restricted to replacements.

A competitive entrance examination was organised on 16 and 17 October 2003 for which a total of 271 candidates applied. Moreover, the BCL received approximately 520 spontaneous job applications and around 250 applications for internships.

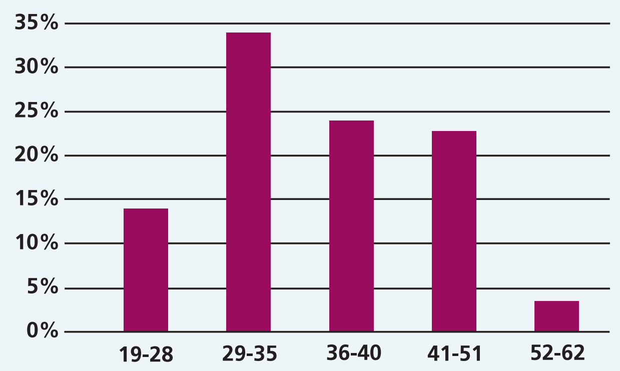
Staff members are of eight different nationalities, thus contributing to cultural enrichment and to the diversity of human capital.

The average age of BCL staff members has slightly increased from 35.63 in 2002 to 36.45 on 31 December 2003. On this date, the staff counted 33% female and 67% male agents, the same proportion as the previous year.

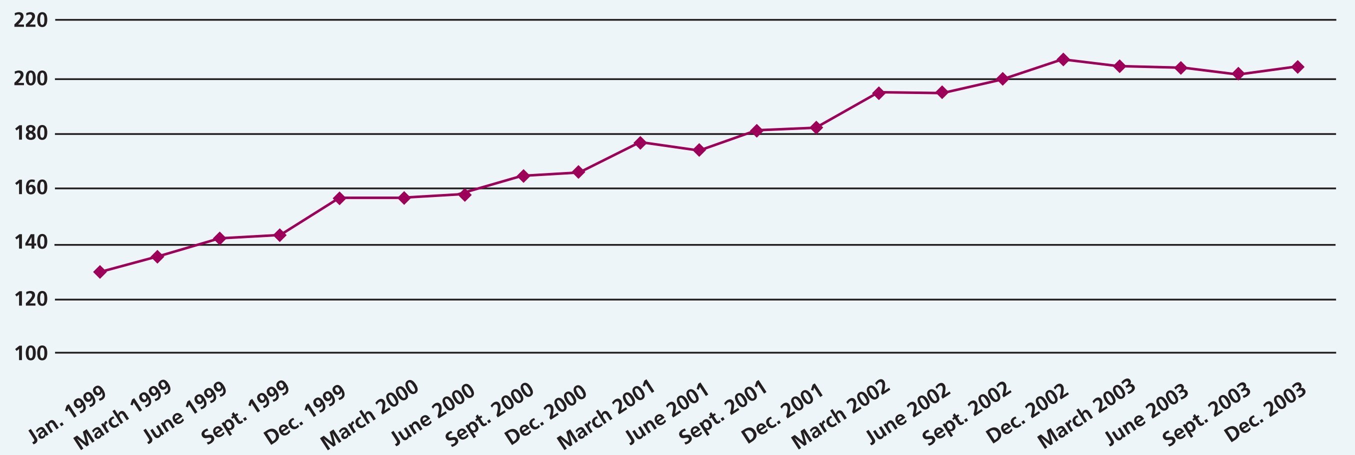
GRAPH 1: AGENTS BY NATIONALITY



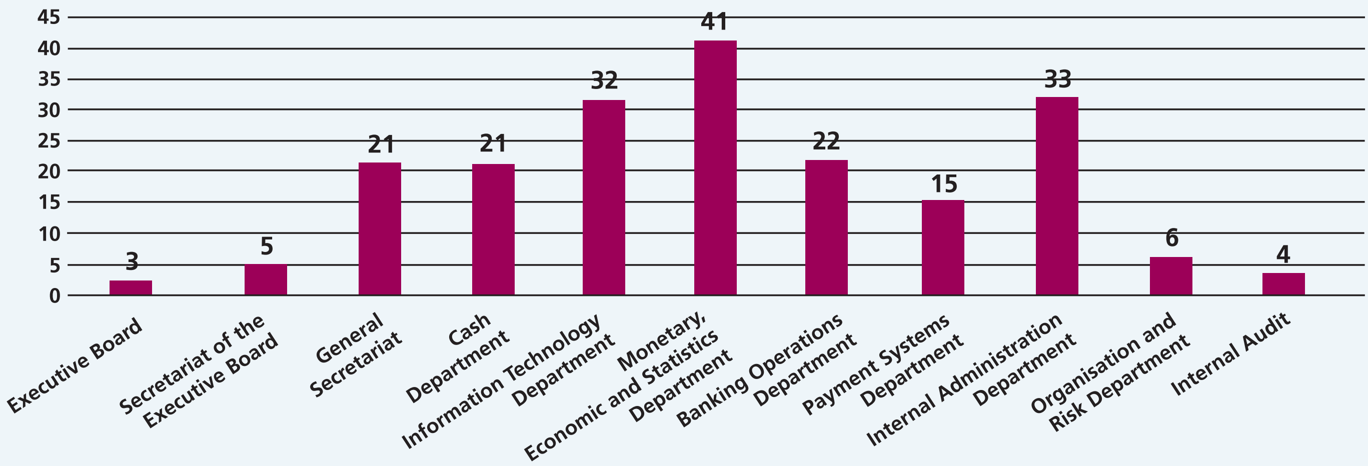

GRAPH 2: DISTRIBUTION OF AGENTS PER AGE GROUP



GRAPH 3: EVOLUTION IN NUMBERS PER QUARTER SINCE THE 1ST JANUARY 1999




GRAPH 4: NUMBERS PER ENTITY ON 31 DECEMBER 2003




### 4.2.2 Human resources management

The year 2003 has been marked by progress in a certain number of important areas related to human resources management.

First of all, the annual assessment, further to the conceptual phase concerning their introduction in 2002, has been realised for the first time during 2003. This exercise has permitted the establishment of objectives for every staff member, in line with the corporate objectives of the Bank defined in the framework of the *Corporate Balanced Scorecard*.

As regards to a law (19 May 2003) modifying the altered law of 16 April 1979 fixing the general status of civil servants, detailed analyses concerning the effects of the changes on the BCL staff members have been realised.

With the aim of standardising the treatment of all staff members of the Bank regardless of their status, a certain number of guidelines have been worked out in 2003 and in particular:

- the criteria underlying the setting up of the promotions roster (admission criteria, promotion criteria, on secondment criteria etc.);

- the trainers' remuneration for internal training classes;
- the conditions according to which an agent will be granted a supplementary income for the holding of a diploma higher than the minimum required for the corresponding career;
- the conditions regulating the distribution of a part-time job; and
- the components of the income to be contributed to the BCL pension fund.

Finally, the implementation of an integrated system in relation with human resources management has been initiated in 2003. According to the needs specified by the users, an opportunity study has been set up allowing the Bank to choose the appropriate system. Its implementation will take place at the beginning of the year 2004.

### 4.2.3 Staff training

In order to be able to reach the objective of excellence stated in the Bank's positioning, a particular weight has been put on the training policy at the Bank during the year 2003. This framework is about the role and the place of training in three different segments, namely the basic training programme, the management training and continuing education:

- a particular emphasis has been placed on internal training. The internal training courses organised by the Bank have been considerably enlarged to reach 14 classes at the end of the year. The setting-up of the all these classes (basic training programme and continuing education) has requested extensive efforts;
- the possibilities to offer the Bank's specific know-how to third parties have been examined. The objective is to share this know-how with a maximum number of Luxembourg's finance specialists. These courses being already available for internal needs, the training made available to third-parties benefits from considerable economies of scale. It should be noticed that the courses offered at the BCL are restricted to central bank activities so as to avoid competition with other training centres. From this point of view, and besides an existing co-operation with the "Agence de transfert de technologie financière" (ATTF), negotiations in order to establish a collaboration with the "Institut de formation bancaire, Luxembourg" (IFBL) have been conducted;
- a detailed analysis regarding the existing management structure has been realised in 2003. According to this analysis, a change management programme has been initiated whose completion will cover a period of 18 months, essentially in the course of the year 2004.

The effects of this training policy will only become fully apparent during the year 2004. Nevertheless, it should be noticed that during 2003 a total number of approximately 5 250 training hours have been registered, representing an average of 3.3 training days per agent.

