01 THE BCL'S ACTIVITIES

1
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1.1 MONETARY POLICY OPERATIONS

In the Grand Duchy of Luxembourg, the BCL is responsible for implementing monetary policy, as defined by the Governing Council of the European Central Bank (ECB) for the entire euro area.

The primary objective of the Eurosystem and its single monetary policy is to maintain price stability. In order to achieve this objective, the Governing Council decides on conventional and – since the start of the financial crisis – non-standard monetary policy measures to steer interest rates and manage the liquidity of money markets.

1.1.1 Conventional Operations

1.1.1.1 Open Market Operations in 2016

1.1.1.1.1 Main Refinancing Operations

Since October 2008, the main refinancing operations (MROs) have been conducted by the ECB at a fixed rate and with full allotment. These modalities continued to be applicable in 2016. It was decided that this tender procedure would be maintained as long as necessary and at least until the end of the last maintenance period for minimum reserves in 2017. On 10 March 2016, the Governing Council lowered the interest rate on the main refinancing operations by five basis points to 0%.

In 2016, the global average participation in the MROs in the euro area decreased by around 47% compared to 2015. The table below shows the annual evolution of the average amounts allocated to the euro area since 2008.

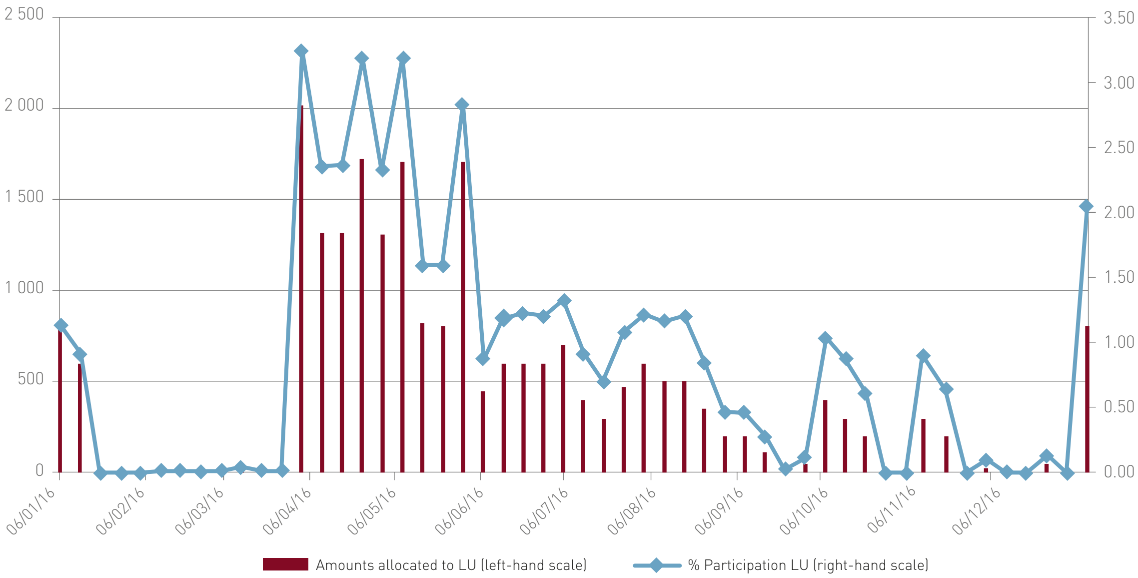
Table 1:
Average amount per MRO allocated to the euro area and variation p.a.

Year	Average amount in euros	Variation p.a.
2008	201 113 400 188.70	
2009	149 668 231 730.80	-25.6 %
2010	133 831 086 538.50	-10.6 %
2011	158 967 960 576.90	18.8 %
2012	97 829 271 153.80	-38.5 %
2013	108 040 090 000.00	10.4 %
2014	110 755 482 692.30	2.5 %
2015	91 917 463 461.50	-17.0 %
2016	48 495 075 000.00	-47.2 %

Source: BCL

While in the first quarter of 2016 there was no participation of Luxembourgish counterparties, the participation rate was around 3% of the total amount allocated to the euro area in the second quarter. After a decline, the participation rate in the last operation of the year was 2%.

Graph 1:
MRO – Amounts allocated to Luxembourg and participation ratio of Luxembourg compared to the euro area in 2016 (in € millions)

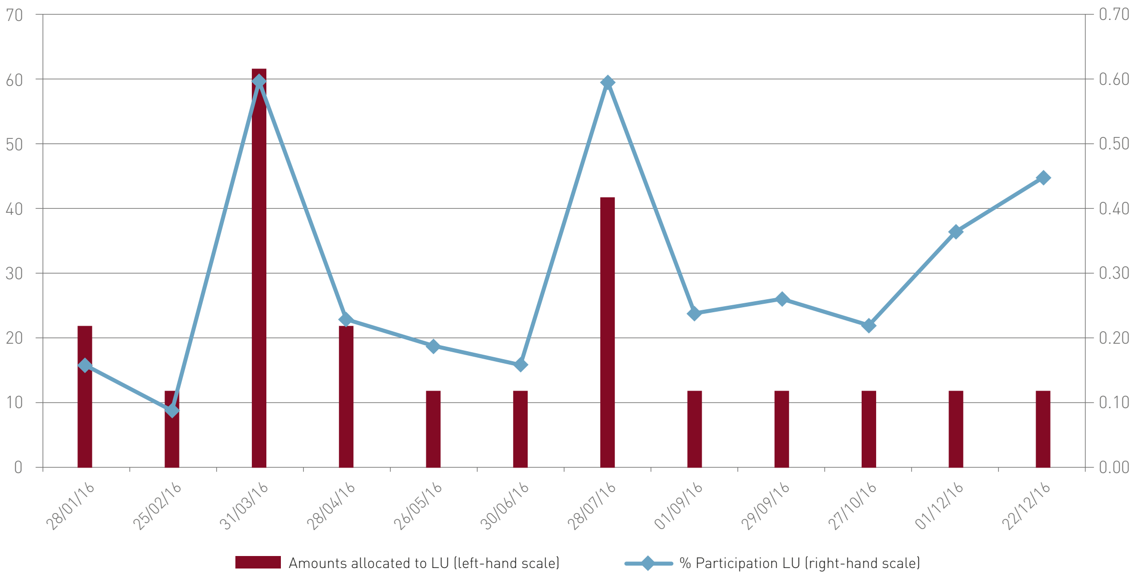


Source: BCL

1.1.1.1.2 Longer-Term Refinancing Operations (LTRO)

The participation of Luxembourgish counterparties in the three-month refinancing operations was modest in 2016. The participation ratio stood between 0.1% and 0.6%.

Graph 2:
LTRO – Amounts allocated to Luxembourg and participation ratio of Luxembourg compared to the euro area in 2016 (in € millions)



Source: BCL

1.1.1.1.3 Fine-Tuning Operations

No fine-tuning operations were conducted in 2016.

1.1.1.2 Standing Facilities in 2016

Luxembourgish counterparties may have recourse to the standing facilities offered by the BCL, i.e. the deposit and/or the marginal lending facilities, at predefined interest rates. On 10 March 2016, the Governing Council of the ECB reduced the deposit facility rate by 10 basis points to -0.40% with effect from 16 March. The marginal facility rate was lowered by five basis points to 0.25%.

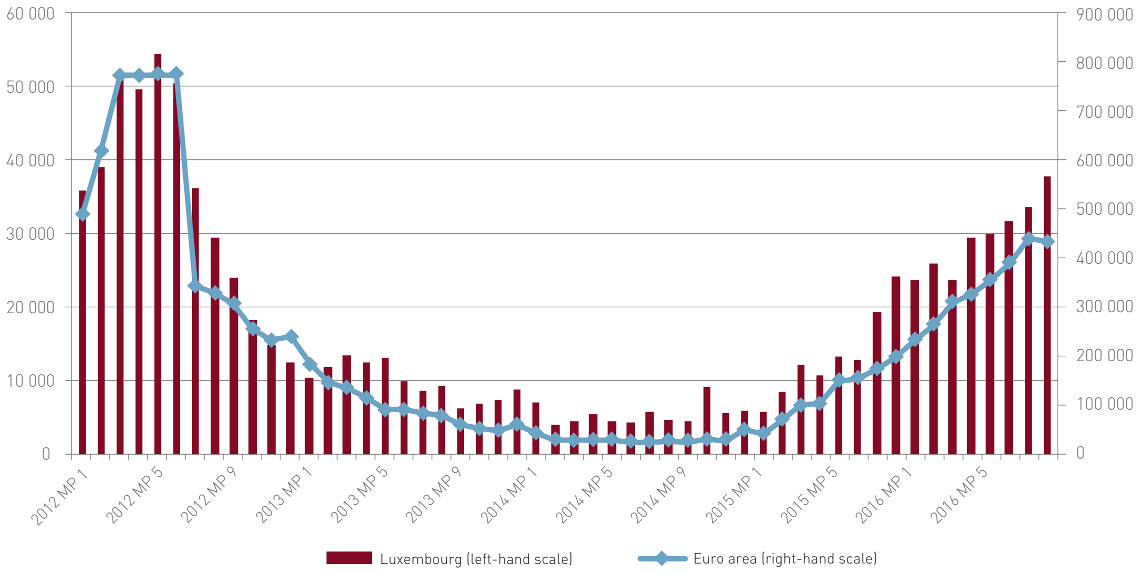
Marginal Lending Facility

Luxembourgish counterparties used the marginal lending facility only sporadically in 2016.

Deposit Facility

The amounts deposited with the BCL increased in 2016 - despite the negative interest rate – inter alia in the context of minimum liquidity coverage ratio (LCR) requirements (see Part 1.7.2.1.2 and 3.7 Glossary).

Graph 3:
Evolution of the deposit facility in Luxembourg and the euro area (Average daily amount) (in € millions)



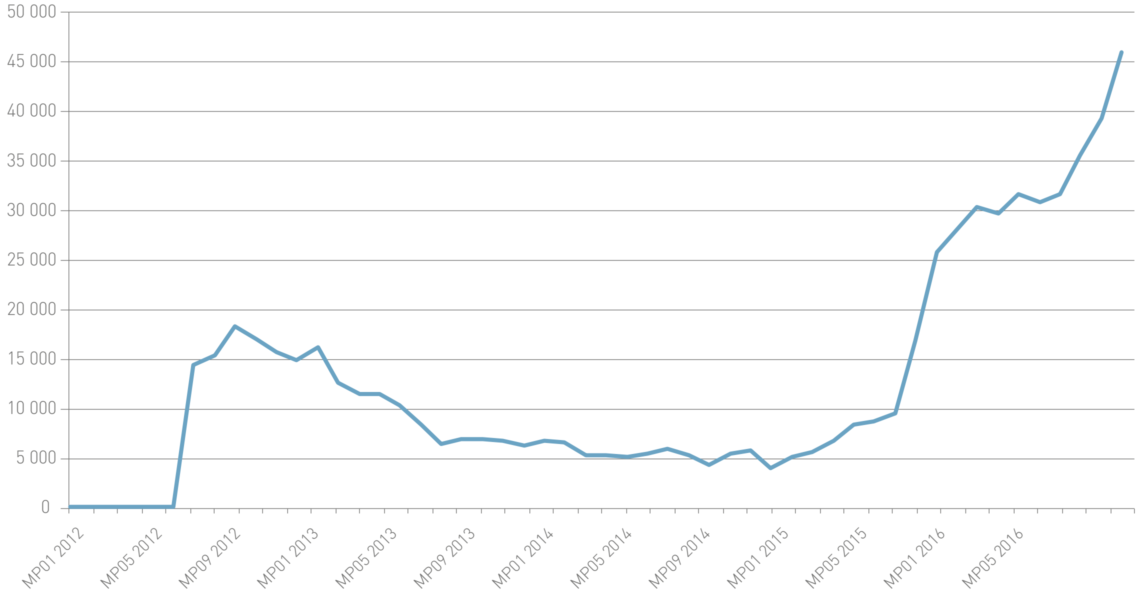
Source: BCL

1.1.1.3 Minimum Reserves in 2016

Since January 2012, the reserve ratio has stood at 1%.

The rate on the deposit facility was lowered to 0% in July 2012 and subsequently to -0.40% in March 2016. This rate is also applicable to excess reserves. Therefore, there is no difference for counterparties between leaving their excess liquidity on the current account and using the deposit facility. The amounts considered as excess reserves increased significantly in the second half of 2012 and decreased gradually afterwards, due to the reallocation of the excess reserves by the counterparties. The trend reversed from 2015 onwards, as the excess reserves increased substantially, and continued in 2016. The daily average for all the Luxembourgish counterparties increased from € 13.6 billion in 2015 to € 34 billion in 2016. As in 2015, this is notably due to the injections of liquidity through the purchase programmes and the requirements pertaining to the LCR.

Graph 4:
Average daily excess reserves of Luxembourgish counterparties since 2012 (in € millions)



Source: BCL

1.1.2 Non-conventional Operations

1.1.2.1 Temporary Currency Auctions Facilities

In 2014, the Governing Council decided to continue offering one-week US dollar liquidity-providing operations after 31 July, until further notice. This has remained valid since then.

As in 2015, there were no participants in these operations in Luxembourg in 2016. In the euro area, the participation remained low, except for the operations conducted at the end of the third quarter of 2016 and at the end of the year, when a total amount of USD six and four billion, respectively, was allocated to 12 counterparties.

1.1.2.2 Extension of Operations' Maturities

Over the last years, Longer-Term Refinancing Operations (LTRO) played an increasingly important role as far as the provision of liquidity is concerned. Before the crisis, these operations accounted only for one third of the liquidity provided by the Eurosystem. Today, they account for the majority of it.

Due to the tensions on the short end of the yield curve since August 2007 and on the medium to long part of the curve since 2010, two non-conventional operations were added to the operational framework at the end of 2011 and in the beginning of 2012. These operations matured on 29 January 2015 and on 26 February 2015 and were not renewed (see table 2 below).

On 5 June 2014, the Governing Council announced measures aiming at supporting lending to the real economy and enhancing the functioning of the monetary policy transmission mechanism. In particular, the Governing Council decided to conduct a series of eight Targeted Longer-Term Refinancing Operations (TLTRO) aiming at improving bank lending to the euro area non-financial private sector, excluding loans to households for house purchase, over a period of two years. Those eight operations were conducted from September 2014 to June 2016 and will all mature on 26 September 2018. Early repayments were allowed two years after the issue date, following a predefined calendar.

On 10 March 2016, the ECB announced a new series of four targeted operations (TLTRO II) to be conducted from June 2016 to March 2017 at a quarterly frequency. The new operations aim at strengthening the functioning of the monetary policy transmission mechanism by further incentivising bank lending to the real economy. The four operations have a four-year maturity with the possibility of early repayments after two years. No mandatory early repayment is foreseen. Counterparties exceeding the lending benchmark will be able to borrow at a rate that can be as low as the rate on the deposit facility at the time of allotment. This feature is particularly attractive in a context of negative interest rates.

At the end of 2016, the liquidity provided through the TLTRO to the banks in the euro area account for around 90% of the total amount of liquidity provided through all operations.

Table 2 below shows the outstanding amounts as of 31 December 2016 for the 11 targeted operations and the participation of Luxembourgish counterparties.

Table 3 shows an overview of all non-conventional longer-term operations conducted by the ECB since 2007.

Table 2:
Targeted Longer-Term Refinancing Operations –
Amounts allocated (in €) in the euro area and participation of Luxembourg

		Luxembourg	euro area	%
TLTRO I.1	Sept. 14	250 000 000	82 601 570 000	0.3
TLTRO I.2	Dec. 14	141 140 000	129 840 130 000	0.1
TLTRO I.3	March 15	500 000 000	97 848 230 000	0.5
TLTRO I.4	June 15	150 000 000	73 789 170 000	0.2
TLTRO I.5	Sept. 15	-	15 548 330 000	-
TLTRO I.6	Dec. 15	-	18 303 960 000	-
TLTRO I.7	March 16	-	7 342 060 000	-
TLTRO I.8	June 16	-	6 723 830 000	-
Total TLTRO I		**1 041 140 000**	**431 997 280 000**	**-**
TLTRO II.1	June 16	3 571 440 000	399 288 940 000	0.9
TLTRO II.2	Sept. 16	-	45 269 770 000	-
TLTRO II.3	Dec. 16	-	62 160 820 000	-
Total TLTRO II		**3 571 440 000**	**506 719 530 000**	
TOTAL		**4 612 580 000**	**938 716 810 000**	

Sources: BCL, ECB

After the early repayments in 2016, the outstanding amount of TLTRO I account for 48% of the amounts allocated initially in Luxembourg and 9% in the euro area.

Table 3:
Overview of the unconventional LTROs as of 31/12/2016

Type	Number of Operations Executed until End 2016	Allotment of the First Operation	Allotment of the Last Operation	Max Amount Allocated in a Single Operation (in € billion)	Total Amount Allocated in the euro area (in € billion)	Max Number of Bidders in a Single Operation	Motivation (as communicated in ECB press releases)
Supplementary 3-Month LTRO	24	Aug-07	Dec-09	75	831	146	*Supporting the normalisation of the functioning of the euro money market*
6-Month LTRO	20	Apr-08	Aug-11	50	416	181	*Supporting the normalisation of the functioning of the euro money market*
1-Month LTRO	70	Sep-08	Jul-14	135	2599	210	*Supporting the normalisation of the functioning of the euro money market*
1-Year LTRO	4	Jun-09	Oct-11	442	671	1121	*In continuity and consistency with the operations undertaken since October 2008*
3-Year LTRO	2	Dec-11	Feb-12	530	1019	800	*Enhanced credit support measures to support bank lending and liquidity in the Eurozone money market*
Targeted LTRO	8	Sep-14	Dec-16	130	432	306	*Enhance the functioning of the monetary policy transmission mechanism by supporting bank lending to the real economy*
Targeted LTRO II	3 (of a total of 4)	Jun-16	Mar-17	399	507	514	*Strengthening the transmission of the monetary policy by further incentivising bank lending to the real economy*

Source: BCL, ECB

1.1.2.3 The Asset Purchase Programme

On 4 September 2014, the Governing Council decided to start purchasing non-financial securities issued by private sector entities. The new programme encompassed an asset-backed securities purchase programme (ABSPP) and a third covered bond purchase programme (CBPP3) on both the primary and the secondary market.

On 22 January 2015, the Governing Council announced the launch of an expanded asset purchase programme including the purchase of sovereign bonds through the public sector purchase programme (PSPP). This programme was added to the existing private sector asset purchase programmes in order to address the risks of a prolonged period of low inflation. The purchases concern high quality bonds issued by euro area central governments, agencies and European institutions in the secondary market. The purchases of securities issued by central governments and agencies of the euro area are determined based on the shares of the NCBs in the key for subscription to the ECB's capital. Additional eligibility criteria are applied to securities issued by countries under an EU-IMF macroeconomic adjustment programme.

On 3 December 2015, the Governing Council decided to extend the asset purchase programme (APP) until the end of March 2017, or beyond, if necessary. Furthermore, the Governing Council included euro-denominated marketable debt instruments issued by euro area regional and local governments in the list of eligible assets.

At the meeting on 10 March 2016, the Governing Council decided to establish a new programme to purchase investment-grade euro-denominated bonds issued by non-bank corporations established in the euro area, the corporate sector purchase programme (CSPP). The purchases made under this programme are coordinated by the ECB and conducted by six National Central Banks (NCBs) on behalf of the Eurosystem. These are the central banks of Belgium, Germany, Spain, France, Italy and Finland. The purchases started on 8 June 2016. They are part of the asset purchase programme (APP) of the ECB, which includes as of today:

- the third covered bond purchase programme (CBPP3);
- the asset-backed securities purchase programme (ABSPP);
- the public sector purchase programme (PSPP);
- the corporate sector purchase programme (CSPP).

On 10 March 2016, the Governing Council also decided to increase the combined monthly purchases under the APP from € 60 billion to € 80 billion.

On 3 December 2016, the Governing Council decided that the € 80 billion monthly securities purchases should be continued until March 2017.

On 15 December 2016, the Governing Council adjusted the modalities of implementation of the asset-backed securities purchase programme (ABSPP). From 1st April 2017 onwards, the central banks of Germany, Spain, Italy, the Netherlands, Belgium and France will be asset managers.

Table 4:
Oustanding Amounts under the asset purchase programmes as of 31 December 2016 (in € millions)

Asset Backed Securities Purchase Programme (ABSPP)	Covered Bonds Purchase Programme			Public Sector Purchase Programme		Corporate Sector Purchase Programme	Total securities held within the monetary policy framework (APP)
ABSPP	*CBPP*	*CBPP2*	*CBPP3*	*PSPP-Governments Bonds*	*PSPP-Supranationals*	*CSPP*	
22 830	12 789	6 913	203 516	1 114 996	139 639	51 069	1 551 752

Source: ECB

1.1.2.4 The Securities Market Programme

In May 2010, the Governing Council of the ECB launched the Securities Market Programme (SMP).

The objective of this programme was to address the malfunctioning of specific segments of the euro area debt securities markets and to restore an appropriate monetary policy transmission mechanism.

The securities market programme ended in September 2012, following the decision of the Eurosystem to introduce Outright Monetary Transactions (see below).

In order to sterilise the impact of these bond purchases, the Eurosystem conducted specific operations aiming at reabsorbing the liquidity injected through the programme. These liquidity-absorbing operations were suspended in June 2014.

As of 31 December 2016, the total residual outstanding value of the purchases conducted under the Securities Market Programme amounted to € 102.274 billion.

1.1.2.5 Outright Monetary Transactions

On 6 September 2012, the Governing Council announced the programme for Outright Monetary Transactions (OMTs). This programme aims at safeguarding the monetary policy transmission to the economy.

Under the OMTs only the securities issued by countries that strictly adhered to the conditions foreseen in a programme of the European Financial Stability Fund or the European Stability Mechanism (EFSF/ESM), either a macroeconomic adjustment programme or a precautionary programme, can be purchased.

Such transactions would focus on the short end of the yield curve, particularly on government bonds with a maturity between one to three years.

As of 31 December 2016, the OMTs have not been activated.

1.1.3 Management of collateralisation of Eurosystem credit operations

In 2016, the Eurosystem continued its work aimed at enhancing collateral management. This work took in particular place in the COGESI[1], in which the Eurosystem in its capacity as catalyst analyses together with market participants dossiers related to collateral mobilisation. COGESI documents are published on the website of the ECB[2]. Furthermore, in the context of work related to its "Vision 2020", the Eurosystem will reinforce harmonisation of its collateralisation procedures.

1.1.3.1 List of eligible assets

According to Article 18 of the Statute of the ESCB and the ECB, in all Eurosystem credit operations liquidity is provided against adequate collateral.

