Chapter 2	THE BCL'S OPERATIONS	63
2.1	Monetary policy	63
2.2	Foreign exchange reserves management by the BCL	70
2.3	Management of the BCL's assets	70
2.3.1	Institutional structure	70
2.3.2	Conceptual framework	71
2.3.3	Structures of portfolios	71
2.4	Banknotes and coins	73
2.4.1	Circulation of banknotes and coins	73
	2.4.1.1 Euro banknotes and coins	73
2.4.2	2.4.1.2 Luxembourg franc banknotes and coins Handling of banknotes and coins	75 <b>75</b>
2.4.3	Numismatic issues	75
2.5	Developments in the area of statistics	76
2.5.1	Monetary and financial statistics	76
2.5.2	Balance of payments statistics and international investment position	76
2.5.3	Economic and financial statistics	78
2.5.4	The IMF Special Data Dissemination Standard	78
2.5.5	The other statistics	78
2.6	Payment and securities settlement systems	78
2.6.1	Real-time gross settlement systems	78
	2.6.1.1 LIPS-Gross activity in 2006 2.6.1.2 TARGET2	78 82
2.6.2	The interbank netting system LIPS-Net	83
	2.6.2.1 LIPS-Net termination	83
	2.6.2.2 LIPS-Net transactions in 2006	83
	2.6.2.3 Luxembourg participants in STEP2	83
2.6.3	The general framework of eligible collateral in the Eurosystem credit operations2.6.3.1List of eligible assets	<b>84</b> 84
	2.6.3.2 Eurosystem as a user of securities settlement systems	84
2.6.4	Correspondent Central Banking Model (CCBM)	85
2.6.5	Night Time Link with Clearstream Banking Luxembourg	86
2.6.6	Committee of Payment Systems and Securities Settlement Systems	86
2.7	Financial stability	86
2.7.1	Macroprudential surveillance	86
2.7.2	The oversight of payment and securities settlement systems	87



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# 2. THE BCL'S OPERATIONS

# 2.1 Monetary policy

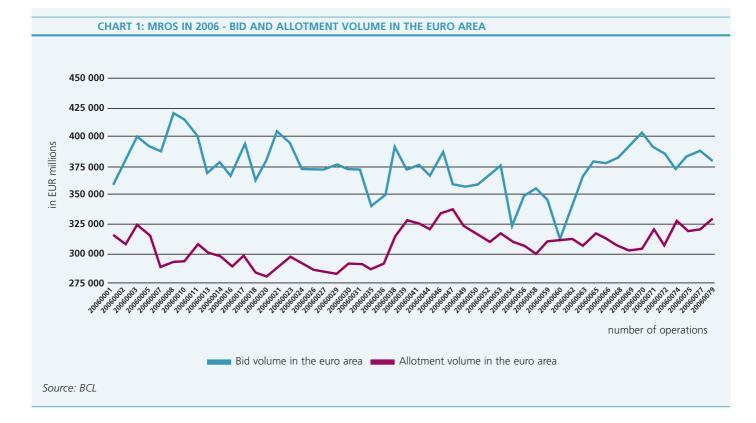
In Luxembourg, the BCL is responsible for implementing monetary policy as formulated by the ECB for the whole of the euro area. Refinancing operations, also called open market operations, provide liquidity against collateral to counterparties, i.e. the credit institutions in Luxembourg.

Open market operations are divided into:

- main refinancing operations (MROs), which are conducted regularly through weekly standard tenders, with a maturity of one week, and
- longer-term refinancing operations (LTROs), which are conducted regularly through monthly standard tenders, with a maturity of three months.

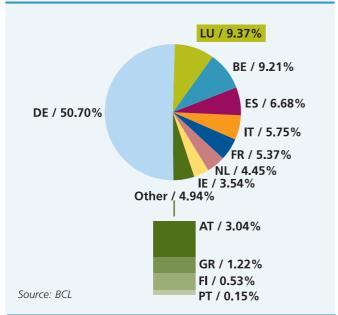
# - Main refinancing operations (MROs)

The main refinancing operations of the Eurosystem are conducted as variable rate tenders, using the multiple rate auction procedure.



In 2006, Luxembourg ranked second in the allotment volume behind Germany with, on average, 9.37% of the total euro area volume. This ranking was confirmed during the first months of 2007, when Luxembourg's allotment volume amounted to 10.33%.





Compared with 2005, the average percentage allotted in Luxembourg increased from 7.82% to 9.37%.

The volume allotted to Luxembourg in MROs increased by 26.7% in 2006 in comparison with 2005 (from 1180 through 1496 bln euro). In the euro area, this figure increased only by 6%.

In 2006, the number of counterparties participating in MROs increased in Luxembourg to 23 banks in comparison with 20.5 in 2005, 20 in 2004, 19 in 2003 and 18 in 2002. In the euro area, the number of participating counterparties rose, on average, from 51 in 2005 to 377 in 2006. This increase in the euro area could be explained by the reduction in the maturity from two weeks to one week and by the simplification of the new framework in 2004.

During the first quarter of 2007, the average number of participating counterparties in MROs remained stable with 22 banks in Luxembourg.

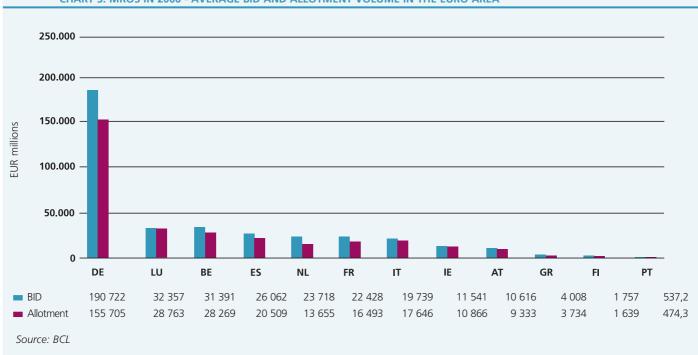
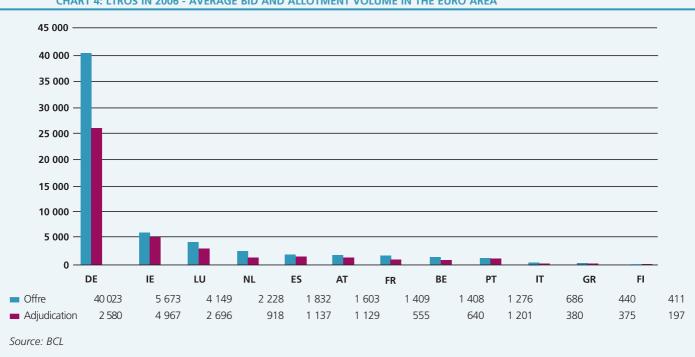


CHART 3: MROS IN 2006 - AVERAGE BID AND ALLOTMENT VOLUME IN THE EURO AREA

# - Longer-term refinancing operations (LTROs)

With regard to the allotment volume for LTROs in the euro area, Luxembourg ranked, on average, third in 2006 (with 6.74% of the allotment volume in 2006). The average number of participating counterparties was 9 in 2007 in comparison with 7 in 2005.