### 4.2.4 The Pension Fund

The statute[4] of the BCL provides that legal pension entitlements of BCL agents are determined by their status (*i.e.*, civil servant, State employee, private employee or worker). The costs and financing of pensions are also governed by this statute, which reads as follows:

"Costs of pensions of BCL agents are incurred by the BCL. These costs are financed by the BCL pension fund. Legal withholdings on agents' compensations, according to the rules governing the pension system corresponding to their status, on the one hand, and payments made by the BCL itself on the other hand, finance the pension fund."

The statute[5] also organises the transitory regime applicable to BCL agents, who contributed previously to another pension fund, as follows: "Luxembourg pension funds, which received contributions from people who are or become BCL agents as of the date of entry into force of the present statute, transfer these contributions to the BCL pension fund". In addition, "the periods within which these agents contributed to these pension funds are automatically validated as contribution periods with the BCL." With regard to the default of the Pension and Insurance fund of private employees[6], the BCL sued these two bodies before the Luxembourg court[7], in order to obtain the payment of the contributions owed. At the time of the drafting of this report, the trial is still in progress.

Operational as of 2001, the BCL pension fund adopted internal rules. In addition, it created both a decision-making Executive Committee (*Comité directeur*), composed of the BCL Executive Board members, two elected representatives of BCL agents and two co-opted members, acting as delegated managers, and a consultative Tactical Benchmark Committee.

[4] Article 14, indent (4) (b) of the statute of 23 December 1998 relating to the monetary status of the BCL.

[5] Article 35, indent (4) (a).

[6] *Caisse de Pensions des Employés Privés et Etablissement d'Assurance contre la Vieillesse et l'Invalidité.*

[7] *Tribunal d'arrondissement de Luxembourg.*

The Bank manages the assets of its pension fund in accordance with the rules of the latter. The pension fund's guidance is set by the Executive Committee. The asset manager is appointed by the Executive Committee and this mandate is carried out in-house.

The Tactical Benchmark Committee determines the investment policy in strict compliance with parameters specified by the Executive Committee, especially with regard to the strategic composition of the global portfolio of the pension fund by currency and by asset class. It is a mixed pension fund, mainly holding bonds, liquidities and shares. It can also contain other financial tools. The pension fund's management is done in order to generate a minimal performance such as set up by a long-term actuarial calculation. The fund's assets have been put in the care of an external bank assuming the function of custodian. The actual transfer of the fund's assets, equalling an amount of 44.4 million euros, has been completed on 27 July 2001. The fund has the benefit of monthly capital inflows.

With regard to the default of the Pension and Insurance fund of private employees and the legal duty imposed by article 14 upon the BCL, the latter withheld an amount of 33.8 million euros, in addition to the withdrawal from its reserve fund[8].

During 2003, for the first time an agent of the bank retired. As from 1 May, he was the first agent to benefit from the allowances of the pension fund.

## 4.3 Buildings / Facilities

During 2003 the main objectives were cost reduction and achieving improvements in administrative workflows and maintenance efforts. The information gathered in 2003 allowed the drawing up of detailed statistics needed to set up an efficient management of the existing facilities.

In order to better manage the important flow of visitors to its public counters, the Bank started transformation works in 2003 that resulted in the creation of a separate personnel entrance. This allowed to greatly reduce delays at the main entry of the old building, thus contributing to an improved customer reception.

## 4.4 Accounting and budget

### 4.4.1 Accounting and Finance

The BCL participates in the daily reporting of the Eurosystem members' balance sheet data according to harmonised rules. In 2003, BCL continued to strengthen its accounting system and its procedures in order to meet its internal quality standards and those of the Eurosystem. The monthly balance sheet of the Bank is published on its Internet site. During the year, the control systems in place have shown to be efficient.

The Bank regularly checks the development of balance sheet, off-balance-sheet and profit & loss items. Investments, revenues and expenses are particularly closely monitored, notably in terms of compliance with the internal procedures of authorised signatures.

The implementation of a cost accounting system started in 2003. For the moment, the methodology consists of allocating BCL's operational expenses according to their destination, e.g. on the respective sections and entities. In the course of 2004, an activity-based costing system will be developed.

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 or annually. These tables include all activities of the Bank. The analysis of the profit & loss items is completed by a result analysis of the various activities. The Bank strictly controls the development of the interest margin and compares the profitability of its investments to benchmarks.

BCL regularly checks its risk exposure and controls the appropriateness of own funds and of short-, middle- and long-term provisions. The Bank has adopted a prudent policy of constituting and maintaining provisions for general and specific bank risks.

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.

The Council and the management of the Bank are regularly informed of the provisional and estimated results in order to be in a position to decide on future orientations and the actions to undertake.

The asset/liability committee that was set up in 2002 monitors closely the risk exposure and the financial situation during the year, and in particular the risk related to the adequacy of assets and liabilities.

[8] According to article 35 (a) (c) of the law.

### 4.4.2 Budget

Every year in December, the BCL's Council approves the budget for the coming year. The elaboration of the 2003 budget was done in accordance with the budgetary procedure aiming at managing the Bank's resources in a rational manner.

The budgetary procedure ensures that the limit set beforehand will not be exceeded. Within this limit, expenses can be engaged only as far as they are abiding by the Bank's rules regarding profitability and economic efficiency. It should be mentioned that operational costs for 2003 have stayed within the budgetary limit approved by the Council.

The implementation during 2003 of a software for electronic data processing in relation with budget management was very successful. The elaboration of the 2004 budget was completely done with this software, which has allowed to reduce considerably the reaction time regarding all last-minute changes and to produce an updated version of the amended budget enabling the decision-makers to take the measures required.

Furthermore, the access for users to the budgetary data via their computer represents a simplification as regards to budget monitoring. In fact, the software allows a daily monitoring in real time. The data listed in the accounting system are injected on a daily basis in the software, which allows an immediate charging of the invoices to a budgetary item, thus shortening considerably the margin for possible overspending.

After having succeeded its introduction within the ESCB during the first five years of its existence, the BCL now enters a period of consolidation. Especially in this context the *Balanced Scorecard* has been developed. It defines the main task of the BCL and the ensuing objectives. These objectives entitle to define more precisely the major budgetary directives that have underlain and will underlie the elaboration of the BCL's budget.

## 4.5 The internal audit activities

The BCL's internal control system is based on generally accepted standards prevailing in the financial sector. The principles of the internal control as well as the various responsibilities resulting thereof are described in the internal Manual of Procedures.

The main activity of the internal audit function is to assess the internal control system. This task is ensured by an independent Internal Audit Unit that reports directly to the President of the Bank. The definition of the internal audit function is based on the rules and regulations prevailing in the Luxembourg financial centre, as well as on the standards promoted by the Institute of Internal Auditors (IIA) and the ESCB Audit Policy.

The annual audit plan comprises audit engagements on the level of the ESCB, which are coordinated by the Internal Auditor's Committee, as well as audit engagements defined and performed at a national level. During 2003, the Internal Audit Unit performed various engagements in the field of payment systems, monetary policy operations, banknotes and coins, accounting and information systems.

The Internal Audit Unit is in charge of the follow-up of the recommendations issued during its audit activities.

## 4.6 Financial statements as at 31 December 2003

**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 prepared under the responsibility of the Directors. In case of differences between the French version and this translation, the French version should be retained."

### 4.6.1 Key figures as at year-end (in euros unless otherwise indicated)

| | 2002 | 2003 | Change in % 2003/2002 |
|---|---|---|---|
| **Total assets** | 24 990 130 072 | 27 856 509 647 | 11% |
| **Banks' current accounts** | 4 638 044 452 | 6 765 571 187 | 46% |
| **Claims on credit institutions** | 23 370 585 585 | 23 402 735 897 | 0% |
| **Own funds (1), revaluation accounts, administrative provisions and specific banking risks** | 362 808 977 | 416 004 599 | 15% |
| **Net result of banking activities (2)** | 86 224 016 | 99 947 756 | 16% |
| **Administrative expenses** | 26 483 970 | 27 282 863 | 3% |
| **Gross operating profit (3)** | 69 745 992 | 67 628 599 | -3% |
| **Net profit** | 4 970 236 | 3 105 175 | -38% |
| **Cash Flow (4)** | 74 701 802 | 74 171 100 | -1% |
| **Personnel** | 204 | 200 | -2% |
| **BCL's part in the capital of the ECB** | 0.1492% | 0.1492% | |
| **BCL's part in the Eurosystem's monetary policy operations** | **9.852%** | **7.850%** | |

(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.
The adjusted net result of banking activities including the net result of pooling of monetary income rises from EUR 76 558 848 to EUR 81 305 886, equivalent to an increase of 6%.

