



# BANK OF FINLAND ANNUAL REPORT 2017

The upswing in the Finnish economy strengthened and growth spread into exports.

The recovery in the euro area economy boosted confidence that inflation was returning towards the price stability objective. The ECB began to scale down its monetary policy purchases.

Finland's banking sector is growing in size, but membership in the Banking Union reduces the attendant risks.





# **Bank of Finland Annual Report 2017**

*Front cover photo by Päivi Nietosvaara*

# Bank of Finland

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## Governor's editorial

The euro area economy continued its broadly based growth throughout 2017. Exceptionally, year-on-year GDP growth outstripped the pace of growth in the United States. Despite the strong growth, medium-term inflation was still slower than the ECB's price stability objective. A monetary policy stimulus was therefore required. The monthly net asset purchases were reduced during the course of the year, initially to EUR 60 billion in April. At its October meeting, the Governing Council decided to continue the purchases at a rate of EUR 30 billion per month from the beginning of 2018 until the end of September, and beyond if necessary, until the Governing Council sees a sustained adjustment in the path of inflation consistent with its inflation target.

The Governing Council continued to emphasise that maturing assets will be reinvested even after the termination of the asset purchase programme. Moreover, key interest rates are expected to continue at their current low level for an extended period and beyond the conclusion of net purchases.

In the December 2016 Bank of Finland forecast, we announced the recession in the Finnish economy was over. Since then, developments in the domestic economy have been even quicker than forecast. The pace of growth increased in the course of 2017. At year end, annual growth in Finnish GDP was forecast to have exceeded 3% in 2017.

Growth was driven by a pick-up in investment and exports. The euro area's accommodative monetary policy supported the Finnish economy, as did the stronger growth in our trading partners. The Competitiveness Pact and investment growth continue to improve the growth prospects for exports.

At the beginning of 2017 Nordea Bank Finland was converted from a subsidiary into a branch of its Swedish parent bank. In spring 2017 Nordea floated the possibility of transferring its domicile to Finland. If the AGM approves such a proposal, Nordea

will move to within the purview of the Banking Union and the Finnish banking sector will become very large relative to the size of the country's economy.

The Bank of Finland and the Financial Supervisory Authority (FIN-FSA) have been preparing for the move since spring 2017. Within the Banking Union, supervisory responsibility for Nordea will transfer to the European Central Bank, but the FIN-FSA will also play a substantial role in the work of supervision. The Bank of Finland takes the view that the completion of Banking Union must include a common deposit insurance.

On 6 December it was 100 years since Finland's declaration of independence. The Bank of Finland took part in the events of the centenary year by opening our doors to the public in January. In addition to works of art and music, we also offered information on Finland's history and economy. Over 5,000 guests participated in the January exhibition alone.

In February, the Bank of Finland launched a process focused on digitalisation that will strengthen the Bank's strategic governance and coordination in this key area. The aim of the process is to clarify the effects of digitalisation not only on the banking system and payments, but also on the economy as a whole and central bank operations.

2017 was a year of strengthening economic growth both globally, within the euro area and in Finland. At the turn of the year, the economic outlook was still positive. A downside risk relates to global political uncertainties.



Erkki Liikanen  
Governor  
27 February 2018

# Bank of Finland

The Bank of Finland is Finland's national central bank. It is a member of the Euro-system, which comprises the European Central Bank (ECB) and the national central banks of the EU Member States that have adopted the euro as their single currency.

Monetary policy decisions for the euro area are taken by the Governing Council of the ECB, of which the Governor of the Bank of Finland is a member. Experts from the Bank of Finland support the Governor's activity as a member of the Governing Council and participate in preparation of the single monetary policy in the various committees of the European System of Central Banks (ESCB). The primary objective of the ECB's monetary policy is price stability.

The Bank of Finland implements in Finland the monetary policy determined by the Governing Council of the ECB. It conducts monetary policy refinancing operations with Finnish banks and participates in asset purchases under the Eurosystem's monetary policy.

The Bank of Finland provides banks operating in Finland with central bank services relating to, for example, interbank payments, central bank deposits and the provision of overnight liquidity against eligible collateral assets. The Bank's operative central bank tasks also include productive and prudent investment of its own financial assets, such as the foreign reserve portfolio.

The Bank of Finland is responsible for the issuance of cash currency in Finland and for its quality and availability. For the management of its currency functions, the bank has regional offices in Oulu and Vantaa.

The Bank of Finland oversees the stability of the Finnish financial markets in cooperation with the Financial Supervisory Authority (FIN-FSA) and the Ministry of Finance. The FIN-FSA is the national supervisory authority for the financial and insurance markets in Finland. It operates in connection with the Bank of Finland but is independent in its decision-making. The FIN-FSA is a participating component of

the European Single Supervisory Mechanism, which supervises banks in the euro area under the direction of the ECB.

The Bank of Finland's status is defined in the Finnish constitution. It is an independent institution governed by public law and operates under the guarantee and care of the Finnish Parliament. The Bank's activities are supervised by the nine-member Parliamentary Supervisory Council, appointed by Parliament.

At the end of 2017, the Board of the Bank of Finland comprised Governor Erkki Liikanen, Deputy Governor Seppo Honkapohja, Member of the board Marja Nykänen and Member of the Board Olli Rehn. The FIN-FSA has its own Board, which was chaired by Olli Rehn.

At the end of 2017, a total of 357 staff were employed at the Bank of Finland's head office in Helsinki and the regional offices in Vantaa and Oulu. The combined staff of the Bank of Finland and the FIN-FSA totalled 537. The FIN-FSA publishes its own annual report.

*The Board of the Bank of Finland. From the left: Olli Rehn, Member of the Board; Seppo Honkapohja, Deputy Governor; Erkki Liikanen, Governor; Marja Nykänen, Member of the Board.*



*Photo: Peter Mickelsson.*



# Bank of Finland activities 2017

## Monetary Policy

### The ECB's monetary policy and its preparation

*The main objective of the Eurosystem's monetary policy is to maintain price stability in the euro area. The Governing Council of the ECB has defined this objective as meaning, in practice, that the year-on-year increase in consumer prices should be below, but close to, 2% over the medium term. Monetary policy can also support other economic policy objectives of the EU, as long as the objective of price stability is not jeopardised.*

The Governing Council of the European Central Bank, which consists of the Executive Board of the ECB and the

governors of the nineteen euro area national central banks, is responsible for the formulation of monetary policy for the euro area. As a member of the Governing Council, the Governor of the Bank of Finland is directly involved in the implementation of euro area monetary policy. In 2017, experts from the Bank of Finland contributed to economic analysis and the preparation of monetary policy decisions by, amongst other things, taking an active part in the Eurosystem's Monetary Policy and Market Operations Committees.

The ECB's monetary policy stance remained accommodative and its transmission into the real economy likewise remained effective throughout the year, as growth in the euro area strengthened and became increasingly broadly based regionally and between sectors. Consumer price inflation reached 1.5% in 2017, compared with 0.2% in 2016 (Chart 1). The rise in oil prices was a significant factor in driving inflation during the year. Inflationary pressures remained subdued on the whole, as core inflation (a measure of inflation excluding food and energy) reached 1.0% in 2017, amounting to a rather modest increase of 0.10 of a percentage point over 2016.

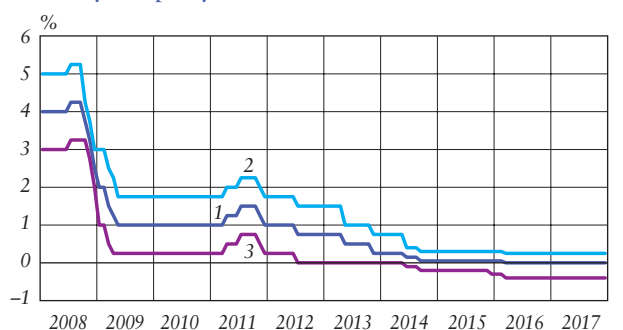
The Governing Council held its key policy rates unchanged throughout the year (Chart 2). The favourable outlook for the economy increased confidence that monetary policy is supporting inflation back to a path consistent with the price stability objective. The expanded asset purchase programme (APP) was extended in duration but eased in terms of monthly purchase volume. In December 2016, the Governing Council

**Chart 1.**  
Euro area harmonised index of consumer prices



Sources: Eurostat and Macrobond.

**Chart 2.**  
Eurosystem policy rates



1. — Eurosystem interest rate on the main refinancing operations  
2. — Eurosystem interest rate on the marginal lending facility  
3. — Eurosystem interest rate on the deposit facility  
Sources: ECB and Macrobond.

decided to extend asset purchases until the end of 2017 but introduced a lower monthly purchasing pace of EUR 60 billion effective from April 2017, reduced from an earlier monthly pace of EUR 80 billion.

In October 2017, the Governing Council decided to extend the APP until the end of September 2018. It also decided that monthly purchases would be reduced again, to EUR 30 billion from January 2018. The Governing Council maintained its forward guidance that it expects key interest rates to remain at their present levels well past the horizon of the net asset purchases. Continued monetary support for growth is provided by the extension of the asset purchase programme, the sizable stock of acquired assets, the reinvestment of principal payments from maturing securities already acquired under the APP, and the policy of forward guidance concerning key interest rates.

#### **Asset purchases continued throughout 2017 but at a reduced monthly pace of EUR 60 billion beginning from April**

In December 2016, the Governing Council decided to extend the duration of the APP until the end of 2017; however, monthly purchases under the programme were recalibrated from EUR 80 billion to EUR 60 billion beginning from April 2017, returning to a purchase pace previously adopted during March 2015 – March 2016.

At its monetary policy meeting on 19 January, the Governing Council noted that headline inflation had accelerated to 1.1% in December 2016, up from approximately 0% in August 2016. The Governing Council stressed that underlying inflationary pressures remained low, as transitory effects of changes in energy prices would have little impact on inflationary pressures over the medium term. Risks to euro area growth were judged to remain tilted on the downside, due to global factors.

The euro area continued to experience highly accommodative financing conditions in early 2017. Government bond yields as well as rates on bank-issued household and business loans remained relatively stable and exceptionally low. Average rates on newly issued household loans increased somewhat, while rates on corporate loans saw a minor decrease. The stocks of household and corporate loans experienced a slight acceleration in year-on-year growth.

Rising stock market valuations and low, relatively sustained levels of risk indicators revealed a generally upbeat sentiment on the financial markets; however, market-based short and long-term inflation expectations fell slightly in the first half of 2017. The euro began to appreciate in the spring and remained, on average, over 10% stronger against the US dollar throughout the autumn, as compared with its performance in early 2017.

According to the ECB's macroeconomic projections published in March 2017, the euro area's growth outlook (estimated at an average of 1.7% in 2017–2019) slightly improved from December 2016, owing to global trade developments and an overall stronger global economy as well as improved economic confidence within the euro area itself. Although the near-term inflation projection (for 2017) was revised sharply upwards following the rise in oil prices, the longer-term outlook for inflation remained relatively unchanged (1.7% in 2019).

At its monetary policy meeting on 9 March, the Governing Council noted that headline inflation had accelerated to 2.0% in February but assessed that underlying inflationary pressures over the medium term were still subdued. Risks to euro area growth were still judged to be tilted on the downside, albeit within a more moderate range.

At its monetary policy meeting on 27 April, the Governing Council assessed that the underutilisation of resources still weighed on domestic wage and price formation, effectively dampening core inflation. Risks surrounding the euro area growth outlook were judged to be on the downside, albeit moving towards a more balanced configuration.

The Bank of Finland's forecast for the global economy, published on 30 March, predicted that stable global economic growth and highly favourable financing conditions would support euro area economic growth in the coming years. Growth conditions were seen as having improved, owing to progress made in private sector deleveraging. Inflation growth was largely ascribed to temporary effects. Risks to the growth outlook of Europe included uncertainties relating to Brexit negotiations and other political events or decisions with the potential to dampen economic activity, as well as concerns over

the state of the banking sectors and public finances of some euro area economies.

**Positive economic trend continued; Governing Council announced it would assess its monetary policy stance in the autumn**

The euro area growth outlook had yet again improved slightly in the Eurosystem staff macroeconomic projections released in June 2017. The inflation forecast was revised downwards particularly for 2017 and 2018, as expectations for the price development of crude oil weakened. Projections for core inflation were also lowered.

At its monetary policy meeting on 8 June, the Governing Council adjusted its forward guidance by removing the clause that key interest rates could be lowered further, although the ECB maintained its expectation that key interest rates would remain at their present levels for an extended period of time and well past the horizon of the net asset purchases. Although euro area growth had strengthened, the Governing Council assessed that this had not as of yet led to a convincing increase in underlying inflationary pressures. Risks to growth were deemed as broadly balanced, as favourable cyclical conditions increased the likelihood that growth would surpass projections.

In late June, the price of crude oil and market-based inflation expectations began to pick up. According to the quarterly bank lending survey (BLS) conducted by the Eurosystem, credit standards continued to ease across most loan categories.

At its monetary policy meeting on 20 July, the Governing Council noted that growth had continued to strengthen in the euro area and had become increasingly broadly based. Growth was seen to have added confidence that inflation would gradually return to levels in line with the inflation aim. Despite this, measures of underlying inflation remained muted, weighed by sluggish domestic price pressures and wage development. The President of the ECB also announced in the press conference after the meeting that the Governing Council would decide upon its policy stance going into 2018 during the autumn.

In September, euro area GDP growth in 2017 was revised significantly upwards as the ECB's staff published their latest macroeconomic projections, owing to much

stronger economic growth than previously forecast. The inflation forecast for the medium term (1.5% in 2019) was once again revised slightly downwards, largely owing to the appreciation of the euro.

At its monetary policy meeting on 7 September, the Governing Council deemed that the growth and inflation outlooks for the euro area remained largely unchanged over the medium term. In the first half of 2017 growth had increased at a rate well past expectations and was expected to continue to be strong. Volatility in the euro exchange rate was seen to add uncertainty, calling for diligence over its possible effects on price stability over the medium term.

The Bank of Finland's forecast for the global economy, published on 28 September, projected that euro area economic growth in the immediate years ahead would largely be driven by domestic demand. An accommodative monetary policy and sustained growth in the global economy were seen to support economic growth in the euro area. Inflation continued to show few signs of sustained growth and global price pressures were also estimated to be low. Risks posed by the banking sectors and public finances of some euro area economies were seen to have been slightly alleviated by overall strong economic growth.

**Asset purchases were extended at a monthly pace of EUR 30 billion from the beginning of 2018**

At its monetary policy meeting on 26 October, the Governing Council decided to extend the duration of the APP. From January 2018 the net asset purchases are intended to continue at a lower monthly pace of EUR 30 billion until the end of September 2018, or beyond, if necessary, and in any case until the Governing Council sees a sustained adjustment in the path of inflation consistent with its inflation aim. Moreover, it stated that should the outlook become less favourable, or if financial conditions become inconsistent with further progress towards a sustained adjustment in the path of inflation, the Governing Council stands ready to increase the asset purchase programme in terms of size and/or duration. The recalibration of the APP reflected growing confidence in the gradual convergence of inflation rates towards the inflation aim.

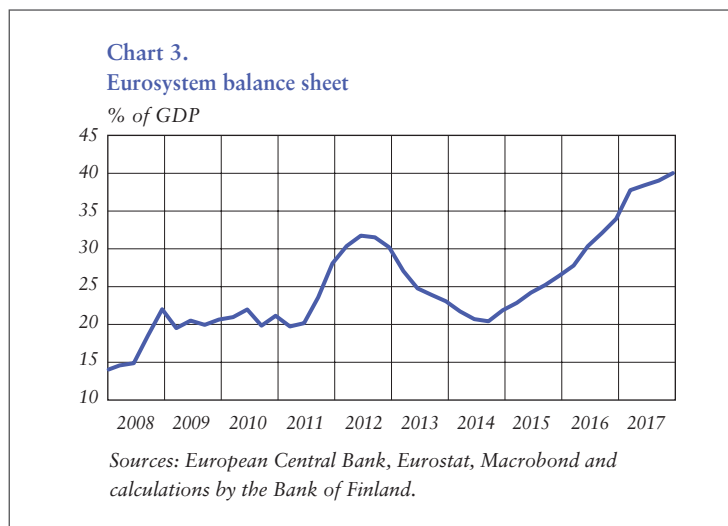
Furthermore, the Governing Council announced it would begin the monthly publication of the expected redemption amounts of the securities purchased under the APP. Principal payments from maturing securities purchased under the programme are to be reinvested for an extended period of time after the end of net asset purchases, and in any case for as long as necessary. This was estimated to contribute to favourable liquidity conditions, and to an appropriate monetary policy stance.