# CHART 4: LTROS IN 2006 - AVERAGE BID AND ALLOTMENT VOLUME IN THE EURO AREA

In December 2006, the ECB's Governing Council decided to raise the allotment amount from  $\in$ 40 billion to  $\in$ 50 billion for each LTRO.

# - Fine-tuning operations

Short-term rate fluctuations increased during the final days of the reserve maintenance periods. This reflects the fact that, as the allotment of the last MRO during a reserve maintenance period now occurs eight days before its end, the risk of a liquidity imbalance is thereby increased. In order to restore neutral liquidity conditions, the ECB carried out eleven fine-tuning operations on the last day of the reserve maintenance period whenever it expected a significant imbalance. Eight fine-tuning operations were conducted in 2005 and three in 2004.

The ECB also improved its communication by announcing these operations and their estimated amounts beforehand.

# Minimum reserve system

From 18 January 2006 until 16 January 2007, the average amount of minimum reserves held by credit institutions in Luxembourg was estimated at  $\in$ 7.920 billion. The deposited amounts are remunerated at the average MRO rate of the ECB during the reserve maintenance period.



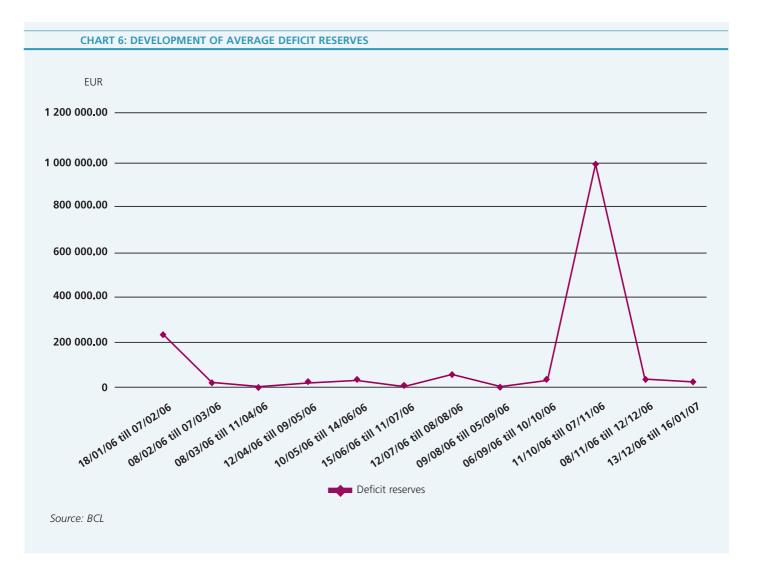
# CHART 5: DEVELOPMENT OF THE AVERAGE REQUIRED AND DEPOSITED MINIMUM RESERVES

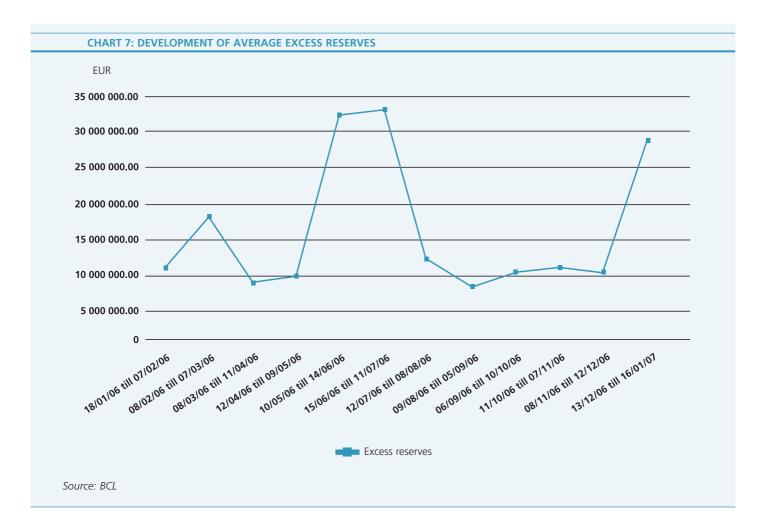
# Changes in the remuneration rate in 2006

The rates at which minimum reserves were remunerated increased from 2.30% to 3.30% in 2006.

Periods		08/02/06 07/03/06										13/12/06 16/01/07
Rate (%)	2.30%	2.31%	2.56%	2.58%	2.57%	2.81%	2.80%	3.04%	3.03%	3.30%	3.30%	3.57%

Counterparties paid seven sanctions for not respecting minimum reserve requirements in 2006, compared with five in 2005.





Excess of minimum reserves, which by definition are not remunerated, remained at a high level throughout the year.

# 2.2 Foreign exchange reserves management by the BCL

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

The ECB's foreign exchange reserves have been managed in a decentralised way by the national central banks since January 1999. Since 1 May 2004, following the adjustment of the weightings, which takes place every five years, and the EU's enlargement on 1 May 2004, the BCL's share in the ECB's capital key has been 0.1568%, previously 0.1492%; an additional €12.6 million has been transferred to the ECB. As at 31 December 2006, the total market value of the ECB's reserves (including accrued interest) managed by the BCL corresponded to €117.6 million.

One goal of the foreign exchange reserves management of the ECB is to ensure that the ECB has sufficient liquidity available to intervene in the foreign exchange markets if need be. Security and liquidity are, therefore, basic requirements in managing these reserves.

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

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

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

# 2.3 Management of the BCL's assets

# 2.3.1 Institutional structure

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

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

Level 1: The Council

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

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

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

The Board of Directors sets the limits of the framework annually.

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

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

**Level 4:** The tactical committees

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

The tactical committees consist of the following:

- The Comité de gestion, for the BCL's own funds,
- The Comité réserves de change for the pooled reserves of the ECB,
- The Comité tactical benchmark for the pension fund of the BCL.
  - **Level 5:** The portfolio managers

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

# **Risk control**

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

The OR<sup>1</sup> unit monitors the positions of all the portfolios in order to assess risks and to verify compliance with the pre-defined limits. This monitoring is carried out daily, independently of the Front Office. The IA unit complements the monitoring structure with specific missions at different levels of the organisation. In addition, the Middle and Back Offices also take part in the monitoring process.

# 2.3.2 Conceptual framework

# The investment policy objectives:

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

# The investment approach takes into account:

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

# *Investment decisions* are based on:

- technical and fundamental analyses, as well as on quantitative assessments;
- market risks (interest rates, exchange rates, equity prices, commodity prices);
- credit risks (minimum credit ratings criteria by international rating agencies);
- liquidity risks (limits by sector, by issuer, by issue and by geographic diversification.

#### Performance measurement

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

# 2.3.3 Structure of portfolios

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

The BCL manages five kinds of portfolio: Liquidity Portfolio, Domestic Reserves Portfolio, Pension Fund Portfolio and Investments Portfolios.