(3) Total revenues less total costs (excluding transfers to and from depreciations and provisions).

(4) 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.

### 4.6.2 Report of the Independent Auditor

To the Council of the Banque centrale du Luxembourg

To the Government

To the Chamber of Representatives

We have audited the attached financial statements of the Banque centrale du Luxembourg for the year ended 31 December 2003. The financial statements are the responsibility of the Directors and are approved by the Council. 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. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the Directors, as well as evaluating the overall financial statements presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the attached financial statements give, in conformity with the generally accepted accounting principles and those defined by the European System of Central Banks, a true and fair view of the financial position of the Banque centrale du Luxembourg as at 31 December 2003 and of the results of its operations for the year then ended.

PricewaterhouseCoopers S.à r.l.
Réviseur d'entreprises
Represented by

Luxembourg, March 9, 2004

Pierre Krier

### 4.6.3 Balance sheet as at 31 December 2003

(IN EUROS)

| | Note | 2003 EUR | 2002 EUR |
|---|---|---|---|
| **ASSETS** | | | |
| Gold and gold receivables | 3 | 24 880 800 | 24 958 618 |
| Claims on non-euro area residents denominated in foreign currency | 4 | 221 599 940 | 144 650 120 |
| - Receivables from the IMF | | 151 431 221 | 144 481 474 |
| - Balances with banks, security investments, external loans and other external assets | | 70 168 719 | 168 646 |
| Claims on euro area residents denominated in foreign currency | 5 | 19 794 150 | - |
| Claims on non-euro area residents denominated in euros | 6 | 290 550 224 | 301 182 |
| - Balances with banks, security investments and loans | | 290 550 224 | 301 182 |
| Lending to euro area credit institutions related to monetary policy operations denominated in euros | 7 | 23 402 139 150 | 23 307 712 900 |
| - Main refinancing operations | 7.1 | 20 368 177 200 | 19 591 455 200 |
| - Long-term refinancing operations | 7.2 | 3 033 961 950 | 3 716 257 700 |
| Other claims on euro area credit institutions denominated in euros | 8 | 596 747 | 62 872 685 |
| Securities of euro area residents denominated in euros | 9 | 828 959 524 | 204 171 319 |
| Intra-Eurosystem claims | 10 | 2 408 352 832 | 83 176 316 |
| - Participating interest in ECB | 10.1 | 7 460 000 | 7 460 000 |
| - Claims related to the transfer of foreign reserves | 10.2 | 74 600 000 | 74 600 000 |
| - Other claims within the Eurosystem | 10.3 | 2 326 292 832 | 1 116 316 |
| Items in course of settlement | | 42 | 250 |
| Other assets | 11 | 659 636 238 | 1 162 286 682 |
| - Tangible and intangible fixed assets | 11.1 | 58 701 026 | 61 693 547 |
| - Other financial assets | 11.2 | 530 602 520 | 1 028 411 411 |
| - Off-balance sheet instruments revaluation differences | | - | 1 996 500 |
| - Accruals and prepaid expenses | 11.3 | 44 790 875 | 49 019 675 |
| - Sundry | 11.4 | 25 541 817 | 21 165 549 |
| **Total assets** | | **27 856 509 647** | **24 990 130 072** |

The accompanying notes form an integral part of the financial statements.

**Balance sheet as at 31 December 2003**

(IN EUROS)

| | Note | 2003 EUR | 2002 EUR |
|---|---|---|---|
| **LIABILITIES** | | | |
| Banknotes in circulation | 12 | 739 426 800 | 614 169 272 |
| Liabilities to euro area credit institutions related to monetary policy operations denominated in euros | 13 | 6 765 571 187 | 4 638 044 452 |
| - Current accounts (covering the minimum reserve system) | | 6 765 571 187 | 4 637 844 452 |
| - Deposit facility | | - | 200 000 |
| Liabilities to other euro area residents denominated in euros | 14 | 592 064 411 | 525 914 231 |
| - General government | 14.1 | 592 064 411 | 525 909 890 |
| - Other liabilities | | - | 4 341 |
| Liabilities to non-euro area residents denominated in euros | 15 | 51 907 491 | 53 947 531 |
| Liabilities to non-euro area residents denominated in foreign currency | 16 | 19 796 162 | - |
| Counterpart of special drawing rights allocated by the IMF | 17 | 19 972 990 | 21 978 716 |
| Intra-Eurosystem liabilities | 18 | 19 077 543 570 | 18 568 559 665 |
| - Net liabilities related to the allocation of euro banknotes within the Eurosystem | 18.1 | 19 077 543 570 | 9 254 574 795 |
| - Other liabilities within the Eurosystem | 10.3 | - | 9 313 984 870 |
| Items in course of settlement | 19 | 6 812 500 | 14 515 834 |
| Other liabilities | 20 | 104 097 466 | 132 622 382 |
| - Off-balance sheet instruments revaluation differences | | 346 300 | 1 816 500 |
| - Accruals and income collected in advance | | 89 766 149 | 114 444 118 |
| - Sundry | | 13 985 017 | 16 361 764 |
| Provisions | 21 | 305 678 333 | 243 363 505 |
| Revaluation accounts | 22 | 30 821 436 | 37 302 358 |
| Capital and reserves | 23 | 139 712 126 | 134 741 890 |
| - Capital | 23.1 | 25 000 000 | 25 000 000 |
| - Reserves | 23.2 | 114 712 126 | 109 741 890 |
| **Profit for the year** | | **3 105 175** | **4 970 236** |
| **Total liabilities** | | **27 856 509 647** | **24 990 130 072** |

The accompanying notes form an integral part of the financial statements.

### 4.6.4 Off-balance sheet as at 31 December 2003

(IN EUROS)

| | Note | 2003 EUR | 2002 EUR |
|---|---|---|---|
| Custody deposits | 24 | 106 433 616 407 | 87 077 073 455 |
| Commitments and similar instruments | 25 | 1 400 000 000 | 1 000 000 000 |
| Foreign currency reserve assets administrated on behalf of the ECB | 26 | 69 213 290 | 78 565 861 |
| Forward transactions | 27 | 43 355 000 | 410 582 250 |
| Numismatic collection | | 107 972 | 107 972 |
| | | **107 946 292 669** | **88 566 329 538** |

### 4.6.5 Profit and loss account for the year 2003

(IN EUROS)

| | Note | 2003 EUR | 2002 EUR |
|---|---|---|---|
| Interest income | | 610 386 573 | 708 247 980 |
| Interest expense | | (512 430 452) | (606 739 095) |
| **Net interest income** | **28** | **97 956 121** | **101 508 885** |
| Realised (losses) / gains arising from financial operations | | 9 072 330 | (9 751 967) |
| Write-downs on financial assets and positions | 29 | (6 542 502) | (4 955 810) |
| Transfer to / from provisions for foreign exchange rate and price risks | 30 | (55 865 813) | (61 377 778) |
| **Net result of financial operations, write-downs and risk provisions** | | **(53 335 985)** | **(76 085 555)** |
| Fees and commissions income | | 6 524 275 | 5 533 284 |
| Fees and commissions expense | | (7 062 469) | (6 110 375) |
| **Net result from fees and commissions** | **31** | **(538 194)** | **(577 091)** |
| Income from participating interest | 32 | 1 131 889 | 3 801 103 |
| Net result of pooling of monetary income | 33 | (18 641 870) | (9 665 168) |
| Other income | 34 | 12 547 655 | 24 750 115 |
| **Total net income** | | **39 119 616** | **43 732 289** |
| Staff costs | 35 | (16 524 525) | (15 366 065) |
| Other administrative expenses | 36 | (7 777 336) | (8 416 991) |
| Depreciation of tangible and intangible fixed assets | 37 | (6 984 340) | (4 858 986) |
| Banknote production services | 38 | (316 697) | (2 462 941) |
| Other expenses | 39 | (4 411 543) | (7 657 070) |
| **Profit for the year** | | **3 105 175** | **4 970 236** |

The accompanying notes form an integral part of the financial statements.