The Governing Council maintained its key interest rate positions and reiterated its forward guidance that it expects key interest rates to remain at their present levels for an extended period of time, and well past the horizon of the net asset purchases. The main refinancing operations and the three-month longer-term refinancing operations would continue to be conducted as fixed rate tender procedures with full allotment for as long as necessary, and at least until the end of the last reserve maintenance period of 2019.

October's monetary policy decisions were measured towards keeping financing conditions highly accommodative and contributing to a sustained return of inflation towards levels that are below, but close to, 2%, based on the view that ECB monetary policy has transferred well into the real economy and spurred robust, broad-based growth and furtive signs of underlying inflation. Despite these developments, domestic inflationary pressures remained subdued, highlighting the need for sustained accommodative monetary policy to support economic growth and inflation. The Governing Council assessed that risks to growth remained balanced.

In December 2017, Eurosystem staff revised their growth projections substantially upwards. The euro area was projected to grow at an average annual rate of 2% over 2018–2020, with growth likely tapering towards the end of the forecast period. The inflation projection for the medium term remained largely unchanged from September's macroeconomic projections. The inflation rate was estimated at 1.7% in 2020.

At its monetary policy meeting on 14 December, the Governing Council confirmed the monetary policy decisions it had announced in October. The aim of the



decisions is a sustained return of euro area inflation towards levels consistent with the price stability objective. The return should be sustained without the support of exceptionally accommodative monetary policy.

The ECB's monetary policy remained highly accommodative during 2017. The Governing Council kept key interest rates unchanged and at exceptionally low levels throughout the year. Eurosystem interest rates on the main refinancing operations, marginal lending facilities and deposit facilities stood at 0.00%, 0.25% and -0.40% respectively. The Eurosystem's balance sheet, which has increased ever since late 2014, continued its growth in 2017, from approximately EUR 3,700 billion to almost EUR 4,500 billion (Chart 3).

Overall, the ECB's accommodative monetary policy continued to be effectively transmitted into bank lending. The average interest rates on newly granted corporate and household loans remained low, and the year-on-year growth of both loan types accelerated somewhat. Credit standards also eased. Favourable financing conditions did not spur meaningful inflationary pressures in 2017, but the risk of deflation was deemed to have vanished. The Governing Council assessed that accommodative financing conditions would continue to sustain economic growth and decrease resource underutilisation, eventually resulting in wage growth and an increase in underlying inflation. Longer-term market-based inflation expectations remained relatively subdued but did pick up slightly towards the end of the year.

Box 1.

## Implementation of the expanded asset purchase programme at the Bank of Finland

The expanded asset purchase programme (EAPP) remained a central policy measure in the Eurosystem's implementation of monetary policy in 2017. The purchase programme was adopted in March 2015 to provide additional monetary stimulus alongside the accommodative interest rate policy. As such, its purpose is to help the ECB fulfil its price stability mandate and address the risks of a too prolonged period of low inflation. The EAPP consists of the public sector purchase programme (PSPP) and three private sector purchase programmes, namely, the asset-backed securities purchase programme (ABSPP), the third covered bond purchase programme (CBPP3) and the corporate sector purchase programme (CSPP) (Chart 1).

The Eurosystem's balance sheet value of holdings purchased under the APP increased from EUR 1,532 billion to EUR 2,286 billion in 2017. The pace of monthly net asset purchases made under the APP stood at EUR 80 billion in January-March and was reduced to EUR 60 billion for the rest of the year, as decided by the Governing Council of the ECB. Purchases under the PSPP accounted for EUR 658 billion of net asset purchases made in 2017, while the

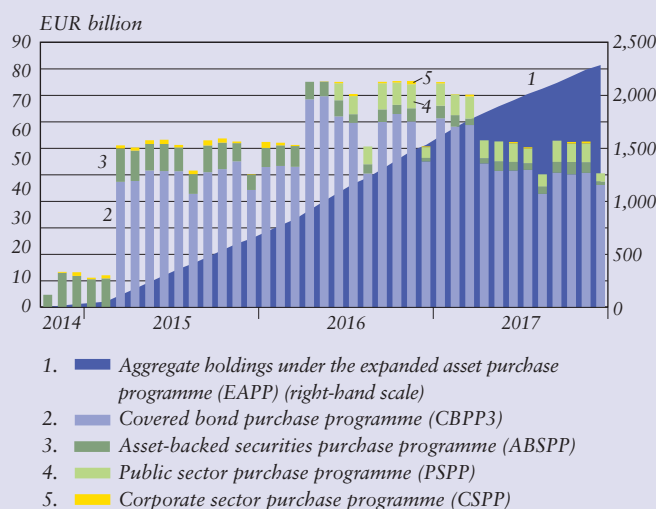
remainder, i.e. EUR 123 billion, fell under the three private sector purchase programmes (Chart 1). In addition, the Eurosystem reinvested principal payments from maturing securities purchased under the EAPP.

In 2017, the Bank of Finland made asset purchases under all of the programmes except the ABSPP. As such, total net asset purchases under the APP added approximately EUR 14 billion to the Bank's existing balance sheet holdings, totalling over EUR 38 billion, with earlier holdings at approximately EUR 24 billion. The share of assets that the Bank of Finland buys under the PSPP is determined on the basis of the ECB's capital key, and so reflects the relative size of the Finnish national economy within the euro area. Under the CBPP3, the Bank participates through purchases of Finnish banks' euro-denominated covered bonds. Under the CSPP, the Bank of Finland operates as one of six euro area national central banks tasked with making purchases on behalf of the entire Eurosystem. In addition to buying Finnish corporate bonds, the Bank's asset purchases included bonds issued by Irish, Austrian and Baltic corporations. These bonds were purchased from the Bank's domestic and foreign securities trading counterparties.

In total, the Bank's private sector asset holdings purchased under the EAPP increased by EUR 4.8 billion in 2017, consisting of EUR 1.7 billion in covered bonds and EUR 3.1 billion in corporate bonds (Chart 2). By the end of 2017, the Bank of Finland's private sector purchases comprised corporate bonds issued by 31 corporations, including the following Finnish companies: Teollisuuden Voima, Fingrid, Elisa, Citycon, Sampo, Metso and Kojamo.

Overall, the lion's share of the Bank's asset purchases fell under the PSPP and thus remained consistent with the rest of the Eurosystem. The Bank of Finland's holdings of Finnish government bonds as well as bonds issued by Municipality Finance, Finnvera and the Unemployment Insurance Fund (TVR) increased by a total of EUR 6.3

**Chart 1.**  
Eurosystem monthly net purchases and holdings under the EAPP





billion in 2017. From March 2017 onwards, the Bank of Finland also purchased bonds issued by European supranational institutions, amounting to EUR 3.1 billion, in order to help fulfil its obligations under the ECB's capital key. These purchases comprised bonds issued by the European Financial Stability Facility and the European Stability Mechanism (Chart 2).

In addition to asset purchases, lending securities back to the market also constitutes part of the EAPP. The aim of securities lending is to support bond and repo market liquidity without unduly curtailing normal repo market activity. The EAPP holdings are made available for securities lending in a decentralised manner, as the securities lending is not subject to risk-sharing within the Eurosystem. All of the Bank of Finland's EAPP holdings are available for securities lending against securities as collateral through Euroclear Bank's Securities Lending and Borrowing and GC Access services. In addition, as of March 2017, the Bank of Finland became one of eight euro area national central banks who make their PSPP holdings available for lending against cash as collateral. Lending against cash collateral is aimed towards enhancing the market liquidity effects of securities lending.

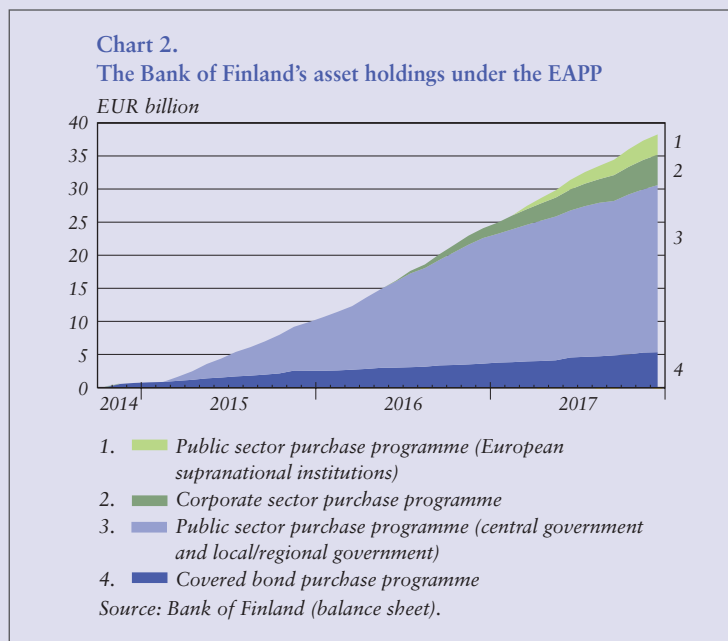


Photo: Mari Hienonen.

In order to reap the full benefits from monetary policy measures, the Governing Council of the ECB has consistently stressed the importance of structural reforms to boost productivity, reduce structural unemployment and strengthen longer-term growth potential. Regarding fiscal policies, the ECB reiterated that all euro area economies would benefit from intensifying efforts towards achieving a more growth-friendly composition of public finances. A full, transparent and consistent implementa-

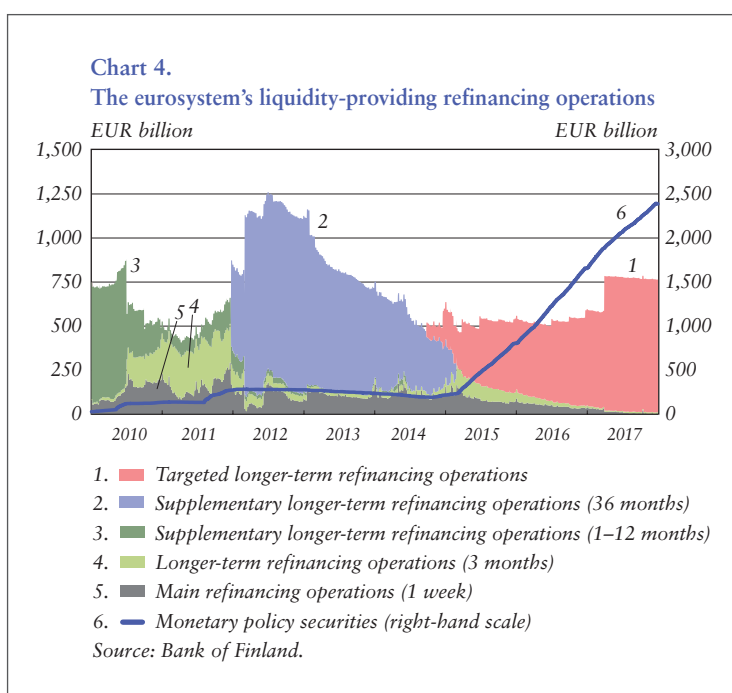
tion of the Stability and Growth Pact and of the macroeconomic imbalance procedure over time and across countries remains essential to increase the resilience of the euro area economy. In addition, the need to strengthen Economic and Monetary Union remained a recurring theme in 2017. The Governing Council called for ongoing discussions on completing Banking Union and the Capital Markets Union, and on further enhancing the institutional architecture of Economic and Monetary Union.

### Implementation of monetary policy in the euro area and Finland

*In the Eurosystem, the national central banks implement the monetary policy decisions of the ECB Governing Council in a decentralised manner. Open market operations, standing facilities and a minimum reserve system constitute the standard instruments used for policy implementation in the Eurosystem. Non-standard policy measures have complemented these instruments, and in particular the expanded asset purchase programme (EAPP) and second series of targeted longer-term refinancing operations (TLTRO-II) constituted an important part of the Eurosystem's monetary policy strategy in 2017.*

*In 2017, the EAPP was extended until the end of the year, but the monthly pace of net asset purchases was reduced. The transparency of policy implementation was also improved during the year. Collateral, particularly in the form of credit claims, placed with the Bank of Finland increased over the previous year.*

*The Bank of Finland is responsible for national implementation of the Eurosystem's single monetary policy. Credit institutions located in Finland hold current accounts with the Bank of Finland and participate in monetary policy operations through the Bank. In addition, the Bank of Finland carries out its own share of the Eurosystem's outright transactions.*



### Monetary policy remained accommodative

In 2017, the Eurosystem's monetary policy remained accommodative. The expanded asset purchase programme was extended until the end of 2017; however, monthly purchases under the programme were recalibrated from EUR 80 billion to EUR 60 billion beginning from April. Key interest rate policy remained accommodative, and the rates on the main refinancing operations as well as the marginal lending and deposit facilities stood at 0.00%, 0.25% and -0.40%, respectively.

In the Eurosystem's balance sheet, holdings of assets purchased under the APP reached EUR 2,286 billion by the end of 2017. The Bank of Finland participated in the purchase programme in its role as a euro area national central bank, accounting for EUR 14 billion of the entire Eurosystem's annual total purchases of EUR 782 billion (Chart 4). In 2017, the Bank of

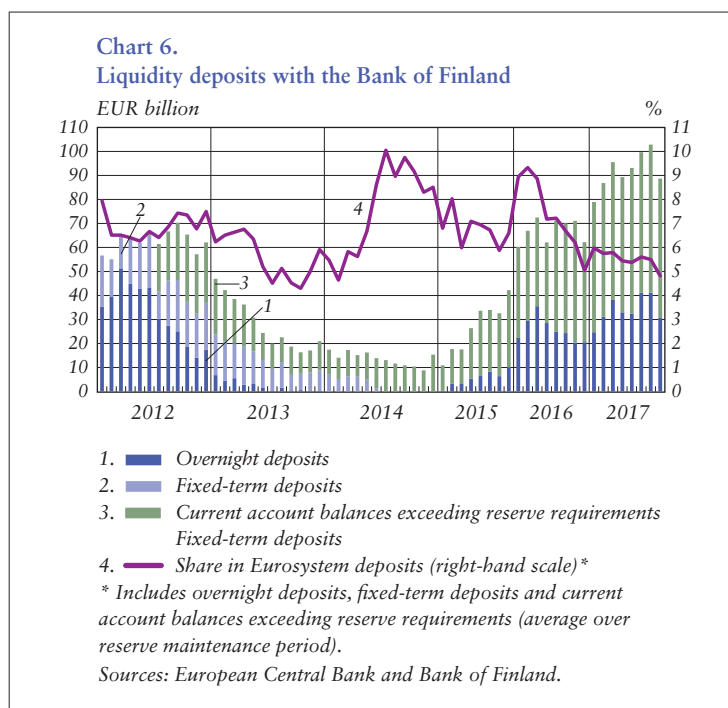
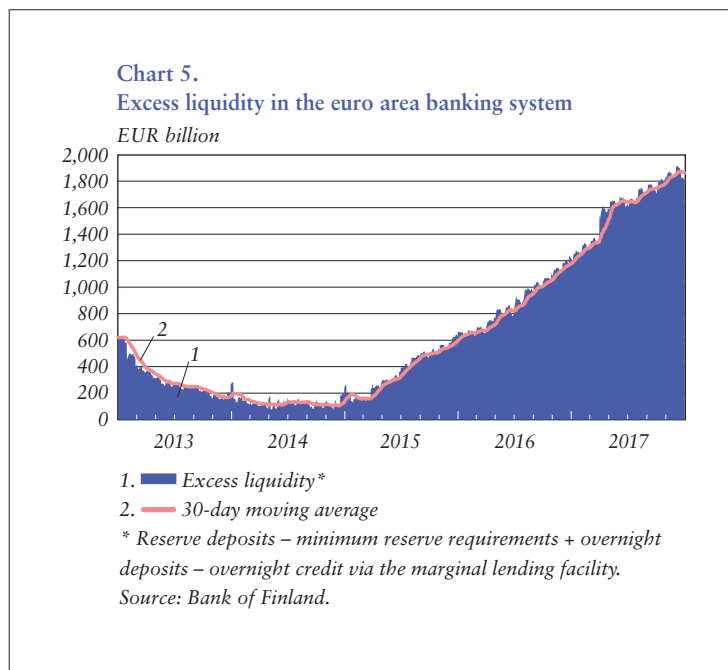
Finland purchased bonds issued by European supranational institutions for the first time under the public sector purchase programme (PSPP). These assets comprised bonds issued by the European Financial Stability Facility and the European Stability Mechanism.