Each counterparty in the Eurosystem participating in monetary policy operations must provide assets as collateral to the NCB executing the monetary policy operations. These assets have to comply with eligibility criteria specified in the Eurosystem's General Documentation on Eurosystem monetary policy instruments and procedures.

The Eurosystem accepts as collateral marketable and non-marketable assets, including credit claims. The list of eligible marketable assets is published on the ECB's website.

Eurosystem counterparties use different channels and procedures for the mobilisation of eligible assets. The mobilisation of marketable assets requires the use of one or more securities settlement systems. Non-marketable assets are mobilised according to procedures developed by each NCB (domestic mobilisation), or with the intermediation of a correspondent central bank (cross-border mobilisation).

In the course of 2016, the Governing Council took the following main measures relating to eligible assets:

- On 16 March 2016, the Governing Council decided, in application of Article 8(2) of Guideline ECB/2014/31, to lift the suspension of the application of the Eurosystem's minimum credit quality thresholds to marketable debt instruments issued or fully guaranteed by the Republic of Cyprus, with effect from 1 April 2016.

1 COGESI – *Contact Group on Euro Securities Infrastructures* was dissolved and its work has been resumed in 2017 by the new AMI SeCo – *Advisory Group on Market Infrastructures for Securities and Collateral*.

2 http://www.ecb.int.

- On 22 June 2016, the Governing Council decided to restore the eligibility of marketable debt instruments issued or fully guaranteed by the Hellenic Republic for use in Eurosystem credit operations, with effect from 29 June 2016.
- On 4 October 2016, the Governing Council decided to change to the collateral eligibility criteria and risk control measures applicable to unsecured bank bonds. These instruments will remain eligible for use as collateral for the time being, subject to additional risk control measures. In particular, starting from 1 January 2017, the limit for the use of unsecured bank bonds was reduced from 5% to 2.5%.

Further information on this matter is available on the ECB website.[3]

1.2 FOREIGN EXCHANGE RESERVE MANAGEMENT BY THE BCL

The ECB's foreign exchange reserves have been managed in a decentralised way by the national central banks since January 1999. The BCL transferred € 74.6 million in foreign exchange assets to the ECB, in accordance with the ESCB Statute and in line with the BCL's share in the ECB's capital key.

The NCBs' shares in the ECB's capital are calculated using a key reflecting the respective country's population and gross domestic product and are revised every five years and when a new member joins the euro area. The BCL's share in the ECB's capital, which stood at 0.1739% on 1 July 2013, was raised to 0.2030% on 1 January 2014 following the adoption of the euro by Lithuania.

As of 31 December 2016, the total market value of the ECB's reserves (including accrued interest) managed by the BCL corresponded to € 412.5 million. One goal of the foreign exchange reserve management of the ECB is to ensure that the ECB has sufficient available liquidity to intervene in the foreign exchange markets, should the need arise. Security and liquidity are therefore the main priorities of the BCL's foreign exchange reserve management.

For the management of the foreign exchange reserve portfolio, the main task of the BCL is to invest foreign reserves on behalf of the ECB, within the defined risk limits and fluctuation bands, with liquidity as the primary objective.

The amount of passively managed assets in gold is determined by the ECB, taking into account strategic considerations and market conditions.

1.3 MANAGEMENT OF THE BCL'S ASSETS

1.3.1 Conceptual Framework

Objectives of the investment policy

The main objectives of the investment policy are to generate regular income and, over the long term, to achieve positive performance while preserving capital, the value 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 proactive investment policy based on modern portfolio theory.

The investment approach incorporates the following:

- the analysis of the global economy and international financial markets;
- an asset allocation process that involves assessing the returns on different international markets;
- the development of a clearly defined strategy;
- the preservation of the asset value by following a risk diversification process and requiring investments to be of a specific quality;
- the application of strict risk control measures.

3 https://www.ecb.europa.eu/press/govcdec/otherdec/2016/html/index.en.html.

Investment decisions are based on technical and fundamental analysis and take into account:

- Market Risk (interest rates, exchange rates, equity prices, commodity prices);
- Credit Risk (minimum credit rating criteria by international rating agencies);
- Liquidity Risk (concentration limits by sector, issuer and issue; efforts to ensure geographic diversification in daily management).

Performance Measurement

The quality of investment decisions is measured by comparing the performance to external benchmarks.

This allows performance attribution to be carried out at all decision-making levels (strategic, tactical) as well as in daily management.

1.3.2 Institutional Structure

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

Level 1: The Council

The Council approves the guidelines of the asset management framework. The Council allowed the BCL to provide asset management services to third parties and to hold its own fund asset portfolios in order to diversify the Bank's income. The guidelines also include a risk mitigation framework applied to asset management.

Level 2: The Executive Board

The Executive Board defines the risk management framework. 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 Executive Board also sets warning thresholds, which can lead to the calling of emergency meetings for assessment and evaluation purposes. The Executive Board 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 Executive Board. Therefor the impact of each risk profile (market, credit and liquidity risk) which would result from the proposed investment policy is assessed, with regard to both the overall balance sheet as well as the profit and loss account of the BCL. Throughout the year, ALCO regularly evaluates the results of the investment policy.

Level 4: The tactical committees

The tactical committees monitor the evolution of the portfolios on a short-term basis and prepare proposals for tactical benchmarks that comply with the deviation from 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 de la BCE* for the pooled reserves of the ECB;
- the *Comité de référence tactique du fonds de pension* for the pension fund of the BCL.

Level 5: The Portfolio Management Team

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

1.3.3 Risk Control

The Risk Management unit monitors the positions of all the portfolios in order to assess risks and to check compliance with the predefined limits. This monitoring is carried out daily and independently from the Front Office. It incorporates traditional portfolio risk measurements such as Value at Risk (VaR) and stress testing.

1.3.4 Portfolio Structure

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

The BCL manages different types of portfolios.

Investment Portfolio

This portfolio invests the own funds of the BCL.

The main goal of the portfolio is to maximise returns within the abovementioned risk limits (see section 1.3.2). As of 31 December 2016, its total market value (including accrued interest) amounted to € 1 714 million.

In 2016, the share of this portfolio invested in fixed income securities with a maturity above three years decreased from 53% to 50%, whereas the percentage of bonds with a one to three year maturity declined from 29% to 19%. Moreover, by the end of 2016, variable rate and fixed rate bonds with a maturity under one year represented 31% of the investment portfolio.

The securities of this portfolio are widely diversified, not only geographically but also in terms of sectors and issuers.

Liquidity Portfolio

This portfolio comprises the other assets that are largely attributable to a Eurosystem arrangement and mirrors TARGET2 accounts as well as other liabilities.

This portfolio aims to increase the revenues of the Bank. The instruments used are mainly fixed income short-term bonds, variable rate bonds and treasury bills, if they comply with strict and predefined rating criteria. As of 31 December 2016, the total market value (including accrued interest) amounted to € 249 million. The part of the portfolio that had been outsourced to an external portfolio manager since 2011 has been integrated again into the internal portfolio management.

Mr Serge Kolb, Executive Director of the BCL

Table 5:
Breakdown of reserves as of 31 December 2015

Maturity	Investment Portfolio	Liquidity Portfolio
<1 year	31%	64%
1-3 years	19%	24%
> 3 years	50%	12%

Domestic Foreign 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 2016, the total market value (including accrued interest) of this portfolio in foreign currencies amounted to € 167 million.

Pension Fund Portfolio

The management of this Fund is described further in section 2.2.2 of this report.

Foreign Reserves Portfolio of the European Central Bank

The management of this portfolio is described further in section 1.2 of this report.

Third Party Portfolios

The BCL provides non-standardised discretionary management services to institutional clients (central banks and international organisations). Furthermore, the Bank acts as one of the Eurosystem's service providers (ESP). 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 reserves under a harmonised framework defined by the ECB.

1.4 BANKNOTES AND COINS

The BCL, in cooperation with the ECB and the other NCBs of the Eurosystem, is in charge of putting euro banknotes and coins into circulation. It contributes to maintain the public's confidence in the common currency by managing the circulation of fiduciary money and fighting against counterfeiting. Through its activities in the field of Luxembourg's numismatics, it supports the promotion of the Grand Duchy of Luxembourg.

1.4.1 Production of banknotes and coins

Within the Eurosystem, euro banknote production is assigned based on a decentralised pooling framework adopted in 2002, in which each NCB of the euro area is responsible for providing a share of the total requirements. Euro banknotes are produced in accordance with the needs identified by each participating NCBs and aggregated by the ECB.

In this context, in 2016 the BCL was responsible for the production of 15.4 million of € 50 banknotes of the Europa series for the Eurosystem (compared to 6.7 million of € 50 banknotes and 12.04 million of € 10 banknotes of the "Europa" series in 2015). The BCL allocated the production of these banknotes via a tender procedure (section 1.4.4. National and international cooperation).

Following an agreement with the State of Luxembourg, the BCL also ensures the production of Luxembourg's euro coins that it puts into circulation. Following a call for tenders, the BCL commissioned the production of 42.5 million coins of the 2016 series to cover the needs of economic agents and numismatists (compared to 43.5 million coins of the 2015 series).

1.4.2 Circulation of banknotes and coins

1.4.2.1 Euro banknotes and coins

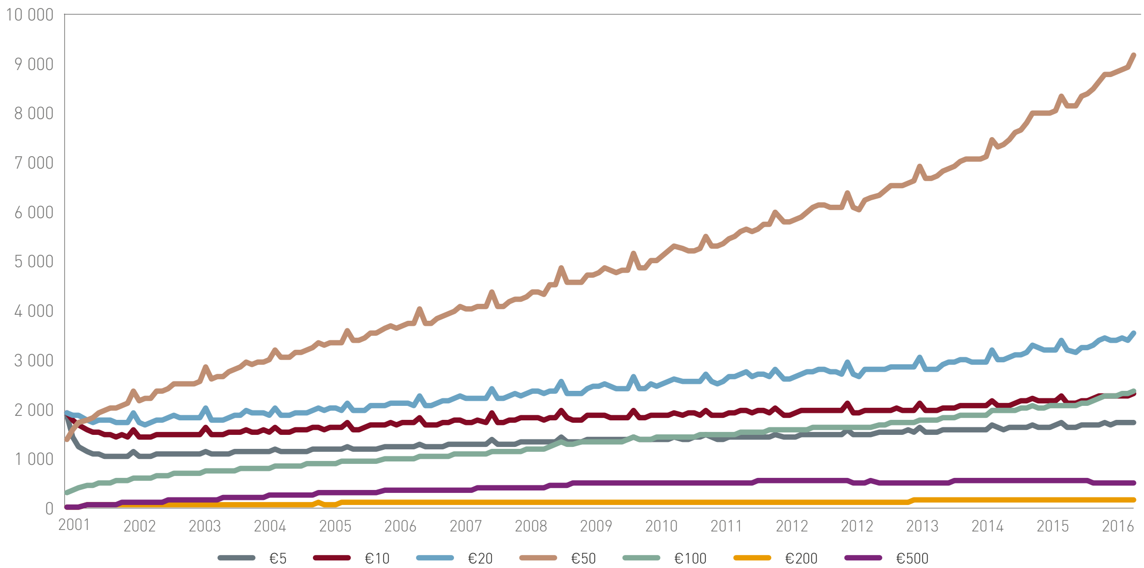
1.4.2.1.1 Banknotes

The total number of banknotes issued by the BCL in 2016 amounted to 6.5 million. The number of € 10 and € 20 banknotes deposited at the BCL exceeds the number of banknotes issued. Financial institutions have indeed deposited a higher amount of these banknotes at the BCL than the amount they withdrew. This can be explained by the numerous € 10 and € 20 banknotes brought in the country from tourists and, particularly, by cross-border workers.

Demand for banknotes in the denomination of € 500 continued to decline. At the European level, the number of € 500 banknotes in circulation diminished after the ECB's announcement in May 2016 of the Eurosystem's decision to stop production of this denomination. This decrease was partly offset by a higher demand for € 200, € 100 and € 50 banknotes. By 31 December 2016, the total number of banknotes put into circulation by the Eurosystem reached 20.2 billion, a growth rate of 7% compared to the previous year.

The graph below illustrates the trends in the evolution of the circulation of the different denominations.

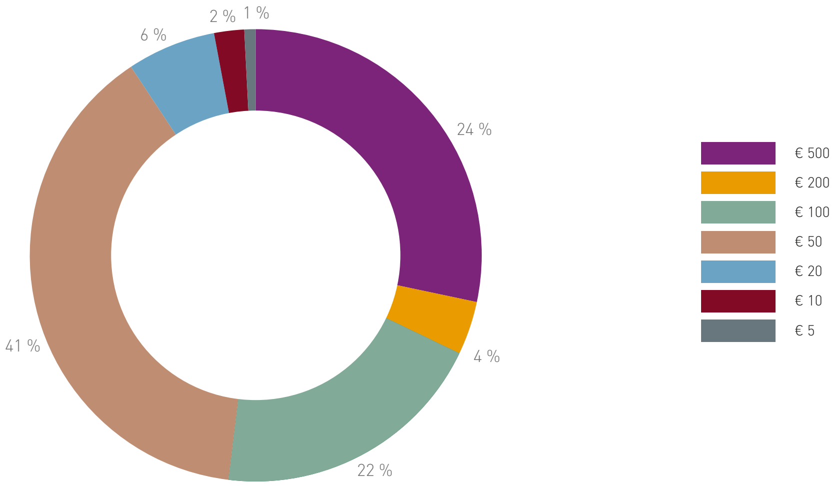
Graph 5:
Denominational breakdown of the number of euro banknotes put into circulation by the Eurosystem since 2002 (in millions of banknotes)



Source: ECB

In value terms, the net issuance of banknotes in Luxembourg grew by € 1.1 billion, a growth rate of 1.1% compared to the previous year. However, at the European level, the net issuance grew by € 42.8 billion, an increase of 3.9%. In the euro area, the total amount in circulation reached € 1 126 billion by the end of 2016. Graph 6 below illustrates the breakdown by denomination.

Graph 6:
Distribution of the value of euro banknotes put into circulation by the Eurosystem by denomination on 31 December 2016



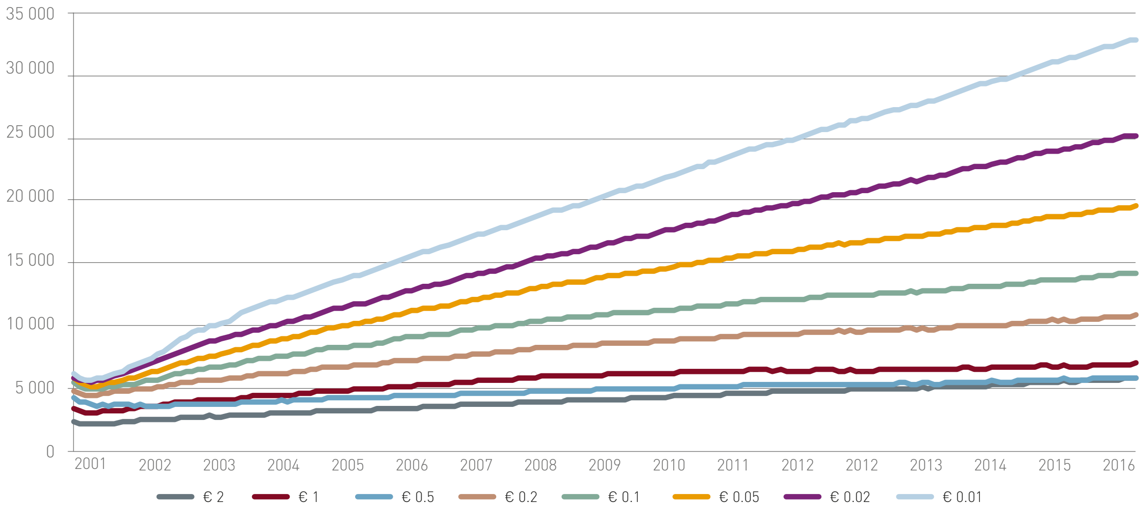
Source: ECB

1.4.2.1.2 Coins

The volume of coins put into circulation in the course of the year 2016 increased by 29.1 million, a growth rate of 3.8%. At the euro area level, the total number of euro coins in circulation grew by 4.1%, reaching 121 billion.

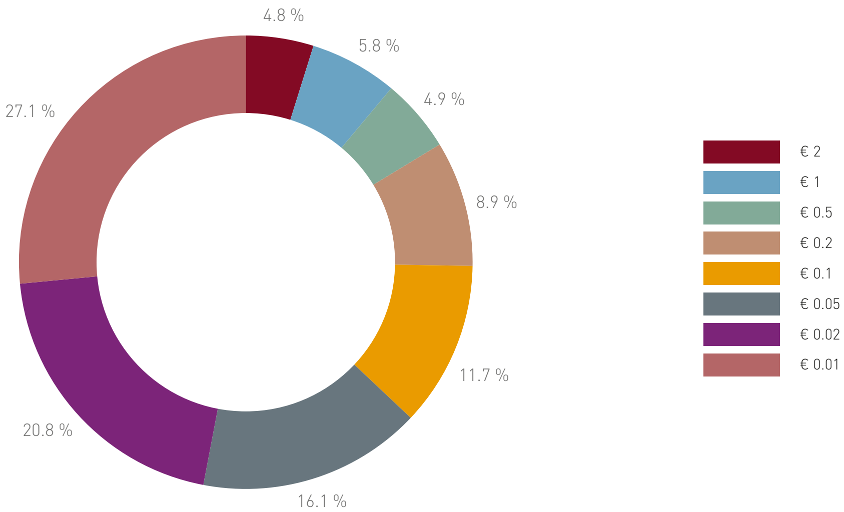
The value of euro coins in circulation in the euro area attained € 26.9 billion, a growth rate of 3.5%. The value of euro coins in circulation in Luxembourg grew by 3.4%, a similar increase to the one observed at the European level.

Graph 7:
Distribution of the number of euro coins put into circulation by the Eurosystem by denomination since 2002 (in millions of coins)



Source: ECB

Graph 8:
Breakdown of the volume of coins of the euro area in circulation by denomination on 31 December 2016



Source: ECB

1.4.2.2 Luxembourg franc banknotes

During the year under review, the total value of Luxembourg franc banknotes issued by the *Institut Monétaire Luxembourgeois* and not yet presented for exchange fell from LUF 203.2 million to LUF 202.7 million, equalling a decrease of 0.25%. Their total value expressed in euro equals 5.0 million.

Table 6:
LUF banknotes in circulation at 31 December 2016

LUF	Number	Value in LUF	Value in EUR
5000	11 017	55 085 000	1 365 521.48
1000	68 519	68 519 000	1 698 541.64
100	791 324	79 132 400	1 961 640.96
	870 860	**202 736 400**	**5 025 704.08**

[1 EUR = 40,3399 LUF]

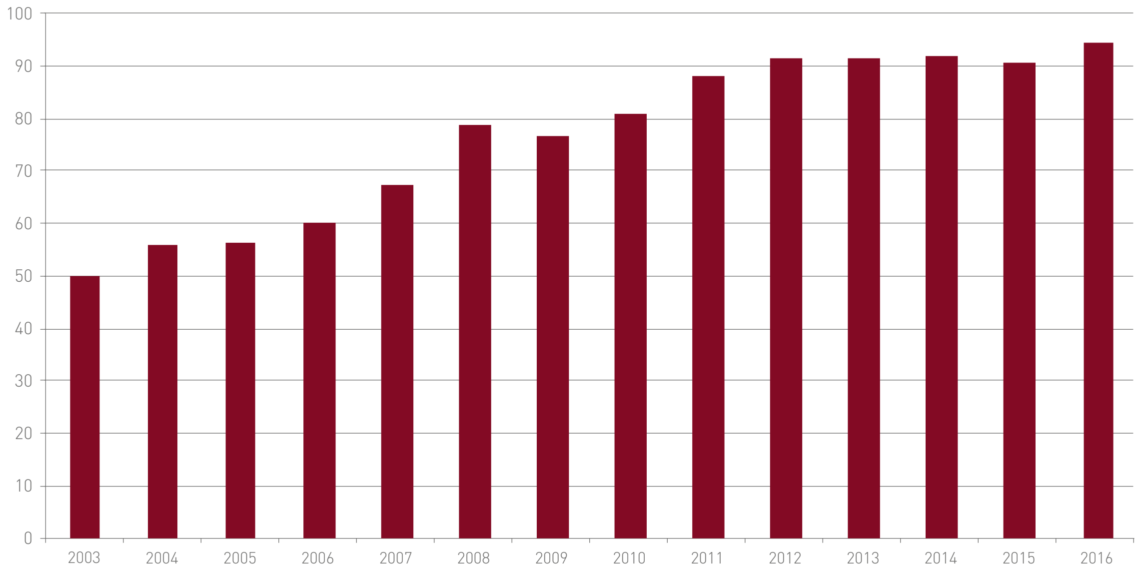
As of end-2004, coins denominated in LUF are neither exchanged nor reimbursed.

1.4.3 Sorting of euro banknotes and coins

The volume of euro banknotes returned by financial institutions to the BCL increased by 4% compared to the previous year, from 91.3 to 94.9 million banknotes. Over the past five years, banknote lodgements made at the BCL have remained above the annual threshold of 90 million banknotes.

The graph below describes the evolution of these lodgements at the BCL since 2003.

Graph 9:
Lodgements of euro banknotes by financial institutions at the BCL (in millions of banknotes)



Source: BCL

The lodged banknotes were processed with the help of banknote sorting machines that are capable of verifying the authenticity and fitness of circulation of each banknote. 10.5 million banknotes of all denominations (12.8 million in 2015) were destroyed because they were unfit for circulation, which amounts to a destruction rate of 10.6%, compared to 14.0% in the previous year. This rate shows a wide variation between the denominations processed: it ranged from 8.2% for the € 500 banknote to approximately 20% for the € 20 banknotes, due to the introduction of the banknotes of the Europa series and the systematic destruction of the banknotes of the first series.

1.4.4 National and international cooperation

In the fight against counterfeiting of euro banknotes and coins, the BCL closely cooperates with the ECB and the national authorities in charge. For the analysis of counterfeit and mutilated euro banknotes and coins, the BCL has been collaborating with the Banque de France and the Deutsche Bundesbank since 2002.

The BCL also collaborates with eight other NCBs (the national central banks of Belgium, Cyprus, Estonia, Finland, Ireland, Latvia, Malta and the Netherlands) in the management and maintenance of the CashSSP[4] application. This system allows the BCL not only to manage its banknote and coin stocks and to monitor its sorting activity of fiduciary money, but also to obtain, in a secured manner, the deposit and withdrawal announcements of local commercial banks.