# Investment Portfolio (Portfolio 1)

This portfolio consists of assets (equity and bonds), which can be deemed to represent its own funds (with a longer-term investment profile). The main goal of the portfolio is to maximise the return by taking into account the abovementioned risk constraints (see section 2.3.2). As of 31 December 2006, the total market value (including accrued interest) amounted to €1,447.8 million.

In 2006 the share of this portfolio invested in fixed income securities with maturity above three years was reduced from 33% to 19%, whereas the percentage of bonds with a one to three year maturity rose from 22% to 36%. Moreover, by the end of 2006, variable rate and fixed rate bonds with maturity under one year represented 45% of Portfolio 1, same level as of 31 December 2005.

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

# Liquidity Portfolio (Portfolio 2)

This portfolio comprises the other assets that are largely attributable to a Eurosystem arrangement (Agreement on Net Financial Assets) and mirror TARGET accounts and other liabilities. This portfolio, whose liability profile covers certain liquidity needs, also aims to maximise income. The instruments used are mainly fixed-income short-term bonds, variable rate bonds and certificates of deposits (eurocommercial paper), provided that they comply with strict and predefined rating criteria. As of 31 December 2006, the total market value (including accrued interest) amounted to  $\in$ 3,693.3 million.

<sup>1</sup> The risk manager is a member of the OR unit.

#### Domestic Reserves Portfolio

This portfolio aims to maintain an intervention portfolio in addition to the pooled foreign exchange reserves transferred to the ECB. Thus, the main requirements for this portfolio are security and liquidity. As of 31 December 2006, the total market value (including accrued interest) of this portfolio in foreign currencies amounted to  $\notin$ 117.6 million.

# Pension Fund Portfolio

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

## **Investments Portfolios**

The BCL provides discretionary management services to institutional clients (central banks and international organisations).

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

TABLE 1: ALLOCATION AS AT 31 DECEMBER 2005							
Maturity	Portfolio 1	Portfolio 2					
0-1 year	45%	74%					
1-3 years	36%	21%					
3-7 years	17%	5%					
> 7 years	2%	0%					

# 2.4 Banknotes and coins

Euro banknotes are produced to meet all the NCBs' banknote requirements, which are aggregated by the ECB. The production of one denomination is assigned to, at most, two NCBs. In 2006, the BCL was responsible for producing €10.2 million €100 banknotes for its own requirements. The production of these banknotes was entrusted to the specialised security printer *De La Rue International* in England.

According to an agreement with the Luxembourg government, the BCL is in charge of the production of Luxembourg's euro coins. Following an invitation to tender, the BCL put the Rahapaja Oy (Mint of Finland) in charge of the production in 2006 of 31.1 million coins for its own requirements. Following a renewed invitation to tender, the BCL signed an agreement with Monnaie de Paris for the production of 43.48 million Luxembourg euro coins dated 2007 in order to satisfy the demand for coins in 2007.

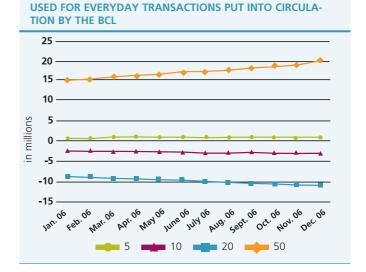
# 2.4.1 Circulation of banknotes and coins

# 2.4.1.1 Euro banknotes and coins

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

The total net volume of euro banknotes put into circulation by the BCL in 2006 amounted to 19.32 million notes, compared with 20.88 million banknotes in 2005, a decrease of 7.4%. The volume of €10 and €20 denominations lodged with the BCL exceeds the volume issued. Credit institutions, which are BCL clients, deposited more banknotes than they withdrew from the BCL. This phenomenon can be explained by the fact that tourists and cross-border workers brought in these denominations in large quantities for their everyday expenditures in Luxembourg. The chart below shows the change in the number of euro banknote denominations used for everyday expenditures.

**CHART 8: CHANGE IN THE NUMBER OF EURO BANKNOTES** 



In comparison with other national central banks in the euro area, the BCL maintained its contribution to the total volume of banknotes put into circulation by the Eurosystem at 1.1%, like in December 2005.

In Luxembourg and in the rest of the euro area, the year 2006, like 2005, was marked by a steady demand for higher denominations. The total value of euro banknotes put into circulation by the Eurosystem increased by 11.5% and amounted to €628.24 billion at the end of 2006, with the following value breakdown by denomination:



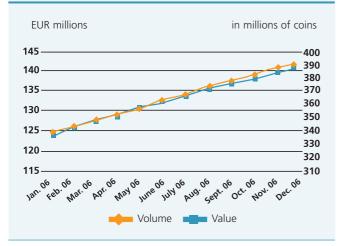
500 EUR 34%

#### CHART 9: VALUE BREAKDOWN BY DENOMINATION OF EURO-BANKNOTES PUT INTO CIRCULATION BY THE EUROSYSTEM

200 EUR 5% 10 EUR 3% 5 EUR 1% Public demand for euro coins issued by Luxembourg has remained strong. The total value of the coins put into circulation increased by 14.5% in 2006, compared with 19.1% in 2005. The total value rose from  $\in$ 123.41 million to  $\in$ 141.29 million. The volume of Luxembourg's euro coins issued in 2006 increased by 49.74 million coins (more than 245 tons of metal), a rise of 14.6%, and amounted to 390.21 million coins at the end of 2006. This volume is equivalent to a total weight of 1,884 tons, i.e. 4.1 kg or around 848 coins, with a value of  $\in$ 308, for each inhabitant of Luxembourg. As in previous years, the country's coins continued to be much sought after by collectors.

The average monthly volume of coins in circulation rose to 365.25 million. The following chart shows the changing volume and value of Luxembourg's euro coins in circulation throughout 2006. The demand for coins grew steadily in the year under review.

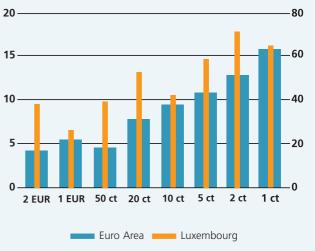
# CHART 10: TOTAL VOLUME AND VALUE OF LUXEMBOURG EURO COINS IN CIRCULATION



Compared with the other euro area countries, Luxembourg increased its contribution to the total number of coins put into circulation by all the participating Member States by 0.5% in 2006; Luxembourg contributes 0.6% of the total value issued by all the issuing authorities of the euro area. The average value of its euro coins in circulation amounts to 36.2 cent in comparison with an average of 26 cent for the other euro area coins. The following chart compares the volume of the different coin denominations put into circulation by Luxembourg with the volume corresponding to the rest of the euro area.