The fourth and final operation in the second series of targeted longer-term refinancing operations (TLTRO II), as decided by the Governing Council at their monetary policy meeting in March 2016, was performed in March 2017. A total of 474 Eurosystem banks participated in the operation, which supplied EUR 233 billion in new liquidity. A selection of the Bank of Finland's counterparties also took part in the operation. By the end of 2017, the quantity of open, outstanding loans under TLTRO-I and TLTRO-II stood at EUR 753 billion. Of this, TLTRO-I constituted EUR 13 billion and TLTRO-II EUR 740 billion (Chart 4).

As for the implementation of regular open market operations, main refinancing operations (MROs) and regular three month longer-term refinancing operations (LTROs) continued to be conducted as fixed rate tender procedures with full allotment. In October 2016, the Governing Council decided that the Eurosystem's regular open market operations would continue to be conducted as fixed rate tender procedures with full allotment at least until the end of the last reserve maintenance period of 2019.

The amount of liquidity sought from one-week MROs stood at EUR 34 billion at the beginning of the year, before entering an extended period of contraction and settling at approximately EUR 5 billion at the end of July. Similarly, liquidity provided through LTROs remained comparatively low, with open credit ranging from EUR 5 billion to EUR 11 billion in 2017 (Chart 4). One-week US dollar-denominated liquidity-providing operations continued, and the amount of liquidity sought ranged from null to USD 12 billion.

Non-standard monetary policy measures raised the amount of excess liquidity in the euro area banking system from approximately EUR 1,200 billion to almost EUR 1,800 billion by the end of 2017 (Chart 5). The observed reduction in liquidity sought from regular open market refinancing operations is consistent with the



growth of excess liquidity within the banking system – as the amount of excess liquidity grows, the less dependent counterparties become on acquiring liquidity from the Eurosystem's regular open market operations.

Chart 6 depicts the growth in excess liquidity, as deposits placed with the Bank of Finland by its counterparties continued to increase over the previous year and

surpassed EUR 100 billion by the end of 2017. This trend was also observable in other euro area economies, and as such, Finland's share of deposits in the euro area as a whole remained relatively stable compared with previous years, ranging between 4,4–6% during 2017. The deposit facility rate was paid on overnight deposits as well as current accounts with holdings in excess of the minimum reserve placed with the Eurosystem, and the rate remained negative (–0.4%) throughout 2017.

#### **Transparency of monetary policy implementation improved**

In October 2017, the Governing Council decided to begin monthly publication of the expected monthly redemption amounts for the asset purchase programme over a rolling 12-month horizon. In addition, the Governing Council specified more precisely its strategy regarding the reinvestment of principal payments under the PSPP: principal redemptions are to be reinvested by the Eurosystem in public sector assets of the same country in a flexible and timely manner in the month they fall due or during the subsequent two months. In October, the ECB also published for the first time data on Eurosystem corporate bond holdings by country, rating and sector. The data will be updated on a semi-annual basis.

Transparency regarding securities lending under the APP was also improved. In May 2017, the ECB began monthly publication of the aggregate monthly average on-loan balance for the Eurosystem and the aggregate monthly average amount of cash collateral received in the context of PSPP securities lending. Securities lending is covered in greater detail in Box 1 (p. 12–13).

In June 2017, the ECB also published the text of the Emergency Liquidity Assistance (ELA) agreement on its website, specifying the rules applying to the provision of ELA and the roles of the Governing Council and the national central banks. The changes in the communication strategy related to the APP and ELA reflect the Eurosystem's commitment to further increasing the transparency of its monetary policy.

#### **Changes in the counterparty and collateral framework**

By the end of 2017, the Bank of Finland's monetary policy counterparties comprised 15 credit institutions operating in Finland. Eligible counterparties are subject to minimum reserve requirements and financial supervision and must be financially stable. In addition, they must also meet the operational criteria set by the Bank of Finland. The Bank's counterparties include both Finnish credit institutions and Nordic banks with branches in Finland.

The Eurosystem's credit operations, which include liquidity-increasing reverse transactions as well as payment system based intraday credit, provide collateralised funding to the Eurosystem's eligible counterparties. The Bank of Finland's counterparties hold collateral-based credit lines with the Bank and may use this facility as needed.

Assets that are considered eligible towards collateral are defined by the Bank of Finland's rules for counterparties as well as the ECB guidelines. These requirements are adjusted frequently, and in January 2017 the ECB introduced several amendments to its framework. These included amendments concerning the rules on acceptable coupon structures and acceptance of negative cash flows. Another amendment, implemented in July 2017, set out disclosure requirements for covered bond ratings issued by credit rating agencies accepted in the Eurosystem credit assessment framework. Overall, these amendments had little impact on the operations of the Bank's counterparties.

#### **Developments in the Eurosystem collateral framework**

No significant changes occurred in the quantity nor the quality of collateral delivered to the Eurosystem in 2017 (Chart 7). The euro area's national central banks held an average of EUR 1,682 billion in collateral. Non-marketable credit claims (loans by counterparties to their corporate and public sector customers) represented the most popular asset class offered as collateral, at approximately EUR 384 billion, followed by asset-backed securities and covered bonds, averaging EUR 347 billion and EUR 341 billion, respectively.



### Collateral provided to the Bank of Finland

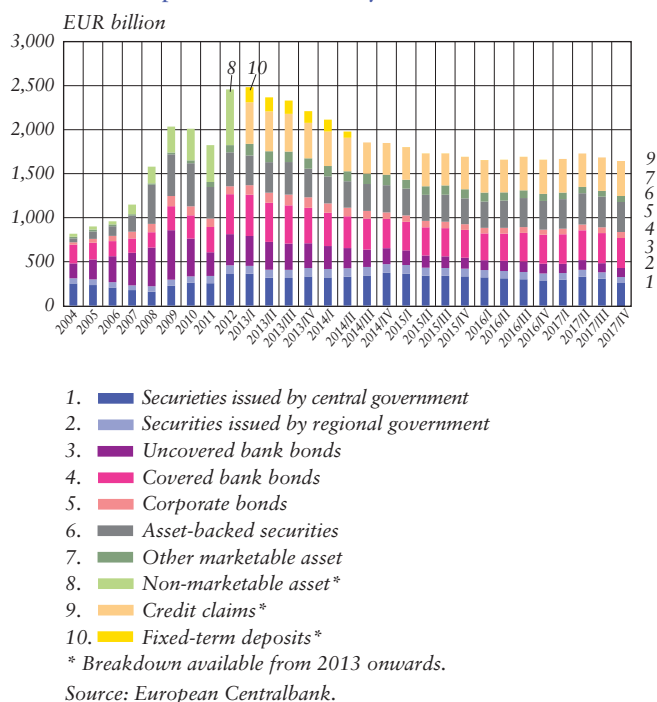
In order to participate in the Eurosystem's credit operations, the Bank of Finland's counterparties must place collateral with the Bank. In 2017, the Bank of Finland received an average of EUR 20.4 billion in collateral from its counterparties, compared with EUR 17.9 billion in 2016. Bank-issued covered bonds accounted for an average of 38% of all collateral placed with the Bank of Finland and as such constituted the largest asset type (Chart 8). This was followed by non-marketable credit claims, whose share of the collateral pool increased in relative as well as absolutely terms, now constituting 28% (20% in 2016). Central and regional government securities accounted for 17% of all collateral placed with the Bank of Finland.

The Bank of Finland's counterparties widely participated in the second series of targeted longer-term refinancing operations (TLTRO-II) which began in 2016 and whose fourth and final operation was completed in March 2017. As a result, the average amount of outstanding credit held by the Bank's counterparties from monetary policy operations increased to EUR 9.4 billion, compared with EUR 2.6 billion in 2016. In total, 9 of the Bank of Finland's counterparties took part in monetary policy operations in the course of the year. Counterparties reduced their intraday credit lines to an average of EUR 5.7 billion (EUR 10.9 billion in 2016) due to robust liquidity conditions. Overall, the Bank of Finland's counterparties increased their financing from Eurosystem monetary policy operations. As this was accompanied by an increase in collateral placed with the central bank, counterparties' collateral surplus grew slightly, reaching an average of 26% in 2017, compared with 25% in 2016.

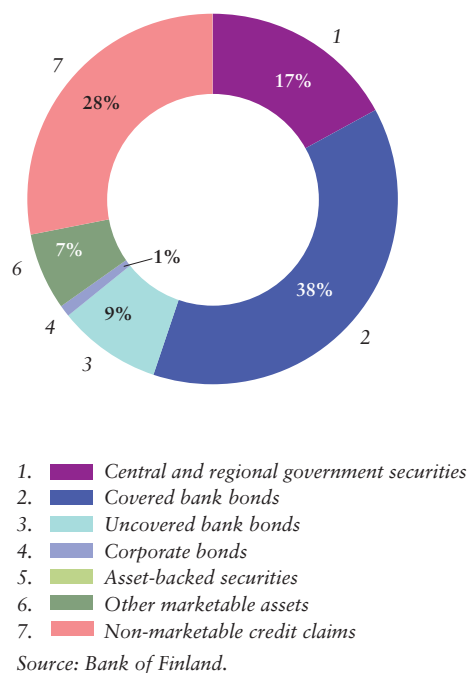
### Credit claims increasingly offered as collateral to the Bank of Finland

The Eurosystem accepts non-marketable credit claims as eligible collateral for its monetary policy operations. Practically speaking, a credit claim is a type of loan issued by a credit institution (i.e. a counterparty) and made available to the corporate and general government sectors. In order for a loan to be considered an eligible credit claim, it must meet specific requirements set by the Eurosystem and the national central

**Chart 7.**  
Collateral provided to the Eurosystem

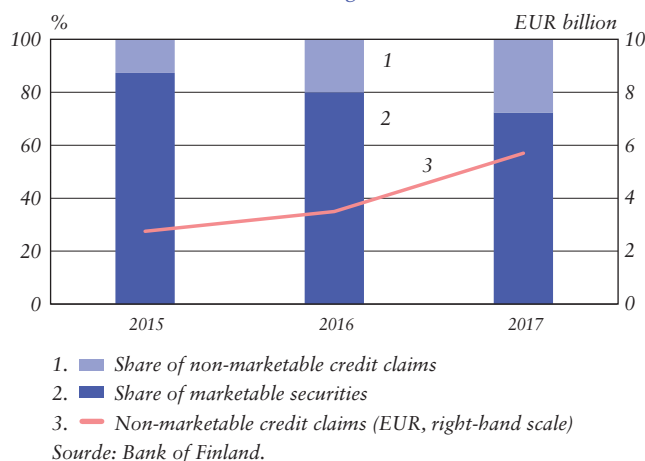


**Chart 8.**  
Collateral provided to the Bank of Finland  
(averages for 2017)





**Chart 9.**  
Non-marketable credit claims deposited as collateral with the Bank of Finland during 2015–2017



Source: Bank of Finland.

bank. Credit claims have increased their share of the collateral pool held by the Eurosystem, and this trend has also been observable in the behaviour of the Bank of Finland’s counterparties. In 2017, counterparties deposited an average of EUR 5.7 billion worth of credit claims with the Bank of Finland, accounting for 28% of all collateral placed with the Bank. In 2016, credit claims were deposited at an average sum of EUR 3.5 billion, or 20% of the collateral pool, and in 2015, EUR 2.7 billion, or 13% of all collateral delivered to the Bank of Finland (Chart 9). The increased use of credit claims as central bank collateral is partly explained by the fact that they are not commonly used for other financial market transactions. As such, credit claims have replaced marketable assets as central bank collateral, as marketable assets have more utility as instruments on the financial markets. Therefore, it follows that the Bank of Finland’s counterparties, who meet the necessary technical and operational requirements to use credit claims as collateral, would deploy this possibility as widely as possible.

## The Bank of Finland and economic policy in Finland

In 2017, the Bank of Finland analysed developments in both the domestic and the global economy and participated in economic discourse in Finland in a variety of ways. Bank of Finland analyses were widely presented on the Bank’s website. The members of the Bank of Finland Board and experts from the Bank were consulted on several occasions by Parliament and also presented their assessments in other domestic fora.

The Bank of Finland’s statements relating to domestic economic policy are based on the Bank’s democratically determined objectives and independence. The primary objective is price stability, and other objectives include balanced economic growth. Fiscal sustainability and stable evolution of domestic costs are key to the attainment of the Bank’s objectives.

The Bank of Finland’s statements are based on expertise and relate largely to the identification of problems and assessment of the potential effects of the alternatives for action. In the area of economic policy, determining the ultimate goals and decision-making are the task of elected representatives.

When decisions on economic policy were taken in 2017, economic conditions in Finland were better than in recent years and the economic outlook was also brighter than before. GDP was still lower than in 2008, but the economic growth that had begun in 2015 was brisker than a year earlier. Economic growth was more broadly based, reflecting also a pick-up in exports and corporate investment.

The Bank of Finland pointed out that the euro area’s accommodative monetary policy continued to support economic growth in Finland. Lending rates remained low and the euro area had seen continued economic growth, which was important for Finland’s exports.

Finland’s export performance was exceptionally weak for several years after 2008. Besides the overall global economic developments, this was due to developments in the industrial sectors pivotal to Finnish exports, problems with Russia’s economy and the rise in domestic costs relative to those of advanced trading partners.

Finland’s export recovery in 2017 was affected by the strengthening of the global

economic outlook. Exports were also bolstered by the Competitiveness Pact that came into force at the beginning of 2017. The Competitiveness Pact improved Finland's cost-competitiveness, which had earlier substantially deteriorated.

The Bank of Finland assessed in 2017 that the rise in unit labour costs should be more moderate than the average among the developed trading partners also in the coming years. This would support output and employment in the open sector. The Bank of Finland emphasised that the position of the open sector of the economy should define the general trend in labour costs in Finland.

In addition to its June and December macroeconomic forecasts, the Bank of Finland also published in March 2017 an assessment of the economic outlook and cost-competitiveness developments. The forecasts and assessments were made available to the social partners.

Finland's general government deficit and debt decreased relative to GDP in 2017. The reduction in the deficit was due to both an improvement in general economic developments and fiscal consolidation measures. Nevertheless, general government finances remained in deficit and the longer-term fiscal outlook was challenging. The Bank of Finland stressed that measures to strengthen the public finances should be continued.

The longer-term outlook for the public finances is partly muted by demographic trends. Most of the baby-boom generation have reached retirement age and it is expected that in the 2020s these cohorts will necessitate an increase in publicly funded care services. Moreover, the lengthening of average life expectancy will increase pension expenditure. The longer-term outlook for economic growth and the public finances will also be affected by the protracted decline in labour productivity growth in Finland and other advanced economies.

The long-term outlook for the public finances can be improved through structural reforms. The pension reform decided in 2015 made a substantial contribution in this area. The Bank of Finland emphasised that the social and health care reform as well as various measures aimed at improving the employment rate would play a key role in the coming years. The Bank

also highlighted the importance of reducing the risk of young people being excluded from both the labour force and education.

Household debt continued to grow in 2017, and total household expenditure was higher than household income. In managing the risks associated with accumulating household debt, the Bank of Finland stressed the importance of macroprudential policy and housing policy.

#### **The Bank of Finland's domestic forecasting**

The key objectives of monetary policy are euro area price stability and balanced real economic developments. Maintaining financial market stability is also an important monetary policy objective. The preparation of euro area monetary policy and analysis of the related effects necessitate independent and analytical assessment of economic developments in the immediate years ahead. At the Bank of Finland, forecasts are primarily drawn up to support monetary policy preparation and decision-making. Assessing the impacts of domestic economic policy is also of major importance.

The requirements of the single monetary policy in the euro area lay down the foundation for forecasting at the Bank of Finland, and the forecast for the Finnish economy is produced as part of the Eurosystem's macroeconomic projections. The Bank of Finland's Monetary Policy and Research department is responsible for the domestic forecast in cooperation with the ECB and the Eurosystem. Both the Eurosystem's projections and the Bank of Finland's forecasts are published in press conferences held in June and December. In addition to these, in 2017 the Bank of Finland exceptionally published short forecast updates in March and December.

The Finnish economy entered a phase of cyclical recovery in mid-2015. After several years of contraction and zero growth, Finnish GDP growth picked up markedly in 2016. Growth continued to accelerate in 2017, and the Bank of Finland forecasts were mainly revised towards a stronger cyclical upswing and more balanced growth. All in all, Finnish economic growth became more broadly based, and at the same time the conditions for more balanced growth improved notably.