The BCL has pooled its share of banknotes to be produced for the Eurosystem with seven other Eurosystem NCBs (the central banks of Cyprus, Estonia, Finland, Malta, the Netherlands, Slovakia and Slovenia) for several years. The objective of the pooling is to share the resources and experience necessary for monitoring the production of banknotes.

4 Cash Single Shared Platform

1.4.5 Issuance of the new Europa banknote series

The new Europa banknote series, which is based on the theme of "Ages and styles in Europe" like the first series, is issued in a progressive manner: The new series' first banknote, the € 5, was put into circulation on 2 May 2013, followed by the € 10 on 23 September 2014 and on 25 November 2015 by the one of € 20. Unveiled to the public on 5 July 2016, the new € 50 banknote is scheduled to be put in circulation on 4 April 2017.

In 2016, the Governing Council of the ECB concluded a review of the denominational structure of the Europa series. It decided to stop permanently the production of the € 500 banknote and to exclude it from the Europa series, taking into account the concerns that this banknote could facilitate illicit activities. The issuance of the € 500 banknote will be discontinued around the end of 2018, when the € 100 and € 200 notes of the Europa series are planned to be introduced. The other denominations, from € 5 euro to € 200 euro, will remain in place. The end of the legal tender status of the first series will be announced in due course. Banknotes of the first series will remain redeemable at the NCBs with no time limit.

New or improved security features have been incorporated into banknotes to ensure maximum protection against counterfeiting and to enable the public to distinguish quickly a genuine banknote from a counterfeit.

1.4.6 Numismatic issues

The BCL issues numismatic products on the theme of the Grand Duchy's history and culture. Through its numismatic premises, more than 1 500 sales transactions were completed in 2016. Around 3 000 parcels were sent out, corresponding to sales made through traditional mail or via the Internet shop of the BCL (https://eshop.bcl.lu).

In 2016, the BCL issued the following numismatic products:

- a € 2 commemorative coin dedicated to the 50th anniversary of the inauguration of the bridge *Grande Duchesse Charlotte*;
- the 2016 Brilliant Uncirculated set comprising Luxembourg's euro coins of the 2016 series (including the € 2 commemorative coin);
- the 2016 proof set composed of nine coins;
- a fair trade gold coin dedicated to *D'Maus Ketti*;
- a silver-niobium coin dedicated to the castle of Clervaux and constituting the eighth element of the series commemorating Luxembourg's castles;
- a silver-Nordic gold coin dedicated to the cornflower and constituting the eighth element of the series commemorating Luxembourg's fauna and flora;
- a Nordic gold-silver coin dedicated to the *Musée d'Art Moderne Grand-Duc Jean* (MUDAM) and constituting the first element of the series commemorating examples of remarkable architecture in Luxembourg.

1.5 STATISTICS

The BCL develops, collects, compiles and disseminates a wide range of statistics that allow it to fulfil its legal obligations within the European System of Central Banks (ESCB), the European Systemic Risk Board (ESRB) as well as at the national level. This information is also used by other national institutions such as the Institut National de la Statistique et des Etudes Economiques (STATEC) and the Commission de Surveillance du Secteur Financier (CSSF) for the fulfilment of their respective missions.

Overall, during the year 2016, statistics were provided on time and significant efforts were made to improve the statistics published by the BCL. In addition, in parallel with this work, the BCL collected and compiled the data that is necessary for the performance of its tasks in the areas of monetary policy and financial stability.

As part of the cooperation agreement between BCL and STATEC, the BCL has been producing quarterly financial accounts statistics (with the exception of data on the public sector) since March 2013.

In the framework of a tripartite cooperation agreement between the ECB, the European Stability Mechanism (ESM) and the BCL, the latter has undertaken to compile macroeconomic aggregates based on the accounting data transmitted by the ESM. These statistical data are necessary for the ECB to compile aggregates of the euro area, with the ESM being considered as a financial company residing in the euro area.

In 2014, the People's Bank of China (PBC) and the BCL signed a Memorandum of Understanding (MoU) to establish cooperation between the two institutions in terms of oversight, exchange of information and assessment of the renminbi market. Under this agreement, the BCL monitors developments in this market and provides regular information to the PBC.

The BCL was once again involved in the triennial survey of the global foreign exchange and derivatives market organised by the Bank for International Settlements (BIS). The main purpose of this survey is to obtain internationally comparable information on the size and structure of the foreign exchange and derivatives market, as well as on the activities in these markets. The purpose of these statistics is to improve market transparency and to help central banks, public authorities and market participants to better understand the activity of the global financial system.

The BCL also contributed to the data collection in a second round of longer-term refinancing operations. In Luxembourg, the participating banks concerned have submitted duly completed reports to the BCL.

In addition, the BCL transposed the revision of the standard deduction from the reserve base and the amendment of the Regulation on the application of minimum reserves. In 2016, the standard deduction from the reserve base for debt liabilities of up to two years was reduced from 30% to 15%. The revised regulation on the application of minimum reserves further specifies the method used to apply the standard deduction to exclude interbank liabilities from the reserve base. It is worth recalling that data on the amounts to be deposited by each bank under the reserve requirements are collected through the monthly statistical balance sheet of credit institutions.

Since 2012, the BCL has been collecting statistics on payment and payments instruments. Some of these data are aggregated and transmitted to the ECB. The collected data include information on the use of the different payment instruments in force in Luxembourg as well as the use of different settlement channels. Payments made in electronic money are also covered by the data collection.

Finally, based on the cooperation agreement in the field of statistics on government finance, STATEC and the BCL are working together to improve data exchange between the two institutions.

1.5.1 New statistical data collections

In 2016, the BCL collected new statistical data on insurance companies in accordance with Regulation ECB/2014/50 on statistical reporting requirements for insurance companies. These data, which cover the first two quarters of 2016, are currently being analysed and aggregated for future publication.

1.5.2 Other statistical developments

In May 2016, the Governing Council of the ECB adopted Regulation ECB/2016/13 on the collection of granular credit and credit risk data with the objective of establishing a granular database (AnaCredit) with harmonised data on credit and credit risk. From the end of 2018, AnaCredit will provide granular "loan by loan" information on credit to corporations and other legal entities (except natural persons) granted by euro area banks and their foreign branches.

In June 2016, the ECB adopted Decision ECB/2015/50 amending Decision ECB/2010/10 on non-compliance with statistical reporting requirements for investment funds and securitisation vehicles. As a result, the BCL and the ECB have established a compliance check regarding the minimum statistical reporting standards by implementing a database containing all infringements that have been identified throughout the month of production.

In August 2016, the ECB amended the Regulation on securities holding statistics in order to collect additional accounting and credit risk attributes from banking groups. In addition, the list of banking groups subject to data collection has been extended to all significant groups that are directly supervised by the ECB. Furthermore, the amended guideline establishes a framework for data quality management.

The BCL publishes on its website a large number of statistics relating to the financial sector and provides STATEC with some of the data required under the Special Data Dissemination Standard of the International Monetary Fund (IMF).

In 2016, several changes were implemented in order to meet the public's growing demand for statistical series and to improve the information available to users, in particular as far as credit institution data are concerned.

Finally, the BCL continued its efforts to make the statistics more accessible and user-friendly, in particular by improving its statistical press releases on banking activity with the aim of providing more detailed information on the evolution of bank credit.

1.6 PAYMENTS AND SECURITY SETTLEMENT SYSTEMS

1.6.1 TARGET2-LU

Since 19 November 2007, the real-time gross settlement system (RTGS) TARGET2 runs on the Single Shared Platform (SSP) operated in common by 25 central banks of the ESCB. Twenty of these central banks are from the Eurosystem.[5]

At end-2016, the Luxembourgish component TARGET2-LU counted 41 direct participants (four more than in 2015), 37 indirect participants (one less than in 2015) and four ancillary systems (one more than in 2015).

Domestic payments

In 2016, participants in TARGET2-LU exchanged a monthly average of 20 802 payments (against 19 866 in 2015) for a value of € 83.2 billion -against € 75.1 billion in 2015. Of these payments, 12 588 or 60.5% were retail payments. Their value represented a monthly average of € 6.0 billion or 7.2 % of the domestic value exchanged.

In TARGET2-LU, after the strong decline recorded in 2014 (-12.8%) due to the migration to SEPA[6] volumes stabilised in 2015 (+0.01%) and 2016 (+0.05%).

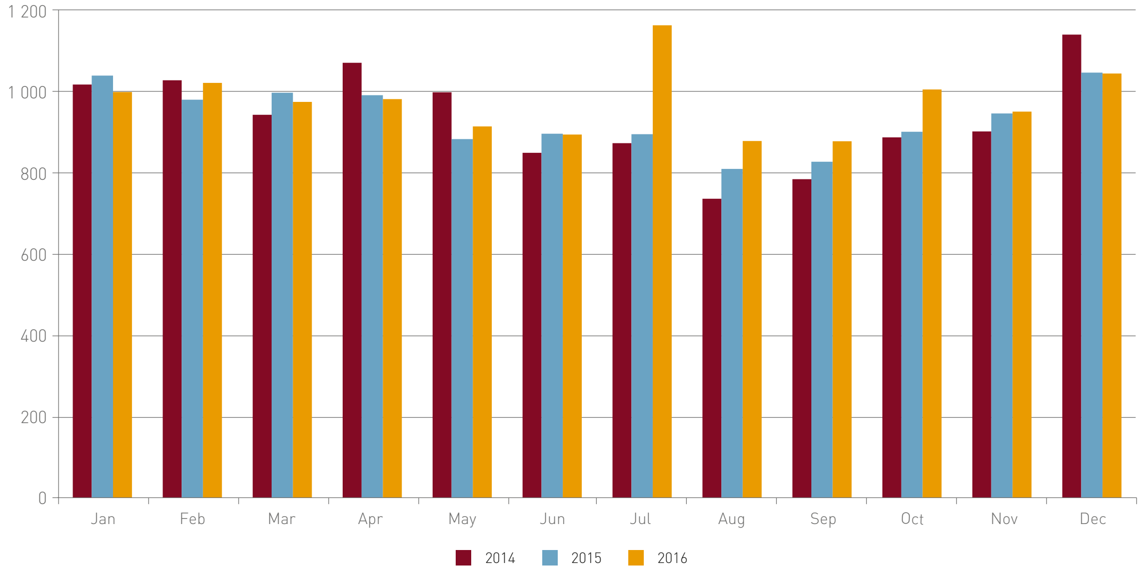
In parallel, the domestic value exchanged increased by 10.8 % in 2016. This augmentation is due to a slight decrease in interbank payments (-6.8 %) whereas retail payments rose by 10.6 % in the meantime.

Chart 10 illustrates the developments in average daily volumes in domestic payments.

5 The 25 central banks include: the ECB and the 19 NCBs plus five central banks of EU countries which have not (yet) adopted the euro (Bulgaria, Croatia, Denmark Poland and Romania).

6 *Single Euro Payments Area.*

Graph 10:
Domestic payments: average daily volumes



Source: CRAKS1/TARGET2

Cross border payments

In 2016, participants in TARGET2-LU sent a monthly average of 100 857 payments to other countries of the EU (93 894 payments in 2015), an increase of 7.4%. During the first three quarters of 2016, monthly averages increased by 16.9% relative to the corresponding period of 2015 but they declined by 14.7% during the final quarter. The average value increased by 20.2% to € 657 billion (€ 547 billion in 2015).

The volume of retail payments increased by 4.4% to reach 51 665 payments, representing 51.2% of total cross border volume. This rate of increase is substantially lower than in 2015 (+29.4%). The relative part of retail payments declined by 1.5% in 2016 whereas it grew by 3.2% in 2015. The volume of interbank payments increased by 10.7%, thus reaching a monthly average of 49 187 transactions in 2016, compared to 44 418 in 2015.

In value terms, the average monthly retail payments increased by 3.2% to an average of € 39.9 billion, representing 6.1% of the total value exchanged. The value of monthly interbank cross border payments increased by 21.5% to € 617.3 billion.

Globally, outward cross border payments[7] increased by 7.4% in volume terms in 2016, mainly thanks to the transactions of the new participants. In value they increased by 20.2% over one year. The average value per transaction sent was € 6.5 million (against € 5.8 million in 2015). The average value of an interbank payment increased from € 11.4 million in 2015 to € 12.6 million in 2016.

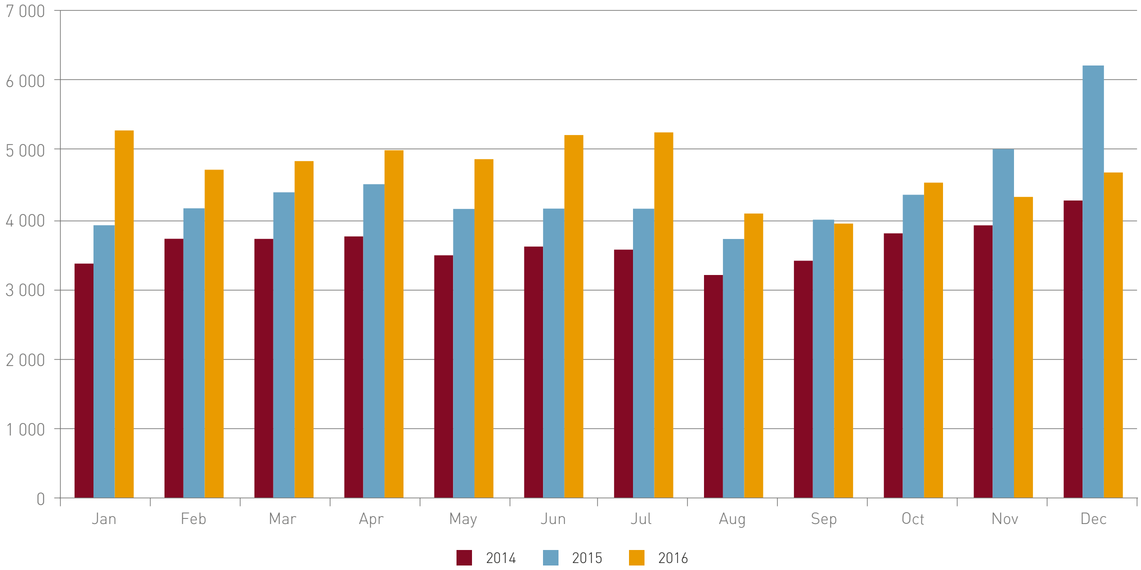
In 2016, participants in TARGET2-LU received 84 363 payments on average per month from abroad[8] against 86 044 in 2015 (-2.0%). Participants issued 121 995 payments on average per month in 2016 against 113 766 in 2015 (+7.2%). The average value of incoming payments was € 723.0 billion or 2.4% lower than the value sent (€ 740.4 billion).

Charts 11 and 12 display the development of average daily volumes and values in cross border payments sent by Luxembourgish participants.

7 From the central bank of Luxembourg to the other 24 participating central banks.

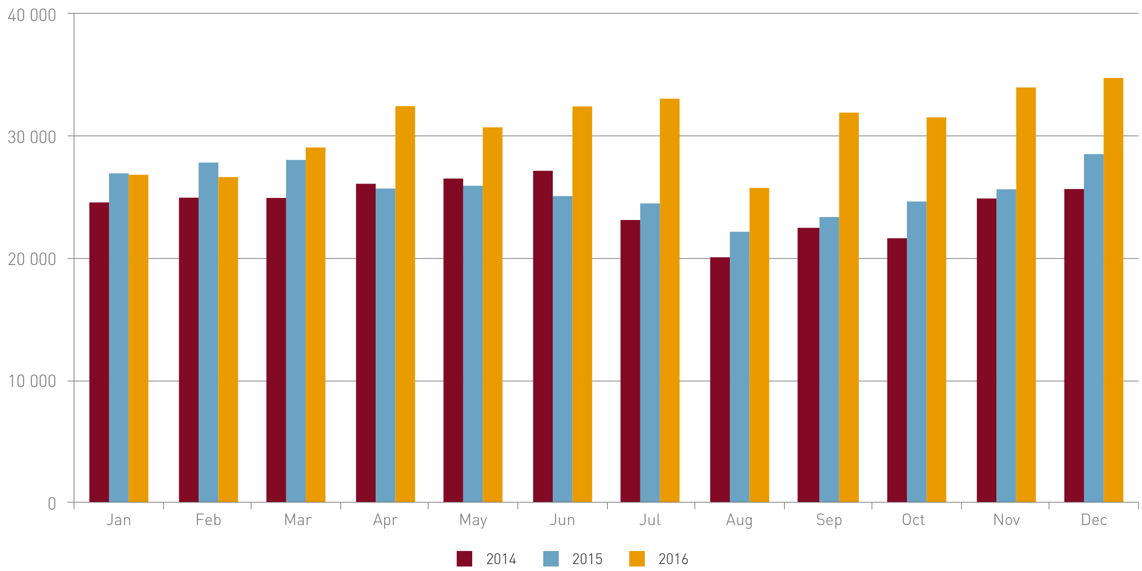
8 "Abroad" refers to the other 24 participating central banks.

Graph 11:
Outward cross border payments: average daily volumes



Source: CRAKS1/TARGET2

Graph 12:
Outward cross border payments: average daily values (in € millions)



Source: CRAKS1/TARGET2

Aggregated figures of domestic and cross border payments

The total number of outward payments issued by participants in TARGET2-LU in 2016 amounted to 1 459 906 (a yearly increase by 9.6%). Of these payments, 771 036 or 53% were retail payments.

Table 7 provides an overview of average daily volumes of payments over one year since 2013.

The average monthly value of all outward payments in 2016 was € 740 billion of which 6.2% were retail payments. Similar to the previous three years, the value of 83.3% of these payments was below € 250 000.

On average, 76.2% (77.1% in 2015) of the retail payments and 83.1% (82.8% in 2015) of the interbank payments were settled each day before noon. They represented 56.3% and 77.9% of the respective values.

Table 7:
Volumes of outward sent payments in daily averages

	Domestic		Cross border sent		Total sent	Cross border received	
	Volume	(% volume sent)	Volume	(% volume sent)	Volume	Volume	(% volume sent and received)
2013	1 067	(25.1)	3 179	(74.9)	4 246	2 497	(37.0)
2014	929	(20.4)	3 636	(79.6)	4 565	2 694	(37.1)
2015	931	(17.5)	4 401	(82.5)	5 333	3 102	(36.8)
2016	973	(17.1)	4 719	(82.9)	5 692	2 968	(34.8)
Variation 2015-2016	+ 4.5 %		+ 7.2 %		+ 6.7 %	- 4.3 %	

Source: BCL

TARGET2-LU compared to other systems participating in TARGET2

All national RTGS systems participating in TARGET2 transferred a monthly average of 7.33 million payments in 2016, approximately the same amount as in the previous year. Luxembourg's portion represented 1.7% of this volume (1.6% in 2015). The average monthly value exchanged summed up to € 38 301 billion (€ 41 236 billion in 2015). Luxembourg's share of the exchanged value was 1.9% (1.5% in 2015).

Since 2013, 62% of all payments in the national RTGS system which relied on TARGET 2 were domestic transactions. The part of interbank payments decreased by 15% to attain 29%. In TARGET2-LU, domestic payments represented 17.1% (17.5% in 2015) and interbank payments 46.9% of the volume (45.8% in 2015).

The average value of a TARGET2 payment amounted € 5.0 million in 2016 (€ 5.6 million in 2015). In TARGET2-LU, this value was € 6.1 million (€ 5.5 million in 2015).

The maximum daily number of outward payments in TARGET2 was 533 100 (30 June 2016). In 2015, the maximum amount of transactions was 512 422 (on 7 April 2015). For Luxembourg, the maximum daily amount was reached on 28 July 2016 with 10 433 payments. In 2015, the maximum was reached on 22 December with 9 578 outward payments.

Availability and performance of TARGET2

The availability of the TARGET2 platform, and hence of TARGET2-LU, was 100% in 2016, up from 99.99% in 2015. The SSP received a daily average of 360 862 payment instructions, 2.88% more than in 2015. Of all the instructions during 2016, 99.81% (99.95% in 2015) were settled within five minutes and 0.19% within 10 minutes after reception.

1.6.2 Retail payments in Luxembourg

Next to notes and coins, the most used payment instruments in Luxembourg are payment cards, credit transfers and direct debits.[9] Network-based electronic money, which is issued and operated by credit institutions or electronic money institutions, is mainly used for remote payments. As in 2015, new actors in the field of mobile and Internet payments emerged in Luxembourg. Several banks in Luxembourg offer

9 Cheques are no longer daily payment instruments; their use is declining.

mobile-based person-to-person (P2P) payments. The main card issuers furthermore pursued the issuance of contactless credit cards, now extended to debit cards.

Distribution of payment instruments in Luxembourg (share in number of transactions, %)

	2015	2016
Credit transfers and standing orders	31.69	30.58
Direct debits	8.36	8.11
Debit cards	32.66	32.21
Credit cards	27.17	28.99
Cheques	0.12	0.11
Total	100	100

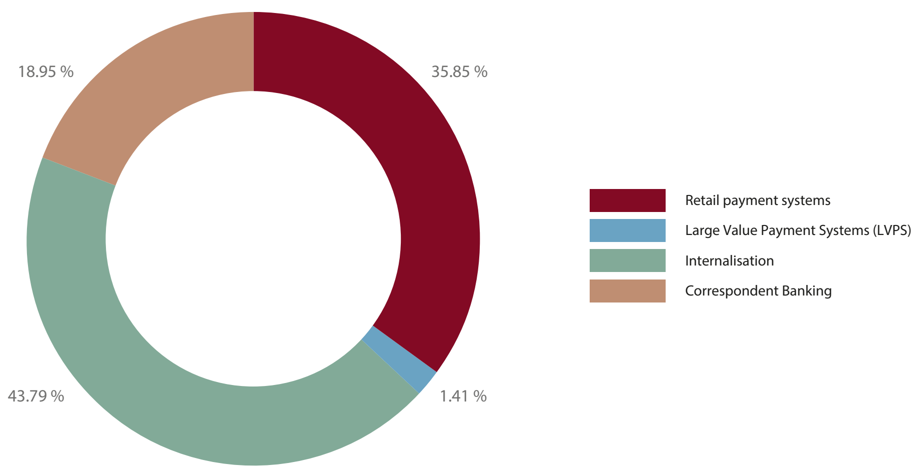
Source: BCL

Credit transfers and standing orders

Credit transfers can be processed internally in banks, through a payment system or through correspondent banking agreements.

Banks in Luxembourg process the majority of their non-internal credit transfer and standing order transactions (domestic[10] and cross-border) through retail payment systems (please refer to the chart below).

Graph 13:
Share in volume of customer transfers in 2016
Distribution per settlement channel



Source: BCL

10 A credit transfer or a direct debit is considered domestic when both the payer and the payee have their payment account with a Luxembourgish institution.