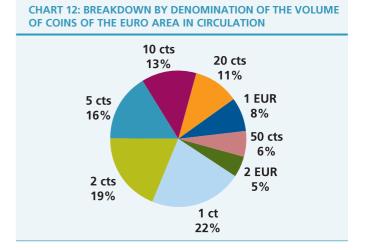
# DIFFERENT EURO COIN DENOMINATIONS IN LUXEMBOURG TO THAT OF THE EURO AREA Euro area in Luxembourg billions in millions 20 80

CHART 11: COMPARISON OF THE CIRCULATION VOLUME OF THE



Concerning Luxembourg's coins, the 2-cent denomination remained the most common in 2006. Compared with 2005, the ranking according to volume remained unchanged in 2006, confirming the public's preference for denominations with a face value starting with 2. In descending order, the sequence is as follows: 2 cent, 1 cent, 5 cent, 20 cent, 10 cent, 50 cent,  $\in 2$ ,  $\in 1$ . The corresponding ranking for the euro area as a whole is: 1 cent, 2 cent, 5 cent, 10 cent, 20 cent,  $\approx 1$ , 50 cent,  $\approx 2$ .

The total value of euro coins put into circulation by the Eurosystem increased from  $\in$ 16.64 billion at the end of 2005 to  $\in$ 17.88 billion at the end of 2006, whereas the total volume of coins reached 69.50 billion. The following chart shows the volume breakdown by denomination:



# 2.4.1.2 Luxembourg franc banknotes and coins

In 2006, the total value of Luxembourg francs not yet exchanged fell by 1.3%, from LUF 442 million to 436.2 million. This decline was due exclusively to the return of franc banknotes, the franc coins having ceased to be exchangeable at the end of December 2004. The volume of 5,000-Luxembourg-franc banknotes not yet returned underwent the most pronounced decline (- 5.7%), while that of 1,000-franc banknotes fell by 2.5%. The volume of unreturned 100-franc banknotes only decreased by 0.3%. These figures show that collectors prefer the lower denominations. The return of banknotes in 2006 took the form of a nearly linear curve with a very marked fall in December 2006. The table below shows the total value of unreturned Luxembourg franc banknotes for the five last years.

At the end of 2006, a total volume of 890,244 Luxembourg banknotes and 63.1 million coins, with a total value of LUF 402.7 million, had still not been exchanged. Numismatic products and collector coins still not exchanged amounted to LUF 33.5 million.

Over 1,100 Belgian franc banknotes were returned and ceased to be exchangeable as of 15 December 2006. Luxembourg franc banknotes can still be exchanged at the counters of the BCL.

# 2.4.2 Handling of banknotes and coins

The number of euro banknotes returned by financial institutions to the BCL - 60.50 million - remained nearly unchanged compared with the previous year. The volume of returned notes involved more than 1,700 lodgement operations registered and managed by the Cash Department. Furthermore, the number of withdrawals of euro banknotes by financial institutions exceeded 3,400 operations. These were likewise registered and managed by the Cash Department, and represented a decrease of 12.8% compared with 2005.

The public also made use of the services offered by the BCL over its counters to exchange banknotes and coins which were unfit for circulation as well as to buy numismatic products. Nearly 9,300 transactions were conducted over the counter in 2006, i.e. an average of 37.2 operations per working day. Some 300 transactions for professional numismatists were also carried out. All in all, the Cash Department registered and managed over 14,700 transactions concerning notes, coins and numismatic products.

The number of euro banknotes processed by sorting machines rose noticeably, by some 2.9%, from 57.96 million notes in 2005 to 59.66 million in 2006. The sorting machines carry out both authenticity tests and soiling tests. Nearly 15.4 million notes of all denominations had to be destroyed as they were unfit for circulation. The reject/destruction rate fell from 28% in 2005 to 25.8% of the total number of euro

banknotes sorted, due to a slight improvement in the quality of certain denominations ( $\in 10$ ,  $\in 50$  and  $\in 200$ ) lodged with the BCL. Moreover, this percentage varied greatly from one denomination to another: 5% for the  $\in 200$  banknote to 48.7% for the  $\in 5$  note.

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

# 2.4.3 Numismatic issues

The BCL took the opportunity in 2006, as in 2005, to issue a €2 commemorative coin with a distinctive national side, thus maintaining the interest of collectors in numismatic products put on sale by the BCL. The coin, which shows Grand Duke Henri and the Hereditary Grand Duke, marks the 25<sup>th</sup> birthday of the Hereditary Grand Duke Guillaume.

The BCL issued the following numismatic products in Luxembourg in 2006:

- The "2006 BU set" comprises Luxembourg's euro coins (1 cent to €2, including the €2 commemorative coin with a distinctive national side), struck in "Brilliant Uncirculated" quality and dated 2006. The mintage is limited to 15,000 sets. This set is the second and belongs to a 7 set series dedicated to the different architectural eras as depicted on Luxembourg's euro notes.
- The "2006 Benelux set" contains the 2006 series of eight euro coins of the three Benelux countries struck in "Brilliant Uncirculated" quality. It also includes a cupronickel medal specially designed for the Benelux capitals - the theme of this set.
- The "2006 Proof set" features Luxembourg's nine euro coins (ranging from 1 cent to €2) plus the €2 commemorative coin, all struck in "Proof" quality and dated 2006. The mintage amounts to 2,000 sets.
- The silver-titanium "Banque et Caisse d'Epargne de l'Etat" coin, issued in February 2006 with a mintage amount of 7,500, is the first Luxembourg silver-titanium collector coin devoted to National Institutions. This coin has a face value of €10, is minted with a silver fineness of 925 and a titanium fineness of 999. Its diameter is 26 mm and its weight is 8 g.
- The silver-titanium "Conseil d'Etat" coin, issued in November 2006 with a mintage amount of 4,000, is the second Luxembourg silver-titanium collector coin devoted to National Institutions. This coin has a face value of €20, is minted with a silver fineness of 925 and a titanium fineness of 999. Its diameter is 34 mm and its weight is 13.5 g.

- The silver coin issued in January 2006 with a mintage of 5,000 is the country's fifth collector coin in silver in the series "European institutions". This coin has a face value of €25 and is minted with a silver fineness of 925. Its diameter is 37 mm and its weight 22.85 g.
- The golden coin "Boar of Titelberg", issued in October 2006 with a mintage amount of 5,000, is the second Luxembourg golden collector coin in the "cultural History of Grand Duchy of Luxembourg" series. This coin has a face value of €5, is minted with a gold fineness of 999. Its diameter is 16 mm and its weight is 3.11 g one tenth of golden ounce.

Collector coins in precious metal issued by a euro area Member State are only legal tender in the issuing country.

# 2.5 DEVELOPMENTS IN THE AREA OF STATISTICS

# 2.5.1 Monetary and financial statistics

In the context of the work undertaken by the European System of Central Banks (ESCB), the BCL prepared the revision of the regulatory framework for Monetary Financial Institutions (MFI) balance sheet statistics and MFI interest rate statistics, with the aim to improve the availability of statistics in the euro area. The main objectives of these developments are the integration of new financial instruments, statistics on payments systems and information on securitization operations within the framework of money and banking statistics.