### 4.6.6 Notes to the financial statements as at 31 December 2003

## Note 1 - General

The Banque centrale du Luxembourg (BCL) was incorporated in accordance with the law of 22 April 1998. The law of 23 December 1998 provides that the main task of the BCL shall be to take part in 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 Assets and liabilities in gold and foreign currencies*

Assets and liabilities denominated in foreign currencies (including gold) are converted into euros at the exchange rate in force on the balance sheet closing date. Proceeds and costs 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 at market prices 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 euros are valued at the market price prevailing on the balance sheet date. 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 were not considered in the profit and loss account, but transferred to a revaluation account on the liabilities side of the balance sheet.

Unrealised losses were recognized in the profit and loss account when they exceeded 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 were not netted with unrealised gains in 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 were calculated and presented on a pro rata basis as part of interest income 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 12 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".

From 2002 until 2007 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 in the period from July 1999 to June 2001 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 until the end of 2007 after which income on banknotes will be allocated 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 be distributed separately to the NCBs in the form of an interim distribution of profit. It shall be so distributed in full unless the ECB's net profit for the year is less than its income earned on euro banknotes in circulation and subject to any decision by the Governing Council to reduce this income in respect of costs incurred by the ECB in connection with the issue and handling of euro banknotes. With respect to 2003, the Governing Council decided in the light of their estimate that the full amount of such income should be retained by the ECB.

### *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 1st January 1999, after the introduction of the law of 23 December 1998, the pension claims of its agents are fully supported by the BCL. A pension fund, whose aim it is to cover the risks related to aging, infirmity or survival, has been created in 2000. The actuarial method for determining the BCL's liabilities towards its agents has been approved by the pension fund's board as at 12 February 2001.

The actuarial method determines the pension fund's liability related to aging, 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 sixty years as well as 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 increase of the provision results from the regular transfer of the employee's part and the BCL's employer's part. 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 the case of insufficient transfers in order to cover the BCL's pension liabilities, the difference between the existing provision and the real claim is covered by a special transfer to be supported by the BCL.

## Note 3 - Gold and gold receivables

As at 31 December 2003, BCL holds 3 313.29 ounces of fine gold amounting to 1.1 million euros (365.75 ounces of fine gold amounting to 0.1 million euros as at 31 December 2002) and a first rated gold bond issued by the International Bank for Reconstruction and Development purchased in 2002 and valued at 23.8 million euros (24.8 million euros as at 31 December 2002).

## Note 4 - Claims on non-euro area residents denominated in foreign currency

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);
- balances held on accounts with banks which do not belong to 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 BCL's US Dollar securities portfolio built in 2003 which could be used, if needed, for monetary policy operations.

This portfolio only contains government bonds and first rated bonds issued by international and supranational institutions denominated in US Dollars. Securities are valued at market prices. As at 31 December 2003, their value at market prices included an unrealised loss amounting to 0.4 million euros.

## Note 5 - Claims on euro area residents denominated in foreign currency

This item comprises BCL's balances denominated in foreign currency with counterparties which belong to the euro area.

### Note 6 - Claims on non-euro area residents denominated in euros

This item contains balances held on accounts with banks which do not belong to the euro area as well as securities, loans and other euro-denominated assets issued by non-residents of the euro area.

Since 2003, this item comprises in particular the securities portfolio denominated in euros and issued by non-residents of the euro area, in accordance with the ECB's instructions. This portfolio could be used, if needed, for monetary policy operations.

This portfolio only contains government bonds and first rated bonds issued by companies which do not belong to the euro area denominated in euros. Securities are valued at market prices. As at 31 December 2003, their value at market prices included an unrealised gain amounting to 0.6 million euros.

### Note 7 - Lending to euro area credit institutions related to monetary policy operations denominated in euros

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:

#### *7.1 Main refinancing operations*

This sub-item records the amount of liquidity provided to credit institutions by way of weekly 14-day tenders.

#### *7.2 Long-term refinancing operations*

This sub-item records the amount of credit extended to credit institutions by way of monthly 3-month tenders.

### Note 8 - Other claims on euro area credit institutions denominated in euros

This item includes the BCL's current accounts and fixed-term deposits with credit institutions which belong to the euro area.

### Note 9 - Securities of euro area residents denominated in euros

This item covers the BCL's portfolio in euros issued by residents of the euro area which could be used, if needed, for monetary policy operations.

This portfolio only contains government bonds in euros 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 2003, their value at market prices included an unrealised gain amounting to 0.3 million euros (unrealised loss amounting to 0.1 million euros as at 31 December 2002).

### Note 10 - Intra-Eurosystem claims

#### *10.1 Participating interest in ECB*

This sub-item represents the BCL's contribution to the capital of the ECB. It corresponded to 0.1492 % in the subscribed capital of the ECB (5 billion euros). A decision allowing for an increase of the authorized capital up to 10 billion euros has been taken, in May 2000, by the Council of the European Union based on the ESCB/ECB statutes.

#### *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.

This claim is remunerated at 85 % of the interest rate on the main refinancing operations, which means 1.7 % on the balance sheet date.

A decision, allowing the ECB to ask for the transfer of supplementary foreign reserves in order to reconstitute the initial transfer of foreign reserves, has been taken, in May 2000, by the Council of the European Union based on the ESCB/ECB statutes.

### *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 BCL and the other NCBs as well as the ECB. This claim amounts to 2.3 billion euros as at 31 December 2003 (liability amounting to 9.3 billion euros as at 31 December 2002).

## Note 11 - Other assets

### *11.1 Tangible and intangible assets*

Tangible and intangible fixed assets evolved as follows:

| | Buildings<br>EUR | Furniture and equipment<br>EUR | Software<br>EUR | Total<br>EUR |
|---|---|---|---|---|
| Cost as at 01.01.2003 | 67 533 060 | 7 945 561 | 3 318 810 | 78 797 431 |
| Acquisitions | 2 728 300 | 1 022 100 | 241 419 | 3 991 819 |
| Disposals | - | (58 007) | - | (58 007) |
| **Cost as at 31.12.2003** | **70 261 360** | **8 909 654** | **3 560 229** | **82 731 243** |
| Accumulated depreciation as at 01.01.2003 | (11 095 472) | (4 227 417) | (1 780 995) | (17 103 884) |
| Depreciation | (4 846 894) | (1 518 571) | (618 875) | (6 984 340) |
| Reversal | - | 58 007 | - | 58 007 |
| Accumulated depreciation as at 31.12.2003 | (15 942 366) | (5 687 981) | (2 399 870) | (24 030 217) |
| **Net book value as at 31.12.2003** | **54 318 994** | **3 221 673** | **1 160 359** | **58 701 026** |

The sub-item "Buildings" comprises the acquisition cost of the premises located 2 boulevard Royal, the costs incurred in relation to the reconstruction and transformation of the new site ("Pierre Werner" building) and the renovations made on the main building ("Siège Royal"). The building located on the boulevard Prince Henri has been completely amortised in 2003 because of its destruction in order to construct a new one.

The "Pierre Werner" is considered as a new building and is 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 amortised over 10 years.

### *11.2 Other financial assets*

The components of this item are as follows:

| | 2003 EUR | 2002 EUR |
|---|---|---|
| Other participating interests | 153 657 | 231 344 |
| Pension fund | 56 828 975 | 47 066 258 |
| Securities portfolio | 473 619 888 | 981 113 809 |
| | **530 602 520** | **1 028 411 411** |

The other participating interests comprise the entry fees in LIPS-Net together with the BCL's participations in RTGS-L GIE, 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 it was calculated by the depositary bank as at 31 December 2003.

The securities portfolio recorded under this heading corresponds to the securities held by the BCL for the purpose of the investment of its own funds and third parties funds amounting to a total of 473.6 million euros (981.1 million euros as at 31 December 2002). Securities are valued at market prices. As at 31 December 2003, their value at market prices included an unrealised gain amounting to 13.3 million euros (unrealised loss amounting to 0.2 million euros as at 31 December 2002).

### *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 receivable commissions receivable, prepaid expenses of which salaries for January 2004 and other income receivable.

### *11.4 Sundry*

| | 2003 EUR | 2002 EUR |
|---|---|---|
| Withdrawals in advance | 6 812 500 | 14 515 000 |
| Others | 18 729 317 | 6 650 549 |
| | **25 541 817** | **21 165 549** |

The sub-item "Withdrawals in advance" corresponds to the amount of euro banknotes ordered by the credit institutions as at 31 December 2003 and which were not yet put into circulation on 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.

## Note 12 - Banknotes in circulation

This caption includes the BCL's share of the total euro banknotes put into circulation by the 12 central banks of the Eurosystem according to their weightings in the capital of the ECB, which totalled 739.4 million euros (607.7 million euros as at 31 December 2002).