The table below provides a summary – in volume and value - of the customer credit transfers and standing orders activity:

Credit transfers sent	2015	2016	Change (%)
Total volume of customer transfers (in millions of transactions)	72.31	72.78	0.65
Volume of customer transfers processed for the account of non-MFI customers[9] (in millions of transactions)	69.28	70.50	1.76
Average value of customers transfers[10] (in euro)	3 647	3 791	3.95

Source: BCL

In 2016, banks in Luxembourg executed 72.78 million credit transfers, of which 70.50 million on request of customers that are not monetary financial institutions[13].

Transactions settled in retails payment systems (e.g. Step2, Equens) provide a good indicator of the use of credit transfers by households and non-financial corporations. In 2016, the average value of these transfers amounted to € 3 791.

Direct debits (SEPA and non-SEPA)

SEPA direct debits in Luxemburg are mainly processed in retail payment systems.

Direct debits (SEPA and non-SEPA)

	2015	2016	Change (%)
Volume (in millions of transactions)	18.25	19.30	5.75
Value (in € millions)	8 490	9 896	16.56

Source: BCL

Payment cards in Luxembourg

Banks and other categories of payment services providers in Luxembourg issue debit and credit cards in international schemes.

The payment cards activity in 2016 and its annual evolution are detailed in the tables below[14].

Number of payment cards issued in Luxembourg

Volume (number of cards)	2015	2016	Change (%)
Debit cards	698 148	711 993	1.98
Credit cards	1 453 576	1 582 550	8.87[13]

Source: BCL

11 MFI = Monetary Financial Institution. The non-MFIs category includes corporates and households but also non-monetary investment funds.

12 It refers to the average value of credit transfers processed in the retail systems Step2 and Equens.

13 This category includes non-financial corporations and households but also non-monetary investment funds.

14 Payments transactions and ATM withdrawals.

15 This increase corresponds to the evolution of one financial institution’s activity.

Transactions on cards issued in Luxembourg[16] (issuing activity)

Volume (in millions of transactions)	2015	2016	Change (%)
Debit cards	71.91	76.66	6.61
Credit cards	59.44	68.98	16.05
Value (in € billions)	**2015**	**2016**	**Change (%)**
Debit cards	5.65	5.90	4.42
Credit cards	5.66	6.22	9.89

Source: BCL

Transactions in Luxembourg on cards issued in Luxembourg or abroad[15] (acquiring activity)

Volume (in millions of transactions)	2015	2016	Change (%)
Debit cards	53.71	55.45	3.24
Credit cards	22.12	23.18	4.79
Value (in € billions)	**2015**	**2016**	**Change (%)**
Debit cards	4.03	4.22	4.71
Credit cards	1.81	1.90	4.97

Source: BCL

The Single Euro Payments Area (SEPA)

The SEPA (Single Euro Payments Area) project aims at achieving a single euro payment area in which all scriptural payments are treated as domestic, without any distinction between national and cross-border transactions. The SEPA migration of credit transfers and direct debits was finalised on 1 August 2014 in euro area countries.

Follow-up monitoring is necessary, however, to ensure the implementation of harmonised processes and common standards. In December 2013, the ECB created the Euro Retail Payments Board (ERPB) as a replacement for the SEPA Council to monitor the finalisation of the SEPA migration. Taking a broader perspective, the objective of the ERPB is to contribute to and to facilitate the development of an integrated, innovative and competitive market for euro retail payments. The current work plan includes instant payments[18], person-to-person mobile payments, contactless payments at point-of-sales, e-invoicing related to retail payments and payment initiation services.

1.6.3 Securities settlement systems

Selection of eligible depositories

For the mobilisation of securities by its counterparties, the Eurosystem has selected eligible securities settlement systems (SSS) operated by central securities depositories (CSDs). A securities settlement system is eligible if, after assessment against the evaluation criteria established by the Eurosystem (user standards), it receives the approval of the Governing Council.

In Luxembourg, the systems operated by Clearstream Banking S.A. (CBL), VP LUX S.à.r.l. (VP LUX), and by LuxCSD S.A. (LuxCSD) are eligible for the mobilisation of securities by Eurosystem's counterparties.

A domestic mobilisation of securities is also possible via the triparty collateral management service operated by Clearstream Banking S.A. Detailed information on this topic is available on the website of the BCL.

16 Transactions in Luxembourg and abroad.

17 Activity of Luxembourgish acquirers only. Data on the activity of foreign acquirers in Luxembouorg are not available.

18 In particular, instant SEPA credit transfers whereby the beneficiary can dispose of the funds within seconds of the initiation of the transfer.

The assessment framework

The Eurosystem applies a framework for the assessment of securities settlement systems and links between these systems. This framework relies on two assessments, on the assessment performed as "overseer of systems" and the one performed as "user of systems". These two assessments are complementary, which means that the user assessment does not reconsider aspects that were rated as satisfactory in the evaluation performed by overseers. The framework rationalises the assessment, and continues to ensure a high level of protection of the Eurosystem in its credit operations.

The framework has been applied since 2014. More detailed information as well as the questionnaires for securities settlement systems and their links are available on the website of the ECB.

Cross-border use of securities

Besides using eligible securities held at the national depository, counterparties can receive credit from their national central bank by providing collateral issued in a depository located in another country of the euro area. The Eurosystem foresees two ways of using securities cross-border.

The counterparties can make use of:

- the Correspondent Central Banking Model, or
- links established between depositories' securities settlement systems.

1) The Correspondent Central Banking Model

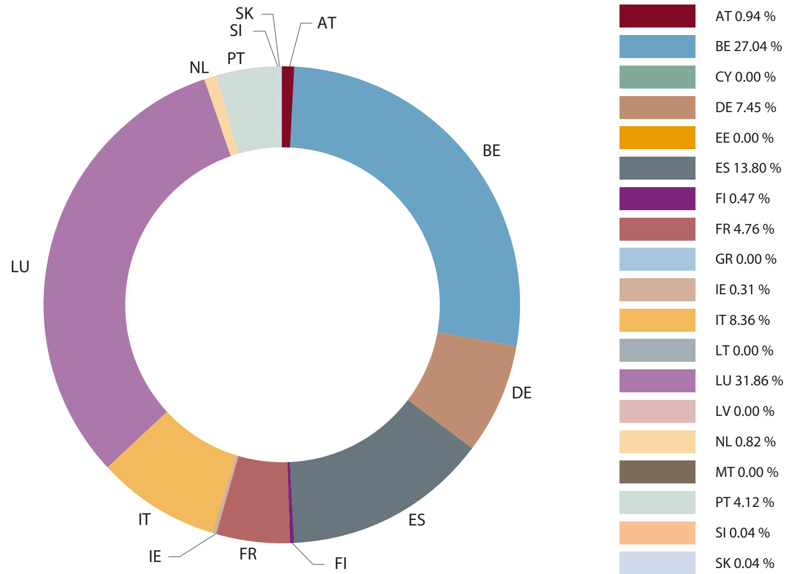
The Correspondent Central Banking Model (CCBM) enables all counterparties of the Eurosystem to use securities on a cross-border basis even if there is no eligible link between the national depository and the foreign depository in which the counterparty holds securities.

In the CCBM each national central bank acts on behalf of the other central banks as a custodian for securities held at the national depository. This procedure involves a central bank called the correspondent central bank (CCB), which differs from the central bank granting the credit to the counterparty. The CCB holds the account at the CSD in which the deposited securities are registered. Moreover, the home central bank (HCB) grants the credit to its counterparty based on the confirmations it receives from the CCB.

The CCBM is also used for the cross-border mobilisation of securities via the triparty collateral management services offered by several CSDs of the euro area amongst which also are Clearstream Banking S.A., Clearstream Banking Frankfurt (CBF), Euroclear Bank in Belgium, Euroclear France and Monte Titoli in Italy.

While in Luxembourg counterparties use more links than the CCBM, at the Eurosystem level half of the cross-border mobilisation of collateral used in Eurosystem credit operations in 2016 was performed via CCBM. In terms of value, the most active correspondent central banks in 2016 were those of Luxembourg (31.86%), Belgium (27.04%), Spain (13.80%) and Italy (8.36%).

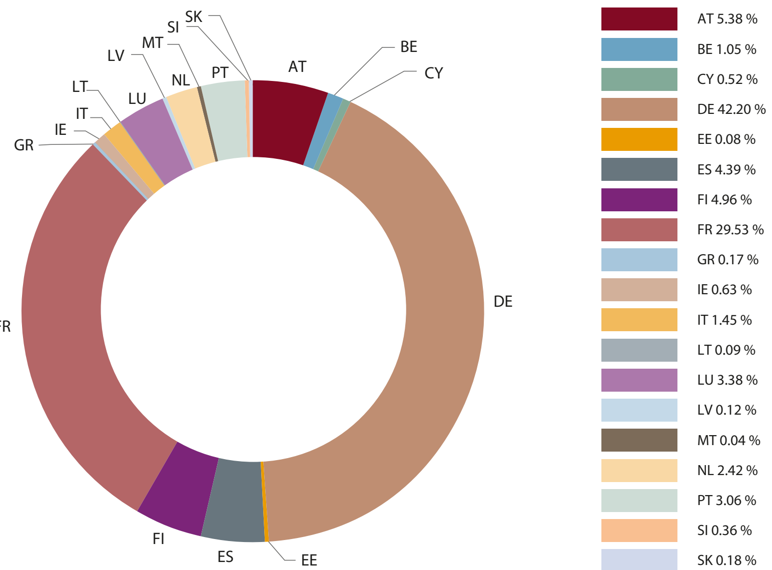
Graph 14:
Correspondent central bank (CCB) 2016



Source: ECB

The most active home central banks were those of Germany (42.20%), France (29.53%), Austria (5.38%) and Finland (4.96%).

Graph 15:
Home central bank (HCB) 2016



Source: ECB

2) Links established between securities settlement systems of CSDs

Currently two types of links are eligible, direct links and relayed links:

- in a securities settlement system located in a given country, direct links make securities issued in the system of another country available, thanks to securities accounts that the two systems maintain with each other;

- relayed links enable the transfer of securities between two systems without bilateral relationship by using a third intermediary system.

Mr Pierre Beck, Executive Director of the BCL

Eligibility of each link requires prior approval by the Governing Council. In 2016, Luxembourg counterparties could use the direct links between CBL and Clearstream Banking A.G. Frankfurt (CBF), Euroclear Bank, the SSS operated by the National Bank of Belgium, Monte Titoli (Italy), OeKB (Austria), Euroclear Netherlands, Euroclear Finland, Euroclear France, KDD (Slovenia), BOGS (Greece), CDCP (Slovakia), VP LUX and VP SECURITIES (Denmark), as well as the relayed link between CBL and Maltaclear via CBF. Among these links, Luxembourg counterparties primarily used those with CBF, Euroclear France and Monte Titoli. Moreover, the direct link between LuxCSD and CBL as well as eight relayed links of LuxCSD were considered eligible for Eurosystem credit operations.

1.6.4 TARGET2-Securities

TARGET2-Securities (T2S) is a centralised platform delivering harmonised clearing and settlement services to market participants. It allows the settlement of domestic and cross borders securities transactions in central bank money, in euro or in other currencies.

The T2S platform encompasses both the securities accounts managed by the CSDs (Central Securities Depositories) and the dedicated cash account (DCA) hosted by the central banks. The DCAs are used to provide the liquidity necessary to settle the securities purchase transactions on T2S and to receive the cash proceeds resulting from the settlement of transactions. The DCAs are funded by the RTGS account they are associated with. For euro payments, the RTGS account is a TARGET2 account.

The settlement efficiency has been improved on T2S thanks to several mechanisms, including the auto-collateralisation service, which is a credit operation automatically triggered when a participant fails to settle a securities purchase transaction because of a lack of cash on its DCA. In this case, T2S will in a first instance identify eligible collateral, either by making a selection among the assets available on the participants' securities account (auto-collateralisation "on stock"), or by using the very securities that are being purchased via this transaction (auto-collateralisation "on flow"). T2S will then pledge these securities in favour of the central bank, in exchange of an equivalent intraday credit facility.

The implementation of T2S has been organised in waves, each of these grouping a series of centralized securities depositaries (CSDs). Since the first migration wave the national central banks have had, the obligation to deliver DCAs to their participants upon their request.

The T2S technical platform went live in June 2015, as the first migration wave took place. Since then, the BCL has been delivering DCAs to the Luxembourg participants upon request.

As the third wave took place, in September 2016, the BCL contributed to the migration of VP Lux (one of the two Luxembourg based CSDs) and supported the participants who requested the opening of a DCA in view of this wave.

The BCL also worked towards the activation of the auto-collateralisation services (briefly depicted in the previous paragraph) in view of the fourth T2S migration wave, scheduled in February 2017. The second Luxembourg CSD, LuxCSD, is to be migrated onto the T2S platform during this wave.[19]

The following table provides an overview of the CSDs composition in the respective migration waves[20].

WAVE 1 22 June 2015	WAVE 1b 31 August 2015	WAVE 2 28 March 2016	WAVE 3 12 September 2016	WAVE 4 6 February 2017	FINAL WAVE 18 September 2017
Bank of **Greece** Securities Settlement System (BOGS) SIX SIS Ltd (**Switzerland**) CSD: Depozitarul Central S.A. (**Romania**) **Malta** Stock Exchange	Monte Titoli S.p.A. (**Italy**)	Interbolsa (**Portugal**) National Bank of **Belgium** Securities Settlement System (NBB-SSS)	Euroclear ESES (**France, Netherlands, Belgium**) VP LUX S.à.r.l. (**Luxembourg**) VP Securities A/S (**Denmark**)	Clearstream Banking A.G. (**Germany**) LuxCSD S.A. (**Luxembourg**) Központi Elszámolóház és Értéektár Zrt. - KELER (**Hungary**) Österreichische Kontrollbank Aktiengesellschaft (**Austria**) KDD - Centralna klirinško depotna družba, d.d. (**Slovenia**) Centrálny depozitár cennych papierov SR, a.s. (**Slovakia**)	Iberclear - BME Group (**Spain**) Euroclear **Finland** Oy 3 Baltic CSDs: LCD - Latvijas Centrālais depozitārjis (**Latvia**); Lietuvos centrinis vertybinių popierių depozitoriumas (**Lithuania**); ASEesti Väärtpaberikeskus (**Estonia**)

1.6.5 LuxCSD

LuxCSD, Luxembourg's central securities depository was jointly created by the BCL and Clearstream International on the basis of an equal shareholding in 2010. It provides securities settlement services in central bank money.

The Clearstream Group is the operator of LuxCSD, allowing it to benefit from operational synergies and a functional IT platform.

LuxCSD provides the following main services:

- the settlement of securities transactions in central bank money;
- the settlement of transactions free of payment;
- direct settlement against Clearstream Banking Luxembourg counterparties or against counterparties in domestic markets;
- securities issuance services with settlement in central bank money or free of payment;
- securities custody services;
- the routing of orders in investment fund shares;
- issuance of LEI[21] (Legal Entity Identifier) for Luxembourg legal entities;
- a national access point to T2S since 6 February 2017.

Securities eligible in LuxCSD are debt securities, equities or investment fund shares, whether they are domiciled in Luxembourg or not.

19 The fourth migration wave was successfully completed during the first week end of February (4 and 5 February 2017)

20 This table illustrates the migration waves composition as of 31 December 2016. Since then the Finnish CSD has announced it will not migrate during the final wave. A new migration date is still to be defined.

21 *The LEI is a unique and global identifier that unambiguously identifies legal entities (other than physical persons) engaged in financial transactions.*

Following its positive assessment as being compliant with the Eurosystem's User Standards and accordingly its qualification as eligible infrastructure for the use of collateral in Eurosystem credit operations, Luxembourg counterparties can use LuxCSD and its links approved by the Eurosystem for collateralisation of their credit operations with the Eurosystem. The approved links of LuxCSD are those with Clearstream Banking S.A., as well as the relayed links with the CSDs of Germany, Austria, Belgium, France, Greece, Italy, the Netherlands and Slovenia.

1.7 FINANCIAL STABILITY AND PRUDENTIAL SUPERVISION

1.7.1 Macro-prudential supervision

The financial stability mandate attributed to the BCL is based on the Treaty on the Functioning of the European Union (TFEU) – through the central bank's participation in the Eurosystem – and on national legislation.

At the European level, article 127(5) of the TFEU foresees that the European System of Central Banks, in addition to its core central tasks, should contribute to 'the smooth conduct of policies pursued by the competent authorities relating to the prudential supervision of credit institutions and the stability of the financial system'.

The EU has adopted new prudential rules for the banking system (Capital requirements Directive (CRD IV) and Regulation (CRR))[22]. The rules have been implemented in Luxembourg, notably through the transposition of the Directive (CRD IV)[23]. Since the Regulation (CRR) is directly applicable, there is no need to transpose it into national law. Member States have now a common legal basis which includes several macro-prudential instruments.

At the national level, article 2(6) of the organic law of the BCL foresees that 'the Central Bank shall cooperate with the Government and with prudential supervision authorities at the national level, as well as with the other central banks at Community and international level, to contribute to ensuring financial stability, notably within committees set up for this purpose'. In line with the European Systemic Risk Board's (ESRB) Recommendation[24], regarding the macro-prudential mandate of national authorities, the Luxembourgish legislature has adopted the law of 1 April 2015[25] establishing the national macro-prudential authority, namely the Systemic Risk Committee[26]. Within this Committee, the BCL has a leading role in macro-prudential supervision[27] and is in charge of the Secretariat under the hierarchical authority of its Director General. In this context, the Secretariat is in charge of preparing the Committee's meetings, drafting opinions and recommendations as well as conducting macro-prudential analyses required for the decision-making process of the Committee. In addition to its financial stability mandate, due to the role of payment and securities settlement systems within the financial system, the national legislator has entrusted the BCL with the supervision of the payment and securities settlement systems[28].

1.7.1.1 Macro-prudential supervision in Luxembourg

Although the legislative framework establishing the Systemic Risk Committee was adopted in 2015, the BCL has already been involved in the surveillance of systemic risks, i.e. the risks that could affect the stability of the national financial system as a whole. To this end, the BCL must be able to identify and measure the accumulation of risks over time as well as their distribution within the financial system.

22 See Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms modifying Regulation (EU) No 648/2012 (Regulation CCR) and Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms modifying Directive 2002/87/CE and abrogating Directives 2006/48/CE and 2006/49/CE (Directive CRDIV).

23 See the transposition in Luxembourg of the CRD IV Directive. Since the Regulation CRR is directly applicable in Member States, there is no need to transpose it.

24 See Recommendation of the ESRB of 22 December 2011 (ESRB/2011/3).

25 See Law of 1st April 2015 establishing a Systemic Risk Committee and amending the modified Law of 23 December 1998 regarding the monetary status and the Central Bank of Luxembourg.

26 In French, *Comité du risque systémique* (CdRS).

27 See Sub- Recommendation B-3 of the Recommendation of the ESRB on the macro-prudential mandate of national authorities (ESRB/2011/3).

28 Article 2(5) of the organic law of the BCL.

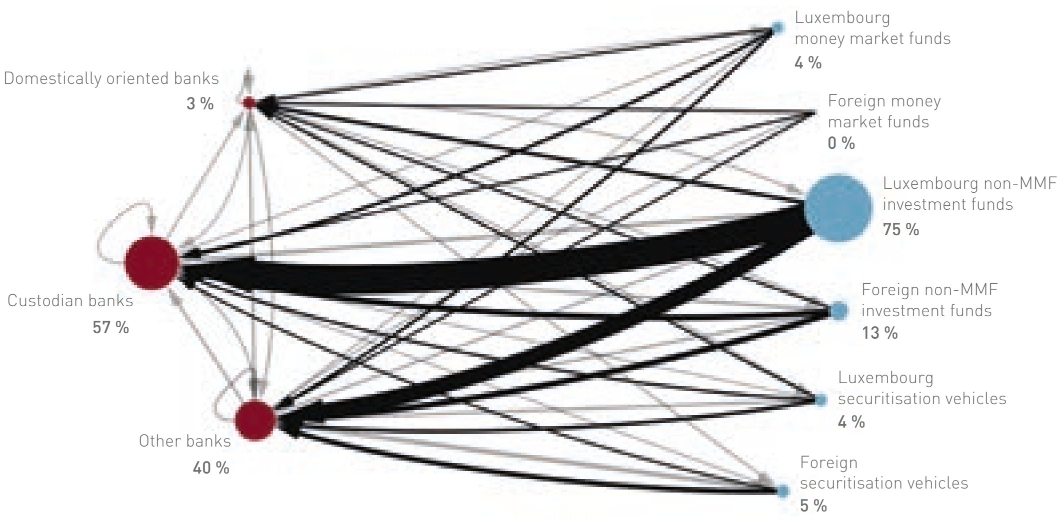
In view of the importance of the banking system and the investment fund sector for Luxembourg, the analysis conducted places significant emphasis on the assessment of risks between these two main components of the national financial system. Considering the growing importance of the parallel banking system in Luxembourg and the ongoing evolution of European regulation, the BCL has already completed several analyses in order to assess the degree of interconnectedness between investment funds and the banking sector and to model vulnerabilities which could impact investment funds by using estimated probabilities of default. The temporal dimension of risk is analysed using indicators for the credit cycle, asset prices, leverage, maturity mismatches and other specific indicators of liquidity.

Within the annual publication of the Financial Stability Review in 2016, the BCL used a broad set of indicators, including counterparty probability of default, z-scores[29] and a vulnerability index to assess the financial stability of Luxembourg's' financial sector. Measures of vulnerability for Undertakings for Collective Investment (UCITS) were also examined in order to assess systemic credit risk resulting from the interconnections between different categories of investment funds and their interactions with the macroeconomic environment. The intersectorial dimension of systemic risk is analysed using several tools which allow for the assessment of the interconnections and the size of linkages between financial institutions.

Given the international composition of the Luxembourg banking sector, the BCL employs network analysis techniques to assess both domestic and cross border interbank linkages. In 2016, specific emphasis was placed on assessing the interconnections between the banking sector, particularly custodians banks, and investment funds. In addition, the construction of an indicator called the "alpha index" allows the BCL to track potential vulnerabilities induced by the degree of interconnections[30].

For instance, the approach used by the BCL to assess the importance of the underlying risks due to the potential strengthening of links between the different components of Luxembourg's financial system is depicted in the two charts below. Any significant increase in the alpha index is analysed in a more detailed manner so as to identify the relevant entities and the underlying reasons for the dynamics.