In June 2017, the Bank of Finland forecasted economic growth of 2.1% in 2017, after which growth was expected to gradually moderate to 1.4% in 2019. In the December forecast, in turn, GDP was foreseen to grow by 3.1% in 2017, and the growth estimate for 2018 was also revised upwards, to 2.5%. In the December forecast, the forecast horizon was extended by 1 year and economic growth was expected to continue at a pace of about 1.5% in 2019–2020.

The cyclical upswing was particularly supported by a pick-up in investment and exports. The key factors behind the upswing were external factors such as the buoyant growth in Finland's trading partners and the accommodative monetary policy in the euro area. A growth spurt was seen in world trade and the better-than-expected outlook for the global economy boosted Finnish exports. Looking ahead, brisker investment in the euro area is expected to support Finnish exports. The Competitiveness Pact will improve Finland's cost-competitiveness, and higher capital investment will strengthen the growth outlook for exports even further.

Although the upswing in 2017 was much stronger and more broadly based than before, 2017 was forecast to witness the most rapid growth in the forecast period. The pull from the international economy and the growth impact of monetary policy was foreseen to ease somewhat and Finland's subdued long-term potential growth was expected to slow actual growth towards the end of the forecast period. Meanwhile, downward risks to economic growth decreased, while on the other hand positive risks intensified in 2017.

Finland's more export-driven growth will change the composition of growth over

the short term. Productivity growth accelerated notably in 2016–2017 and will be supported in the immediate years ahead by growth in capital investment, which will improve output capacity and hence potential growth. Finland's economic growth in the forecast years will rely largely on productivity growth.

One of the key tools used at the Bank of Finland for preparing the forecast for the Finnish economy is the Aino model – an estimated dynamic stochastic general equilibrium (DSGE) model. The model has been designed to capture the composition of the Finnish economy, and improving the model is an ongoing process. In 2017, a development project was established at the Bank to better incorporate Finnish housing markets in the Aino model. The model parameters were also updated in 2017. Besides the Aino model, the Bank also used short-term indicator models in forecasting. In December 2017, the Bank published on its Bank of Finland Bulletin website an article about a new short-term forecasting model suitable for processing large and continuously updated data sets (see Box 2 and [nowcast](#)).

In 2017, the Monetary Policy and Research department also participated actively in the production of economic analyses published on the Bank of Finland Bulletin website. Several calculations were published on the website, which assessed the effects of both domestic and global factors on the Finnish economy. Moreover, monitoring and analysis reports on Finnish economic developments were regularly published on the website. The Bank of Finland actively provided information to different media, including social media. Presentations given to the Bank's various domestic and foreign stakeholders became increasingly important in 2017.

## Nowcasting at the Bank of Finland

Recent years have seen the development of many new methods for the utilisation of large data sets that can be used for monitoring the current state of the economy and for short-term forecasting. The new methods include nowcasting models, i.e. short-term forecast models that utilise data with short publication lags from a number of sources to generate an overall picture of the condition of the economy.

The Bank of Finland’s Forecasting division has been using and developing nowcasting models for several years. In the early part of 2016, a project was established at the Bank to apply a large Bayesian vector autoregressive (BVAR) model in short-term forecasting. The forecasting performance of the model relative to models employed previously was examined with a forecast error analysis. The results of the analysis and the methodology used were documented in a review article titled [‘Nowcasting the Finnish economy with a large Bayesian vector autoregressive model’](#) published in the BoF Economics Review series in December 2017. The model has also been presented at scientific conferences both in Finland and abroad.

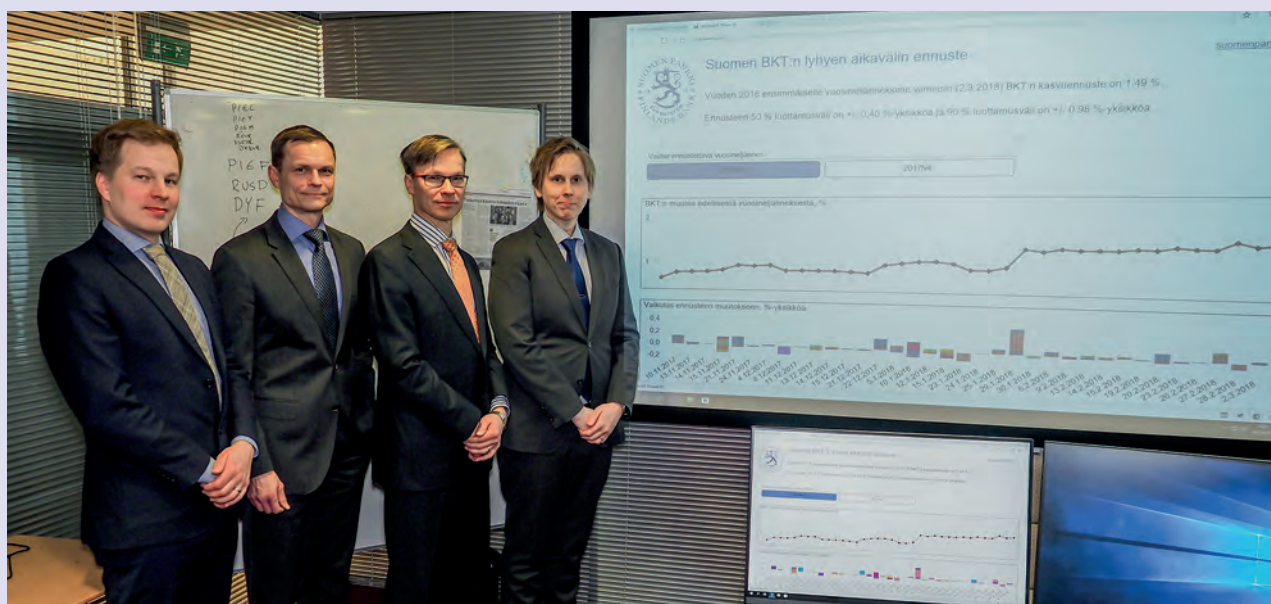
The key idea of the nowcasting model we have developed is to utilise statistical interdependencies between different variables and use

them for forecasting the development of GDP in the most immediate coming quarters. The model comprises nearly 50 variables, including among others labour market variables, confidence indicators and sector-specific cyclical indicators and turnover data.

The nowcasting model can also be used to assess the importance of new statistical releases. As the GDP growth forecast is updated based on deviations of statistical releases from the expected, only the unanticipated information is of significance. For example, even a large decrease in unemployment increases the GDP growth forecast only to the extent that the decrease is unanticipated. In this way, the nowcasting model provides an effective way to interpret new statistical releases.

In connection with the December 2017 forecast, the Bank of Finland published a new [website](#) for nowcasts prepared with the new nowcasting model and the statistical releases on which the nowcasts are based. The short-term forecast is updated whenever new statistical releases are available, usually once or twice a week. One of the objectives of the Bank of Finland’s nowcasting project was to automate short-term forecasting and data processing. The nowcasting website won the Bank’s internal ideas competition.

*The Bank of Finland’s short-term forecasting model has been developed by, among others, (from the left) Petteri Juwonon, Economist; Antti Komonen, Project Leader; Juba Kilponen, Head of Forecasting; and Juba Itkonen, Economist.*



*Photo: Peter Mickelsson.*

## Financial system

*One task of the Bank of Finland is to analyse vulnerabilities that warn of financial crises and to examine the impact of macroprudential tools. The central bank analyses and participates in the preparation of macroprudential policy and decision-making in Finland and in the international context.*

*In its stability reviews, the Bank of Finland has assessed the current stability risks to the financial system as small, but it has drawn attention to the continued increase in household debt accumulation and the vulnerabilities of the Finnish banking system. The macroprudential tools currently available should be further complemented with income-linked tools.*

*The Governor of the Bank of Finland is a decision-maker on the European Systemic Risk Board (ESRB, an EU body within the European System of Financial Supervisors, ESFS). The ESRB analyses risks to the financial system in the EU and issues warnings and recommendations on stability-enhancing measures. Questions relating to financial stability are also dealt with by the Governing Council of the ECB. Bank of Finland experts participate in the work performed within committees and working groups of the ESRB and the ECB.*

### Financial stability

The recovery of the euro area economy has promoted financial stability in the euro area, and the financial market remained stable in 2017. The average profitability of the euro area banking sector improved in 2017. Financial market risk premia declined and volatility was low. Abundant liquidity on the financial markets, low interest rates and small risk premia can, however, lead to increased risk-taking and vulnerabilities on the financial markets. In the aftermath of the financial crisis, there are still several euro area banks with weak profitability and a large amount of non-performing loans. Possible financial market disruptions would hamper the recovery of problem banks and their ability to finance economic activity.

The ongoing accommodative monetary policy of the ECB has supported banks' ability to provide credit to households and non-financial corporations. The volume of private sector credit granted by credit institutions has increased for the past couple of years already, and the rate of growth picked up further in 2017. The financing of euro area corporate investment has also been supported by the large volume of bond issuance.

The Bank of Finland's stability analysis of the Finnish financial markets focuses on identifying vulnerabilities threatening the macroprudential stability of the financial markets, predicting systemic risks and assessing the effects of the realisation of

these possible risks on the domestic and international financial markets. In 2017, the Bank's stability analysis focused on the problems household indebtedness may cause. In its spring 2017 stability assessment, the Bank analysed the increasing interconnectedness in the Nordic banking and financial system and possible stability threats.

There were no immediate threats to the stability of the Finnish financial system in 2017. For safeguarding the stability and smooth operation of the financial system, it is, however, essential to ensure that Finnish authorities have at their disposal adequate macroprudential tools for mitigating both cyclical and structural systemic risks and for maintaining financial stability.

#### **Finnish banks' capital adequacy still solid**

The positive sentiment in the Finnish economy has contributed to maintaining strong capital adequacy in the Finnish banking sector, despite a slight decline in capital ratios. The weakening of key indicators is due to restructuring in the banking sector at the beginning of 2017, as Nordea Bank Finland Plc merged with its Swedish parent company. The capital ratios also reflect the lower limit set by the ECB for a fixed term for OP Group's risk weights on residential mortgage loans.

Profitability in the Finnish banking sector remained good in 2017, despite a slight weakening. Growth in expenses has exceeded growth in operating income,



which is due to operating expenses, particularly investment in new technology. Profitability, in turn, has been supported by growth in own funds and the low level of impairments and loan losses.

The quality of banks' own funds has remained good, and at the end of September 2017 the CET1-to-own funds ratio was approximately 90%. At the end of September 2017, the Finnish banking sector's total capital ratio was 23.0% (December 2016: 24.6%) and the core Tier 1 capital (CET1) ratio was 20.6% (December 2016: 24.6%). The ratios weakened slightly as a result of restructuring in the banking sector. The Common Equity Tier 1 capital ratio, calculated on the basis of comparable figures, declined by only 0.1 of a percentage point compared with year-end 2016.

The capital adequacy of Finnish banks is supported by the CET1-to-own funds ratio, which is approximately 90%. The leverage ratio of Finnish banks has improved, and at the end of September 2017 it stood at 7.0% (December 2016: 5.6%). Banks' own funds amounted to nearly EUR 20 billion at the end of September 2017 (end-December 2016: EUR 29 billion). Changes in the Finnish banking sector's key indicators were mainly due to the fact that, as of the turn of the year, Nordea Bank Finland Plc was no longer included in the Finnish banking sector's key indicators.

The quality of lending in the Finnish banking sector remained good. At the end of June 2017, non-performing assets amounted to 1.5% of total assets (December 2016: 1.6%). The level of non-performing assets is among the lowest in the EU, as the average ratio for the EU was 4.5% in June. Banks' impairment losses also remained small in 2017 (less than 0.1% of the credit portfolio).

#### **Increase in household debt erodes financial stability**

The savings ratio of the Finnish household sector was negative in 2017 and household indebtedness continued to grow. The stock of housing loans has continued to grow at a steady pace, by over 2% per annum. In recent years, growth in households' housing debt has been mainly due to rapid growth in the level of household debt via housing corporation loans. The rate of growth in

housing corporation debt has been considerably higher than the rate of growth in households' housing loans. Housing loans and housing corporation loans account for approximately 77% of the stock of household credit, which totalled EUR 147 billion in September 2017. The ongoing growth in housing loans tied to variable interest rates increases households' exposure to a number of risks, for example a rise in interest rates or unemployment.

The growth rate in consumer credit also picked up in 2017. From the perspective of financial stability, the rate of growth in unsecured consumer credit is a cause for concern. The provision of unsecured consumer credit has spread to non-banks.

The markets for consumer credit have diversified and the provision of credit has been boosted by foreign providers of credit operating in the digital environment and various entities providing small loans and peer-to-peer loans. Rapid growth in households' consumer credit is one of the most significant risks to the Finnish financial markets in the event of a weakening of households' debt-servicing capacity. The number of households with payment defaults has stopped growing, but the number of payment default entries continues to rise, and they increasingly affect households with debt-servicing problems. Concerns about possible problems arising from households' inability to repay consumer credit have been reflected in heightened uncertainty. The concerns are due particularly to the inadequacy of information available on the scope of activities by entities other than credit institutions, and the risk resilience of their business models in problem situations has been tested hardly at all. The availability of information on Finnish consumers' debt sustainability could be promoted by introducing a positive credit register. The digitalisation of financial services requires a new type of economic literacy. The Bank of Finland contributes to the promotion of households' economic literacy.

#### **Slow growth in the stock of corporate loans**

Despite growth in investments, the growth rate of bank-loan drawdowns by non-financial corporations slowed in 2017. Corporate profitability, measured by operating surplus, has improved and companies have been

able to finance investments with retained earnings. In 2017, corporate bond issuance, too, grew at a higher pace than loans granted by credit institutions. The average interest rate on new corporate loans declined slightly in 2017, and it remained lower than the average interest rate on euro area corporate credit. There were no significant changes in the margins of corporate loans in 2017. The annual growth rate of the stock of loans to non-financial corporations (excl. housing corporations) slowed towards the end of the year, and was approximately 1.3% in December. Surveys on companies' access to finance indicate a slight tightening of terms and conditions of access to finance for SMEs. The key problem in the acquisition of debt finance by SMEs has been a shortage of collateral.

### Financial system policy

The purpose of macroprudential policy is to safeguard financial stability by identifying factors that threaten the entire system and by taking timely and appropriate action. The Bank of Finland supports financial stability by, for example, participating in the analysis and preparation of macroprudential policy and decision-making in Finland, in the euro area and in the European Union. In addition, the Bank of Finland participates actively in the development of macroprudential policy tools.

As part of the preparation of macroprudential decisions, the Bank of Finland delivered in 2017 five opinions on proposals by the Director General of the FIN-FSA for the deployment of macroprudential tools. In its opinions, the Bank of Finland supported the setting of a minimum average risk weight for residential mortgage loans. The FIN-FSA Board took a final decision on the minimum risk weight level in June 2017, and, following approval by the European Commission, the decision entered into force on 1 January 2018. The Bank also considered it appropriate not to activate the capital buffer requirement (variable capital add-on). In addition, it emphasised that, due to an increase in risks related to household debt accumulation and mortgage markets, the situation must be monitored closely. In addition, authorities should also be prepared to tighten the conditions for the maximum loan-to-value

ratio, if necessary. In addition, the Bank of Finland endorsed the setting of additional capital requirements (O-SII buffers) for credit institutions significant for the Finnish financial system (other systemically important institutions, O-SIIs).

To mitigate risks stemming from the structure of the banking system, a decision was taken to incorporate into Finnish legislation in 2017 a systemic risk buffer requirement. Based on the decision, a separate additional capital requirement can be imposed on banks if the other capital requirements are not adequate for covering the risks to the system, caused by, for example, the degree of concentration in the financial system or the systemic importance of financial system entities. The Bank of Finland actively supported the incorporation of the systemic risk buffer requirement into Finnish legislation. The macroprudential toolkit should, however, be supplemented with income-linked tools to curb household debt accumulation.

In addition to macroprudential policy, the Bank of Finland also participates in the development of other financial regulation. In cooperation with domestic and international authorities, the Bank develops crisis capabilities. The ongoing restructuring in the Finnish banking sector increases the interconnectedness of the Nordic and Baltic banking sectors (see Box 3). The Nordic-Baltic Stability Group of the relevant central banks and financial stability authorities plays an active role in ensuring financial stability in the region.

The development of European Economic and Monetary Union and the completion of Banking Union were significant European initiatives in 2017. Development projects focused particularly on financial stability issues. The Bank of Finland contributed actively to discussions on the development of Banking Union and the Capital Markets Union and on the promotion of common deposit insurance.