The BCL also participated in several committees and working groups of the Bank for International Settlements (BIS) and contributed to the data collection on international financial statistics undertaken by the BIS. In this context, the BCL will also participate to the 2007 Triennial survey on foreign exchange and derivative markets, foreseen for April 2007.

The BCL also provides data on the Luxembourg banking system to the International Monetary Fund (IMF) with the aim of publishing it in the IMF's monthly international financial statistics.

Finally, the BCL publishes monthly and quarterly aggregated balance sheet statistics of the Luxembourg credit institutions and money market funds in its bulletin and its website. In addition, the BCL publishes monthly statistics on interest rates applied by credit institutions on loans and deposits for households and non-financial corporations in Luxembourg and the euro area. The BCL also publishes various statistics on investment funds and other professionals of the financial sector as well as data on the employment in the Luxembourg financial sector.

# 2.5.2 Balance of payments statistics and international investment position

The BCL publishes quarterly statistics for the Luxembourg balance of payments as well as for the international investment position and reserve assets on its website and quarterly bulletin. Furthermore, BCL and STATEC provide, in a joint press release, information on the main features of in the balance of payments when publishing new data.

The BCL also participated in the IMF's annually coordinated portfolio investment survey (CPIS). The results of this survey are published on the BCL's website. In 2006, the BCL further improved the availability of statistics by publishing the net external position in quarterly intervals on its website.

Finally, the BCL continued development work relating to a new collection system for portfolio investments in order to comply with the ECB's guideline ECB/203/7.















# 2.5.3 Economic and financial statistics

During 2006, the BCL contributed to the ECB's work on the conceptual development of a new data collection system for financial intermediaries such as investment funds and financial vehicle corporations which are important intermediaries in financial and capital markets. Significant progress has been made in close cooperation with the Luxembourg fund industry through the Luxembourg Investment Fund Association (ALFI) during the last months of 2006. The ECB's Governing Council will adopt a regulation in the forthcoming months.

# 2.5.4 The IMF Special Data Dissemination Standard

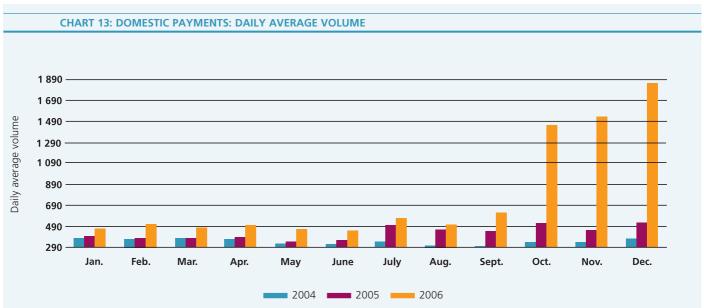
In 1996, the IMF introduced the Special Dissemination Standard (SDDS), which is aimed at improving the production and the publication of a large set of macroeconomic statistics.

In 2006, the Luxembourg institutions have finalised their statistical framework to fit this standard. The BCL has, in particular, put at the disposal of the interested public, respecting the publishing delays imposed by the SDDS, statistics on the analytical accounts of the BCL, the MFI sector, balance of payments (jointly with STATEC), the international investment position, external debt and reserve assets.

# 2.5.5 The other statistics

During the past 15 years the National Central Banks (NCBs) of the ESCB collected statistics on the different means of payment as well as the use of payment and securities settlement systems. These statistics are published on a yearly basis in the *Blue Book*.

The ECB, assisted by the NCBs, started work on the harmonisation of this data collection in 2006 with the intention of defining a new harmonised reporting framework in 2007.



<sup>1</sup> Luxembourg Interbank Payment System - Gross Settlement

<sup>2</sup> Domestic payment: payment exchanged between two LIPS-Gross participants

# 2.6 Payment and securities settlement systems

# 2.6.1 Real-time gross settlement systems

The number of participants in LIPS-Gross<sup>1</sup>, the Luxembourg's real-time gross payment system, remained unchanged in 2006 at 31.

2.6.1.1 LIPS-Gross activity in 2006

# Domestic payments<sup>2</sup>

In 2006, LIPS-Gross participants exchanged 197,744 payments (compared to 109,567 in 2005) for a total value of  $\in$ 3,387 billion (compared to  $\in$ 2,736 billion in 2005). In comparison with 2005, the volume increased by 80% and the value exchanged rose by 24%. The average value per payment was  $\in$ 17 million.

The following charts show the daily average volume as well as the daily average value of domestic payments.

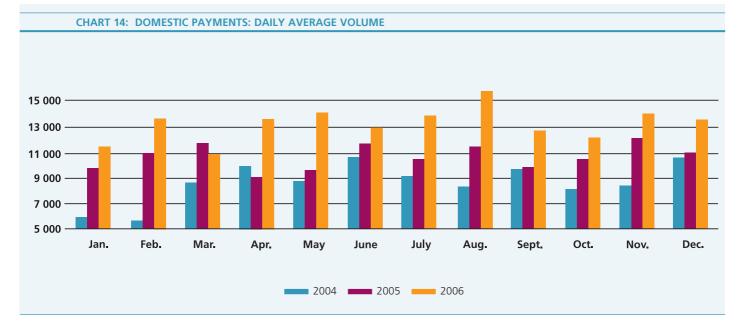
The significant increase in volume during the last quarter is linked to the closing of LIPS-Net in October 2006. Parts of the transactions were transferred to LIPS-Gross for settlement.

## Cross-border payments<sup>3</sup>

In 2006, LIPS-Gross participants sent 473,199 payments to other countries in the EU (compared to 407,375 payments in 2005) for a total value of €4,491 billion (compared to €3,902 billion in 2005). On the other hand, they received 404,176 cross-border payments (compared to 382,732 payments in 2005) for a total value of €4,489 billion (compared to €3,907 billion in 2005). The average value per cross-border payment sent was €9.5 billion (decrease by 1%).

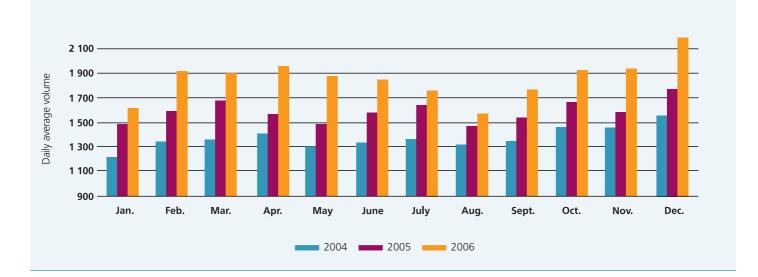
The average value per cross-border payment received was €11.1 billion (increase by 8.8%). The trend started in 2004 is confirmed in 2006: LIPS-Gross members receive less cross-border payments than they sent. The value of cross-border payments received remains higher than for payments sent.

The following charts show the daily average volume and value of cross-border payments sent by Luxembourgish participants.