Graph 16:
Network of Luxembourg banks' exposures to domestic and foreign investment funds (nominal exposures, 2016Q3)

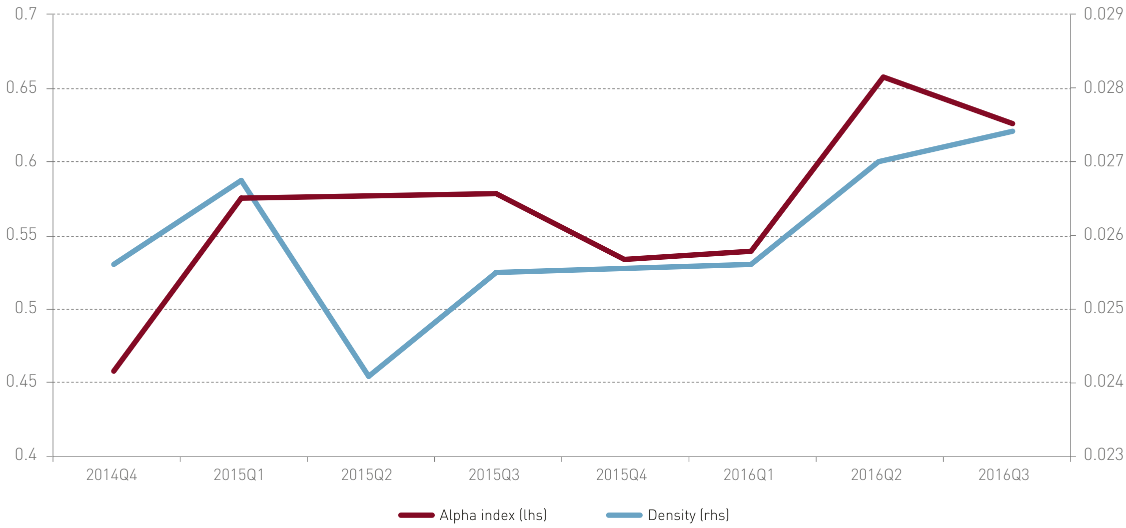


Source: BCL

29 The z-score is an approximation of the index reflecting the distance to the default threshold of a bank or a firm. The fundamental difference between the z-score and the distance to default is statistical. This difference lies in the data used to assess the financial soundness of banks (balance sheet vs. market data).

30 The alpha index is a measure of the ratio between the number of fundamental circuits observed in a network to the maximum number possible. Its value ranges from 0 to 1.

Graph 17:
Quarterly dynamics of the alpha index (2014Q4-2016Q3)



Source: BCL

The BCL regularly assesses the linkages between the financial sector and the real economy and routinely conducts liquidity stress tests. In this context, it may be noted that a number of indicators which were developed by the BCL take a forward looking approach. In order to anticipate rising vulnerabilities in the banking sector, the BCL has put special emphasis on its synthetic financial vulnerability indicators as well as on macroprudential stress tests.

The BCL has been closely monitoring changes in residential real estate prices and the potential vulnerabilities that these dynamics could create, for instance at the level of households or credit institutions. To this end, the BCL has developed an econometric model, integrating supply and demand side constraints, which allows it to assess, on a quarterly basis, the build-up of risks. These results have been included in a systemic risk dashboard that has been developed by the BCL to help authorities monitor systemic risks and whose first results look conclusive. The dashboard includes a set of both quantitative and qualitative indicators aimed at detecting potential systemic risks arising within one of the various components of the financial sector and/or within an economic sector relevant for financial stability. Information provided by the dashboard could be used as a tool to assess whether the intermediate objectives of macroprudential policy are being achieved. The dashboard also incorporates a multitude of indicators such as a measurement of the phase of Luxembourg's financial cycle, and the degree of interconnectedness of the financial sector.

This dashboard has been complemented by a number of specific studies aimed at identifying the emergence of new risks following changes in the regulatory environment. In this context, several quantitative analyses have been undertaken to assess the impact of the new Basel III liquidity and leverage requirements on Luxembourg's credit institutions.

The BCL used the Basel Committee on Banking Supervision (BCBS) G SIB framework, as well as the Guidelines developed by the European banking authority (EBA), in order to identify the domestic systemically important institutions in Luxembourg. This framework is based on a series of relevant indicators including the size of the institution, its interconnectedness and its substitutability in the event of default. The BCL participates in the BIS Macroprudential Supervision Group (MPG) in charge of monitoring systemic risk and developments related to systemically important banks.

The BCL is a member of the Regional Consultative Group for Europe of the Financial Stability Board (FSB), the international body responsible for drafting recommendations on global financial stability and the related follow-up. Moreover, with the implementation of the Single Supervisory Mechanism (SSM), the BCL participates in the SSM [Working Groups] dedicated to crisis management and risk analysis. The BCL is also actively involved in the standing committee on 'regulation and policy' and in the EBA Sub-Group on crisis management.

With the entry into force of the SSM, the ECB now has a role in the domain of macroprudential policy. Therefore, although national authorities retain primary responsibility for the implementation of macroprudential measures, the ECB can – in coordination with these authorities – take additional measures provided in the Council's Regulation concerning policies relating to the prudential supervision of credit institutions[31].

Measures available to the ECB include the setting of the capital buffer rates as defined in CRD IV as well as the measures under article 458 of the CRR[32] such as the definition of the risk weights for targeting asset bubbles in the real estate sector, liquidity requirements, public disclosure requirements, or intra financial sector exposures. Against this background, the Financial Stability Committee (FSC) was established in order to help decision-making bodies fulfil their responsibilities in terms of financial system stability and prudential supervision.

The BCL, in performing its macroprudential supervision functions, contributes to the committees and working groups of the European System of Central Banks (ESCB), such as the FSC and its substructures. In particular, these substructures include two subgroups dedicated to macroprudential analysis and policy. The BCL also takes part in a working group on crisis management and resolution and in expert groups on legal acts and on draft technical standards.

At this stage, the macroprudential policy framework under the SSM still faces some challenges. In particular, it appears necessary to harmonise instruments in order to facilitate the conduct of macroprudential policy. Moreover, it seems crucial that the ECB continues to work closely with the European Systemic Risk Board whose scope of responsibilities covers the whole EU financial system.

1.7.1.2 The European Systemic Risk Board

The European Systemic Risk Board (ESRB) is comprised of more than 70 institutions – including central banks, national and European financial supervision authorities, the European Commission and other prudential authorities – and is composed of both a General Board and a Steering Committee. The technical work is shared between the Advisory Technical Committee (ATC), which consists of experts from the member institutions, and the Advisory Scientific Committee that has academic experts amongst its membership. Within this structure, central banks now play a major role in European macroprudential supervision in view of their expertise and responsibility in preserving financial stability.

The Governor of the BCL is a voting member of the ESRB General Board, which is the sole decision making body of the ESRB. Furthermore, the national micro prudential supervisory authorities are also members of the General Board, although they do not hold voting rights. The participation of the micro prudential authorities facilitates the sharing of expertise and the exchange of information amongst the diverse membership base of the ESRB. In this regard, the BCL is also represented at the level of the General Board as a liquidity supervisor according to a rotation principle among the other national supervisory authorities. Finally, the BCL shares its macroprudential, financial, statistical and monetary expertise through the participation of its staff members in the analyses and technical work conducted by the ESRB.

The aim of the ESRB is to identify macroprudential risks at the level of the broader EU financial system. Likewise, it also provides a mechanism for issuing clear warnings and recommendations to facilitate and trigger prompt action by the relevant national authorities under the 'comply or explain' principle.

31 See Council Regulation (EU) No 1024/2013 of 15 October 2013 conferring specific tasks on the European Central Bank concerning policies relating to the prudential supervision of credit institutions.

32 See footnote 48.

The ESRB General Board holds its regular plenary meetings at a minimum frequency of four times per year. In 2016, the ESRB was mainly working on the following four topics:

- the identification and assessment of systemic risk in the EU financial system, as well as the actions needed to deal with the identified vulnerabilities, and the publication of the systemic risk dashboard;

- the continuation of the EU-wide risk assessment of the residential real estate market for which the results have been published in November 2016[33] and follow the first report carried out in 2015[34]. Based on these reports, the ESRB addressed warnings to EU Member States, including Luxembourg, for which the most significant vulnerabilities have been identified. Furthermore, the ESRB adopted the Recommendation ESRB/2016/14[35] through which it invited its members to foster the collection of real estate data in order to proceed, in the future, to a better identification of risks in this sector;

- the improvement of the coordination aspects of the European macroprudential framework with regard to cross-border effects of macroprudential measures adopted at the national level. For example, Recommendation ESRB/2015/2 "on the assessment of cross-border effects and voluntary reciprocity of macroprudential policy measures" was twice amended in 2016 (Recommendations ESRB/2016/3 and ESRB/2016/4);

- the identification of analytical tools for systemic risk and macroprudential instruments that the ESRB could develop in the coming years, notably regarding activities known as "non-banking" financial activities that are carried out by insurance companies, pension funds, investment funds and "other financial institutions".

With the implementation of the CRD IV and the CRR on 1 January 2014, the ESRB was called upon to assume the following new responsibilities:

- the establishment of guidance regarding the setting of countercyclical capital buffer rates and the identification of relevant variables to guide both the build-up and release phases of this buffer;

- the development of two reports related to the residential and commercial real estate markets;

- the issuance of opinions on certain macroprudential measures[34]. To this end, an assessment team was established as a substructure of the Advisory Technical Committee in order to assess the measures undertaken and to prepare ESRB opinions. This assessment team includes nine representatives from central banks among the permanent members, which are designated by the General Board.

The BCL contributes to the work carried out by substructures of the ESRB particularly through the Advisory Technical Committee and its substructures which relate to macroprudential instruments, identification and categorisation of systemic risks and macroprudential analysis.

33 ESRB (2016). Vulnerabilities in the EU residential real estate sector.

34 ESRB (2015). ESRB reports on residential and commercial real estate and financial stability in the EU.

35 ESRB/2016/14 on closing real estate data gaps.

36 ESRB (2016). Macroprudential policy beyond banking: an ESRB strategy paper.

The BCL takes part in various ESRB expert groups on diverse topics such as market liquidity, and cross border effects of macroprudential policy and reciprocity. The BCL has also participated in several subgroups such as the board of editors of macroprudential commentaries as well as the task forces on stress testing and the development of a heat map by intermediate objectives.

The involvement of the BCL in macroprudential supervision has increased considerably following the creation of the ESRB as well as the establishment of the national Systemic Risk Committee (SRC), and especially through its new missions within the SRC Secretariat.

1.7.1.3 The Secretariat of the Systemic Risk Committee

Following the Recommendation of the ESRB of 22 December 2011, the macroprudential framework in Luxembourg was established by the adoption of the Law of 1 April 2015[37]. Thus, the Luxembourgish legislature opted for a board-based institutional structure for the macroprudential authority and, therefore, created a Systemic Risk Committee (the Committee), composed of all national authorities playing a role in financial stability. The Committee consists of four members, namely (i) the Government, (ii) the Central Bank of Luxembourg (BCL), (iii) the Financial Sector Supervisory Commission[38] (CSSF), and (iv) the Insurance Commission[39] (CAA).

The member institutions of the Committee are represented, respectively, by (i) the member of the Government responsible for financial affairs, (ii) the Director General of the BCL, (iii) the Director General of Financial Sector Supervisory Commission (CSSF) and (iv) the Director of the Insurance Commission (CAA).

Similarly, four alternate members from these institutions sit at this Committee and replace the members in case of absences. The Committee is chaired by the member of the Government and in his absence by the Director General of the BCL.

The collegial form of the Committee reflects the aim of the Luxembourg law to cover all parts of the domestic financial sector in order to mitigate or prevent the emergence of any sources of systemic risk and contagion from one sector to another.

Such a holistic view of the financial system is also reflected by the composition of the Committee's Secretariat, which counts among its membership one representative per authority represented within the Committee.

As a decision-making body, the Committee relies on its Secretariat, which, by its powers, plays an essential role in the preparation of meetings and conducts macroprudential analyses. Thus, given the expertise of central banks in macroprudential policy, and in accordance with the role entrusted to it by the ESRB Recommendation, the Luxembourgish legislature has assigned the Committee's Secretariat to the BCL, under the hierarchical authority of its Director General[40].

Moreover, aside from the usual functions of a Secretariat, it has, thanks to its composition and expertise of various departments of the BCL, genuine identification, evaluation and analytical capabilities with respect to systemic risks that are likely to emerge in the main components of the national financial system.

The establishment of an annual programme between the Committee's Secretariat and the Economics and Research Department of the BCL will allow members to rely on various inputs in their decision-making process. In addition, the Secretariat to promote and strengthen the cooperation and exchange of information between member authorities of the Committee.

37 See law of 1st April 2015 establishing a Systemic Risk Committe and amending the modified law of 23 December 1998 regarding the monetary status and the Central Bank of Luxembourg.

38 In French, *Commission de surveillance du secteur financier*.

39 In French, *Commissariat aux assurances*.

40 See Recommendation B-3 of the Recommendation of the ESRB on the macroprudential mandate of national authorities to Member States (ESRB/2011/3).

To monitor the relevant potential risks in Luxembourg, the Committee decided to set up two working groups to better understand and quantify the risks related to the "shadow banking system". The BCL chairs the first group on "Parallel Banking - Other Financial Institutions". Its main objective focuses on improving data collection related to these institutions to provide an overview of their activities and associated risks. The second group, namely the "Parallel Banking - Interconnections between the investment fund sector and the financial sector", is chaired by the CSSF, to which the BCL contributes, and undertakes analyses on the risks of contagion between investment funds and credit institutions.

In accordance with its mandate, the Committee adopted in 2016 a number of recommendations in order to comply with the ESRB's principle of reciprocating macroprudential measures taken by other European countries, and to reinforce the resilience of the national financial system. Therefore, the Committee adopted and issued the following recommendations and opinions:

- Recommendations (CRS/2016/001), (CRS/2016/003) and (CRS/2016/006) on the setting of the countercyclical capital buffer rates, respectively for the second, third and fourth quarters of 2016;

- Recommendation (CRS/2016/002) on the automatic recognition of countercyclical capital buffer rates during the transitional period;

- Opinion and Recommendation (CRS/2016/004) on the risk weights applied to all exposures to retail customers (non-SMEs) secured by real estate property in Luxembourg;

- Recommendation (CRS/2016/005) on the reciprocation of the measure of five percentage point risk weights add-on for exposures secured by real estate property located in Belgium adopted by the National Bank of Belgium;

- Opinion (CRS/2016/007) on the annual identification and review of the calibration of capital buffers for other systemically important institutions;

- Opinion (CRS/2016/008) on the reciprocation of the Estonian Systemic Risk Buffer (SRB) adopted by the Eesti Pank.

1.7.2 Micro-prudential supervision

1.7.2.1 Liquidity surveillance

The liquidity supervision of market operators has been entrusted to the BCL through a modification of its organic law on 24 October 2008. The liquidity supervision of market operators mainly aims at evaluating the liquidity situation and the management of the liquidity risk of individual operators. As the flaws in the liquidity risk management of certain operators having been one of the main causes of financial turbulences in 2008, management of liquidity and related risk have been in the focus of supervisory authorities at the international level during the last years.

Regulation of liquidity is important for a central bank because, it acts as a supplier of liquidity to the financial system in normal times and times of stress, and additionally it can detect or prevent a failure chain in the markets, thus limiting the systemic risk.

Liquidity supervision also constitutes an important support function for analyses conducted in the field of financial stability and the analysis of systemic risks, which also examines the interconnection between different market operators as well as risks of contagion. The market operators' monitoring function is thus a major source of data and information in the field of financial stability.

Particular emphasis is placed on the liquidity supervision of credit institutions, as they are the BCL counterparties in monetary policy operations. This supervision has been carried out in the framework of the Single Supervisory Mechanism (SSM) since 2014.

1.7.2.1.1 Liquidity risk supervision of credit institutions established in Luxembourg in the context of the Single Supervisory Mechanism

In the context of the implementation of the Banking Union and the establishment of the SSM, the ECB assumes responsibility for the supervision of euro area banks since 4 November 2014.

This supervision is carried out directly by the ECB for credit institutions considered "significant", including their subsidiaries and branches, while national competent authorities are in charge of the supervision of credit institutions considered "less significant", under the ultimate responsibility of the ECB.

Criteria laid down in the SSM Regulation[41] in order to determine the significance of a bank apply at the highest level of consolidation, and are mainly the following:

- its size (the total value of its assets exceeds € 30 billion);
- its importance for the economy of the Union or any participating Member State (the total value of assets exceeds 20% of GDP of the Member State of establishment, unless the total value of assets is below € 5 billion);
- its significance of the cross-border activities.

Ongoing supervision of significant credit institutions is conducted by Joint Supervisory Teams (JSTs), composed of staff from both the ECB and national competent authorities, including national central banks.

BCL participates in the JSTs of significant banks established in Luxembourg and selected JSTs of significant banks established in other Member States of the euro area with subsidiaries in Luxembourg, to contribute to liquidity risk supervision. In this context, liquidity risk supervision is conducted based on common methodologies and standards established by the SSM that have been jointly developed by the ECB, competent authorities and national central banks. Considering that less significant banks are directly supervised by the national authorities, BCL continues to supervise the liquidity risk situation of less significant banks established in Luxembourg, in cooperation with the Commission de surveillance du secteur financier (CSSF).

Within JSTs, as well as in the context of the supervision of less significant banks, BCL contributes actively to the annual liquidity risk assessments of banks conducted through the Supervisory Review and Evaluation Process (SREP) to determine the adequacy of their liquidity risk management framework and liquidity resources. In this context, on-site meetings have taken place in 2016 in order to assess more in depth the liquidity risk management framework of these banks. In addition, recurring tasks, such as the control of prudential liquidity reportings (LCR, NSFR, Additional monitoring for liquidity[42], Asset encumbrance and Funding plan) and regular analysis of the liquidity situation, have been performed in the context of the liquidity supervision of banks according to a pre-established work plan.

In addition to its task in liquidity supervision, BCL is represented, jointly with the CSSF, at the SSM Supervisory Board, which plans and conducts the supervisory tasks of the SSM and proposes to the Governing Council of the ECB draft decisions to be adopted by the latter. In this context, the BCL has established an SSM interdepartmental coordination unit, which, in close cooperation with the CSSF, is in charge of the follow-up to all the files and draft decisions submitted for approval to the Supervisory Board and the Governing Council. In 2016, the coordination unit has processed more than 1 700 written procedures subject to decision and prepared the meetings of the Supervisory Board, which generally meets twice per month.

In the framework of the SSM, BCL also participates in the work of different groups and committees established at ECB level. These groups and committees assist the Supervisory Board in its decision-making.

41 Council regulation (EU) No 1024/2013 of 15 October 2013 conferring specific tasks on the European Central Bank concerning policies relating to the prudential supervision of credit institutions

42 Commission implementing regulation (EU) 2016/313 of 1 March 2016 amending Implementing Regulation (EU) No 680/2014 with regard to additional monitoring metrics for liquidity reporting.

1.7.2.1.2 Tools for the liquidity surveillance

Beyond the supervisory work carried out in the context of the SSM, the BCL continuously monitors market operators at the local level. This monitoring is based on a regular analysis of qualitative and quantitative information on an individual as well as an aggregate level. In order to have a better monitoring of the liquidity position of the market operators, the BCL implemented in particular a daily reporting on the liquidity position of credit institutions. Introduced in 2010, this reporting applies to a sample of credit institutions and allows the BCL to assess the liquidity position of these entities on a day-to-day basis. Subject to this reporting are mainly credit institutions of significant size as well as credit institutions that are counterparties in monetary policy operations.

From a database containing historical data listed in this daily liquidity reporting, the BCL has developed an analytical tool that allows evaluating the short-term liquidity position of these credit institutions and the evolution of their liquidity position over time on an individual basis. In parallel, the BCL has developed an analytical tool that allows assessing the vulnerability of individual credit institutions in terms of liquidity as well as identifying liquidity risks at an aggregate level. This tool was complemented by the development of a watch list that identifies credit institutions that have suffered a deterioration in their situation beyond a certain threshold on a quarterly basis, while highlighting the parameters of the model that are at the origin of such a deterioration.

Moreover, all information available from the prudential and statistical reporting is summarised in dashboards allowing for direct and permanent access to financial information and key indicators. Particular attention is paid to the new liquidity standards, the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR). This reporting is mandatory for all credit institutions on an individual and consolidated basis. In accordance with the Delegated Act[43] providing specifications on the LCR as well as details on the period of its progressive introduction, the LCR became a binding standard on 1 October 2015. The minimum requirement was set initially at 60% starting from this date, at 70% on 1 January 2016, at 80% on 1 January 2017 and will be increased to 100% on 1 January 2018. The BCL conducts checks on reports issued by major and by smaller banks and has implemented a model that carries out simulations both on the LCR and on the NSFR.

Following the introduction of the above-mentioned prudential liquidity reporting (cf. 1.7.2.1.1), a project to implement automated data processing and processing tools was launched in 2016. Since liquidity reports are complex and heterogeneous by their nature and their data sources, each analytical processing requires the development of tailor-made solutions.

The objective of this project is to provide supervisors with user-friendly analytical features to facilitate an effective and efficient assessment of the liquidity situation of banks in the supervision process.

Following the recommendations of the ESRB on foreign currency loans, US dollar financing and financing of credit institutions, the BCL also performs a specific monitoring of these positions on a quarterly basis, at both the individual level and the aggregate level of the entities under surveillance. Finally, a daily report with financial markets indicators has also been developed. This set of tools facilitates the necessary analysis to conduct liquidity supervision.

In terms of communication and information exchange within the SSM, an Information Management System "IMAS" has been implemented, allowing the exchange of information between the ECB and the national supervisory authorities. In its first phase, this tool has been set up for the supervision of significant institutions. Thus, IMAS provides a number of tools that replicate the methodology and common standards established by the SSM and contributes to the supervision of "significant" credit institutions in a coordinated manner. In addition, IMAS provides key information relating to these banks and is connected to a reporting and document management tool. As a participant in the JST, the BCL is connected to this tool. Furthermore, it was decided to also include the "less significant" credit institutions in IMAS in order to support national competent authorities in their supervisory activity. This project was launched in 2016.

43 Commission delegated Regulation (EU) 2015/61 of 10 October 2014 to supplement Regulation (EU) No 575/2013 of the European Parliament and the Council with regard to liquidity coverage requirement for Credit Institutions.

1.7.2.1.3 National and International Cooperation

BCL continues participating in the working groups dedicated to liquidity issues at the level of the Basel Committee and the European Banking Authority. Beyond the working groups dedicated to liquidity aspects, the BCL is also a member of the Board of Supervisors of the European Banking Authority as well as of other committees and subgroups that are of relevance in the context of its supervisory mission. As a general rule, involvement in these committees and working groups is done jointly with the CSSF.