As at 31 December 2002, this item also included the amount of Luxembourg banknotes not yet returned for 6.5 million euros. These banknotes are recorded under "Other liabilities" for an amount of 6.0 million euros as at 31 December 2003.

## Note 13 - Liabilities to euro area credit institutions related to monetary policy operations denominated in euros

This item primarily comprises credit institutions' accounts held within the framework of the requirements of the minimum reserve system.

## Note 14 - Liabilities to other euro area residents denominated in euros

### *14.1 Liabilities to general government*

This caption records the amounts owed to the Luxembourg Treasury including the following items:

| | 2003 EUR | 2002 EUR |
|---|---|---|
| Current account | 291 581 | 909 890 |
| Account related to euro coins issued by the Treasury | 81 772 830 | - |
| Fixed-term deposit | 510 000 000 | 525 000 000 |
| | **592 064 411** | **525 909 890** |

In accordance with the amendment of 10 April 2003 to the agreement between the State of Luxembourg and the BCL on their financial relations, 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 relates to the agreement between the State of Luxembourg and the BCL which originally specified that the State should maintain at the BCL a deposit equivalent to the BCL's claim on BNB in relation to Belgian banknotes circulating in Luxembourg. The fixed-term deposit matured on 1 March 2002 and was replaced, following agreement between parties, by a term deposit renewed on a monthly basis.

Interest expense in relation with these liabilities to the Luxembourg Treasury for the financial year 2003 amounts to 5.1 million euros (10.5 million euros as at 31 December 2002) and is recorded under the caption "Interest expense".

In accordance with the articles of the agreement which foresee this possibility, the State renounced on the remuneration of its term deposit for the financial year 2003. An equivalent income amounting to 4.9 million euros (10.5 million euros as at 31 December 2002) is recorded under "Other income" in order to reinforce BCL's own funds.

## Note 15 - Liabilities to non-euro area residents denominated in euros

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 caption represents the counter value 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 would be closed or if Luxembourg would decides to withdraw from it. This liability, of unlimited duration, amounts to SDR 17.0 million, or 20.0 million euros (SDR 17.0 million, or 22.0 million euros as at 31 December 2002).

## 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 towards the Eurosystem in relation to the allocation of euro banknotes within the Eurosystem.

## 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 which were not yet put into circulation on that date.

## Note 20 - Other liabilities

This item comprises mainly the negative revaluation differences on financial instruments linked to interest rates and market prices, accrued interest, of which accrued interest on intra-Eurosystem liabilities, as well as miscellaneous expenses payable, of which suppliers, and the Luxembourg banknotes not yet returned.

## Note 21 - Provisions

Provisions developed as follows:

| | 2003 EUR | 2002 EUR |
|---|---|---|
| Provisions for banking risks | 239 651 570 | 183 785 756 |
| Provisions for pensions | 65 342 291 | 59 045 736 |
| Other provisions | 684 472 | 532 013 |
| | **305 678 333** | **243 363 505** |

### *21.1 Provisions for banking risks*

Provisions for banking risks include the following items:

| | 2003 EUR | 2002 EUR |
|---|---|---|
| **Provisions for specific banking risks** | | |
| Provision covering credit risk | 87 236 373 | 63 990 305 |
| Provision covering operational risk | 14 000 000 | 14 400 000 |
| Provision covering liquidity risk | 9 826 033 | 7 907 276 |
| Provision covering interest rate risk | 200 000 | 200 000 |
| | **111 262 406** | **86 497 581** |

| | 2003 EUR | 2002 EUR |
|---|---|---|
| **Provisions for general banking risks** | | |
| Provision for liabilities resulting from monetary agreements | 35 324 827 | 35 324 827 |
| Other provision for general banking risks | 93 064 337 | 61 963 348 |
| | **128 389 164** | **97 288 175** |
| | **239 651 570** | **183 785 756** |

21.1.1 <u>Provision covering credit risk</u>

The provision for 87.2 million euros (64.0 million euros as at 31 December 2002) corresponds to:

- 4% of the BCL's own securities portfolio valued at market price as at 31 December 2003 (portfolio affected to monetary policy operations if necessary and structural portfolio) and participations other than the participating interest in the ECB;
- 4% of the total amount lent by the Eurosystem as at year-end for monetary policy reasons multiplied by the capital key corresponding to BCL (0.1842%).

21.1.2 <u>Provision covering operational risk</u>

This provision is intended to cover the risk of losses resulting from the inadequacy or the default of procedures and processes, and relating to human factor or external causes. Because of a lack of relevant statistics on the measure of risk, the transfer to this provision is based on the Basic Indicator Approach described by the consultative working-paper of the Basle Committee as being 15% of the net banking product.

21.1.3 Provision for liabilities resulting from monetary agreements

The provision for liabilities resulting from monetary treaties was initially created in 1984 by the Institut Monétaire Luxembourgeois (IML) together with the Ministry of Treasury to be able to face any future monetary liabilities.

21.1.4 Other provision for general banking risks

For prudence's sake and to safeguard its assets, BCL has transferred 31.1 million euros (58.9 million euros for the financial year 2002) 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:

| | 2003 EUR | 2002 EUR |
|---|---|---|
| Provision for pensions | 62 678 000 | 57 087 000 |
| Provision for equalisation and financial risks | 850 252 | 850 252 |
| Provision for increase of PBO | 1 814 039 | 1 108 484 |
| | **65 342 291** | **59 045 736** |

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 amounts to 62.7 million euros as at 31 December 2003 (57.1 million euros as at 31 December 2002).

The increase of the provision during the year results from:

- monthly withdrawals on the gross salaries of BCL employees (employee's part) and the employer's part;
- periodic transfers from the account "Booking reserve of the pension fund" to adjust the account "Provision for pensions" to its actuarial value;
- a transfer for the year 2003 to adjust the account "Provision for pensions" to its actuarial value.

During the year 2001 and according to article 35 paragraph 4(c) of its institutional law, BCL operated a unique transfer from its reserves in order to adjust the pension fund to the required amount as at 31 December 2001. In addition, article 35 paragraph 4(a) of the same law indicates that "the Luxembourg pension offices that received contributions from persons that are or become BCL agents, pay these amounts to BCL's pension fund".

As of today, the Luxembourg pension funds did not fulfil their obligations mentioned in article 35 paragraph 4(a). Consequently, the unique transfer from the reserves in 2001 for 33.8 million euros was determined without considering the claim on the pension funds, which will be used for the reconstitution of the reserves.

21.2.2 Provision for equalisation and financial risks

A provision of 3 million euros for equalisation and financial risks has been created in 2001 to cover fluctuations in the pension fund's liabilities in the beginning years and/or to compensate for a lower return on assets. During the year 2002, an amount of 2.1 million euros has been used. The provision did not change in 2003.

21.2.3 Provision for increase of PBO

The provision of 1.8 million euros is based on the average expense in relation with pensions, infirmity and death for agents already being part of BCL personnel or included in the budgeted figures of 2003 but not included in the pension fund's liabilities calculation as at 31 December 2003. The liability ("Projected Benefit Obligation" or "PBO") equals the potential payments at their present value considering individual parameters and the actuarial method used. During the year 2003, an amount of 0.7 million euros has been transferred to cover BCL's increased pension liabilities resulting from the recruitment of 6 new agents.

## 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 unique shareholder of the BCL's capital which is fixed at 25 million euros (25 million euros as at 31 December 2002).

### *23.2 Reserves*

The reserves amount to 114.7 million euros (109.7 million euros as at 31 December 2002). This amount has been increased by 5.0 million euros during the year following the allocation of profit of the year 2002 according to the decision of the BCL's Council and its institutional law (article 31).

## Note 24 - Custody deposits

This item includes the securities given into custody by Luxembourg financial institutions to cover their liabilities related to refinancing operations, marginal lending facilities and intra-day credits.

This caption 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 agreement "Correspondent Central Banking Model" ("CCBM"). This agreement allows commercial banks to obtain funding with their country of residence's central bank by using the securities held in another member state as a guarantee.

As at 31 December 2003, the market value of these securities amounts to 106.4 billion euros (87.1 billion euros as at 31 December 2002).

## Note 25 - Commitments and similar instruments

This item corresponds to the guarantee issued by BCL for the project "Night Time Link". This liability is guaranteed by assets received in custody for the same amount.