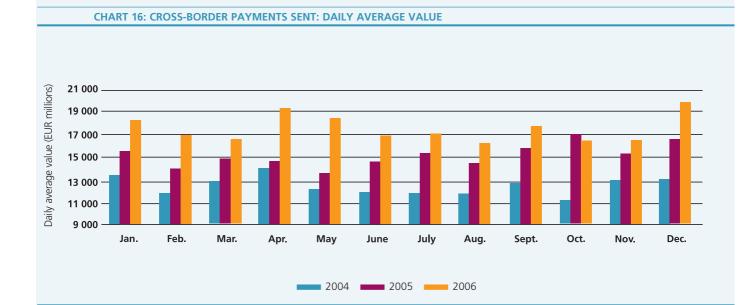


<sup>3</sup> Cross-border payment: payment exchanged between a LIPS-Gross participant and a TARGET participant.

# 2. THE BCL'S OPERATIONS

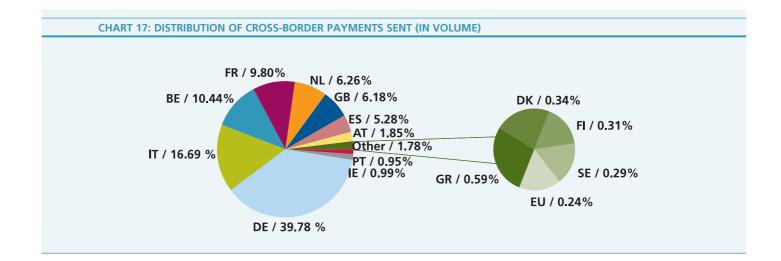


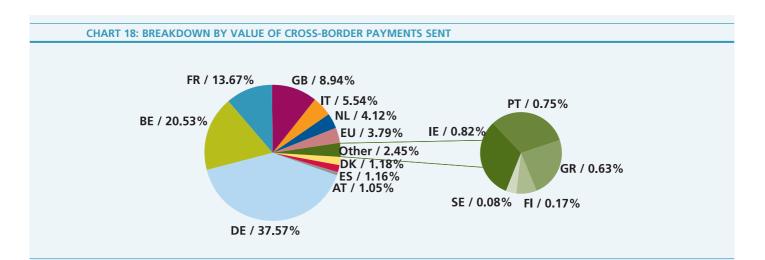
# CHART 15: CROSS-BORDER PAYMENTS SENT: DAILY AVERAGE VOLUME



In 2006, cross-border payments sent increased by 16% in volume and by 15% in value. This increase is mainly due to one participant.

Similarly to previous years, over 80% of the cross-border payments (whether in volume or in value) are transferred to five countries, among which the direct neighbouring countries.





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

In total, the number of payments processed in LIPS-Gross during the year 2006 has exceeded one million with 1 094 679 transactions. The peak day was 27 December with 6 957 transactions, an increase by 41% to the 2005 peak day.

The following tables provide an overview of daily average volumes and values exchanged per year. Overall, volumes as well as values exchanged continued to increase.

## TABLE 2: VOLUME OF PAYMENTS (DAILY AVERAGE)

	Domestic payments		0.055	-border ent	Cross- rece	Total sent and received	
	Volume	(% volume sent)	Volume	(% volume sent)	Volume	(% total volume)	
2004	344	(19.96%)	1 380	(80.04%)	1 242	(41.88%)	2 966
2005	428	(21.20%)	1 591	(78.80%)	1 495	(42.54%)	3 514
2006	775	(29.46%)	1 856	(70.54%)	1 585	(37.59%)	4 216
Change 2006-200	5 <b>+81%</b>		+16%		+6%		+20%

# TABLE 3: VALUE (IN EUR MILLIONS) OF PAYMENTS (DAILY AVERAGE)

		omestic yments	Cross-bo	order sent	Cross-l rece	Total send and received	
	Valeur	(% valeur sent)	Valeur	(% valeur sent)	Valeur	(% total value)	
2004	8 717	(41.06%)	12 515	(58.94%)	12 519	(37.09%)	33 752
2005	10 686	(41.21%)	15 243	(58.79%)	15 260	(37.05%)	41 189
2003	13 281	(42.99%)	17 612	(57.01%)	17 602	(36.30%)	48 496
Change 2006-2005	; <b>+24%</b>		+16%		+15%		+18%

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

In 2006, all the national RTGS systems processed a total of 64.2 million domestic payments (compared to 58.5 million in 2005) for a total value of €348,765 billion (compared to €324,089 billion in 2005). With 197,744 domestic payments totalling €3,387 billion, Luxembourg accounted for 0.31% of the total domestic volume and for 0.97% of the total domestic value.

In addition, 19 million cross-border payments (17.7 million in 2005) for a value of  $\in$ 184,777 billion ( $\in$ 164,812 billion in 2005) were exchanged during the year. Luxembourg contributed 2.49% to this volume and 2.43% to this value.

#### Availability of TARGET

The overall availability of TARGET increased from 99.83% in 2005 to 99.87% in 2006. TARGET's average availability figure is 99.71% over its 8 years of existence.

Coming from 99.94% in 2005, LIPS-Gross' availability reached 99.8% in 2006 because of two minor technical incidents and one more important incident which has caused a longer unavailability of the system. During the year 2006, LIPS-Gross' availability was 100% for 9 months. Since its launch, LIPS-Gross' average availability is 99.71%.

# 2.6.1.2 <u>TARGET2</u>

Eurosystem central banks and national banking communities went on with their development and preparation work for the launch of TARGET2.

The BCL issued its newsletter 2006/1 to inform the national banking community on several aspects of the project and on its developments. The third TARGET2 report, which was published in November 2006, provided additional and up-to-date information. The BCL organized four workshops in order to prepare the Luxembourg participants for the migration.

The SSP, the TARGET2 *single shared platform*, was developed and will be operated for the Eurosystem national central banks by three central banks. Deutsche Bundesbank will alternate with Banca d'Italia to operate the system; each of the two central banks can operate on their own from a primary and a secondary site. While payments are executed in one region, the other will act as back-up in case both sites in the other region become unavailable. Banque de France is in charge of the data warehouse processes and will develop the statistical and analysis tools. Each participating central bank will remain in charge of the commercial contacts with its national banking community.

TARGET2 governance is built upon 3 levels. The Governing Council of the ECB (Level 1) makes the final decisions on TARGET2 whereas Level 2, which comprises participating national central banks' representatives, is the functional owner of the system. Level 3, which includes Deutsche Bundesbank, Banca d'Italia and Banque de France, operates the system.

About one thousand financial institutions will participate directly in TARGET2 once the migration is completed and offer indirect access to a vast number of banks around the world. TARGET2 will be the preferred settlement engine for most European ancillary systems.

In order to respond to their requirements, the SSP will also operate during the night. Hence, securities settlement systems and cash settlement engines can settle directly their night-time batches in TARGET2.

Next to standards setting for the system's access and for payment messages, TARGET2 offers optimization tools for liquidity management to the participants through the intraday liquidity pooling feature by means of a virtual account or the consolidated account information.