In addition to the oversight activities relating to systems and infrastructures operating in Luxembourg as well as to payment instruments available to the public in Luxembourg, the BCL contributes to the oversight activities coordinated at the level of the Eurosystem that target, among others, infrastructures and payment instruments that do not present a clear national anchorage.

1.7.2.2 Oversight

The oversight of financial market infrastructures and the promotion of the smooth functioning of the payment and securities settlement systems constitute an essential mission of the European System of Central Banks (ESCB) due to the important role these infrastructures play in the implementation of monetary policy, the preservation of financial stability and the smooth functioning of the economy.

The Treaty on the Functioning of the European Union (TFEU) and the Statute of the ESCB contain a number of provisions related to payment systems and assign oversight responsibilities to the Eurosystem, composed of the European Central Bank (ECB) and the national central banks (NCB) of the euro area. At the national level, pursuant to the Law of 23 December 1998 concerning the monetary status and the Banque centrale du Luxembourg, the BCL shall ensure the security and efficiency of payment systems and securities settlement systems as well as the security of payment instruments. In addition to the above provisions of the Organic Law, the BCL adopted Regulation 2016/N°21 of 15 January 2016, repealing Regulation BCL 2010/N°6 of 8 September 2010 as subsequently modified. The Regulation incorporates among others, the new oversight framework introduced by the Eurosystem in July 2016 and sets, inter alia, the general oversight framework as well as the obligations of system operators, issuers of payment instruments and governance authorities.

The Regulation also stipulates that the BCL carry out its oversight activity based on information and statistical data collected on a regular or ad hoc basis from the respective entities. This information is supplemented with regular meetings and, where appropriate, on-site visits and relates, among others, to the development of the infrastructures' activities, their performance, their governance and their risk management. In the context of its oversight, the BCL coordinates and cooperates with the CSSF.

In addition to the oversight activities relating to systems and infrastructures operating in Luxembourg as well as to payment instruments available to the public in Luxembourg, the BCL contributes to the oversight activities coordinated at the level of the Eurosystem that target, among others, infrastructures and payment instruments that do not present a clear national anchorage.

1.7.2.2.1 Oversight of payment systems

In 2016, the BCL contributed, by means of its participation in European committees and working groups, to the oversight activities of the TARGET2 payment system operated by the Eurosystem, as well as of the EURO1 and STEP2-T systems operated by EBA Clearing. The BCL collaborated in particular in the assessment of these three payment systems pursuant to the entry into force of the Regulation of the European Central Bank No 795/2014 on 12 August 2014 related to oversight requirements for systemically important payment systems. In application of this regulation, these three payment systems as well as CORE operated by STET S.A.S. were identified as systemically important by the Governing Council of the European Central Bank in August 2014.

In addition to its contribution to the coordinated oversight of the payment system TARGET2, the BCL is also in charge of the oversight of certain decentralised aspects of TARGET2-LU, the Luxembourg segment, such as the local technical components ensuring the connectivity of the BCL to the single platform. In this context, the BCL updated its specific Oversight Guide for local components of TARGET2 following the publication on 29 August 2016 of Annex 2 of the Oversight Guide for systemically important payment infrastructures.

The BCL was also informed of oversight developments related to the multi-currency payment system Continuous Linked Settlement (CLS) operated by CLS Bank International. Given the international nature of the CLS system, the oversight of this system is performed by a group including the G10 central banks and the central banks of issue of the settled currencies.[44] Overall, the payment systems listed above operated in a stable and resilient manner in 2016.

1.7.2.2.2 Oversight of securities settlement systems

The oversight of securities settlement systems (SSS) covers the systems operated in Luxembourg by Clearstream Banking S.A. (CBL), LuxCSD S.A. (LuxCSD), globeSettle S.A. (globeSettle) and VP LUX S.à.r.l. (VPLUX).

In this regard, the BCL monitored the functioning of these infrastructures, as well as the development of their activities and the risks to which they are exposed, by analysing the monthly reporting collected from the operators and by participating in thematic meetings and on-site visits.

Moreover, the BCL, in collaboration with the CSSF, conducted a comprehensive assessment of the securities settlement system operated by CBL and its adherence to the Principles of the CPMI-IOSCO[45] committee applicable to market infrastructures, including securities settlement systems and central securities depositories. These standards are expressed as general principles or specific minimum requirements concerning the following domains:

- General organisation (legal basis, governance, framework for the comprehensive management of risks);
- Credit and liquidity risk management (credit risk, collateral risk, liquidity risk);
- Settlement (settlement finality, money settlements, physical deliveries);
- Central securities depositories and exchange-of-value settlement systems;
- Default management (participant-default rules and procedures);
- General business and operational risk management (general business risk, custody and investment risks, operational risk);
- Access (access and participation requirements, tiered participation arrangements, financial market infrastructures links);
- Efficiency (efficiency and effectiveness, communication procedures and standards);
- Transparency (disclosure of rules, key procedures and market data).

The assessment of adherence to the principles of the CPMI-IOSCO found a high degree of compliance of the system operated by CBL. Indeed, according to the assessment, the majority of applicable Principles are fully observed by CBL. Nevertheless, four of these Principles, namely related to credit risk, to collateral, to tiered participation arrangements and to financial market infrastructures links, were assessed as broadly compliant and led to certain recommendations in order to ensure full compliance. Furthermore, a number of other recommendations were conveyed to CBL regarding areas for improvement that have nonetheless no impact on the compliance level with the concerned principles.

44 The G10 countries include: Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States.

45 Committee on Payments and Market Infrastructures – International Organisation of Securities Commissions.

Beside the assessment of the system operated by CBL, the BCL initiated a comprehensive assessment of the securities settlement systems operated in Luxembourg by LuxCSD S.A. (LuxCSD) and VP Lux S.à.r.l. (VP LUX) and their compliance with the same principles of the CPMI-IOSCO committee. These assessments will be finalised in the course of 2017.

The functioning of the securities settlement systems operating in Luxembourg was generally stable and resilient in 2016.

Moreover, in the context of Regulation N° 909/2014 on improving securities settlement in the European Union and on central securities depositories of 23 July 2014, the BCL continued its contribution to the development of related Regulatory Technical Standards. In addition, the BCL participated together with the CSSF, in meetings with the operators of securities settlement systems in Luxembourg with regard to their future authorisation as central securities depositories, in conformity with the above Regulation.

For the purpose of its oversight of securities settlement systems, the BCL also cooperated with other central banks and authorities. In particular, the BCL closely cooperated with the National Bank of Belgium (NBB) and the CSSF with regard to the interoperable link between the securities settlement systems operated by CBL and Euroclear Bank. In this context, the BCL closely followed the developments planned by these operators related to the functioning of this link and to mitigating risk by ensuring its compliance with international and European requirements. Finally, discussions also took place between the BCL, the NBB and the CSSF with a view to formalise cooperation among the authorities in this field.

Concerning the settlement platform Target2-Securities (T2S), the BCL contributed to the monitoring of the different migration waves of central securities depositories. This centralised technical platform aims at providing harmonised securities settlement services in central bank money, in euro and other currencies. The VP LUX system successfully migrated on 12 September 2016 and, since then, the settlement of VP LUX takes place in T2S. In this context, the BCL also monitored the preparation of the migration of the settlement system operated by LuxCSD. Finally, the BCL also participated in the identification of information needed for the coordinated oversight of the T2S platform.

Finally, the BCL cooperated with the International Monetary Fund (IMF) in the context of the Financial Sector Assessment Program (FSAP), which took place in December 2016. On this occasion, the IMF performed an assessment of the securities settlement system operated by CBL and its compliance with the principles of the CPMI-IOSCO committee on market infrastructures. In this regard, the IMF relied on the joint assessment conducted by the Luxembourg authorities, including interviews and written exchanges. Likewise, the IMF performed an assessment of the Luxembourg authorities' responsibilities in the field of market infrastructures according to the CPMI-IOSCO requirements in this matter. These requirements addressed to the authorities concern the following domains:

- Regulation, supervision and oversight of financial market infrastructures;
- Regulatory, supervisory and oversight powers and resources;
- Disclosure of policies with respect to financial market infrastructures;
- Application of the principles for financial market infrastructures;
- Cooperation with other authorities.

1.7.2.2.3 Oversight of payment instruments

Payment instruments include, among others, credit transfers, direct debits, payment cards and electronic money schemes used by the public in Luxembourg. In 2016, the BCL followed developments related to issuers' activities in Luxembourg, particularly concerning security aspects. BCL conducted its oversight on the basis of the regular qualitative and quantitative information collected by the Bank for this purpose. Thematic discussions were conducted with certain issuers. Likewise, for the purpose of its oversight, the BCL introduced a dedicated information gathering framework for specific actors.

Furthermore, the BCL actively contributed to the European Forum for the Security of Retail Payments (SecuRe Pay), co-chaired by the ECB and the European Banking Authority (EBA). The purpose of this forum is to facilitate a common understanding between the central banks in charge of the oversight of payment instruments and the authorities responsible for the prudential supervision of payment service providers on the security of retail payments in the European Union. In 2016, this forum worked in particular on the development of Regulatory Technical Standards on strong authentication and secure communication, in line with the mandate granted to the EBA in the revised Payment Services Directive (PSD2). For this purpose, the Working Group issued a public consultation on the proposed Technical Standards in August 2016. Thereafter, responses to the consultation were analysed and, where applicable, taken into account in the finalisation of the Technical Standards. The Technical Standards should be adopted in 2017.

Furthermore, the BCL in collaboration with the CSSF, closely followed development concerning security of customer authentication methods, which were implemented in 2016 by payment instruments' issuers in Luxembourg for electronic payments, pursuant to the recommendations for the security of internet payments issued by the ECB and the EBA.

Moreover, at the Eurosystem level, the BCL contributed to the joint assessment of an international card scheme against the applicable oversight framework for card payment schemes. Finally, the BCL also participated in the joint assessment of the SEPA[46] direct debit scheme coordinated by the Eurosystem.

1.8 REGULATORY AND LEGISLATIVE DEVELOPMENTS

1.8.1 European legislation

The Banque centrale du Luxembourg (BCL) follows with particular interest developments of European and national legislation that are relevant for the Eurosystem as well as to the deepening of the Economic and Monetary Union (EMU), notably those concerning the Banking Union, the Capital Markets Union and economic governance.

1.8.1.1 Banking Union

The Banking Union is based on three pillars: the Single Supervisory Mechanism (SSM), the Single Resolution Mechanism (SRM), and the Deposit Guarantee Scheme (DGS). The sections below describe the legislative developments in 2016 in relation to these three pillars.

1.8.1.1.1 Prudential supervision

SSM Scope

The geographical scope of the SSM consists of the Members States whose currency is the euro, as well as Member States of the European Union (EU) whose currency is not the euro that voluntarily decide to be subject to the banking supervision of the European Central Bank (ECB) under "close cooperation".

This geographical scope of the SSM did not change in 2016. No Member State of the EU whose currency is not the euro decided to enter into close cooperation as provided for by the SSM Regulation[47].

SSM supervised entities

While the number of supervised entities falling under the ECB's direct supervision remained stable around 130, changes occurred in the list of institutions considered significant and hence directly supervised by the

46 SEPA: Single Euro Payments Area.

47 Council Regulation (EU) No 1024/2013 of 15 October 2013 conferring specific tasks on the European Central Bank concerning policies relating to the prudential supervision of credit institutions.

ECB. Notably, the number of significant institutions having their registered office in Luxembourg decreased following internal reorganisations[48].

There were four significant institutions established in Luxembourg on 31 December 2016: Banque et Caisse d'Epargne de l'Etat, Luxembourg (with a total value of assets exceeding € 30 billion), Precision Capital S.A. (holding of Banque Internationale à Luxembourg S.A. and KBL European Private Bankers S.A., with a total value of assets exceeding € 30 billion), RBC Investor Services Bank S.A. (with a total value of assets exceeding 20% of GDP) and J.P. Morgan Bank Luxembourg S.A. (with a total value of assets exceeding 20% of GDP).

SSM Governance

The Governing Council of the ECB is the ultimate decision-making body of the ECB, including in the area of prudential supervision of credit institutions.

In addition, the SSM Regulation provided for the creation, within the ECB, of a Supervisory Board responsible for preparing draft decisions on supervisory matters. In particular, it is composed of one representative of each national competent authority and, if the national central bank (NCB) is not the national competent authority, by one representative of the national central bank in addition to one from the supervisory authority. This group is composed of 32 members, including one member from the BCL. This internal body of the ECB held 28 meetings during 2016, among which 24 took place in Frankfurt.

During 2016, the Governing Council of the ECB adopted circa 1 800 prudential decisions, mainly via written procedure, based on "complete draft decisions" that were proposed by the Supervisory Board, pursuant to a non-objection procedure. For banking supervision decisions in the field of macroprudential supervision, this non-objection procedure does not apply and the Governing Council may amend the draft decisions proposed by the Supervisory Board. Additionally, the non-objection procedure does not apply to the definition of the general framework governing practical arrangements for cooperation within the SSM that fall within the remit of the decision-making bodies of the ECB, i.e. the Governing Council and the Executive Board.

Harmonising national options and discretions

The exercise of a single supervision for the euro area by the ECB is considerably hampered by a lack of harmonisation of applicable national laws. In 2016, following a public consultation, the ECB adopted the Regulation (EU) 2016/445 of 14 March 2016 on the exercise of options and discretions available in Union law that entered into force on 1 October 2016. This regulation is accompanied by a draft guide, which was published on 24 March 2016 and completed in August 2016.

These documents specify the terms of harmonisation of the exercising of options and national discretions across the euro area that are provided for in banking legislation and that are left to the discretion of competent authorities.

The BCL contributed to the preparatory work for these documents in the High Level Group on Options and Discretions.

It is anticipated that the harmonisation of options and discretions by national competent authorities will be extended to less significant institutions. A public consultation on this matter was launched by the ECB from 3 November 2016 and was open until 5 January 2017 in view of adopting an ECB Guideline and a Recommendation in 2017.

The ECB observed that an inconsistent application of options and discretions in participating Member States of the SSM could potentially weaken the overall robustness of the supervisory framework and the consistency of prudential requirements across banks. Market participants and the general public could then have difficulties assessing the soundness and regulatory compliance of credit institutions. Besides, a high

48 UBS (Luxembourg) S.A. has been now transformed into a branch of a new company UBS Europe SE (Societas Europea) which has its registered seat in a different Member State of the SSM.

number of provisions increases the regulatory complexity and raises the cost of compliance borne by banks, in particular those operating cross borders. Finally, such a situation leaves room for regulatory arbitrage.

Joint Supervisory Teams

The Joint Supervisory Teams (JSTs) are the main operational structure for supervision conducted by the SSM. Pursuant to the SSM Framework Regulation[49], the BCL participates in the JSTs of significant banks established in Luxembourg as well as certain JSTs of "significant banks" established in other Member States participating in the SSM and having subsidiaries in Luxembourg.

Review of prudential requirements

On 23 November 2016, the European Commission presented a comprehensive package of reforms of existing European banking rules to strengthen further the resilience of EU credit institutions and to reinforce financial stability.

The European Commission proposes to amend the following legislation:

- The Capital Requirements Regulation (CRR) and the Capital Requirements Directive (CRD IV) which were adopted in 2013;
- The Bank Recovery and Resolution Directive (BRRD) and the Single Resolution Mechanism (SRM) Regulation, which were adopted in 2014 (see section below).

In particular, the European Commission proposes to harmonise:

- the ranking of unsecured debt instruments in the hierarchy of creditors in case of insolvency and
- the loss-absorbing capacity and recapitalisation capacity of banks.

The ECB is expected to provide its opinion on these legislative proposals in 2017.

1.8.1.1.2 The resolution of banks

Regulation (EU) N° 806/2014 establishing the SRM[50] in the context of the Banking Union entered into force on 19 August 2014 (SRM Regulation).

The SRM is the second pillar of the Banking Union. It provides a crisis management regime based on the harmonisation achieved by the Directive on bank recovery and resolution[51] (BRRD). It puts into place a centralised European institutional framework for the resolution of significant banks in the Member States participating in the SSM.

The SRM area corresponds to the geographical scope of the SSM, i.e. the euro area.

The SRM comprises a Single Resolution Board (SRB) and a Single Resolution Fund (SRF). As the European resolution authority for the Banking Union, the SRB is responsible for preparing and ensuring the resolution of banks that are failing or likely to fail, in cooperation with the national resolution authorities of participating Member States. The SRB is based in Brussels and is composed of six full-time members who have

49 Regulation (EU) No 468/2014 of the European Central Bank of 16 April 2014 establishing the framework for cooperation within the Single Supervisory Mechanism between the European Central Bank and national competent authorities and with national designated authorities (the "SSM Framework Regulation") (ECB/2014/17).

50 Regulation (EU) No 806/2014 of the European Parliament and the Council of 16 April 2014 establishing uniform rules and a uniform procedure for the resolution of credit institutions and certain investment firms in the framework of a Single Resolution Mechanism and a Single Bank Resolution Fund and amending Regulation (EU) n° 1093/2010.

51 Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directives 77/91/EEC and 82/891/EC, Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC and 2011/35/EC and Regulation (EU) No 1093/2010 and (EU) No 648/2012.

been appointed in 2015. Ms Elke König was appointed chair of the SRB on 1 March 2015 for a non-renewable mandate of five years.

The SRF, managed by the SRB, guarantees the availability of funding in the medium-term in case of restructuring of a credit institution. The fund is financed through contributions by banks, which initially take place at national level. On 6 July 2016, the SRB indicated that it had collected more than € 10 billion of contributions from 4 000 banks and investment firms.

The first annual report of the SRB was published in July 2016, covering the period from 1 January to 31 December 2015. It refers, among others, to the SRB, its governance structure, its resolution functions and its relations with the European Institutions.

On 28 November 2016, the SRB published its work programme for 2017. The work programme defines the strategic objectives of the SRB and the SRM. It focuses notably on resolution planning, and on how to avoid that the resolution of significant and cross-border banks in the euro area has a negative impact on the real economy and the public finances of the participating Member States.

An intergovernmental agreement on the transfer and mutualisation of the contributions to the SRF was signed on 21 May 2014 and entered into force on 1 January 2016. This agreement provides for the shift from existing national resolution funds to the SRF over a transitional period of eight years (2016-2023) for banks covered by the SRM. During that period, the banks' contributions will be allocated to different compartments corresponding to each participating Member State. According to the terms of the agreement, those compartments will be progressively mutualised and merged at the end of the transitional period.

The SRF should reach the target level of at least 1% of the amount of covered deposits of all credit institutions authorised in all participating Member States, around € 55 billion.

Moreover, a harmonised agreement, the Loan Facility Agreement, has been signed between each of the participating Member States and the SRB under which each Member State is to provide a national credit line as a guarantee for the respective national compartment in case of resolution.

As far as Luxembourg is concerned, the law of 18 December 2015 implementing the agreement on the transfer and mutualisation of contributions to the SRF, signed in Brussels on 21 May 2014, provides that the State is authorised to grant the SRB a national guarantee for a maximum of € 1 085 million, which could be used in case of resolution in Luxembourg during the transitional period.

The cooperation between the ECB and the SRB has been the object of a Memorandum of Understanding signed in 2015. The SRM Regulation provides for the allocation of tasks between European and national authorities. The SRB is directly entrusted with the preparation of resolution plans and the adoption of all resolution-related decisions in particular of the entities supervised by the ECB and cross-border groups, while the national resolution authorities are in charge of the remaining credit institutions. According to the SRM Regulation, the SRB and the national resolution authorities should cooperate closely. National resolution authorities are also responsible for implementing the resolution decisions of the SRB at the national level.

1.8.1.1.3 Deposit Protection

The third pillar of the Banking Union, namely the creation of a European system of deposit protection, is progressing very slowly.

On 24 November 2015, from a longer-term perspective of integration, the European Commission published a legislative proposal for a Regulation establishing a European Deposit Insurance Scheme (EDIS). According to the proposal, the EDIS would be set up in three consecutive steps, as proposed in the Five Presidents' Report[52], with a view to reach a European deposit guarantee scheme by 2024. The legislative process is ongoing.

52 Chapter 1.8.1.3.

The draft Regulation, is based on the framework currently applicable to national Deposit Guarantee Schemes (DGS), which is provided for by the Directive (EU) N° 2014/49/EU on the DGS (DGSD)[53], which aims to improve the protection of depositors beyond the requirements of previous legislative text, i.e. Directive 94/19/EC, as amended by Directive 2009/14/EC.

Luxembourg implemented the DGS Directive through Law of 18 December 2015.[54]

The DGS Directive provides for a broader and clearer scope of protection, shorter reimbursement periods, improved availability of information, as well as funding criteria with a view to reach a level of protection of deposits up to € 100 000.

1.8.1.2 Capital Markets Union

A Financial Union, as proposed by the Five Presidents' Report[55], not only requires the completion of the Banking Union for the euro area, but also the finalisation of the Capital Markets Union (CMU) for the EU as a whole.

The CMU is a priority for the European Commission, in addition to the strengthening of the EMU. The aim is to mobilise capital in Europe, especially for small and medium-sized enterprises (SMEs). By linking savings with growth, the CMU should lead to a rebound of investments and hence offer new opportunities for the EU single market.

The CMU is a new element of Europe's single market and its creation is a key element of the Investment Plan announced by the President of the European Commission, Jean-Claude Juncker, in November 2014.

Following the public consultation on the Green Paper "Building a Capital Markets Union", to which the Eurosystem responded[56], the European Commission adopted on 30 September 2015 an Action Plan setting out 20 key measures to achieve a single market for capital in Europe.

In addition, on 30 September 2015 the European Commission also published two proposals for Regulations relating to securitisation:

– A proposal for a Regulation laying down common rules on securitisation and creating a European framework for simple, transparent and standardised securitisation;

– A proposal for a Regulation amending the CRR.

In April 2016, the European Commission issued its first CMU status report on the progress made in the first six months since the adoption of the Union's Action Plan. Thereafter, in September 2016, the European Commission issued the Communication named "Capital Markets Union - Accelerating Reform"[57] with the objectives of finalising the first CMU measures, accelerating the next phase of the CMU and developing further CMU priorities[58].

The BCL and the Eurosystem as a whole are supportive of the CMU, in particular with respect to measures aimed at reviving securitisation. Since parts of those proposals affect the basic tasks of the ESCB, the BCL, as competent authority, delivered an opinion on the two draft Regulations on 11 March 2016 (CON/2016/11). Furthermore, the BCL maintains working contacts with the European Investment Fund (EIF) with regard to the follow-up to the legislation relating to securitisation.

53 Directive 2014/49/EU on Deposit Guarantee Schemes (DGSD).

54 Law of 18 December 2015 on the measures concerning the resolution, reorganization, winding up of credit institutions and certain investments firms as well as the schemes of deposit protection and investors compensation.