## Note 26 - Foreign currency reserve assets administrated on behalf of the ECB

This caption includes the foreign currency reserves at market value that have been transferred to the ECB in January 1999 and are managed by BCL on behalf of the ECB. These reserves are shown under asset item "Claims related to the transfer of foreign reserves".

## Note 27 - Forward contracts

BCL is engaged in bond and stock index futures. These instruments are mainly held for hedging purposes of interest rate risks related to the securities portfolio.

As at 31 December 2003, the total liabilities related to these forward contracts amount to 43.4 million euros (410.6 million euros as at 31 December 2002). One security has been given as a guarantee in order to cover the initial margin deposit. This security remains on the balance sheet of BCL for an amount of 5.3 million euros as at 31 December 2003 (3.5 million euros as at 31 December 2002).

## Note 28 - Net interest income

This item includes interest income, after deduction of interest expense, on assets and liabilities in currency and in euros. Interest income and expense are detailed as follows:

**Composition of interest income**

| | Amounts in foreign currency EUR | | Amounts in euros EUR | |
|---|---|---|---|---|
| | **2003** | **2002** | **2003** | **2002** |
| IMF | 2 262 546 | 2 928 216 | - | - |
| Monetary policy | - | - | 542 844 349 | 658 390 717 |
| Claims related to the reallocation of euro banknotes in the Eurosystem | - | - | - | 3 601 306 |
| Intra-Eurosystem claims | - | - | 6 870 656 | 3 662 707 |
| Securities | 331 513 | - | 57 424 382 | 39 092 983 |
| Gold | 402 602 | 393 544 | - | - |
| Other | 100 226 | 23 | 150 299 | 178 484 |
| **Total** | **3 096 887** | **3 321 783** | **607 289 686** | **704 926 197** |

**Composition of interest expense**

| | Amounts in foreign currency EUR | | Amounts in euros EUR | |
|---|---|---|---|---|
| | **2003** | **2002** | **2003** | **2002** |
| IMF | 343 789 | 514 552 | - | - |
| Current accounts (including minimum reserves) and deposits related to monetary policy operations | - | - | 159 682 971 | 240 169 924 |
| Liabilities related to the reallocation of euro banknotes in the Eurosystem | - | - | 281 518 341 | 102 062 893 |
| Other Intra-Eurosystem liabilities | - | - | 65 299 502 | 252 290 832 |
| Interests on term deposits | - | - | 4 863 958 | 10 530 938 |
| Other liabilities | 7 930 | - | 713 961 | 1 169 956 |
| **Total** | **351 719** | **514 552** | **512 078 733** | **606 224 543** |

### Note 29 - Write-downs on financial assets and positions

This item includes revaluation losses on foreign currencies for 5.5 million euros, on securities for 0.9 million euros and on financial instruments linked to interest rates and market prices for 0.1 million euros (0 euros, 3.1 million euros and 1.8 million euros respectively in 2002).

### Note 30 - Transfer to/from provisions for foreign exchange rate and price risks

This caption includes the transfers to and from provisions for banking risks.

### Note 31 - Net result from fees and commissions

Fees and commissions income and expense are detailed as follows:

| | Fees and commissions income EUR | | Fees and commissions expense EUR | |
|---|---|---|---|---|
| | **2003** | **2002** | **2003** | **2002** |
| Securities | 6 262 926 | 5 351 425 | 6 870 605 | 5 846 379 |
| Others | 261 349 | 181 859 | 191 864 | 263 996 |
| **Total** | **6 524 275** | **5 533 284** | **7 062 469** | **6 110 375** |

### Note 32 - Income from participating interest

This item includes the dividend of 1.1 million euros distributed by the European Central Bank for the year 2002 (2.7 million euros for the year 2001).

In 2003, the ECB's income on euro banknotes in circulation amounting to 698 million euros (606 million euros in 2002) was fully retained by the ECB in accordance with a decision of the Governing Council and in view of the ECB 2003 result (in 2002, 1.1 million euros had been retro ceded to the BCL).

### Note 33 - Net result of pooling of monetary income

From 2003 onwards, the amount of each Eurosystem NCB's monetary income 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 euros;
- 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 euros;
- 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 each NCB's capital key.

Gold is considered to generate 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 the value of the 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 (0.1842% for the BCL).

<u>Calculation of net monetary income allocated to the BCL for the financial year 2003:</u>

| | **(in million euros)** |
|---|---|
| - Monetary income pooled by BCL | 32.9 |
| - Monetary income reallocated to BCL | 14.3 |
| Net result arising from the calculation of monetary income | 18.6 |

## Note 34 - Other income

Other income includes revenues for 4.9 million euros (10.5 million euros for 2002) that reflect the renunciation by the State of Luxembourg on the interests due for 2003 on its term deposit with BCL (see also note 14.1). This item also includes revenues for services rendered to third parties, transfers from administrative provisions and income from numismatic activities.

## Note 35 - Staff costs

This item includes the salaries and compensations as well as the employer's part of the contributions to the pension and social security regimes. The compensations paid to the Directors amount to 440 366 euros for the year 2003 (424 389 euros for the year 2002).

As at 31 December 2003, BCL's personnel amounts to 200 agents (204 as at 31 December 2002). The average number of persons working for BCL from 1 January to 31 December 2003 amounted to 201 agents (194 for the year 2002).

## Note 36 - Administrative expenses

This caption includes all general and recurring expenses, meaning rents, cleaning and reparations of buildings and equipment, small goods and materials, fees paid and other services and furniture as well as recruitment expenses. The compensations paid to the members of the Council amount to 66 147 euros in 2003 (58 397 euros in 2002).

## Note 37 - 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 38 - Banknote production services

This caption shows mainly the costs related to the production and issue of banknotes denominated in euros.

## Note 39 - Other expenses

The bulk of other expenses are related to the transfer to the administrative provisions.

### Note 40 - Post balance sheet events

In accordance with Article 29.3 of the ESCB Statute, the key of NCBs for subscription of the ECB's capital shall be adjusted every five years. The first quinquennial change took effect on 1 January 2004.

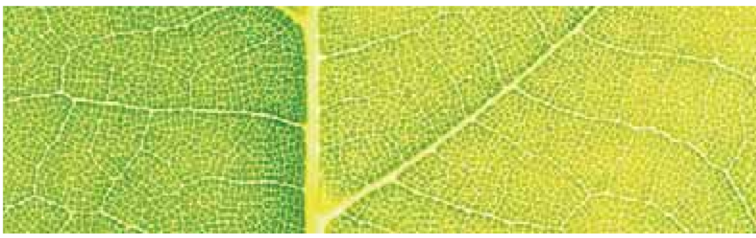
On 1 May 2004 a second change of the ECB's capital key will occur, as a result of the accession of 10 Member States. Based on the Council Decision of 15 July 2003 on the statistical data to be used for the determination of the key for subscription of the capital of the ECB, the capital keys of NCBs were adjusted as follows:

| | Key for subscription of the ECB's capital (in %) | |
|---|---|---|
| | from 1 January 1999 until 31 December 2003 | from 1 January 2004 until 30 April 2004 |
| Banque nationale de Belgique | 2.8658 | 2.8297 |
| Deutsche Bundesbank | 24.4935 | 23.4040 |
| Bank of Greece | 2.0564 | 2.1614 |
| Banco de España | 8.8935 | 8.7801 |
| Banque de France | 16.8337 | 16.5175 |
| Central Bank and Financial Services Authority of Ireland | 0.8496 | 1.0254 |
| Banca d'Italia | 14.8950 | 14.5726 |
| Banque centrale du Luxembourg | 0.1492 | 0.1708 |
| De Nederlandsche Bank | 4.2780 | 4.4323 |
| Oesterreichische Nationalbank | 2.3594 | 2.3019 |
| Banco de Portugal | 1.9232 | 2.0129 |
| Suomen Pankki - Banque de Finlande | 1.3970 | 1.4298 |
| ***Subtotal Eurosystem*** | ***80.9943*** | ***79.6384*** |
| Danmarks Nationalbank | 1.6709 | 1.7216 |
| Sveriges Riksbank | 2.6537 | 2.6636 |
| Bank of England | 14.6811 | 15.9764 |
| ***Subtotal non-euro area NCBs*** | ***19.0057*** | ***20.3616*** |
| **Total** | **100.0000** | **100.0000** |

On 1 January 2004, the capital key share of BCL increased by 0.0216% to 0.1708%. Consequently, asset item "Participating interest in the ECB" increased by 1.1 million euros to 8.5 million euros as a result of the additional capital contribution that was transferred to the ECB.