The launch of TARGET2 will be phased; the current RTGS systems will migrate to the SSP in three migration windows. The BCL, and its participants, will migrate in the first window on 19 November 2007. The other countries will follow three to six months later; all the participating central banks will hence participate in TARGET2 on 19 May 2008. Nevertheless, a contingency migration window is foreseen on 15 September 2008.

# 2.6.2 The interbank netting system LIPS-Net

LIPS-Net, the national automated compensation system for domestic cheques and credit transfers, started operations in 1994 as the substitute for a manual clearing house.

2.6.2.1 LIPS-Net termination

Considering the limited scope for increasing its activity, insufficient economies of scale as well as integration prospects at the European level<sup>4</sup>, the managers of the SYPAL-GIE, the system's owner, decided to terminate LIPS-Net's operations in October 2006.

Luxembourg banks exchange and compensate cheques, whose volumes have been on the decline in the past years, bilaterally since 1 July 2006.

Credit transfers and standing orders are now processed on the pan-European STEP2 platform operated by the Euro Banking Association (EBA). Luxembourg participants will, thus, be able to benefit from economies of scale and from the coverage of a European system for retail payments.

#### 2.6.2.2 LIPS-Net transactions in 2006

At the time of termination, 13 credit institutions were connected to the network. This figure had remained unchanged since 2004.

Payments exchanged from 1 January to 9 October 2006 exceed 10 million operations. The average daily volume was 55,150, an increase of 1% compared to 2005.

The total value exchanged for compensation in 2006 came close to  $\in$ 45 billion. The average daily value processed was  $\in$ 235 million, a decrease by 5%.

On 3 May, the system processed a peak of 133,587 operations, an increase of 10% compared to the 2005 peak day.

# Credit transfers

In 2006, the daily average number of credit transfers exchanged in the national compensation amounted to 54 784 operations (increase of 1.5% compared to 2005) for a daily average amount of around €199 million (decrease of 1% compared to 2005).

## Cheques

The declining trend in cheques clearing, which started in 2001 with the disappearance of the Eurocheque guarantee, was confirmed during the first half of the year.

The daily average number of cheques exchanged was 400 (down from 500 in 2005) for a daily average value amounting to  $\in$ 7.7 million (coming from  $\in$ 9.43 million in 2005). However, the average value per cheque was rather stable, from  $\in$ 19,022 in 2005 to  $\in$ 18,926 in 2006.

# Inter-bank settlement for debit and credit cards transactions

In contrast to customer payment operations, inter-bank settlement operations for debit and credit card transactions are less numerous (0.17% of the total volume in 2006 and 0.22% in 2005) but represent a significant part of the values exchanged for compensation (13% en 2006 and 15% in 2005).

# 2.6.2.3 Luxembourg participants in STEP2

The bulk of the Luxembourgish credit transfer and standing order transactions are processed in the pan-European system STEP2 since 9 October 2006.

From October to December 2006, Luxembourg's participants sent 54,000 operations for a value of  $\in$ 81 million on a daily average. Domestic transactions accounted for 77% in volume (close to 42,000 operations) and 71% in value ( $\in$ 58 million).

<sup>&</sup>lt;sup>4</sup> The European financial sector is preparing the Single Euro Payment Area (SEPA), which is to be implemented by the end of the year 2010.

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

# 2.6.3.1 The list of eligible assets

All credit operations of the ECB and the national central banks are effected "on the basis of adequate collateral"<sup>1</sup>. Consequently, each counterparty of the Eurosystem guarantees the credit received from a Eurosystem central bank by providing assets as collateral. These assets have to fulfill specific eligibility criteria defined by the Eurosystem, which are published in the document entitled "The implementation of monetary policy in the euro area" available on the ECB's website.

In 2006, the Eurosystem took the final steps in its work to replace its two categories of eligible assets<sup>2</sup> by a single list of eligible assets applicable for the whole of the euro area. This single list, valid as of 1 January 2007, comprises two different asset classes, marketable assets (securities) and non-marketable assets (in particular, credit claims). The inclusion of non-marketable assets has required the development by each NCB of appropriate handling procedures, as well as the development and implementation of a euro area wide credit assessment framework.

In this context, the Governing Council has accepted, amongst others, the following key elements:

- between 2007 and 2012 each national central bank will apply its own threshold for credit claims. As from 2012, a common minimum threshold of 500,000 will be applied by the whole Eurosystem.
- the debtors of the claims provided as collateral have to be financially sound. The Eurosystem will assess the financial soundness of the debtors according to the "Eurosystem Credit Assessment Framework (ECAF)", which details the rules governing the Eurosystem's credit quality requirements. In this context, the Eurosystem also published its minimum rating threshold in 2005. This threshold is set at a rating of at least A-, or by means of a probability of default no higher than 10 basis points.

The BCL filed with the government a pre-draft law, which envisages the registration of credit claims at the central bank and establishes a regime for the pledging of credit claims that is like those offered in neighbouring countries<sup>3</sup>.

# 2.6.3.2 Eurosystem as a user of securities settlement systems

# Selection of depositories<sup>4</sup> 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. Thus, a national depository is eligible, if it obtains, after verification of its compliance with the Eurosystem user standards, the formal approval of the Governing Council. In this context, the Governing Council approved in 2006 a new arrangement for the safekeeping of international securities in global bearer note form, the so-called "New Global Note" (NGN) arrangement, developed by Clearstream Banking Luxembourg (CBL), Euroclear Bank, and other market participants. The NGN arrangement is compliant with the user standards, provided that the respective NGN is safekept by an institution that has been positively assessed against these standards by the Eurosystem.

# Cross-border use of collateral

Besides using eligible domestic securities settled via the national depository, which for Luxembourg counterparties is Clearstream Banking Luxembourg (CBL), all Eurosystem counterparties may receive credit from their local national central bank by using collateral issued in PT1 a depository located elsewhere in the European Union. The Eurosystem foresees two ways for such cross-border use of collateral. Counterparties may use

- the CCBM<sup>6</sup>; and
- links established between securities settlement systems.

Currently two types of links are eligible: direct links and relayed links. In a given securities settlement system located in a country of the European Union, direct links make available securities issued in PT2 a system of another European Union country, thanks to bilateral accounts that the two systems maintain with each other. Relayed links enable the transfer of securities between two systems without bilateral accounts by using a third system with which the first two systems have bilateral accounts.

Links have to be approved by the Governing Council beforebeing used for the collateralisation of central bank credit operations. In 2006, Luxembourg counterparties had the possibility to use the direct links between CBL and Clearstream Banking Frankfurt A.G., Euroclear, the National Bank of Belgium, Monte Titoli (Italy), OeKB (Austria), and Euroclear Netherlands.

 $<sup>^{\</sup>scriptscriptstyle 1}$  Article 18 of the Statute of the ESCB and the ECB, article 22 of the founding law of the BCL.