### Financial market infrastructure

The reliability and efficiency of payment and settlement systems under all circumstances is of key importance for society as a whole. Via its oversight tasks, the Bank of Finland contributes to ensuring the smooth functioning of the financial system infra-

structure. As a result of the digitalisation of financial markets, the cyber security of systems has also become a key topic, and the central bank is promoting it by participating in domestic and international cooperation.

In addition to oversight, the Bank of Finland participates in the development of financial market infrastructure. This work is performed in, for example, the Payments Council, which is a domestic cooperation body headed by the Bank of Finland that brings together both users and providers of payment services and the relevant authorities. In 2017, the Payments Council discussed, for example, the increasingly higher degree of real-time execution of payments, the promotion of financial literacy and the availability and use of cash.

Meanwhile, the Payments Forum presents annually the work of the Payments Council. In 2017, the Bank of Finland organised the Forum for the 11th time. The Forum attracted close to 180 participants to discuss the effects of digitalisation in the financial sector and in payments.

Another annual event on market infrastructures was the Bank of Finland's international simulator seminar. At the end of August, this brought together researchers from around the world for the 15th time. The Bank of Finland is improving the payment and settlement system simulator actively so as to better meet user requirements.

In 2017 and in connection with the Finland 100 centenary year, the Bank of Finland also organised, together with the Ministry of Finance, a theme day dedicated to payments in tomorrow's Finland. The presentations discussed in depth the possibilities and challenges of future payments, from the perspective of the various interest groups. Changes in the playing field for payments – legislative reform, new entities and practices – will have a strong effect on the activities of both providers and users of payment services.

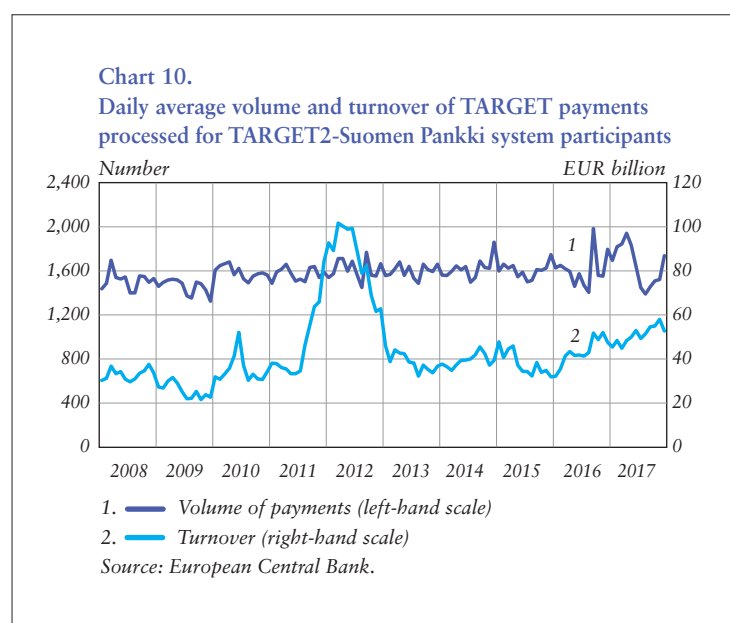
During the year, the Bank of Finland continued to collect payment statistics from payment and credit institutions and payment system operators, on the basis of the ECB Regulation on payment statistics. The data are used for monitoring and analysing the development of payment systems and are available on the Bank of Finland website, and in greater detail on the ECB website.

In the oversight of securities market infrastructures, the Bank of Finland continued to cooperate closely with authorities and market participants. Supervisory cooperation covers the systems of both central securities depositories and central counterparties. The key topics in 2017 were the system projects on the Finnish market and changes required by regulatory reforms. For example, the Bank of Finland has monitored closely the progress achieved in the system project of the Finnish Central Securities Depository, Euroclear Finland, and has participated in the development of securities market legislation.

### Payment system services

The Bank of Finland provides payment system services to banks via its TARGET2 component, TARGET2-Suomen Pankki. TARGET2-Suomen Pankki had 25 direct participants at year-end 2017. TARGET2 as a whole had some 1,000 direct participants connected to the system through 25 central banks' components. TARGET2, operated by the Eurosystem, functioned reliably in 2017.

The aggregate value of payments processed in TARGET2-Suomen Pankki during the year continued to increase, while their volume decreased to the level of previous years following an upward trend in the early part of the year. An average of 1,650 payments per day were processed, with an aggregate value of approximately EUR 51 billion (Chart 10).



### Growth of the Finnish banking system and the effects on financial stability

*The Finnish banking system will become one of the largest in Europe and structural vulnerabilities will increase as a result of the transfer of Nordea's domicile to Finland. Finland's membership in the EU's Banking Union and the reform of banking regulation in recent years will, however, mitigate risks caused by the large size of the banking sector.*

Nordea has undergone significant restructuring in the past year. At the start of 2017, the bank merged its subsidiary banks in Denmark, Finland and Norway with the Swedish parent company. As a result of this change in the legal structure, the balance sheet of Nordea's parent company increased significantly and the Swedish authorities assumed overall responsibility for the bank's supervision and resolution.

Nordea's management announced in late winter 2017 that the domicile of the group's parent company may be transferred from Sweden. In September 2017, Nordea Bank's Board of Directors decided to initiate preparations for the re-domiciliation of the parent company from Sweden to Finland. The re-domiciliation was approved at Nordea's Annual General Meeting in March 2018 and is scheduled to be completed by the end of September 2018.

In spring 2017, the Ministry of Finance, the Financial Supervisory Authority, the Financial Stability Authority and the Bank of Finland launched assessments on the effects of the possible change in the location of Nordea's registered office. In cooperation, the authorities examined the effects of Nordea's re-domiciliation on financial stability, based on various scenarios. Following Nordea's publication of its plans to move to Finland, the Bank of Finland continued preparations for the upcoming change.

The location of a financial institution's registered office has a key impact on the role of the various authorities in the supervision of multinational conglomerates and the management of possible crisis situations. The re-domiciliation of large banks also shapes the structures and structural risks of national banking systems.

Studies of previous financial crises have identified structural features of the financial system that have had an impact on the severity of the crises. These features include, for example, the size of an individual financial institution or the banking sector relative to the size of the economy, or the interconnectedness of financial institutions.

As a result of the re-domiciliation of Nordea, the Finnish banking system will become one of the largest in Europe, relative to the size of the economy. Results of EU-wide stress tests show that Nordea's loss-absorbing capacity is strong to withstand even adverse economic shocks. The structural vulnerabilities of the Finnish banking sector will, however, grow, because Nordea's move to Finland will increase the size, degree of concentration and interconnectedness of the banking sector. Even though Nordea's decision on re-domiciliation would not be reflected in the total amount of systemic risks, it would nevertheless have an effect on the location of risks across the countries.

Due to the increase in indebtedness, the Nordic economy and financial system have been exposed to risks stemming from mortgage lending in a number of ways. Nordic banks have also been considerably exposed to similar housing market, construction and real estate-related risks. In addition, mortgage-backed covered bonds play a significant role in the funding of Nordic banks.

Finland's membership in the EU's Banking Union and the reform of banking regulation in recent years does, however, mitigate the risks deriving from the large size of the banking sector, compared with a situation in which Finland were not part of the Banking Union. In the Banking Union, responsibility for the supervision of systemically important banks falls on the European Central Bank. In supervisory work, the Finnish supervisory authority (the FIN-FSA) plays a major role.

Despite enhanced supervision, banks may become distressed. The task of the Banking Union's Single Resolution Board is to arrange the operations, recapitalisation

and debts of systemically important problem banks so that they do not jeopardise financial stability. The costs of resolution are borne primarily by the shareholders and creditors of the bank under resolution. The resolution mechanism can also mitigate the risk that deposits would have to be compensated by the Finnish Deposit Guarantee Fund, the liability of which will increase as a result of Nordea's move to Finland.

The establishment of the still missing pillar of Banking Union, the European Deposit Insurance Scheme, is particularly important for countries with a large and concentrated banking sector relative to the size of their economy. A move to common deposit insurance is a justifiable step from the perspective of both the Eurosystem and the Finnish financial system.

Following the transfer of Nordea's domicile, macroprudential policy decisions concerning Nordea will be taken by the FIN-FSA Board. To promote financial stability, we must ensure that Finnish authorities have at their disposal an adequate macroprudential toolkit.



Photo: Lehtikuva.



The Bank of Finland uses its own collateral management system (BoF-CMS-Cola) for providing collateral management services to its customers in connection with refinancing operations. In 2017, the system managed EUR 20 billion worth of collateral assets per day, on average.

The Bank of Finland provides liquidity management services to its customers that have joined the securities settlement platform TARGET2-Securities (T2S). The T2S migration period of 2.5 years came to an end with the final migration wave in autumn 2017. In its own T2S project, the Bank of Finland ensured that its customers migrated successfully to T2S.

The Bank of Finland participates actively in work at Eurosystem committee and working group level. In autumn 2017,

the Bank of Finland became a member of the Market Infrastructure Board, responsible for the management of Eurosystem projects in the area of payment system services. In November 2018, the Eurosystem will launch TARGET Instant Payment Settlement (TIPS), a cross-border solution for instant payments. In instant payments, the funds of private and corporate customers are transferred in real time and around the clock, 365 days a year. In TIPS, payments will be settled in central bank money. In December 2017, the Governing Council of the ECB approved the launch of a project to consolidate the TARGET2 system and the TARGET2-Securities (T2S) platform and a project to develop a Eurosystem Collateral Management System.



Photo: Mari Hienonen.

## Financial asset management

The Bank of Finland manages financial assets totalling EUR 15,150 million. These assets comprise the Bank of Finland's financial assets and the share of foreign reserve assets transferred to the European Central Bank. At the end of 2017, the total values of these assets amounted to EUR 14,184 million and EUR 966 million, respectively.

### Bank of Finland financial assets and financial asset management

The Bank of Finland's financial assets comprise foreign reserves, euro-denominated financial assets, gold and long-term investments. The foreign reserves are made up of foreign currency-denominated fixed-income investment and items denominated in IMF Special Drawing Rights (SDRs). Long-term investments comprise share and real estate holdings (Table 1).

The Board of the Bank of Finland takes decisions on the amount of the Bank's financial assets in accordance with the Agreement on Net Financial Assets (ANFA) between the Eurosystem central banks. This sets rules and limits for such holdings of national central banks as are related to the discharge of their national tasks. Currently ANFA does not impose a quantitative limit on the Bank of Finland's assets; the amount depends on aspects related to central bank duties and investment policy considerations. The financial assets were reduced in 2017 by EUR 3 billion. This was done in three stages, in February, March and April.

### Long-term investments based on balance sheet management

Market-valued pension fund assets, regarded as a separate item in the Bank of Finland accounts, were transferred in 2017 to be managed as part of the Bank's financial assets. The changes made in the balance sheet did not change the Bank's position as a pension institution and the Bank continues to manage the assets covering the pension liability. An Asset Liability Management (ALM) framework was adopted for financial asset investments with the aim of recognising different types

Table 1.

#### The Bank of Finland's financial assets

	31 Dec 2017 EUR m	31 Dec 2016 EUR m
Gold	1,706	1,731
Foreign reserves	5,567	6,554
SDR	331	532
Foreign currency-denominated investment portfolio	5,236	6,022
Euro-denominated financial assets	6,232	8,807
Equity	670	290
Real estate investment assets	10	–
<b>Total</b>	<b>14,184</b>	<b>17,382</b>

Source: Bank of Finland.

Table 2.

#### Distribution of the Bank of Finland's financial assets by currency

Currency	31 Dec 2017 EUR m	31 Dec 2016 EUR m
Euro (EUR)	6,912	9,097
US dollar (USD)	4,053	4,731
Pound sterling (GBP)	733	798
Japanese yen (JPY)	449	492
Gold (XAU)	1,706	1,731
SDR	331	532
<b>Total financial assets</b>	<b>14,184</b>	<b>17,382</b>

Equity investments and real estate investment assets are included within the euro entry.

Source: Bank of Finland.

Table 3.

#### Return on the Bank of Finland's own financial assets\* in 2017 and 2016

	2017 %	2017 EUR m	2016 %	2016 EUR m
Interest rate return	0.17	23.8	0.47	68.8
Currency revaluation	-5.27	-633.4	0.35	55.0
Equity return	8.71	38.1	10.63	28.9
Return on real estate investments	-0.06	0.0	–	–
<b>Total</b>	<b>-4.58</b>	<b>-571.5</b>	<b>1.02</b>	<b>152.7</b>

\* Excluding gold and SDR.

Source: Bank of Finland.

of assets and liabilities on the Bank's balance sheet. The framework also provides support to investment policy preparation. Once the ALM framework had been adopted and the pension fund assets had been combined with the financial assets, the long-term investment of financial assets was commenced. This involved investments in high-quality European real estate funds. Equity investments are also considered long-term investments, and these were increased in 2017 according to plan. Compared with other financial assets, long-term investments have a higher return requirement and lower liquidity requirement.

#### Objectives and yield from the management of financial assets

The Bank of Finland invests its assets on the international financial markets (for distribution of the financial assets by currency, see Table 2). The objective of financial asset management is to meet the liquidity, security and return requirements placed on the central bank in respect of the assets managed. In managing its financial assets, the Bank of Finland secures the value of these assets and, when necessary, its ability to support the liquidity of the banking system. The limits set for investment risk ensure prudent management of the Bank's financial assets. The liquidity of financial assets is ensured by minimum amounts of the most liquid government bonds, ensuring the Bank of Finland's ability to offer liquidity in case of sudden monetary policy needs under all conditions.

In 2017, the return on the Bank's financial assets totalled -4.58%, or approximately EUR -571.5 million. The total return breaks down into interest rate and equity returns, real estate investment returns, and valuation changes due to exchange rate movements (Table 3). The low level of interest rates is reflected in the interest rate return, which in 2017 was positive in the amount of EUR 23.8 million. Equity investments generated returns of EUR 38.1 million in 2017, on account of dividends and higher valuations. In 2017, valuation changes due to exchange rates were negative, at EUR 633.4 million, because the US dollar, Japanese yen and pound sterling all depreciated against the euro.

Fixed-income investment portfolios are subject to strategic allocation and average duration. The Bank's Investment division is allowed to deviate from these by making active investment decisions within pre-set bounds for permitted leeway and strict risk limits. Portfolio returns are benchmarked against public indices that are customised for central bank needs. In 2017, the investments generated a return of 0.17%, i.e. EUR 20 million, above the benchmark indices.

The Bank of Finland's fixed-income investment portfolios are held in government and government-related securities, covered bonds, corporate bonds and cash (Table 4). The average duration of these assets was short at the end of 2017: 2.75 years for investments in US dollars, 2 years for investments in pounds sterling, 1.25 years for euro-denominated investments and 1 year for investments in Japanese yen. Compared with the previous year, the duration of investments in US dollars was extended by 0.25 of a year, while that of euro-denominated investments was shortened by 0.25 of a year. The reason for keeping the duration of fixed-income investment assets short was because of the substantial increase in the interest rate risk on the balance sheet caused by the asset purchase programme implemented by the Eurosystem.

Table 4.

#### Allocation of the Bank of Finland's fixed-income investment portfolios at the end of 2017

<i>Fixed-income investment portfolios</i>	<i>Allocation at year-end (%)</i>
<i>Government debt instruments</i>	57.6
<i>Government-related debt instruments</i>	20.2
<i>Covered bonds</i>	7.2
<i>Corporate bonds</i>	7.4
<i>Cash holdings</i>	7.7
<b>Total</b>	<b>100</b>

Source: Bank of Finland.

### **New strategy for responsible investment**

The Bank of Finland's responsible investment strategy was renewed in 2017, with the aim of taking into account responsibility with regard to all parts of investment reserves. Responsibility is viewed differently in the new strategy in terms of investments made by the Bank itself (direct) and those that have been outsourced (indirect).

The responsibility strategy for direct investments relies on the exclusion method, meaning that an internationally renowned service provider goes through and analyses the Bank of Finland's potential investment instruments, giving its view as to which of them do not meet the responsibility criteria. Following the service provider's analysis, the Bank of Finland makes the final decision on instruments that will not be invested in.

The responsibility strategy of indirect investments is based on positive impact, meaning that the Bank will only invest in funds managed by asset managers that are clearly and transparently committed to responsibility principles. Being large investors, the asset managers are expected to use their influence on the companies directly to sort out any responsibility issues.