55 Chapter 1.8.1.3.

56 Building a Capital Markets Union – Eurosystem contribution to the European Commission's Green Paper, European Central Bank, 2015.

57 Communication from the Commission to the European Parliament, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions "Capital Markets Union - Accelerating Reform", 14 September 2016 (COM(2016) 601).

58 A public consultation on the Capital Markets Union Mid-Term Review was launched in January 2017.

1.8.1.3 Economic governance

Following the financial and economic crisis, the legal framework of EMU economic governance was strengthened in 2011 and in 2013 in order to restore confidence in the public finances of the Member States of the European Union, in particular through the economic governance package (six pack)[59], the Treaty on Stability, Coordination and Governance (TSCG) and the budgetary surveillance package (two pack) [60].

As far as budgetary policy is concerned, the reform aimed to strengthen and deepen budgetary surveillance as well as introduce additional surveillance for euro area Member States in order to ensure the timely correction of excessive deficits and the inclusion of European recommendations in national economic and fiscal policies and budgetary procedures.

The various instruments of economic governance have a very complex nature, which limits the transparency of policy-making and in turn poses challenges, particularly for its implementation.

In its 2016 Annual Growth Survey the European Commission reiterated the need for the definition of economic policy within the European Union, based on the virtuous triangle of investment, structural reforms and fiscal responsibility, with the objective of creating jobs and growth.

In 2016, the European Commission used its Communication to enable a flexible interpretation of the rules under the Stability and Growth Pact (SGP)[61]. The Communication has an impact particularly on the preventive arm of the SGP. The SGP is the cornerstone of the EU's regulatory framework on economic governance and is crucial for the proper functioning of EMU. Its credibility relies on a full and consistent application of the SGP.

During the year 2016, progress was made in the implementation of the European Commission's Investment Plan for Europe, notably by extending the duration and financial reinforcement of the European Fund for Strategic Investments (EFSI)[62]. The EFSI is based on a strategic partnership between the European Commission and the European Investment Bank Group (European Investment Bank or EIB and European Investment Fund). This partnership aims to address market failures - by contributing to the reduction of risks inherent in projects - and to encourage further investments. The EIB's current contribution to this initiative amounts to € 5 billion, in addition to the guarantee of €16 billion from the budget of the European Union.

On 14 September 2016, the Commission proposed a legislative act doubling the duration and financial capacity of the EFSI[63].

The strengthening of economic governance and the completion of the Banking Union remain major challenges for EMU.

59 It entered into force on 13 December 2011; (i) Regulation (EU) No 1173/2011 of the European Parliament and of the Council of 16 November 2011 on the effective enforcement of budgetary surveillance in the euro area (JO L 306 of 23.11.2011, p. 1); (ii) Regulation (EU) No 1174/2011 of the European Parliament and of the Council of 16 November 2011 on enforcement measures to correct excessive macroeconomic imbalances in the euro area (JO L 306 of 23.11.2011, p. 8); (iii) Regulation (EU) No 1175/2011 of the European Parliament and of the Council of 16 November 2011 amending Council Regulation (EC) No 1466/97 on the strengthening of the surveillance of budgetary positions and the surveillance and coordination of economic policies (JO L 306 of 23.11.2011, p. 12); (iv) Regulation (EU) No 1176/2011 of the European Parliament and of the Council of 16 November 2011 on the prevention and correction of macroeconomic imbalances (JO L 306 of 23.11.2011, p. 25); (v) Regulation (EU) No 1177/2011 of 8 November 2011 amending Regulation (EC) No 1467/97 on speeding up and clarifying the implementation of the excessive deficit procedure (JO L 306 of 23.11.2011, p. 33); (vi) Directive 2011/85/EU of 8 November 2011 on requirements for budgetary frameworks of the Member States (JO L 306 of 23.11.2011, p. 41).

60 It entered into force on 30 May 2013; (i) Regulation (EU) No 473/2013 of the European Parliament and of the Council of 21 May 2013 on common provisions for monitoring and assessing draft budgetary plans and ensuring the correction of excessive deficit of the Member States in the euro area; (ii) Regulation (EU) No 472/2013 of the European Parliament and of the Council of 21 May 2013 on the strengthening of economic and budgetary surveillance of Member States in the euro area experiencing or threatened with serious difficulties with respect to their financial stability.

61 Communication from the Commission to the European Parliament, the Council, the European Central Bank, the Economic and Social Committee, the Committee of Regions and the European Investment Bank "Making the best use of the flexibility within the existing rules of the Stability and Growth Pact", of 13 January 2015 (COM(2015) 12 final provisional).

62 Regulation (EU) 2015/1017 of the European Parliament and of the Council of 25 June 2015 on the European Fund for Strategic Investments, the European Investment Advisory Hub and the European Investment Project Portal and amending Regulations (EU) No 1291/2013 and (EU) No 1316/2013 — the European Fund for Strategic Investments (OJ L 169, 1.7.2015, pp. 1-38).

63 Proposal for a Regulation of the European Parliament and of the Council amending Regulations (EU) No 1316/2013 and (EU) 2015/1017 as regards the extension of the duration of the European Fund for Strategic Investments as well as the introduction of technical enhancements for that Fund and the European Investment Advisory Hub (COM(2016) 597 final)

In this regard, work has continued according to the calendar defined in the Five Presidents' Report (Stage 1),[64] published on 22 June 2015. The Report put forward proposals on the deepening of EMU, starting on 1 July 2015 with a view to complete it at latest in 2025.

It proposed three stages:

- Stage 1 or "deepening by doing" (1 July 2015 - 30 June 2017): stage 1 aims to build on existing instruments and treaties, boost competitiveness and structural convergence, ensure responsible fiscal policies at the national and euro area level, complete the Financial Union, and enhance democratic accountability;

- Stage 2 or "completing EMU": concrete measures of a more far-reaching nature would be agreed in order to make the convergence process more binding, for instance through a set of commonly agreed benchmarks for convergence that could be given a legal nature, as well as a euro area treasury;

- Final Stage (at the latest by 2025): once all the steps are fully in place, a deep and genuine EMU would provide a stable and prosperous place for all citizens of the EU Member States that share the single currency, attractive for other EU Member States to join if they are ready to do so.

In 2016, the European Fiscal Board[65], a consultative entity within the European Commission, became operational. Its establishment is without prejudice to the National Council of Public Finance in Luxembourg[66], which was created by the law of 21 July 2014 on the coordination and governance of public finances.

To prepare the transition from Stage 1 to Stage 2 and other possible measures for the consolidation of the euro zone, the European Commission is expected to present a white paper in 2017 outlining the next steps needed, including legal measures, to complete the EMU.

1.8.1.4 ECB Legal Acts

Monetary Policy

The ECB adopted several legal acts in the field of monetary policy, in particular:

- Guideline (EU) 2016/2298 of the ECB of 2 November 2016 amending Guideline (EU) 2015/510 on the implementation of the Eurosystem monetary policy framework (ECB/2016/31). This guideline amends Guideline (EU) 2015/510 of the ECB on the implementation of Eurosystem monetary policy (ECB/2014/60), known as the General Documentation and implemented at the national level by the General Terms and Conditions of the BCL;

- Guideline (EU) 2016/2299 of the ECB of 2 November 2016 amending Guideline (EU) 2016/65 on the valuation haircuts applied in the implementation of the Eurosystem monetary policy framework (ECB/2016/32);

- Decision (EU) 2016/810 of the ECB of 28 April 2016 on a second series of targeted longer-term refinancing operations (ECB/2016/10);

- Decision (EU) 2016/811 of the ECB of 28 April 2016 amending Decision ECB/2014/34 on measures relating to targeted longer-term refinancing operations (ECB/2016/11).

The list and content of the ECB legal acts are available on the ECB website.

64 Report by the President of the European Commission, in close cooperation with the President of the Euro Summit, the President of the Eurogroup, the President of the European Central Bank, and the President of the European Parliament "Completing Europe's Economic and Monetary Union" of 22 June 2015.

65 Commission Decision (EU) 2015/1937 of 21 October 2015 establishing an independent advisory European Fiscal Board (OJ L 282 28 October 2015, p. 37).

66 In French: Conseil national des finances publiques (CNFP).

Banking supervision

The Governing Council adopted a new Regulation:

– Regulation (EU) 2016/445 of 14 March 2016 on the exercise of options and discretions available in Union law.

In addition, the following decisions, recommendations and guidelines were published in the Official Journal of the European Union:

– Guideline (EU) 2016/256 of the ECB of 5 February 2016 concerning the extension of common rules and minimum standards to protect the confidentiality of statistical information collected by the ECB and by the national central banks for participating Member States' national competent authorities and for the ECB in its supervisory functions;

– Decision (EU) 2016/661 of the ECB of 15 April 2016 on the total amount of annual supervisory fees for 2016;

– Decision (EU) 2016/1162 of the ECB of 30 June 2016 on disclosure of confidential information in criminal investigations;

– Guideline (EU) 2016/1993 of the ECB of 4 November 2016 laying down the principles for the coordination of the assessment pursuant to Regulation (EU) No 575/2013 of the European Parliament and of the Council and the monitoring of institutional protection schemes including significant and less significant institutions;

– Guideline (EU) 2016/1994 of the ECB of 4 November 2016 on the approach for the recognition of institutional protection schemes for prudential purposes by national competent authorities pursuant to Regulation (EU) N° 575/2013 of the European Parliament and of the Council;

– Recommendation of the ECB of 13 December 2016 on dividend distribution policies.

1.8.2 National legislation

1.8.2.1 Enacted Law

1.8.2.1.1 Law of 15 March 2016 regarding OTC derivatives, central counterparties and trade repositories [...] (draft law n° 6846)[67]

The Law of 15 March 2016 (draft Law n° 6846) in particular amends the amended Law of 10 November 2009 on payment services, in order to insert the new rules regarding interoperable systems foreseen in Regulation (EU) N° 648/2012, to implement Regulation (EU) N° 260/2012 and to remove any ambiguity with regard to the free choice of the depository which payment institutions use in order to protect the funds

67 Law of 15 March 2016 regarding OTC derivatives, central counterparties and trade repositories and transposing:
The Directive 2013/14/EU of the European Parliament and of the Council of 21 May 2013 amending Directive 2003/41/EC on the activities and supervision of institutions for occupational retirement provision, Directive 2009/65/EC on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS) and Directive 2011/61/EU on Alternative Investment Funds Managers in respect of over-reliance on credit ratings; and implementing:
1. Regulation (EU) n° 260/2012 of the European Parliament and of the Council of 14 March 2012 establishing technical and business requirements for credit transfers and direct debits in euro and amending Regulation (EC) n° 924/2009;
2. Regulation (EU) n° 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories; and
3. Regulation (EU) n° 462/2013 of the European Parliament and of the Council of 21 May 2013 amending Regulation (EC) n° 1060/2009 on credit rating agencies;
and amending:
1. The Law of 23 December 1998 establishing a financial sector supervisory commission ("Commission de surveillance du secteur financier"), as amended;
2. The Law of 13 July 2005 on institutions for occupational retirement provision in the form of a pension savings company with variable capital (SEPCAV) and a pension savings association (ASSEP), as amended;
3. The Law of 10 November 2009 on payment services, as amended;
4. The Law of 17 December 2010 relating to undertakings for collective investment, as amended;
5. The Law of 28 October 2011 implementing Regulation (EC) n°1060/2009 of 16 September 2009; and
6. The Law of 12 July 2013 on Alternative Investment Fund Managers, as amended.

they have received in exchange for payment operations or issuance of electronic money. Furthermore, in order to facilitate the proper functioning of T2S, the prior amendment of Article 111 of the amended law on payment services of 10 November 2009 was required, and in particular for Luxembourg central securities depositories (CSD) to fulfil their obligations concerning settlement finality as a result of their participation in T2S.

The BCL has been involved in preparing the amendment in the above-mentioned law. The amendments aim to ensure that the moment of entry of transfer orders into the system (SFI) and the moment of irrevocability of transfer orders by the participants of a system or by third parties (SFII), are disconnected and that consequently SFII moment may occur later than SFI. Article 111 has since then been restructured in its entirety in the draft Law n° 6846 in order to assemble the provisions relating to enforceability and those relating to irrevocability. This new structure, which follows to the extent possible Articles 3 and 5 of Directive 98/26/EC of the European Parliament and of the Council of 19 May 1998 on settlement finality in payment and securities settlement systems (SFD), clarifies the distinction between the moment of entry into the system - which entails the enforceability of transfer orders in case of an insolvency procedure - and the moment of irrevocability of transfer orders - which applies not only to the system's participants but also to third parties; this should be defined by the governing rules of the system.

1.8.2.2 BCL Regulations

In 2016, the BCL issued the following two Regulations in the oversight and monetary policy fields:

- Regulation of the *Banque centrale du Luxembourg* 2016/N° 22 of 28 December 2016 amending the Regulation of the *Banque centrale du Luxembourg* 2014/N°18 of 21 August 2014 implementing the Guideline ECB/2014/31 concerning additional temporary measures relating to Eurosystem refinancing operations and eligibility of collateral and amending Guideline ECB/2007/9 and

- Regulation of the *Banque centrale du Luxembourg* 2016/N° 21 of 15 January 2016 concerning the oversight of payment systems, securities settlement systems and payment instruments in Luxembourg.

The list of BCL Regulations is available on the BCL website.

1.8.2.3 Interest rates

The legal interest rate for the year 2016 was set at 3% by the grand-ducal Regulation of 18 December 2015 on the determination of the legal interest rate for the year 2016 (Memorial A – N°250 of 24 December 2015, p. 6158).

For 2017, this rate is set at 2.25% by the grand-ducal Regulation of 23 December 2016 on the determination of the legal interest rate for the year 2017 (Memorial A – N°296 of 27 December 2016, p. 6185). It should be noted that this rate does not correspond to a particular money market reference rate.

Late payment interest rates on overdue claims in commercial transactions are calculated, unless otherwise provided for by contract, on the basis of the ECB's reference rate plus a margin. The late payment interest rate is published every six months in the Memorial B (Official Gazette). For the first half of 2016, the late payment interest rate was 8.05% (Memorial B – N°20 of 19 February 2016, p. 566). For the second half of 2016, the late payment interest was 8.00% (Memorial B – N°90 of 30 August 2016, p. 1681). The above-mentioned rates include the margin provided for by the amended law of 18 April 2004 on payment deadlines and late payment interests. This margin increased from 7% to 8% starting from 15 April 2013.

1.8.2.4 Draft law

Draft law n°7024 implementing Council Regulation (EU) 2015/751 of the European Parliament and of the Council of 29 April 2015 on interchange fees for card-based payment transactions and amending:

1. The consolidated law of 5 April 1993 on the financial sector;

2. The consolidated law of 23 December 1998 establishing a financial sector supervisory commission ("Commission de surveillance du secteur financier");

3. The consolidated law of 5 August 2005 on financial collateral arrangements;

4. The consolidated law of 11 January 2008 on transparency requirements for issuers;

5. The consolidated law of 20 December 2010 relating to undertakings for collective investment;

6. The consolidated law of 12 July 2013 on alternative investment fund managers;

7. The consolidated law of 18 December 2015 on the failure of credit institutions and certain investment firms.

This project contains a general section on the financial sector, divided in as many chapters as laws to be modified. It gathers a series of provisions aiming at correcting substantive mistakes, either linked to the technology used, to incorrect references or to fill certain disregarded aspects. Other modifications aim at updating certain legal provisions by taking into account the new institutional architecture of the prudential supervision and of the resolution mechanism, in which existing institutions, like the ECB, or more recently created institutions, like the European Banking Authority, and more generally, the institutions of the European System of Financial Supervision, play an important role.

1.9 COMMUNICATION

1.9.1 Publications

As required by its organic law, the BCL publishes a report on its activities every year. The annual report is available in French and in English.

In 2016, the BCL also published three Bulletins and a Financial Stability Review.

In its working papers, which are available on its website, the BCL publishes the research conducted by its staff. Working papers begin with a non-technical summary. In 2016, four working papers were published.

1.9.2 Training at the BCL

1.9.2.1 Academic cooperation

The BCL continued its cooperation with the University of Luxembourg and its staff members gave several lectures within the Faculty of Law, Economics and Finance. Staff members also gave lectures on econometrics (Metz University).

The BCL also organised one off presentations of various durations for student groups.

1.9.2.2 Technical cooperation

The BCL was a shareholder of the Agence de Transfert de Technologie Financière (ATTF). This agency, established in 1999 by the Luxembourgish government, seeks to share Luxembourg's expertise in financial matters with other countries, emerging countries in particular.

1.9.2.3 Cooperation with high schools

The BCL continues to organise presentations on the BCL and the Eurosystem for secondary school students if their curriculum includes economics as a subject. Students along with their teachers are received at the auditorium of the Monterey building for educational and interactive presentations about the organisation and mission of the BCL and the Eurosystem. Other topics can also be addressed if so requested by teachers or students.

In 2015-2016, the BCL organised for the third time in Luxembourg the Eurosystem's competition for high schools, Generation €uro Students' Award. Since 2011, this competition has been organised in ten euro area countries. It is meant for secondary school students between 16 to 19 years of age, in particular students of economics. Its aim is to establish a better understanding of the role and functions of the Eurosystem. The 2015-2016 edition of the competition, won by the team Mat Esch kee Crash from the Lycée technique de Lallange, ended with a national award ceremony on 1 March 2016 at the BCL and a European award ceremony – which was attended by each participating country's winning team – on 20-21 April 2016 in Frankfurt.

Luxembourg's fourth edition of the competition was launched on 11 October 2016 with an information session for teachers and students organised at the Lycée technique de Lallange. Briefing sessions were provided to students and teachers participating in the competition to help them prepare the different stages of the competition. The fourth edition concluded with the final and the national award event at the BCL on 28 February 2017.

Luxembourg's Generation €uro Students' Award winning team members and their teacher participated in the European award event organised at the ECB on 21 April 2016, along with winning teams from the other participating countries.

1.9.2.4 Cooperation with primary schools

In 2016, for the second time, the BCL independently took part in the European Money Week (Woch vun de Suen). From 14 to 18 March, the BCL offered a programme allowing groups of pupils from cycle 4.1 of the primary school system to become acquainted with money in general and with security features of euro banknotes and coins in particular. Sessions with a duration of two and a half hours, organised throughout the week, allowed pupils to benefit from entertaining and interactive presentations, including films and games, before visiting the BCL's banknote sorting centre and a workshop where they could put into practice the knowledge they had acquired on banknotes' security features. This programme was met with great success, with a total of almost 600 participating pupils from 20 different schools.

Photo: BCL

1.9.2.5 Presentations for groups of external visitors

In 2016, the BCL continued to welcome groups of external visitors to its premises. This programme allows groups of 15 to 25 people to register for a presentation on the history and current tasks of the BCL as well as on Luxembourg's monetary history. This initiative corresponds to the BCL's desire to better inform the public of its European and national tasks.

The BCL welcomes one external group of visitors per month, either on Thursday evenings (18.00 – 19.30) or on Friday afternoons (14.30 - 16.00), for a presentation in French, Luxembourgish or English, depending on the visitors' preferences. Presentations can be organised by sending a request to the email address info@bcl.lu.

Photo: BCL

1.9.3 The BCL's website

In 2016, the BCL continued to modernise and improve its new website launched in December 2015.

The new website includes the following changes:

– enhanced graphics and significant improvements in navigation and interactivity;

– better classification of information, allowing the website to evolve in line with the BCL's tasks;

– increase in the volume of information provided and development of new content devoted to specific activities of the Bank;

– enhancement of educational / general public content;

– widening the range of bilingual (FR-EN) information.

Given the variety of audiences the BCL targets, the new website aims to help all users gain quick access to the information they are looking for.

During the year 2016, the site was reprogrammed with a responsive design in order to make navigation more pleasant by the site automatically adapting to the space available on the screen.

Almost 146 000 people (+17.1%) visited the BCL's website in 2016, over 17.2 million clicks were registered and more than 4.2 million pages consulted (+19%).

The most frequently downloaded document continues to be the numismatic programme, which was downloaded around 12 000 times.

1.9.4 The library

The library of the BCL, inaugurated in 2005, may be accessed through the network of public libraries in Luxembourg.

The library mainly contains publications on economics and law. The collection comprises works published by international organisations (such as the BIS, European Commission, IMF, OECD, World Bank, etc.) but also from National Central Banks. The majority of works focus on monetary, economic, financial and legal issues in the euro area.

The library is open to the public by appointment, which can be made either by fax (+352 4774 4910) or by email (bibliotheque@bcl.lu).

1.9.5 Press relations

On 5 July 2016, the BCL organised a press conference to present the new € 50 banknote as part of the introduction of the new euro banknote Europa series. In the same context, several press briefings were also organised in 2016.

Contacts with the national and international press were sustained throughout the year as the BCL answered many queries sent by journalists.

Overall, 88 press releases were published.

1.9.6 Information campaign for the new €20 banknote of the Europa series

During the last week of September, the BCL installed a banner of nearly 150m^2 on the façade of the Pierre Werner building located on Boulevard Royal and of the Avenue Monterey building to raise public awareness of the entry into circulation of the new € 50 banknote as of 4 April 2017.

Photo: BCL

Photo: BCL

1.9.7 Conferences and events

The BCL was involved in the organisation of the following conferences and events:

- an open house at the BCL headquarters at 2, Boulevard Royal and at the Monterey Building on 43, Avenue Monterey on 24 September. On this day, the general public was able to discover the history of the BCL's buildings, visit an exhibition on Luxembourg's monetary history and learn about the euro banknotes' security features at a dedicated workshop. A quiz contest allowed the public to test its knowledge of the BCL's missions. The BCL Governor awarded prizes to the winners at a ceremony on 25 October. The first prize was a collector coin in fairtrade gold, d'Maus Ketti, issued by the BCL.

- a conference by the Bridge Forum Dialogue association on the topic: "Recovering from the crisis: macroeconomic versus real economy and social dimensions" on 28 September at the European Investment Bank (EIB). The speaker was Mr Euclid Tsakalotos, Greek Minister of Finance.

1.9.8 Research Activities

BCL research output is disseminated through its working paper series as well as the BCL Bulletin and Financial Stability Review. Several studies were published in peer-reviewed scientific journals (*International Journal of Central Banking, Journal of Pension Economics and Finance, Journal of Money, Credit and Banking, International Journal of Finance & Economics, The World Economy, Applied Economics, Journal of Housing Economics, Quarterly Review of Economics and Finance*).

BCL researchers also presented their results in seminars and workshops organised by different institutions, including the Eurosystem, the International Monetary Fund (IMF), the European University Institute in Florence, and the universities of Cambridge (UK), Essen and Trier.