<sup>&</sup>lt;sup>2</sup> These are the tier 1 assets (debt instruments fulfilling uniform euro area wide eligibility criteria specified by the Eurosystem) and tier 2 assets (complementary assets). Tier two assets that do not fulfill the eligibility criteria for the Single List will become ineligible in the course of the year 2007.

<sup>&</sup>lt;sup>3</sup> For more detailed information on these specific provisions see section 3.3.1

 <sup>&</sup>lt;sup>4</sup> A depository is an institution that operates a securities settlement system.
 <sup>5</sup> Article 18 of the Statute of the ESCB and the ECB, article 22 of the found-

ing law of the BCL.

<sup>&</sup>lt;sup>6</sup> Correspondent Central Banking Model, see section 2.6.4.

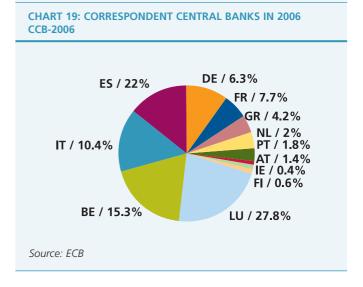
#### Securities settlement in central bank money

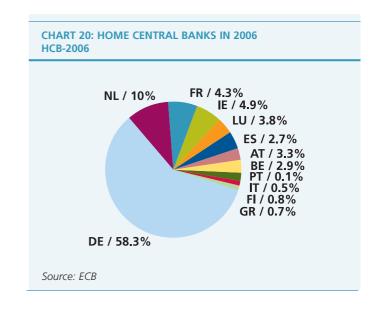
Given the need of further financial market infrastructure integration, the Governing Council decided in 2006 to evaluate the possibility to provide efficient settlement services for securities transactions in central bank money. Both securities and cash settlements would be processed on a single technical platform through common procedures. The service will be called TARGET2-Securities, as synergies will be sought, in particular, with the Eurosystem's future TARGET2 payment system. As a first step, central securities depositories and other market participants were consulted about the new service. After discussing the respective market reactions, the Eurosystem has started to prepare a detailed feasibility study on the project.

# 2.6.4 Correspondent Central Banking Model (CCBM)

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

The CCBM has been a success with the counterparties and, as it remains the main channel for the cross-border mobilisation of collateral, the Governing Council has decided to continue the CCBM until 2007. As in previous years, the usage of the CCBM has remained very disparate in 2006. The most active correspondent central banks have been those from Luxembourg (27.8%), Spain (22%), Belgium (15.3%), and Italy (10.4%). The most active home central banks have been those from Germany (58.3%), United Kingdom (10.8%), the Netherlands (7%), and from Ireland (4.9%). The cross-border use of tier 2 assets has remained marginal.





# 2.6.5 Night Time Link with Clearstream Banking Luxembourg

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

The NTL procedure is divided into two parts:

- 1. A customer of CBL can use its cash and collateral available at the BCL to guarantee credit granted by CBL for the clearing process taking place at night. The guarantee is issued by the 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 made by the BCL on behalf of the customer.

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

# 2.6.6 Committee of Payment Systems and Securities Settlement Systems

After publication of the "Report on Market Disaster Recovery in Case of Large Scale Disruption" in the 2006 Financial Stability Review of the BCL, work has been continued with the objective to create operational crisis prevention and operational crisis management groups dedicated to the financial sector.

# 2.7 Financial stability

# 2.7.1 Macroprudential surveillance

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

The regular macroprudential analysis points to a sound banking sector supported by a globally favourable outlook of the macroeconomic environment and of financial markets. High profitability and comfortable solvency ratios strengthen the Luxembourg banking sector's capacity to weather adverse shocks. Profits have been underpinned by higher banking income and lower impairment charges. Despite a declining cost-to-income ratio, banks should aim for continued cost containment in order to stay competitive at the international level.

Due to its high interbank activity, the Luxembourg banking sector is exposed to risks of contagion via the interbank market. Credit risk to the non-banking sector seems to be contained. Direct market risks also seem to be contained, though indirect market risks may stem from the negative impact on banks' commission revenues by a potential downturn in financial markets.

Despite the currently favourable environment for the banking-sector, potential risks could, inter alia, emerge from a disorderly unwinding of global imbalances, a macroeconomic downturn or a downturn in financial markets.

Besides the compilation of its own macroprudential indicators, the BCL participated in the compilation exercise of the IMF's financial stability indicators.

In 2006, the BCL elaborated a quarterly vulnerability index which aims to measure, based on micro- and macroeconomic variables, the vulnerability of the Luxembourg banking sector. Another specific working paper compares the value added of the Luxembourg banking sector to the value added of the other sectors of the economy. Further, the BCL analysed the potential impact of banks' liquidity management regimes on the financial stability. As a member of the European system of central banks, the BCL participates to the Banking Supervision Committee (BSC), the Working Group on Macroprudential Analysis, the Working Group on Developments in Banking and the Task Force on Crisis management. The BCL also participates in the work of the European Commission's Committee of European Banking Supervisors (CEBS).

Adequate crisis prevention and management requires an ongoing cooperation and exchange of information between relevant authorities in normal and in stress times. In line with international recommendations, the BCL is strongly committed to the elaboration of national and international agreements in this field. At the national level, the BCL submitted in 2006 a proposal to change its organic law including the instauration of an interinstitutional cooperation mechanism of relevant authorities under the chairmanship of the BCL.

# 2.7.2 The oversight of payment and securities settlement systems

In 2006, the BCL has pursued its oversight mission, aiming at promoting the smooth operation of payment and securities settlement systems, and hence the stability of the financial infrastructure.

BCL's oversight is addressed to the operator and technical agent of LIPS-Gross, the real-time gross payment system, as well as to the securities settlement system operated by Clearstream Banking Luxembourg. LIPS-Net, the net retail payment system ceased its activities in October 2006. As a consequence, the BCL has withdrawn its notification to the European Commission and stopped its oversight activities in relation to this system.

As regards LIPS-Gross, the payment system will stop operating in November 2007 and will be replaced by TARGET 2. This migration will also have repercussions on BCL's oversight. Indeed, TARGET 2 will be centrally overseen at the level of the ESCB as regards its central activities. The BCL will, however, still be in charge of overseeing the decentralized activities of TARGET 2.

The oversight of BCL is based on information of general, statistical, financial and risk nature as provided on a regular basis by operators and technical agents. This information is complemented through direct contacting of the operators and technical agents as well as on-site inspections.

As a member of the European system of central banks, the BCL has also contributed to the work in the field of oversight of the Payment and Settlement Systems Committee (PSSC). In this context, LIPS-Net and LIPS-Gross have been subject to a joint harmonized oversight by the central banks of the ESCB and the European central bank. Moreover, discussions have taken place in the PSSC on a potential framework for the oversight of cards and other payment instruments. Finally, the BCL has contributed to the working out of a methodology for the oversight of TARGET 2 as well as to a preliminary assessment of the centralized and decentralized activities of the future TARGET 2. A complete assessment of the TARGET 2 system will be completed before its launch.