### **ECB reserves managed together with Bank of Estonia**

Management of the foreign reserves of the European Central Bank has been distributed among the Eurosystem national central banks according to their respective capital keys. The emphasis is on security and liquidity, as the key purpose of the reserves is to ensure the availability of sufficient resources for the Eurosystem's potential foreign exchange interventions. The Bank of Finland manages part of the ECB's reserves together with the Bank of Estonia. At the end of 2017, the euro value of Finland's and Estonia's pooled US dollar-denominated portfolio of the ECB's foreign reserves was about EUR 966 million. The ECB's Annual Report provides additional information on the management of its foreign reserves.

### **Investment risks and risk management**

The Bank of Finland's financial asset risks consist of market, credit and liquidity risks. Some operational risks are also involved. The Bank of Finland considers financial assets as a single entity. Decisions about financial assets are also influenced by other items on the balance sheet. See pages 56–58 for information on the total risk exposure on the Bank of Finland's balance sheet.

The Bank of Finland launched a new analysis framework in 2017 for balance sheet management, in which the balance sheet is viewed as a single entity, with decisions about financial assets also being influenced by changes in other items on the balance sheet. Early in 2017, the Bank of Finland reduced the amount of its financial assets in several instalments by a total of EUR 3 billion, while the Bank's pension fund assets were transferred under financial assets. Around the same time, the Bank also started long-term investment activity, and during the year made changes to both the strategic allocation of fixed-income investment assets and currency-specific target durations.

Market risk refers to changes in the value of financial assets as a result of market price fluctuations. The Bank of Finland invests its financial assets in several currencies both on the fixed-income and on the equity markets, meaning that it is exposed to risks caused by changes in exchange rates, interest rates and share prices. In addition to fixed-income and equity instruments, the Bank of Finland's financial assets include receivables from the International Monetary Fund (SDR) and gold.

In 2017, the Bank of Finland began investing its financial assets in real property as part of its long-term investment plan. The Bank makes equity and real property investments that are part of long-term investment operations indirectly through funds managed by third parties. Risks in these investments are managed by carefully selecting the external service provider and fund. The investment policy of the chosen fund must conform with the Bank's requirements with regard to, for example, risk diversification.



Exchange rate risk is still the most significant risk the Bank of Finland is exposed to. The amount of the Bank's foreign reserves has been dimensioned to a level required by central bank functions. Exchange rate risk is managed by diversifying investments into several currencies. The targeted size and currency composition of the foreign reserve portfolio is assessed by the Bank at three-year intervals as a rule. The last time this was done was in early 2016.

Interest-rate risk is managed by investing in fixed-income instruments that have varying maturities. The Bank of Finland defines the target durations for its fixed-income investment assets by currency. The modified duration of all the Bank's fixed-income investments at the end of 2017 was approximately 1.8, about the same as a year earlier.

Total market risk related to investment operations is measured daily by means of a value-at-risk (VaR) figure. The VaR figure is also applied when limiting the interest rate risk of fixed-income investment assets in relation to the benchmark index. See Chart 11 for the changes in the VaR figure concerning the total market risk in 2017. The chart also shows changes in the VaR figure concerning interest rate risk, exchange rate risk and equity risk.

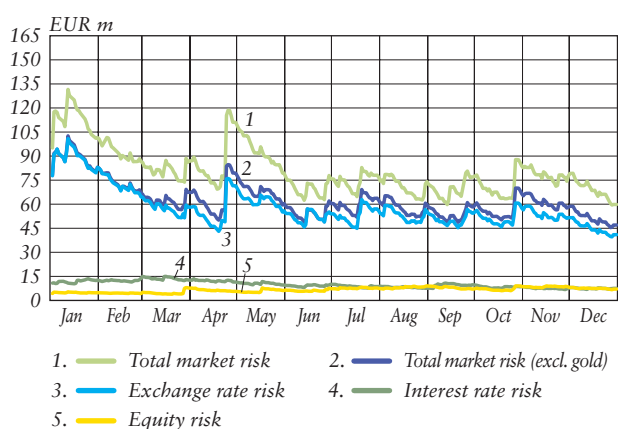
The Bank of Finland manages credit risk related to its investments by diversifying, within established limits, across several issuers and counterparties. Investment counterparties and issuers must also fulfil creditworthiness criteria, among other factors. The set of criteria was reviewed in 2017. The factors used in assessing creditworthiness include public credit ratings provided by ratings agencies and market-based indicators. A separate VaR method is also used in credit risk management.

Liquidity risk is managed by tying the majority of assets to investments that can be converted into cash easily, quickly and at low cost. Liquidity risk is also managed by restricting the size of holdings of individual issues or of total issuer debt. There are also restrictions in place for the length of maturities of some instruments and for securities lending and short selling.

Operational risks include, among other things, risks related to staff and information systems. These are managed by, for example, regularly tested and adequate backup arrangements and reliable and well-documented workflows and instructions.

For additional information on the risk management of financial assets and for the definitions, see 'Notes on risk management' (p. 92–95).

**Chart 11.**  
VaR figures for market risk in Bank of Finland's financial assets in 2017\*



\* One-day horizon, 99% confidence level.

Source: Bank of Finland.



## Banknotes and coins

Cash remains a competitive method of payment and a viable alternative to electronic payment services. The Bank of Finland is the sole issuer of cash in Finland, authorised by the European Central Bank, and as such, it is the Bank's responsibility to ensure that the supply of cash meets demand. The Bank of Finland is also tasked with educating citizens and supply chain counterparties on how to distinguish genuine cash from counterfeits. In recent years, the Bank has been involved in the launch of the new Europa series of banknotes, which features new and enhanced anti-counterfeiting measures. The Bank of Finland carefully monitors changes in the cash supply chain and tracks the viability of cash as a payment method in financial transactions. The Bank also provides professional money handlers with guidelines and assistance, where needed, on the processing of cash.

### Cash availability remains good in spite of shrinking network of banks' ATMs, survey suggests

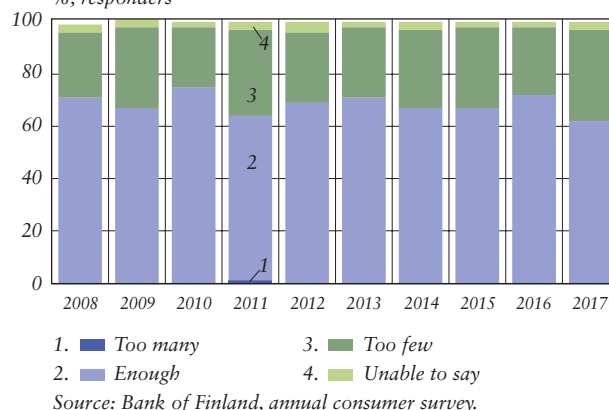
The viability of cash as a payment method rests on its availability through the distribution network and its acceptance by payees as a preferred form of payment. Euro-denominated cash is protected by its status as the sole legal tender in all euro area countries. So far, cash has been able to maintain its cost-competitiveness as a form of payment in areas such as retail trade.

In Finland, cash availability has kept up with demand relatively well. The Bank of Finland measures consumer satisfaction of cash availability through surveys and has done so for over a decade. According to a survey conducted in October 2017, consumer satisfaction remains good, with 84% of respondents reporting that cash availability met their needs, even though national ATM coverage has been notably reduced in recent years. Despite the relatively high level of overall satisfaction, the number of consumers who felt that ATM coverage was inadequate rose to 35%, up 9 percentage points from 2014, while the banks' ATM network was trimmed further during this period (Chart 12).

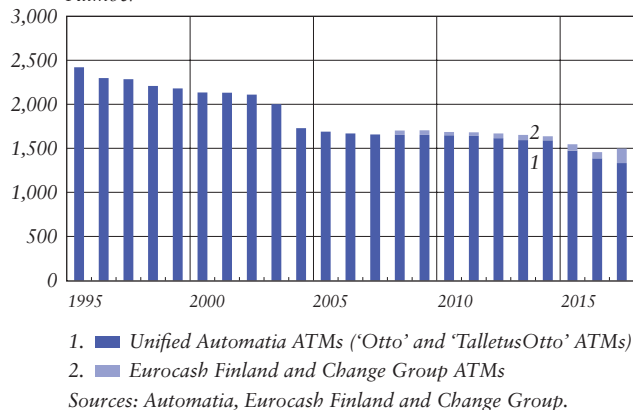
The 'Otto' machines operated by Automatia, a unified ATM network owned by Finland's three largest banking groups, have dominated the market space since the adoption of the euro. The market share of competing service providers has remained low due to their higher withdrawal costs.

In 2015, the FIN-FSA revised its guidelines for cash withdrawal service fees, prompting negotiations between S Group

**Chart 12.**  
Are there too many, just enough, too few ATMs in Finland?  
%, responders



**Chart 13.**  
Unified Automatia network and other ATMs in Finland  
Number



and Nokas CMS for establishing a competing ATM network. In 2017, Nokas CMS began the process of introducing competing ATMs onto the Finnish market; however, the replacement of existing machines is still pending final approval of the service fees. The Automatia network consisted of approximately 1,390 ATMs at the end of 2016, while other service providers operated a total of 70. By the end of 2017, Automatia was operating 1,333 ATMs, while other service providers were operating 165 (Chart 13).

#### New EUR 50 banknote issued in April

The old series of euro-denominated banknotes is gradually being replaced by the new Europa series. The EUR 50 banknote, which together with the EUR 20 note accounts for the bulk of Finland's ATM cash distribution, was due for changeover in 2017. The redesigned banknote itself was unveiled in July 2016, but actual circulation began on 4 April 2017. The new banknote's design is based on the old series and still portrays Renaissance architecture. The colouring of the Europa series note is, however, somewhat brighter, and other elements of the design have been modified to accommodate enhanced security features. Similar to the new EUR 20 banknote, which

entered into circulation a year earlier, the new EUR 50 banknote features a transparent portrait window as an anti-counterfeiting measure.

Unlike the EUR 5, 10 and 20 denominations that have already undergone changeover, the old series of EUR 50 banknotes will continue in circulation alongside the Europa series until sorting machines remove them from the cash supply as a result of natural wear and tear. The Bank of Finland's stock of unused old series EUR 50 banknotes has already been depleted. The flow of returns of old series EUR 50 banknotes will last considerably longer than other denominations, as, in contrast to the other denominations, they are being recirculated (Chart 14).

The Europa series EUR 5, 10 and 20 banknotes, in turn, have all but replaced the old series of notes entirely. As such, the old series of these denominations are returning to the Bank of Finland at a diminishing rate. However, even after two years into the process, the total changeover rate of EUR 20 banknotes issued in Finland is only estimated to be approximately 50%, as a significant amount of these notes have made their way abroad due to the popularity of foreign travel (Chart 15).

#### New sorting machines introduced

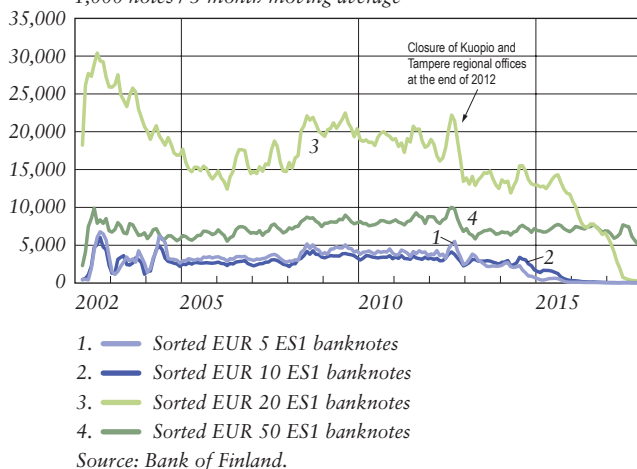
In 2016, the Bank of Finland launched a tender procedure and subsequently purchased two new Giesecke & Devrient BPS M7 sorting machines. These new machines replace the four De La Rue CPS 1800 units that date back to before the euro era and some of which had already been relegated as back-up units in the now-closed Tampere and Kuopio cash offices.

The new machines were installed at the start of the year and were put through a series of production trials for fine-tuning and calibration. The throughput of the new machines reaches just over 33 banknotes a second, while the maximum processing speed of the old machines stood at approximately 30 notes a second. Following a successful run of trials, the new machines were brought into the production process in April.

The new machines feature advanced automation, at best requiring only one employee to load prepared cash containers into the machine and then to collect the

**Chart 14.**  
Old ES1 series banknotes sorted by the Bank of Finland

1,000 notes / 3-month moving average



sorted banknote bundles for packaging. A separate mechanism feeds the machine banknotes from the containers, and finally a packaging device wraps the banknote bundles into transparent plastic. All of these processes happen safely under covers in closed conveyors. For currency supply staff, the adoption of the new machines has involved getting used to the new sorting process and adjusting to the new working procedures.

### Half of point-of-sale transactions still use cash

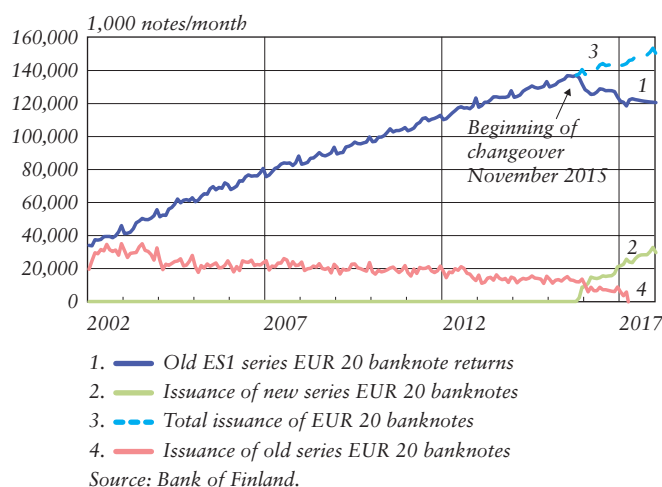
In November 2017, the European Central Bank published a broad diary study on the use of cash and card payment at point-of-sale transactions throughout the entire euro area. The sample included 4,830 respondents in Finland and a total of 65,281 in the euro area. For the purposes of the study, each participant kept a record of their payment transactions for one day. Transactions were recorded on an even spectrum of weekdays and times of year to eliminate selection bias.

Cash remained the predominant payment method in Europe and accounted for approximately 80% of individual transaction events, while approximately 19% were made by card payment. When measured in euro amounts, approximately 54% of transactions were paid in cash, 39% by card payment, and the remainder by other methods of payment.

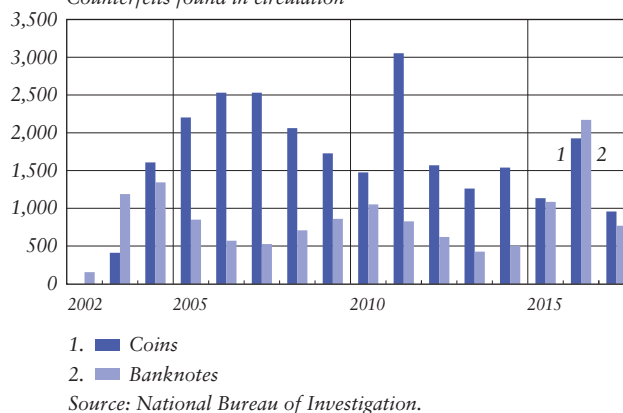
Responses in Finland were somewhat surprising in light of expectations and the findings of previous surveys. Cash accounted for over half of the individual transactions made in Finland. In euro terms, one third of payments were paid in cash. As such, cash payments in the ECB study outnumbered earlier data obtained from consumer surveys, a result likely explained by the fact that small and often inadvertent cash payments (e.g. through payment terminals) are more readily logged in diary studies.

Another possible explanation for the discrepancy is that in consumer surveys where people are asked to describe their usual method of payment, respondents might tend to answer in terms of euro amounts and not the actual number of individual transactions.

**Chart 15.**  
Issuance of old series EUR 20 banknotes



**Chart 16.**  
Euro-denominated counterfeit banknotes and coins in Finland  
Counterfeits found in circulation



### Amount of counterfeit banknotes normalised from 2016

The amount of counterfeit euro-denominated banknotes found in circulation stood at 769, recovering from the statistical outlier caused by a single, unusual case in December 2016 (Chart 16). The number of counterfeit coins stood at 957.

## Other operations

### Research

Research aimed at international high-quality journals serves the Bank of Finland's expertise, making it an influential member of the Eurosystem. The research is published initially in the Bank of Finland's own Discussion Papers series, of which 37 were published in 2017. These are produced by the Bank's own and visiting researchers. The ultimate objective is to publish the research findings in high-quality scientific journals that apply an internal peer review system within the international scientific community. Several of the Bank's research papers were published in distinguished journals in 2017.