Since December 2006, the BCL has been a member of the Eurosystem "Household Finance and Consumption Network" (HFCN). This network designed and conducted a harmonised survey of the consumption and financial behaviour of households in the euro area. In Luxembourg, this survey was carried out by the BCL along with the Luxembourg Institute of Socio-Economic Research (LISER, previously CEPS/Instead). Results of the first survey wave were published as working papers or text boxes in the BCL Bulletin. The first results of the second wave, conducted in 2014, were published in 2016 as text boxes in the BCL Bulletin.

In June 2016, the BCL organised a workshop on the subject "Household Finance and Consumption" with researchers in this domain that are active in Luxembourg and in the neighbouring regions.

As indicated above, BCL researchers prepared several studies intended to contribute to the discussion within the *Comité du risque systémique* (see 1.7.1.3). Finally, BCL researchers are also developing projects within the partnership with the Toulouse School of Economics (TSE) (see 1.9.2.1). This partnership takes the form of common publications, tutoring, training, conferences and workshops, as well as exchanges between BCL and TSE researchers.

Created in 2011, the BCL Foundation aims to promote research and higher education in the BCL's fields of activity. Its Board of Directors continued to consider research on financial stability of primary importance.

The Foundation's statutes were approved by the grand-ducal Regulation of 12 March 2011.

On 31 December 2016, the Board of Directors included the following members:

- Serge Kolb, Member of the Council of the BCL and BCL Executive Director – Managing Director
- Hans Helmut Kotz, Vice-President and interim President, senior fellow at the Centre of Financial Studies, Goethe Universität, Frankfurt, Honorary Professor at Freiburg University (D) and former Member of the Board of Directors of the Deutsche Bundesbank – Director
- Jacques F. Poos, Member of the Council of the BCL – Director
- Patrice Pieretti, Professor at the University of Luxembourg and former Member of the Council of the BCL – Director
- Romain Schintgen, Member of the Council of the BCL – Director
- Henri Sneessens, Professor at the University of Luxembourg – Director
- Christian Wolff, Professor at the University of Luxembourg, Director of the Luxembourg School of Finance – Director
- Jean-Pierre Zigrand, Professor at the London School of Economics – Director

1.10 EUROPEAN ACTIVITIES

1.10.1 Activities at the level of the ECB

The BCL Governor attends the Governing and the General Council meetings. Members of the Governing Council act in their personal capacity and not as national representatives.

The Governing Council, as a rule, meets twice a month at the ECB's headquarters in Frankfurt.

Since January 2015, Governing Council meetings dedicated to monetary policy decisions take place every six weeks instead of the previous monthly schedule[68], while maintaining however as a general rule two meetings per month.

In 2016, more than 1500 decisions were taken by the Governing Council via written procedure.

The majority of written procedures exclusively or partly relate to the Single Supervisory Mechanism (SSM). As a matter of fact, written procedures are the Governing Council's most used decision tool in this area. Conversely, for central banking aspects, more decisions are taken during Governing Council meetings.

The General Council comprises the ECB President and Vice President as well as ESCB Governors and meets in Frankfurt, as a rule, on a quarterly basis.

The other members of the ECB Executive Board participate in General Council meetings, yet without "membership" status.

The Eurosystem/ESCB Committees assist the decision-making bodies of the ECB in the fulfilment of their tasks. The Governing Council and the Executive Board may ask Committees to conduct studies on specific topics. Committees report to the Governing Council through the ECB's Executive Board.

In 2016, 16 Eurosystem/ESCB committees provided expertise in their field of competence in order to support the decision making process of the Governing Council.

Committees are mainly composed of Eurosystem staff members, but for issues which fall under the competence of the General Council, staff members of ESCB central banks whose countries have not yet adopted the Euro may participate in the meetings.

If appropriate, other competent bodies may also be invited to participate in committee meetings.

In order to support the work linked to the Single Supervisory Mechanism, some of these committees meet in a composition corresponding to the SSM, i.e. including representatives of National Competent Authorities that are not national central banks.

Working groups or task forces have also been established by the committees with specific objectives in accordance with their parent Committee's mandate.

The Governing Council has also created High Level Groups to consider particular issues.

68 Up to the end of 2014, the first meeting of the month was dedicated to monetary policy while the second meeting treated the other Eurosystem missions.

1.10.2 The Economic and Financial Committee

The BCL is represented at the Economic and Financial Committee (EFC), a consultative committee composed of representatives of the Treasuries or the Ministries of Finance and the Central Banks of EU Member States as well as representatives of the European Commission and the European Central Bank (ECB).

According to Article 134(2) of the Treaty on the Functioning of the European Union (TFEU), one of the major tasks of the EFC is to "keep under review the economic and financial situation of the Member States and of the Union and to report regularly thereon to the Council and to the Commission" as well as to "contribute to the preparation of the work of the Council". The EFC also provides a framework for dialogue between the ECOFIN Council[69] and the ECB.

The EFC meets in two configurations: full and restricted. In its full composition, the EFC meets with the representatives of the Treasuries or the Ministries of Finance, National Central Banks (NCBs), the Commission and the ECB. It addresses economic developments, financial stability and matters pertaining to the IMF. NCB representatives do not participate in the meetings in restricted composition.

The EFC has held 10 meetings in full composition in 2016, and has also met three times in a specific format, the "Financial Stability Table". There it includes, in addition to representatives of NCBs, senior officials from the European Supervisory Authorities (ESAs)[70] and the European Systemic Risk Board (ESRB).

In its full composition, the EFC plays an important role in the preparation of common European positions at the G20, the International Monetary Fund (IMF), and the Financial Stability Board (FSB).[71] It also deals with economic policy issues discussed at meetings of the informal ECOFIN, to which the Governors of the NCBs of EU member states and the President of the ECB are invited.

In 2016, the EFC in full configuration continued to monitor closely the risks to financial stability in the EU, the progress towards the Banking Union, the Capital Market Union and the Investment Plan (known as the "Juncker Plan"). In addition, the EFC's High Level Working Group on the Regulatory Treatment of Sovereign Exposure finalised its report.

The EFC comprises various subcommittees that cover the functioning of public debt markets in the EU, the production and circulation of euro coins, and the IMF.[72] The BCL is a member of this last subcommittee, the SCIMF, which prepares and coordinates the positions of EU member states on IMF matters. In 2016, the SCIMF worked on issues concerning the Fund's resources, the International Monetary System, the Global Financial Safety Net and the liberalisation and management of capital flows, among other matters.

1.10.3 The European Statistical Forum, the Committee on Monetary, Financial and Balance of Payments Statistics and the European committee of central balance sheets offices

On 24 April 2013, the European Statistical System (ESS) and the ESCB signed a Memorandum of Understanding regarding cooperation between the two bodies. To further improve this cooperation, the two bodies established the European Statistical Forum (EFS), in which central banks, national statistical institutes as well as the European Commission and the ECB are represented. This forum will establish an annual work programme, whose main objective is the improvement of the cooperation between the two bodies.

The Committee on Monetary, Financial and Balance of Payments Statistics (CMFB) will continue to handle those issues that both statistical bodies have in common. The CMFB also has the task of deciding on the development and coordination of statistical categories that are required under the policy implemented by the Council, the Commission and various committees assisting them. Central banks, national statistical institutes as well as the Commission and the ECB are represented in the CMFB.

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69 ECOFIN: Economic and Financial Affairs Council.

70 Specifically the European Banking Authority (EBA), the European Insurance and Occupational Pensions Authority (EIOPA), and the European Securities and Markets Authority (ESMA).

71 For the IMF and the FSB, see sections 1.11.2 and 1.7.1.1.

72 The Sub-Committee on EU Sovereign Debt Markets, the Euro Coin Subcommittee, and the Sub-Committee on IMF and related issues.

The European Committee of Central Balance Sheet Offices (ECCBSO) is an advisory body set up in 1987 by a group of European NCBs responsible for the management of the National Balance Sheet Offices. The Committee's initial objective was to improve the analysis of data for non-financial corporations. The Committee's objectives have been broadened by central banks in areas such as statistics, economic and financial research, financial stability, monitoring and risk assessment to cover the use of data from non-financial corporations. It is worth mentioning that STATEC, which is in charge of the Central Balance Sheet Office in Luxembourg, is a member of this committee.

The BCL has been a member of ECCBSO since 2014.

The BCL actively contributed to the work of these three committees in 2016. Progress has been made in particular with regard to financial accounts, balance of payments, financial services and public finances statistics as well as national accounts.

1.11 NATIONAL AND EXTERNAL ACTIVITIES

1.11.1 National activities

1.11.1.1 Relations with the Parliament

On 2 December 2016, the BCL presented its opinion on the government's draft budgetary plan on revenues and expenditures to the Financial and Budget Commission of the Luxembourg Parliament.

1.11.1.2 BCL Committees

Lawyers Committee

The Lawyers Committee of the BCL met six times in 2016. It discussed various subjects relating to the Eurosystem, such as the draft ECB regulation on the collection of granular credit and credit risk data (AnaCredit), the implementation of the BRRD in Luxembourg, the legal framework of the Corporate Sector Purchase Programme, the Distributed Ledger Technology (DLT) / Blockchain, possible sovereign debt restructuring and the regulation of hedge funds.

The Monetary and Banking Statistics Consultative Commission

The BCL has set up this consultative commission to ensure the efficient collection of monetary and banking statistics and to enhance the dialogue with reporting credit institutions. In 2016, the Commission was informed and consulted on various conceptual issues relating to the modification of statistical data collection from credit institutions, namely concerning the introduction of granular credit and credit risk data collection (the ECB's AnaCredit project).

The Balance of Payments Statistics Consultative Commission

The Balance of Payments Statistics Consultative Commission acts as an advisory group and assists the BCL in its mission to collect data in the areas of balance of payments and international investment positions. The Commission ensures an efficient organisation of data collection in order to avoid redundancies and to limit the workload for the entities requested to submit statistical data. Due to the absence of new projects, the Commission was not consulted in 2016.

1.11.1.3 External Committees

The Economic Committee (Comité de conjoncture)

The Economic Committee acts on the basis of legislation which authorises the government to take measures to stabilise employment. The Committee provides a framework for the examination of business cycle fluctuations and for the monitoring of economic policy issues when they arise. The BCL's contribution to the Economic Committee is twofold: first, the BCL collects information on Luxembourg's economic situation and, second, it contributes to the Committee's work by monitoring and commenting on the latest developments in monetary areas and in the financial sector.

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

The BCL has observer status at the meetings of the Consumer Price Index Commission (CPIC), which is in charge of advising and assisting STATEC in the preparation of consumer price indices. This Commission also issues technical opinions on the development of the monthly consumer price index and supervises the compliance of this index with national and European legislation. The BCL presents its inflation projections for Luxembourg to the CPIC and explains the BCL's work in the area of consumer prices.

Accounting Standards Board

Since October 2013, the BCL has been a member of the Accounting Standards Board (*Commission des normes comptables*, hereafter the "CNC").

The CNC is an economic interest group (*groupement d'intérêt économique*) whose role is to:

- provide accounting advice to the Government;
- contribute to the development of an accounting doctrine;
- participate in discussions on accounting matters within European and international bodies. In 2014, the CNC became a member of the EFRAG - European Financial Reporting Advisory Group as the Luxembourg representative;
- assume missions entrusted to it by the law of 30 July 2013 reforming the CNC and modifying various provisions relating to companies' accounting and annual accounts, as well as to the consolidated accounts of certain forms of companies.

During 2016, the CNC (the management committee and working groups) met on 43 occasions.

In response to the adoption of the law of December 18, 2015 transposing the directive 2013/34/UE, the CNC's doctrinal works have focused on the main modifications introduced by the new legislation and a number of doctrinal questions/answers have thus been published in 2016.

The revision of the Standard Chart of Accounts (Plan comptable normalisé) which began in 2015 continued at a steady pace during 2016 and is expected to be finalised in 2017.

Furthermore, a reflection on the reform of Luxembourg's accounting law has been launched regarding the future of derogation granted through Article 27 of the amended law of 2002. For this purpose, a statement reflecting ten years of practical application of this derogation mechanism has been established and recommendations should be finalised during the first quarter of 2017.

At the European and international levels, in 2016 the CNC responded to a public consultation launched by the European Commission on the methodology of the publication of non-financial information. The CNC also participated in preparing the response to the questionnaire issued by the Accounting Regulatory Committee regarding the national provisions of the mapping exercise on dividend distribution rules. In addition, the CNC also continued to participate on EFRAG's working groups.

Lastly, during summer 2016, the CNC also created a website (www.cnc.lu) in order to provide interested parties better access to its doctrinal works.

Committee comptabilité bancaire

The Committee *comptabilité bancaire*, set up by the *Commission de surveillance du secteur financier* (CSSF), facilitates an exchange of views between the supervisory authority, the BCL and the stakeholders of the Luxembourg financial centre. The committee is consulted on the development of CSSF circulars concerning bank accounting issues.

Higher Council for Statistics of Luxembourg

The Higher Council for Statistics carries out advisory functions for the national statistical institute of Luxembourg (STATEC) and by its mandate assesses STATEC's annual programme. Therefore, at the end of each year STATEC submits a report on the work accomplished during that year to the Board. It also submits a programme of work to be done during the year ahead. The report and programme are then assessed by the Council.

The BCL contributes to the work of the Council in two ways; firstly, it provides its opinion on documents submitted during the meetings, and secondly, it provides STATEC with data collected on the financial sector so that it can accomplish its work programme.

The Committee of Public Statistics for Luxembourg

The Committee of Public Statistics has a coordinating role in the field of public statistics. It compiles an inventory of all the surveys conducted by the Luxembourg statistical body, analyses the feasibility of responding to requests using existing sources and ensures that the implementation of the statistical programme is compliant with the best practices of the Luxembourg statistical system and international standards.

The BCL contributes to the work of the committee on a regular basis through its function as an observer.

XBRL Luxembourg

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

The non-profit association XBRL Luxembourg includes some twenty organisations using XBRL and / or providing services related to XBRL technology. The role of the association is to promote the XBRL standard within Luxembourg's economy.

As a founding member of XBRL Luxembourg, the BCL analyses the potential of adopting the XBRL standard with regard to statistical reporting collected by Luxembourg financial sector companies.

1.11.2 External activities

Activities at the level of the IMF

Luxembourg is a founding member of the International Monetary Fund (IMF). The IMF's Executive Board is composed of 24 Executive Directors. As part of the amendments to the IMF's Articles of Agreement, which seek to reduce the representation of advanced European countries by two seats, Belgium and Luxembourg joined, on 1 November 2012, a group of countries (Constituency) which has been represented by a Belgian Director since November 2016. Belgium and the Netherlands take turns appointing a Director for a four-year term, thus contributing jointly to the reduction of one Director's position from an advanced European country. Luxembourg, for its part, nominates a Senior Advisor. Beyond the Benelux countries, the other 12 members of the constituency of which Luxembourg is a member, are, in decreasing order of their quotas: Ukraine, Israel, Romania, Bulgaria, Croatia, Cyprus, Bosnia and Herzegovina, Georgia, Moldova, Macedonia, Armenia and Montenegro.

Member states' quota subscriptions are an essential component of the IMF's financial resources. They correspond broadly to a country's relative position in the world economy. In the context of the 14th General Review of Quotas, which took effect on 26 January 2016, the IMF's total quotas doubled from SDR[73] 238.4 billion to SDR 476.8 billion. Luxembourg's quota increased from SDR 418.7 million to SDR 1 321.8 million, an increase of 216%. This increase of SDR 903.1 million is regulated by the Law of 10 October 2012, authorising the Government to participate in the General Review of Quotas of IMF Members, and approving the amendment to the IMF's Articles of Agreement as stipulated by Resolution n° 66-2 of the IMF Board of Governors of 15 December 2010.

To supplement its quota resources, the IMF can also borrow temporarily. The New Arrangements to Borrow (NAB), which were expanded in 2009, can provide supplementary resources of up to SDR 370 billion (about €468 billion). In addition, since 2012 – and given the delays in approving the 14th General Review of Quotas – a certain number of member countries, mainly European, also pledged to increase the IMF's resources by an equivalent of US$ 461 billion through bilateral borrowing agreements. Luxembourg contributed to this effort by signing a bilateral loan agreement to the benefit of the IMF in the amount of EUR 2.06 billion in April 2014. This line of credit initially had a two-year maturity but two extensions of one year each deferred the final maturity to 2018.

With the payment of the quota increases in February, the NAB was rolled back from SDR 370.0 billion to SDR 182.4 billion. Luxembourg's participation in the NAB has been reduced from SDR 970.59 million to SDR 493.12 million.

At the end of the year, loans provided by Luxembourg under the NAB reached SDR 86.67 million and Luxembourg held SDR 244.61 million, 99.19% of its SDR allocation compared to 99.13% at end-2015.

The BCL handles Luxembourg's financial transactions with the IMF. It holds Luxembourg's assets and liabilities with regard to the IMF in both the General Resources Account (GRA) and the SDR account.

On 31 December 2016, Luxembourg's quota, recorded in full on the BCL's balance sheet, amounted to SDR 1 321.80 million, while Luxembourg's reserve position – i.e. the difference between Luxembourg's quota and the IMF's holdings of euro denominated assets at the BCL – was SDR 188.79 million, equivalent to 14.28% of Luxembourg's quota at that time.

The financial transactions plan (FTP) of the IMF defines the currencies to be made available to its members and the distribution of reimbursements among its members on a quarterly basis.

Activities at the level of the Bank for International Settlements (BIS)

Established in 1930, the BIS is the oldest international financial institution. The BIS promotes international cooperation, on the one hand between monetary authorities and financial sector supervisory authorities through meetings that it organises for these authorities' officials, and on the other hand through the Basel Process framework in which it hosts international groups working on global financial stability including the Basel Committee on Banking Supervision and the Financial Stability Board. The BIS supports them, facilitates their interaction, and contributes to the establishment of international banking standards. At present the BIS has 60 members comprising central banks of advanced and emerging economies.

The BCL is closely involved in the activities of various committees and working groups of the BIS.[74]

Besides participating in the Committee on the Global Financial System (CGFS) and in the Annual General Meeting of the BIS, the BCL is also represented by its Governor at the Global Economy Meeting and at the All Governors' Meeting, which both take place every two months, generally at the seat of the BIS in Basel. The Governors and other senior officials from BIS member central banks examine recent developments

73 SDR: Special Drawing Rights (see glossary). On 30 December 2016, 1 SDR equalled € 1.344332.

74 The major BIS committees and working groups are: The Financial Stability Board, the Group of Central Bank Governors and Heads of Supervision, the Basel Committee on Banking Supervision, the Committee on the Global Financial System, the Committee on Payments and Market Infrastructures, the Markets Committee, the Central Bank Governance Group, the Irving Fisher Committee on Central Bank Statistics, the International Association of Insurance Supervisors and the International Association of Deposit Insurers.

and prospects of the global economy and financial markets. They also exchange views and experiences on subjects of interest to central banks.

The economic debates focus on the macroeconomic and financial situation in developed and emerging economies. Over the past year, the Global Economy Meeting has addressed, inter alia, the following subjects: the appropriate mix of monetary, fiscal, and structural policies to implement in the current environment, natural interest rates, the consequences of large exchange rate fluctuations observed recently, the risks to the globalisation of the real and financial economies, and the evolution of the drivers of international growth.

Regarding the All Governors' Meeting, the following themes were addressed, among others, during the year under review: inequalities and monetary policy, the innovation cycle, central clearing – trends and current issues; the role of central banks in financial inclusion and education, liquidity support provided by central banks, and the impact of climate change on the financial system.

Bilateral relations

Working visit of the Governor of the Banque centrale du Luxembourg to Beijing in May 2016

Mr Gaston Reinesch travelled to Beijing for a series of working visits. During his visit, he met with Mr Xiaochuan Zhou, the Governor of the People's Bank of China (PBC). The discussion focused on economic developments in China and Luxembourg, as well as on monetary policy in China and in the euro area. Cooperation between the BCL and PBC was also discussed. In addition, Mr Reinesch had a meeting with Mr Fulin Shang, President of the China Banking Regulatory Commission.

Mr Gaston Reinesch, Governor of the BCL and Mr Xiaochuan Zhou, Governor of the PBC

1.12 THE EUROSYSTEM PROCUREMENT COORDINATION OFFICE (EPCO)

In December 2007, the Governing Council of the European Central Bank (ECB) appointed the BCL to establish and host the Eurosystem Procurement Coordination Office (EPCO) with the objective of coordinating the joint procurement of goods and services that are necessary for the performance of Eurosystem tasks.

When the first mandate expired end of 2014, the BCL was appointed to host EPCO for a second mandate of five additional years, until 31 December 2019.

The legal framework applicable to joint Eurosystem procurement has been amended by Decision ECB/2015/51[75]. According to the terms of this decision, EPCO's main task is to identify and assess potential cases for joint procurement for the benefit of central banks that have agreed to participate in EPCO's activities[76].

In order to achieve this objective, the main priority for EPCO in 2016 was to focus on the identification and implementation of the most promising procurement opportunities for the participating central banks. These procurements have been included in the 2016 procurement plan that was approved by the Governing Council on 14 April 2016.

The procurement plan contained 18 joint procurements to be implemented in 2016 with the aim of concluding framework agreements that are open to all central banks participating in EPCO, as well as to conduct further studies of which areas are suitable for joint procurement.

Several agreements were concluded in 2016 with economic operators in fields including information technology, market data and rating agency services, consultancy and training services, air transport and hotel services or products related to the distribution of banknotes.

EPCO also provided support in the management of the framework contracts in force that led to important financial and administrative savings for the central banks and other institutions that are eligible to join EPCO's activities.

In addition, EPCO continued to develop best practices in the field of public procurement within the Eurosystem, in collaboration with the Network of Procurement Experts of the Central Banks. This network also serves as a key platform to foster a joint procurement culture within the Eurosystem and to contribute to the identification of potential cases for joint procurement.

The new legal framework widened the list of entities who may participate in EPCO's activities. In addition to ESCB Central Banks, upon invitation by the Governing Council, it is also possible for national authorities of Member States, EU institutions and bodies, or international organisations to participate in joint procurements and contracts with conditions similar to those that apply to the central banks.

The execution of the budget for 2016 (part of a multiannual financial envelope) was lower than initially allocated.

75 Decision (EU) 2016/21 of the European Central Bank of 23 December 2015 amending Decision ECB/2008/17 laying down the framework for joint Eurosystem procurement (ECB/2015/51)

76 In 2016, 17 central banks of the Eurosystem participated in EPCO's activities, as well as three central banks that are not part of the euro area, the central banks of Romania, Croatia and Sweden. Discussions have been held with other central banks of the ESCB that had expressed an interest in a future cooperation within EPCO.