The adjustments to the capital key weightings and the resulting changes in the euro area NCBs' shares in the ECB's subscribed capital also make it necessary to adjust the claims which the ECB has credited to the euro area NCBs and which are equivalent to those NCBs' respective contributions of foreign reserve assets to the ECB. In order to reflect its increased capital key share, the euro-denominated claim of BCL with respect to the foreign reserve assets transferred to the ECB increased by 10.8 million euros to 85.4 million euros as at 1 January 2004.

From 1 May 2004 onwards, the subscribed capital of the ECB and the limit on the amount of foreign reserve assets that may be transferred to the ECB shall be automatically increased upon one or more countries becoming Member States and their respective national central banks becoming part of the ESCB.



# 5. ANNEXES

## 5.1 List of BCL circular letters issued in 2003

- BCL circular letter 2003/179 of 8 May 2003 regarding the obligation to withdraw and hand in counterfeited euro banknotes and coins, or those alleged to be counterfeited - to all credit institutions, to the financial services of the Postal and Telecommunications Services Company and to institutions participating in the handling and delivering of fiduciary money to the public.
- BCL circular letter 2003/180 of 11 June 2003 regarding survey on foreign direct investment - to all credit institutions and to the financial services of the Postal and Telecommunications Services Company (giro accounts service).
- BCL circular letter 2003/181 of 17 November 2003 regarding the modification of the reserve requirement system - to all credit institutions.
- BCL circular letter 2003/182 of 19 December 2003 regarding the dates for the transmission of statistical reports to the Banque centrale du Luxembourg - to all credit institutions.
- BCL circular letter 2003/183 of 19 December 2003 regarding the dates for the transmission of statistical reports to the Banque centrale du Luxembourg - to all UCITS .
- BCL circular letter 2004/184 of 5 March 2004 regarding the amendment of the BCL's terms and conditions - to all credit institutions and to the financial services of the Postal and Telecommunications Services Company (giro accounts service).

## 5.2 BCL Publications

Paper copies of publications may be obtained at the BCL public counters within the limit of available stocks and according to its specified conditions. These publications may also be read and downloaded from the website **www.bcl.lu**.

**For a complete list of the documents published by the ECB and for the versions in all official languages of the EU, please visit the ECB's web site www.ecb.int.**

### BCL Bulletins in 2003

- BCL Bulletin 2003/1, June 2003
  - *Les soldes budgétaires apurés des mouvements conjoncturels ;*
  - *La production potentielle et l'écart de production au Luxembourg : une revue des méthodes alternatives ;*
  - *Efficacité productive des banques luxembourgeoises : une analyse comparative.*
- BCL Bulletin 2003/2, September 2003
  - *Politique monétaire et rigidités ;*
  - *Résultats de l'enquête trimestrielle sur la distribution du crédit bancaire ;*
  - *La règle de Taylor : présentation et application pour la zone euro et pour le Luxembourg.*
- BCL Bulletin 2003/3, December 2003
  - *Les taux d'intérêts de détail sur la place de Luxembourg tels que recensés par la mise en place d'une enquête mensuelle ;*
  - *Les taux de change effectifs en tant qu'indicateurs de compétitivité ;*
  - *La situation budgétaire de l'assurance maladie-maternité.*

### BCL Annual reports

- Annual Report 1998, April 1999;
- Annual Report 1999, April 2000;
- Annual Report 2000, April 2001;
- Annual Report 2001, April 2002;
- Annual Report 2002 (French version), April 2003;
- Annual Report 2002 (English version), May 2003;
- Annual Report 2003 (French version), April 2004.

### BCL Working papers in 2003

- Working paper no. 6, January 2003
  "The sustainability of the private sector pension system from a long-term perspective: the case of Luxembourg", by Muriel Bouchet;

- Working paper no. 7, February 2003
  "The analysis of risk and risk mitigation techniques in payment and securities settlement systems and the impact on central bank's oversight", by Simona Amati;

- Working paper no. 8, April 2003
  "What to expect of the euro? Analysing price differences of individual products in Luxembourg and its surrounding regions", by Thomas Y. Mathä;

- Working paper no. 9, October 2003
  *"Règle de Taylor : estimation et interprétation pour la zone euro et pour le Luxembourg"*, by Patrick Lünnemann and Abdelaziz Rouabah;

- Working paper no. 10, November 2003
  *"Nouveaux instruments de paiement : une analyse du point de vue de la Banque centrale"*, by Li-Chun Yuan.

### BCL brochures

- "The Banque centrale of Luxembourg in the European System of Central Banks", by Michael Palmer, May 2001;

- "Banque centrale du Luxembourg", presentation of the Bank and of its missions (French, English and German), June 2003.

### General Conditions for BCL operations

## 5.3 Economic and financial statistics of the BCL

**Statistical tables listed hereunder are available on the BCL Internet site www.bcl.lu ("Statistics") and are regularly updated. These tables are also published in the quarterly BCL Bulletin.**

### 1 Monetary policy statistics

1.1 Financial situation of the BCL
1.2 Minimum reserves statistics in Luxembourg

### 2 Monetary and financial developments in the euro area

2.1 Aggregated balance sheets of Luxembourg MFIs (excluding the BCL)
2.2 Outstanding MFI loans to households and non-financial corporations by type and original maturity
2.3 Luxembourg bank interest rates of euro denominated loans and deposits vis-à-vis euro area residents on new business
2.4 Luxembourg bank interest rates of euro denominated loans and deposits vis-à-vis euro area residents on outstanding amounts

### 3 General data on the financial system in Luxembourg

3.1 Aggregated profit and loss account of the Luxembourg banks as at year-end
3.2 Interim aggregated profit and loss account of the Luxembourg banks
3.3 Long term development of the profit and loss accounts of the Luxembourg banks
3.4 Aggregated balance sheets of the Luxembourg banks
3.5 Geographic origin of credit institutions established in Luxembourg
3.6 Employment in the Luxembourg credit institutions and other financial sector professionals
3.7 Significant domestic interest rates
3.8 Lending for purchase of houses located in Luxembourg
3.9 Evolution of undertakings of collective investment in Luxembourg

## 5.4 List of abbreviations

**ABBL** *Association des Banques et Banquiers, Luxembourg*
**AGDL** *Association pour la garantie des dépôts, Luxembourg*
**BCL** *Banque centrale du Luxembourg*
**BIS** Bank for International Settlements
**BLEU** Belgian Luxembourg Economic Union
**BNB** *Banque Nationale de Belgique*
**CCBM** Correspondent central banking model
**CESR** Committee of European Securities Regulators
**CETREL** *Centre de transferts électroniques Luxembourg*
**CPI** Consumer Price Index
**CMFB** Committee on monetary, financial and balance of payments statistics
**CSSF** *Commission de surveillance du secteur financier*
**EBRD** European Bank for Reconstruction and Development
**ECB** European Central Bank
**EFC** Economic and Financial Committee
**EIB** European Investment Bank
**EMI** European Monetary Institute (1994-1998)
**EMS** European Monetary System
**EMU** Economic and Monetary Union
**ESCB** European System of Central Banks
**EU** European Union
**EUR** euro
**EUROSTAT** Statistical office of the European Communities
**FATF** Financial Action Task Force against money laundering
**FSAP** Financial Sector Assessment Program
**GDP** Gross domestic product
**HICP** Harmonised Index of Consumer Prices
**IADB** Inter American Development Bank
**IGC** Intergovernmental conference

| | |
|---|---|
| **IMF** | International Monetary Fund |
| **IML** | *Institut Monétaire Luxembourgeois* (1983-1998) |
| **LIPS-Gross** | Luxembourg Interbank Payment System Real-Time Gross Settlement System |
| **LIPS-Net** | Luxembourg Interbank Payment System Real-Time Net Settlement System |
| **MFI** | Monetary Financial Institution |
| **MRO** | Main refinancing operation |
| **NAV** | Net Asset Value |
| **NCB** | National central bank |
| **OECD** | Organisation for Economic Cooperation and Development |
| **OFI** | Other Financial Intermediaries |
| **OPEC** | Organisation of Petroleum Exporting Countries |
| **LTRO** | Longer term refinancing operation |
| **PBO** | Projected Benefit Obligation |
| **ROA** | Return on Assets |
| **ROE** | Return on Equity |
| **RTGS system** | Real-Time Gross Settlement system |
| **RTGS-GIE** | Economic interest grouping for real-time gross settlement of payments in Luxembourg |
| **SDDS** | Special Data Dissemination Standard |
| **SDR** | Special Drawing Rights |
| **SEC** | European System of National Accounts |
| **SWIFT** | Society for Worldwide Interbank Financial Telecommunication s.c. |
| **SYPAL-GIE** | Economic interest grouping for the promotion and management of payment systems in Luxembourg |
| **STATEC** | Central service for statistics and studies |
| **TARGET system** | Trans-European Automated Real-time Gross settlement Express Transfer system |
| **UCI** | Undertaking for Collective Investments |
| **UCITS** | Undertaking for Collective Investments in Transferable Securities |

## 5.5 Glossary

**Acquis communautaire:** term commonly used to refer to all Community law including EU treaties, regulations and directives. Countries joining the EU must have implemented the existing *acquis communautaire* by the time of accession.