Research carried out in a central bank must be relevant in terms of the key topics of central bank policy, such as monetary and macroprudential policy, and also be utilised in policy processes. As part of the Bank's strategy, it was decided that the applicability of research in preparing central bank policies was to be increased further in 2017. The planning and implementation of practical measures in order to achieve this goal are key duties of the Head of Research.

During the year, research topics included:

- the interaction between monetary and macroprudential policy
- introducing the banking sector and housing market into macroeconomic models
- the monetary policy responses of the European Central Bank in relation to its inflation target
- the overall effects on the economy of the private sector's debt-servicing costs
- the behaviour of interest rates on interbank overnight loan markets
- the mutual role of bank credit and bonds in corporate finance on the international financial markets.

The presentation of research results not only to the international scientific and central banking community, but also to the media and social media plays an important role in increasing their impact. Many inter-

national expert websites are also important forums. One of these is VoxEU, in which two Bank of Finland research groups presented their findings in 2017. International websites also made a note of, for example, the Bank of Finland's discussion papers considering the European Central Bank's inflation target and economic mechanisms of cryptocurrencies.

Aalto University, the University of Helsinki and Hanken School of Economics decided in 2017 that they will form a joint unit called Helsinki Graduate School of Economics (HGSE). Its purpose is to further expand economics expertise and education in Finland. The Bank of Finland has been concerned particularly about the insufficiency of macroeconomics expertise and education. The Bank of Finland made a decision in principle to support the establishment of the unit.

### International research conferences

The research unit co-organised three international research conferences in 2017. A conference entitled 'Interaction and stability of financial markets and the macro economy' was organised in March, with central bank and university researchers participating from around the world, and Nobel Prize winner Thomas Sargent also taking part remotely.

The Bank of Finland and its long-term partner SUERF organised a conference in September entitled 'Shadow banking: Financial Intermediation beyond Banks'. Speakers at the conference included Bengt Holmström, economics Nobel laureate; Tobias Adrian, Director of the Monetary and Capital Markets Department at the IMF; and Danièle Nouy, Chair of the Supervisory Board of the Single Supervisory Mechanism. The regulatory reform of international banking since the financial crises has raised the question of whether financing operations will transfer to new types of financial institutions that are less regulated than the current ones. Many of the speakers held the opinion that more information must be obtained on a regular basis about these new types of 'shadow banks'.

October saw the annual research conference with CEPR, this year's topic being 'Demographics and the macro economy'. The keynote speaker was Professor Charles Goodhart from the

## Bank of Finland research projects in 2017

In 2017, Bank of Finland researchers published research papers in several renowned scientific journals, such as the *Journal of Monetary Economics*, the *International Journal of Central Banking*, *Macroeconomic Dynamics* and the *Journal of Financial Intermediation*.

After the European sovereign debt crisis, a question that has been asked more and more frequently is how bank-based and market-based financing will affect economic development. The financing systems of many European countries have traditionally been bank-centred. One current EU development project is in fact the Capital Markets Union, the objective of which is to deepen and unify capital markets within the EU.

The Bank of Finland's research unit has created a model that can explain to what extent bank loans and bonds contribute to corporate financing. During times of low interest rates, the proportion of bonds increases. The model is applied to the financial flows in emerging economies, but it can also be used more generally to view the effects of bank-based and market-based financing on the macro economy.

After the financial crisis, the serious question has arisen whether monetary policy in addition to the traditional monetary policy objectives can be used to improve financial stability. Bank of Finland researchers have also participated in this active area of research. A study published in 2017 has looked separately at the short-term and long-term effects of monetary policy. They turned out to be quite opposite. A tighter monetary policy may undermine financial stability in the short term, but support it in the long term. The impact of monetary policy depends on how indebted the economy is to begin with.

In August 2017, at the traditional Jackson Hole meeting of central bank

governors, the research theme discussed most actively after the meeting concerned fiscal leeway. The Bank of Finland has approached the subject in a study that examines the multiplier effects of fiscal policy from the viewpoints of economic agents' alternative expectation formation mechanisms. An expectation mechanism based on adaptive learning produces outcomes that are more in harmony with empirical findings than those arrived at by the standard forward-looking framework of rational expectations.

The TARGET2 payment system used in the Eurosystem produces statistical data about interbank transactions. Researchers within the Eurosystem have compiled these into material that contains interbank overnight loan market interest rates and loan amounts. A study published by the Bank of Finland has examined the dynamics between the average interest of banks' overnight loans and the prices of banks' credit default swaps. The overnight loan interest rate may reflect the creditor bank's private information about the financial status of the borrower bank. The study proposes that this is probably the reason why overnight interest rates can predict to some extent the price changes of credit default swaps of certain types of banks. The correlation is highest when the markets are turbulent and presumably contain plenty of asymmetric information.

In 2017, the Bank of Finland Institute for Economies in Transition (BOFIT) produced a number of Discussion Papers that sought to anticipate developments in both the real economy and the banking sector in Russia. These are topics that have received relatively little attention in the international scientific literature. In addition, scientific research tools are helpful in monitoring and forecasting short-term developments in the Russian economy.



London School of Economics. The other speakers were researchers in the field chosen on the basis of a call for papers.

In addition to the conferences, the research unit invited many researchers and organised a series of research seminars. Both are key elements in keeping in touch with the international community of university and central bank researchers.

### Bank of Finland Institute for Economies in Transition

The Bank of Finland Institute for Economies in Transition (BOFIT) concentrates mainly on empirical research with a focus on monetary and exchange rate policy issues and the functioning of financial systems. The primary countries studied are Russia and China, although individual research topics often require the use of more extensive comparative data. Collaboration between research, monitoring and forecasting forms the foundation for the work of BOFIT's experts.

In 2017, BOFIT continued to publish (in both Finnish and English) its popular weekly digest of economic news items from Russia and China. These go out to around 1,800 subscribers all over the world. Another aspect of BOFIT's work consisted of releases about topical themes concerning the Russian and Chinese economies. Releases about Russia and China in Finnish have been popular, especially the live online broadcasts.

BOFIT research is published initially in the Institute's own Discussion Papers series and later in refereed scientific journals. In 2017, we published 22 discussion papers. In addition, 10 shorter reports were published in the BOFIT Policy Brief series. As well as the articles of the in-house researchers, the Discussion Papers series also includes articles by visiting scholars and studies presented at BOFIT's seminars and workshops. A total of 22 visiting scholars from 10 countries worked with BOFIT in 2017.

In connection with the Bank of Finland's March and September forecasts for the international economy, BOFIT published forecasts on the economic outlook for Russia and China in the immediate years ahead. During the year, the researchers analysed in a number of ways

the rapid rise in Chinese debt and what effects the consequent increase in risks could have in terms of threats not only to the Chinese but also to the global economy. Should indebtedness in future lead to slower and slower economic growth, the effects will be felt in the euro area and therefore also in Finland. These effects have been studied in cooperation with, for example, researchers from other member banks of the European System of Central Banks.

In October 2017, BOFIT helped to organise a conference in New York together with Fordham University and City University of Hong Kong. The conference dealt with the Chinese financial market and the change in the Chinese growth model. The keynote speakers were Wei Xiong (Princeton University) and Jennifer Carpenter (New York University). Together with the Higher School of Economics in Moscow, BOFIT also contributed to organising a workshop about the banking systems of emerging economies.

### Statistics

The Bank of Finland is responsible for producing the Finnish data for euro area financial statistics for the European Central Bank. The 2017 statutory statistics of the European System of Central Banks were produced to the required extent and under the given timetable.

The largest statistics project in progress in the Eurosystem is the creation of a single credit database. The project outcome will see the construction of information systems necessary for obtaining and processing credit information. The project proceeded at the Bank of Finland within timetable in 2017. Credit institutions will report credit information into the system for the first time in 2018.

The system will contain information on credit issued by credit institutions to non-financial corporations and other legal persons. In future, the database may also include credit to households.

Regular cooperation with the financial sector in the national implementation of the database has been important right from the start, and the work has been carried out in a group which all credit institutions have been invited to join. The primary users of the data have also been interviewed regularly.

Preparations were made in 2017 to start compiling statistics about crowdfunding and peer-to-peer loans, and a decision was made to start this in 2018. The Board also decided that the Bank of Finland will begin to publish credit institutions' market shares on its website in 2018. These were previously published by Finance Finland.

The Bank of Finland developed its international reporting and will join the SDDS Plus standard supported by the International Monetary Fund in 2018. The application of digital standards will allow users to receive comprehensive and internationally comparable figures about the Finnish economy. The usability of such information will improve when it is available in machine-readable format on the Bank of Finland [website](#). Information will be generated for the website as a joint effort. The Bank of Finland will produce the data on indicators and reserves concerning the financial markets, the State Treasury information about Government operations, the National Board of Customs data on foreign trade in goods, and the Helsinki Stock Exchange stock market data. Statistics Finland will also enter a large amount of data into the system.

The Bank of Finland has taken an active part in development of the European Reporting Framework. Finland has long experience in taking information from a number of sources and merging it in a uniform reporting framework. Participation in the European system is important to ensure that it functions well and our expertise is utilised.

### International activities

The Bank of Finland participates in the work and decision-making of the European System of Central Banks (ESCB) and the Eurosystem. It also has statutory responsibility for Finland's contacts with the International Monetary Fund (IMF) and is a shareholder of the Bank for International Settlements (BIS). In addition, the Bank of Finland participates in a number of ways in many Nordic, European and other international fora.

#### The European System of Central Banks and the Eurosystem

The Eurosystem's highest decision-making body is the Governing Council of the

European Central Bank (ECB), which comprises the six members of the Executive Board of the ECB and the governors of the national central banks of the 19 euro area countries.

The Governor of the Bank of Finland, Erkki Liikanen is a member of the ECB's Governing Council. Deputy Governor Pentti Hakkarainen was the Governor's alternate until 31 January 2017, when he was followed by Deputy Governor Seppo Honkapohja from 1 February to 31 December 2017. Governor Liikanen is also a member of the ECB's General Council, which includes the President and Vice-President of the ECB and the governors of all 28 national central banks of EU Member States.

The Governing Council of the ECB convenes in Frankfurt twice a month on average. It holds monetary policy meetings every six weeks. In other meetings, the focus is on the other tasks and responsibilities of the ECB and the Eurosystem. The Governing Council also makes the banking supervision decisions concerning significant credit institutions in the euro area. In 2016, the Governing Council held one meeting outside Frankfurt, in Tallinn, Estonia. The Governing Council also held teleconferences and made decisions using a written decision-making procedure.

Board members and experts from the Bank of Finland participated in the work of the ESCB at all stages of preparation. The Bank of Finland had at least one representative on each of the committees and was represented in most of the working groups operating under the various committees. Governor Liikanen was Chairman of the high-level Audit Committee of the ECB, whose task is to supervise and promote good governance in the ECB and Eurosystem in relation to central bank operations and banking supervision. In 2017, a total of 17 Bank of Finland employees were seconded to the ECB on fixed-term contracts of varying length.

The ECB's Governing Council and the Supervisory Board, which prepares supervisory decisions on euro area banks, held four joint meetings in 2017, where they discussed macroprudential issues.

#### International Monetary Fund

The Governor of the Bank of Finland, Erkki Liikanen is Finland's representative on the

## Bank of Finland representatives at the ECB, EU and other international bodies in 2017

### Bank of Finland representatives on the Governing Council of the ECB

Erkki Liikanen, member	Tuomas Välimäki, accompanying person
Pentti Hakkarainen, alternate (until 31 Jan 2017)	Mika Pösö, accompanying person
Seppo Honkapohja, alternate (as of 1 Feb 2017)	Katja Taipalus, accompanying person

### Bank of Finland representatives on European System of Central Banks committees

<b>International Relations Committee</b> Olli-Pekka Lehmussaari Henna Karhapää	<b>Monetary Policy Committee</b> Tuomas Välimäki Jarmo Kontulainen Samu Kurri (until 31 Jan 2017)	<b>Statistics Committee</b> Harri Kuussaari Elisabeth Flittner (as of 17 Jan 2017)
<b>Accounting and Monetary Income Committee</b> Sara Lähteenkorva	<b>Financial Stability Committee</b> Katja Taipalus	<b>Committee on Controlling</b> Tuula Colliander Marko Ala-Pönttiö (until 30 Nov 2017) Annika Karjalainen (as of 1 Dec 2017)
<b>Legal Committee</b> Maritta Nieminen Eija Brusila	<b>Risk Management Committee</b> Antti Nurminen Jorma Jokisalo	<b>External Communications Committee</b> Jenni Hellström Richard Brander
<b>Market Infrastructure and Payment Committee</b> Kirsi Ripatti Heli Snellman	<b>Banknote Committee</b> Päivi Heikkinen Kari Takala	<b>Budget Committee</b> Veli-Matti Lumiala
<b>Market Operations Committee</b> Harri Lahdenperä Marjaana Hohti	<b>Internal Auditors Committee</b> Pertti Ukkonen Helena Rantanen	<b>Human Resources Conference</b> Antti Vuorinen Eija Lepola
<b>Organisational Development Committee</b> Mika Pösö Jarno Talvitie	<b>Information Technology Committee</b> Petteri Vuolasto	

### Bank of Finland representatives on EU committees and the Supervisory Board of the Single Supervisory Mechanism

<b>General Board of the European Systemic Risk Board (ESRB)</b> Erkki Liikanen	<b>Economic and Financial Committee</b> Pentti Hakkarainen (until 31 Jan 2017) Marja Nykänen (as of 1 Feb 2017) Mika Pösö, accompanying person	<b>Supervisory Board of the Single Supervisory Mechanism (SSM)</b> Jouni Timonen (until 15 Oct 2017) Mervi Toivanen (as of 21 Nov 2017)
<b>Advisory Technical Committee of the ESRB</b> Katja Taipalus	<b>European Banking Authority's Board of Supervisors</b> Jouni Timonen (until 15 Oct 2017) Katja Taipalus (as of 27 Nov 2017)	<b>Committee on Monetary, Financial and Balance of Payments Statistics</b> Harri Kuussaari
<b>Economic Policy Committee</b> Lauri Kajanoja		<b>European Statistical Forum</b> Harri Kuussaari

### Bank of Finland representatives at the Bank for International Settlements (BIS), the International Monetary Fund (IMF) and the Organisation for Economic Cooperation and Development (OECD)

<b>BIS meetings of central bank governors</b> Erkki Liikanen	<b>IMF Board of Governors</b> Erkki Liikanen Pentti Hakkarainen, alternate (until 31 Jan 2017) Olli Rehn, alternate (as of 1 Feb 2017)	<b>OECD Economic Policy Committee</b> Ilkka Korhonen Samu Kurri (until 31 Jan 2017) Hanna Freystätter (as of 1 Jul 2017)
		<b>OECD Financial Markets Committee</b> Jyrki Haajanen (until 31 Jul 2017)

highest governing body of the International Monetary Fund (IMF), the Board of Governors. His alternate member was Deputy Governor Pentti Hakkarainen until 31 January 2017, followed by Board member Olli Rehn from 1 February onwards. Finland was chosen to chair the Boards of Governors of the International Monetary Fund and the World Bank Group for the period 2017–2018. Governor Liikanen accepted the chairmanship in Washington, DC in October 2017 at the Annual Meeting of the Boards of Governors.

The IMF's advisory International Monetary and Financial Committee (IMFC) met in April and October in Washington, DC. Both meetings discussed the outlook for the global economy, financial stability and challenges for economic policy. It was noted in the discussions that growth had strengthened, while policy uncertainties had increased. It was also stressed that economic policy should support inclusive economic growth that creates jobs.

The IMF has 189 member countries. These are represented on an Executive Board of 24 Directors, chaired by the Managing Director, Christine Lagarde. The Nordic-Baltic constituency has a common representative on the Executive Board. In 2017, coordination of policy views within the constituency was led by Sweden, with participation from the Bank of Finland and Finland's Ministry of Finance.

The Nordic-Baltic Monetary and Financial Committee (NBMFC) convened in Norway and Latvia before the spring and autumn IMFC meetings in order to prepare the constituency's policy positions. The Bank of Finland was represented on the NBMFC by Board member Olli Rehn.

In April 2017, the Bank of Finland signed a new bilateral borrowing agreement with the IMF worth EUR 3.76 billion, following the expiry of the previous agreement in February 2017. The new agreement is part of an arrangement agreed in 2016. Its purpose is to strengthen the IMF's financial base temporarily by means of bilateral borrowing agreements that can be resorted to if it is necessary to supplement other funding of the IMF.