**Attractive price:** attractive prices means psychological prices, i.e. prices which end with the figures 9, 95, 98, fractional prices which end with the figures 0 and 5 and rounded prices which are multiples of 100.

**Base effect:** when analysing 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 to 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 t and month t+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 immobilised within the CSD) or in a dematerialised form (*i.e.* only as electronic records).

**Collateral:** assets pledged (*e.g.* by **credit institutions** with central banks) as a guarantee for the repayment of loans, as well as assets sold (*e.g.* to central banks by credit institutions) as part of **repurchase agreements**.

**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 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.* balances 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 basis for the regular analysis of the counterparts of **M3**.

**Correspondent central banking model (CCBM):** a mechanism established by the **European System of 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 in another country. In the CCBM, an NCB acts as custodian for the other NCBs with regard to the securities held in its domestic **securities settlement system (SSS)**.

**Counterparty:** the opposite party in a financial transaction (*e.g.* any party transacting with a central bank).

**Credit institution:** an institution covered by the definition in Article 1 of Directive 2000/12/EC of the European Parliament and of the Council relating to the taking up and pursuit of the business of credit institutions. Thus, a credit institution is: an undertaking whose business is to receive deposits or other repayable funds from the public and to grant credit for its own account.

**Currency in circulation:** comprises banknotes and coins which are legal tender.

**Deposit facility:** a **standing facility** of the **Eurosystem** which **counterparties** may use to make overnight deposits at a national central bank and which are remunerated at a pre-specified interest rate (see **key ECB interest rates**).

**Economic and Monetary Union (EMU):** the **Treaty** describes the process of achieving EMU in the European Union (EU) in three stages. Stage One of EMU started in July 1990 and ended on 31 December 1993. It was mainly characterised by the dismantling of all internal barriers to the free movement of capital within the EU. Stage Two of EMU began on 1 January 1994. It provided for, *inter alia*, the establishment of the **European Monetary Institute (EMI)**, the prohibition of financing of the public sector by the central banks, the prohibition of privileged access to financial institutions by the public sector and the avoidance of excessive government deficits. Stage Three started on 1 January 1999 with the transfer of monetary competence to the **European Central Bank (ECB)** and the introduction of the **euro**. The cash changeover on 1 January 2002 completed the set-up of EMU.

**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 industrialised 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.

**Electronic money (e-money):** an electronic store of monetary value on a technical device that may be widely used as a prepaid bearer instrument for making payments to undertakings other than the issuer, without necessarily involving bank accounts in the transactions.

**ERM II (exchange rate mechanism II):** the exchange rate arrangement which provides the framework for exchange rate policy cooperation between the **euro area** and EU Member States not participating in the euro area from the start of Stage three of **Economic and Monetary Union**. Membership of the mechanism is voluntary. Nevertheless, Member States with a 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**.

**EURIBOR (euro interbank offered rate):** the rate at which a prime bank is willing to lend funds in **euro** to another prime bank. The EURIBOR is computed daily for interbank deposits with a maturity of one to three weeks and one to 12 months as the average of the daily offer rates of a representative panel of prime banks, rounded to three decimal places.

**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**.

**European Central Bank (ECB):** the ECB lies at the 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 implemented either through its own activities or the national central banks, pursuant to the Statute of the European System of Central Banks and of the European Central Bank. The ECB is governed by the **Governing Council** and the **Executive Board**, and, as a third decision-making body, by the **General Council**.

**European Monetary Institute (EMI):** a temporary institution established at the start of Stage Two of **Economic and Monetary Union** on 1 January 1994. 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 the 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 Bank** on 1 June 1998.

**European System of Central Banks (ESCB):** composed of the **European Central Bank (ECB)** and the national central banks of all 15 Member States, *i.e.* it includes, in addition to the members of the **Eurosystem**, the national central banks of the Member States which have not yet adopted the **euro** and are thus not involved in the conduct of the monetary policy of the Eurosystem.

**Eurosystem:** comprises 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**). There are currently 12 NCBs in the Eurosystem. The Eurosystem is governed by the **Governing Council** and the **Executive Board** of the ECB.

**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.

**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**.

**Fine-tuning operation:** a non-regular **open market operation** executed by the **Eurosystem** mainly in order to deal with unexpected liquidity fluctuations in the market.

**Foreign exchange swap:** simultaneous spot and forward transactions exchanging one currency against another. The **Eurosystem** can execute **open market operations** in the form of foreign exchange swaps, where the national central banks (or the **European Central Bank**) buy or sell **euro** spot against a foreign currency and, at the same time, sell or buy them back in a forward transaction.

**General Council:** one of the decision-making bodies of the **European Central Bank (ECB)**. It comprises the President and the Vice-President of the ECB and the governors of all 15 EU national central banks.

**Governing Council:** the supreme decision-making body of the **European Central Bank (ECB)**. It comprises all the members of the **Executive Board** of the ECB and the governors of the national central banks of the Member States that have adopted the **euro**.

**Harmonised Index of Consumer Prices (HICP):** the measure 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 liaison with the national statistical institutes and the **European Monetary Institute**, and later the **European Central Bank**, in order to fulfil the **Treaty** requirement for a consumer price index constructed on a comparable basis, taking into account differences in national definitions.

**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 through monthly **standard tenders** and have a maturity of three months.

**Lump-sum allowance:** a fixed amount which a **credit institution** deducts in the calculation of its **reserve requirement** within the minimum reserve framework of the **Eurosystem**.

**M1, M2, M3:** see **monetary aggregates**.

**Main refinancing operation:** a regular **open market operation** executed by the **Eurosystem** in the form of a **reverse transaction**. Main refinancing operations are conducted through weekly **standard tenders** and normally have a maturity of two weeks.

**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 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 M1 plus deposits with agreed maturity of up to two years and deposits redeemable at notice of up to three months. The broad monetary aggregate **M3** includes M2 plus **repurchase agreements**, money market fund 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**).

**Monetary financial institutions (MFIs):** financial institutions which form the money-issuing sector of the **euro area**. These include the **Eurosystem**, resident **credit institutions** (as defined in Community law) and all other resident financial institutions whose business is to receive deposits and/or close substitutes for deposits from entities other than MFIs and, for their own account (at least in economic terms), to grant credit and/or invest in securities. The latter group consists predominantly of money market funds.

**Open market operation:** an operation executed on the initiative of the central bank in the financial markets involving one of the following transactions: (i) buying or selling assets outright (spot or forward); (ii) buying or selling assets under a **repurchase agreement**; (iii) lending or borrowing against underlying assets as **collateral**; (iv) issuing central bank debt certificates; (v) accepting fixed-term deposits; or (vi) conducting **foreign exchange swaps** between domestic and foreign currencies.

**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 quantitative 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 **Harmonised 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.

**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 a limited set of **counterparties**.

**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**.

**Reserve ratio:** a ratio defined by the central bank for each category of balance sheet items included in the reserve base. The ratios are used to calculate reserve requirements.

**Reserve requirement:** the requirement for **credit institutions** to hold minimum reserves with the 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 within 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.

**Reverse transaction:** an operation whereby the central bank buys or sells assets under a **repurchase agreement** or conducts credit operations against **collateral**.

**RTGS (real-time gross settlement) system:** a settlement system in which processing and settlement take place on an order-by-order basis (without netting) in real time (continuously). See also **TARGET**.

**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.

**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).

**Standard tender:** a tender procedure used by the **Eurosystem** 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.

**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**.

**TARGET (Trans-European Automated Real-time Gross settlement Express Transfer system):** the **real-time gross settlement (RTGS) system** for the **euro**. It is a decentralised 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.

**Treaty:** the Treaty establishing the European Community. It is often referred to as the "Treaty of Rome", as amended.