#### **Bank for International Settlements**

The Governor of the Bank of Finland took part in the regular Governors' Meetings of

the Bank for International Settlements. The meetings discussed topical issues in the world economy and on the financial markets, such as inflation trends and the distributional effects of monetary policy. Other topics included digitalisation, such as large amounts of material in digital format, and digital currencies. The Bank of Finland was also represented at the Annual General Meeting of the BIS in June.

#### **Nordic cooperation**

Cooperation between Nordic central banks continued to be close at both Board and expert level. The annual meeting of Nordic central bank governors was in 2017 held in Finland, in the town of Porvoo. At the meeting, the governors and their accompanying experts discussed topics such as the central banks and digitalisation, changes in financial market structures, changes in the arena of superpower politics, the Russian economy and its outlook, and the economic situation in Ukraine and Belarus. In the course of the year, experts from the Bank of Finland's various areas of activity also met with experts from other Nordic central banks in other contexts.

The Nordic and Baltic central banks and supervisors held the biannual Nordic-Baltic Macroprudential Forum in Stockholm in April and November. As part of this cooperation, they discussed the effects of cross-border macroprudential measures and continued to ponder solutions for how to manage banks in crisis.

#### **Cooperation within the European Union**

The European Systemic Risk Board (ESRB) is part of the European System of Financial Supervision (ESFS). The ESRB concentrates on macroprudential oversight of the financial markets. The decisions of the ESRB are taken by the General Board. Governor Liikanen is a member of the General Board with voting rights.

The key responsibility of the European Union's Economic and Financial Committee (EFC) is to prepare meetings of the ECOFIN Council of economic and finance ministers of the EU Member States. Up until 31 January 2017, the Bank of Finland was represented on the EFC by Deputy Governor Pentti Hakkarainen, and from 1 February 2017 onwards by Board member Marja Nykänen. Bank of Finland

representatives participated in the meetings when the Committee convened in its extended composition and in the role of the Financial Stability Table.

The Bank of Finland also participates in cooperation via the EU's Economic Policy Committee (EPC), which prepares the EU's economic policy guidelines and structural policy issues. Statistical issues are discussed in the Committee on Monetary, Financial and Balance of Payments Statistics (CMFB) and the European Statistical Forum. The Bank of Finland is also involved in the work of the Organisation for Economic Cooperation and Development (OECD) and is represented on the Board of Supervisors of the European Banking Authority (EBA).

#### Other international cooperation

The Bank of Finland continued its training cooperation with the Bank of Russia in 2017 with four training sessions at the Bank of Finland.

Training topics included compilation of securities statistics, predicting the need for cash, evaluating the operation of payment systems by means of the Bank of Finland's Payment and Settlement System Simulator, and supervision of investment funds. The training on the supervision of investment funds was organised jointly with the Financial Supervisory Authority.

#### Communications

In 2017, the leading topics of the Bank of Finland's Communications were monetary and macroprudential policy themes, utilisation of digitalisation, financial literacy and the Finland 100 centenary celebrations (Box 6).

Two new online services were launched in 2017: the entirely revamped main website Suomenpankki.fi and, to commemorate 100 years of Finnish independence, Kansakunnanomaisuutta.fi, a service presenting the Bank of Finland's art collection. In late January, the Bank of Finland also opened its doors to the public for four days, presenting brief presentations, an art exhibition and musical performances. The Bank of Finland Museum also held an exhibition entitled *How will Finland make a living in 2067?*, in which students of Helsinki Upper Secondary School of Visual Arts and Vaskivuori Upper Secondary

School presented their views on the Finland of the future.

The eurojatalous.fi website published five sets of articles (in English on Bofbulletin.fi/en/home/), each accompanied by a press conference. 17 analysis articles and 45 blog posts were also published on the website. The usability of both the new Suomenpankki.fi and Bofbulletin.fi/en/home/ websites was improved during the year. According to a user survey in the autumn, users were very happy with the Suomenpankki.fi website.

The Bank of Finland Museum attracted some 15,000 visitors in 2017 and hosted 41 public and stakeholder events. These included a history seminar series presenting former governors of the Bank of Finland, economic forecast presentations, lectures on the future of payments, and the traditional Studia monetaria lecture series. Guided tours of the museum were popular, catering to 159 groups, of which 93 were student groups.

Economic education tours for teachers were organised together with partners in three cities: Helsinki, Jyväskylä and Turku. The Generation Euro Students' Award competition continued to be organised jointly with the European Central Bank. This was won by a Swedish-speaking upper secondary, Ålands Lyceum. In addition to this, members of the Bank of Finland Board and experts visited upper secondary schools and universities around the country to tell about the central bank's operations and the Eurosystem.

The Communications unit's customer service responded to 1,900 queries in 2017 either by telephone or email. Questions asked by the public were also answered on social media. The commonest questions had to do with the future of payments, exchange rates, interest rates and the housing market.

A seminar was arranged for economics journalists in 2017 under the theme 'How can we measure the digital economy?'. During the year, a number of financial seminars were organised for parliamentary groups. Use of social media was expanded further, with channels being introduced and content being shared at a higher rate. Many of the Bank's experts also engaged in independent conversation with representatives of their own contact groups on social media.



Box 6.

## The Bank of Finland in the Finland 100 centenary programme

The Bank of Finland is one of the national institutions that helped Finland grow to become an independent nation and state. With this in mind, the Bank of Finland took an active part in celebrating 100 years of Finnish independence in 2017.

The main event at the Bank were the open days on 27–30 January, during which more than 5,000 people came to see the Bank's art collection and main building. There was also a series of small concerts, with Heikki Sarmanto performing his own compositions and three young pianists – Maria Hämäläinen, Anton Mejias and Ossi Tanner – playing music by Jean Sibelius. The event also included a number of short lectures on Finnish history and the Finnish economy.

Works of art from the Bank of Finland collection were also shown in an online gallery under the heading '[National Treasures](#)'. The online publication was curated by Markku Valkonen, who also wrote the presentation texts for the works on display.

The Bank of Finland Museum participated in the centenary celebrations with an art exhibition 'How will Finland make a living in 2067?' The exhibition, which ran throughout the year, was a joint production by Helsinki Upper Secondary School of Visual Arts and Vaskivuori Upper Secondary School. The young artists created their own views on the future of Finland through paintings, sculptures and videos.

The Bank of Finland Museum also had a series of *Studia monetaria* lectures on themes related to the centenary. This included the 'Future of payments in Finland' event, organised jointly with the Ministry of Finance on 4 October 2017. The lecture series ended on a high note on 4 December with Governor Erkki Liikanen's speech 'Finland 100, 23 years in the EU – what next?' The events were attended by a notably large number of people.

To commemorate 100 years of Finnish independence, the Bank of Finland published a book by Antti Heinonen on Finnish banknotes from the early years of independence called *Sodan ja rauhan rahat – Suomen erikoinen setelihistoria 1917–1945* ('Money of war and peace – the

extraordinary history of Finland's banknotes 1917–1945') (Edita 2017). The Bank also presented the history of Finnish banknotes from the era of independence on its stand at the Finlandia 2017 International stamp exhibition, to which it had been invited, in Tampere on 24–28 May 2017.

During 2017, the Bank of Finland published on its website a series of six history blogs in which historian Vappu Ikonen and Juha Tarkka, Adviser to the Board of the Bank of Finland, discussed the events of 1917 at the Bank of Finland and the Bank's role in the events that led to Finland's independence. The minutes of meetings of the Bank of Finland's Parliamentary Supervisory Council from 1917 were also published online one by one when exactly 100 years had passed since each meeting was held.

The Bank of Finland organised 'Open days' in January.



Photo: Peter Mickelsson.

# Management and personnel

## Strategy

The Bank of Finland seeks to ensure a reputation as a forward-looking and effective central bank and as a constructive and influential member of the Eurosystem. The main themes of the Bank's strategy work in 2017 were focused on strengthening its ability to 1) operate as an open and effective central bank in the digital era, 2) act as an influential authority on monetary and macroprudential policy, and 3) serve as a stalwart adviser on economic policy and the development of European Economic and Monetary Union.

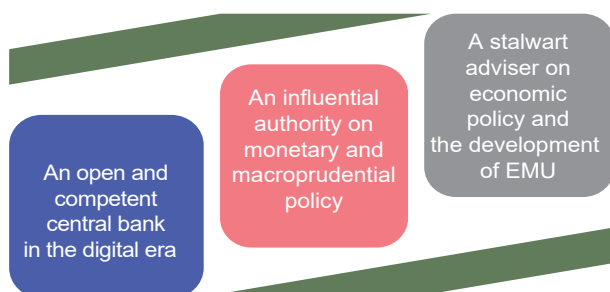
In spring 2017, the Bank of Finland management released an assessment of factors driving changes in the operating environment and impacting the Bank's operations. In monetary policy, a particular challenge was seen in maintaining and normalising the accommodative monetary policy stance applied since the financial crisis. Challenges relating to financial stability were associated with trends in the financial services sector, including the adoption of new business models, increased

conglomeration, subsidiaries operating outside the regulatory bounds of parent companies, and the growing interlinkage of financial markets in the Nordic region. Political uncertainty was seen as the biggest obstacle to further development of European Economic and Monetary Union (EMU), disturbing the operating environments of both monetary and macroprudential policymaking. Disruptive megatrends were identified in digitalisation, cyber security and the media environment. In response to the new challenges present in the Bank's operating environment, the Board defined the new strategic priorities for the Bank of Finland.

Initiatives were taken to enhance the Bank of Finland's effectiveness in three areas of focus. Alternative scenarios were analysed in anticipation of Nordea's corporate relocation to Finland, and working practices in cyber security were also improved. A strategic outline was prepared on how the Bank might assist completion of European Banking Union as well as push for adoption of the Capital Markets Union. Furthermore, a plan was prepared for increasing the Bank's profile in the national debate concerning European Economic and Monetary Union. Reports were also commissioned, exploring the viability of central bank-issued digital currency and charting the future of the banking sector. The latter aims to predict disruptive changes or trends and assess how they might impact the banking sector from a variety of perspectives, e.g. examining digitalisation's effects on the banking sector's competitiveness, financial stability, profitability and customer experience. The Bank will also continue to make more extensive use of its research findings in monetary and macroprudential policymaking.

Finally, the above-mentioned focus areas served as the foundation of the planning process in autumn 2017 when laying out the objectives for the Bank's departments and core processes for 2018–2020.

**Chart 17.**  
The Bank of Finland's strategic priorities



Source: Bank of Finland.

## Bank of Finland's mission, vision, strategy and values

### Mission

The Bank of Finland works towards economic stability. Price stability, secure payment systems and reliable financial systems are prerequisites for sustainable growth, employment and the wellbeing of Finnish society.

### Vision

The Bank of Finland is known as a forward-looking and effective central bank and as a constructive and influential member of the Eurosystem.

Our vision underlines the Bank of Finland's objective of being a forward-looking authority, whose activities and statements are constructive in promoting the long-term robustness and stability of the Finnish economy. The Bank itself aims to operate in the spirit of its own statements fostering effectiveness.

A constructive role within the Eurosystem requires the Bank of Finland to be actively involved in developing solutions to common problems, while being influential imposes high expectations on the competence and communication skills of the Bank's personnel.

### Summary of the strategy

The Bank of Finland's influence is based on expertise, reliability and research.

We ensure the availability of competitive central bank services in Finland.

We participate in maintaining the service level of the financial markets and related infrastructure.

We maintain such capital adequacy and liquidity as is required by our operations, and we honour our financial accountability to Finnish society.

Our working processes are of high quality, technically advanced and environmentally sustainable.

We build our expertise and professional competitiveness with an eye to the future, while simultaneously caring for the long-term wellbeing of our staff.

### Values

#### *Competence – Appreciation – Responsibility*

The values reflect our attitude towards our own work, our colleagues and the rest of society. Common values drive the staff's day-to-day activities and underpin the organisation's working culture. The entire organisation was involved in defining the Bank's values.

#### *Competence*

Our work builds on excellence and professional ethics. We keep our knowledge and skills at the forefront.

#### *Appreciation*

We strive towards common objectives with mutual respect. We encourage open discussion and fresh ideas.

#### *Responsibility*

We act responsibly and we are independent. We are a reliable and cooperative partner.

## Management system

The Bank of Finland's mission, vision, strategy and values (Box 8, page 48) provide a guide for the Bank's activities. The pillars of the management system are the division of responsibilities between Board members and a clear outlining of areas of responsibility for each department and core process. Other key corporate governance tools include the objectives and results framework, action planning, staffing and budgetary ceilings and the overall assessment of risks, as well as performance evaluations and performance appraisal discussions. Key posts within the Bank of Finland, and particularly those exercising management responsibilities, are filled on a fixed-term basis. The purpose of this is to ensure the accumulation of broad-based competence and the updating of staff practices and procedures.

### Division of responsibilities between Board members

In 2017, the division of responsibilities on the Board was as follows:

- Governor Erkki Liikanen was responsible for monetary policy preparation, domestic economic policy, external communications, international affairs as well as internal auditing. He was a member of the Governing Council and General Council of the ECB and of the European Systemic Risk Board.

- Deputy Governor Seppo Honkapohja bore responsibility for the Bank of Finland's scientific research and currency supply. He also served as the Chairman of the Board of the Bank's pension fund.
- Member of the Board Marja Nykänen was responsible for financial market issues, macroprudential policy, statistics, legal affairs as well as financial and human resource management. She was also responsible for risk control for investment activities and monetary policy.
- Member of the Board Olli Rehn was responsible for monetary policy implementation, investment management of the Bank's financial assets, market operations and payments. He bore responsibility for the Bank's new digitalisation core process and also served as Chairman of the Board of the Financial Supervisory Authority.

### Departments and core processes

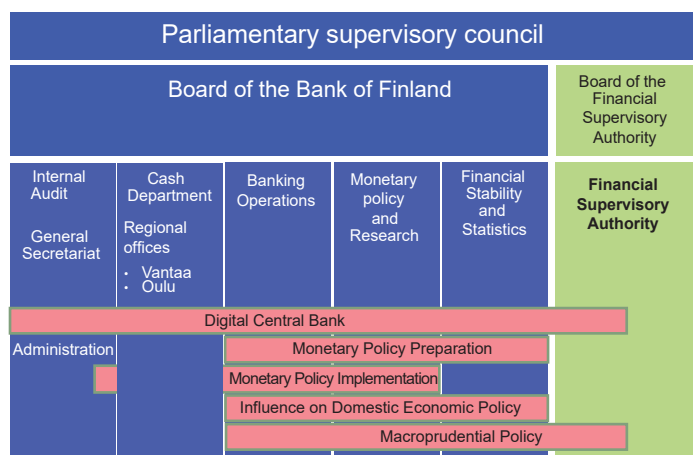
The Bank of Finland's operations are divided between six departments and an independent internal audit unit. The heads of department report to the Board member responsible for the respective area.

Process management helps emphasise a working culture based on cooperation and fosters a customer-oriented approach to operations, operational efficiency and effectiveness. In addition to the Bank's established four core processes, a new 'digital central bank' process was launched in February 2017, tasked with furthering effective digital solutions and evaluating the impact of digitalisation on Finland's financial system and economy and well as the operations of the Bank of Finland and the Financial Supervisory Authority. The focus areas of the process in 2017 were related to central bank-issued digital currency, questions surrounding open data and the cyber security of the financial system, and supporting Finland's FinTech ecosystem.

### Objectives and results framework

The objectives and results framework serves as a useful tool for strategy implementation. Each strategic guideline of the Bank of Finland is assigned at least one measurable objective. In addition to general indicators, each department and core process is provided

Chart 18.  
Organisation of the Bank of Finland



Source: Bank of Finland.



with indicators to guide their activities (Bank of Finland objectives and results framework for 2017–2019, p. 48). Achievement of the objectives is evaluated every six months.

### Action planning

Action planning at department and core process level is conducted with a three-year timeline. The objectives are further developed into agreements on objectives and outcomes, signed by the heads of department and Board members each year. The agreements outline the objectives, performance indicators and major projects. The Bank of Finland's budget, and the personnel and training scheme as well as evaluation of operational risk management are drawn up as part of action planning.

### Personnel and budget frameworks

Resource deployment and medium-term planning in the departments are guided by personnel and operating cost frameworks. The frameworks are set annually in

connection with action planning for the next three years. The procedure is of help in achieving the Bank's strategic objective of being one of the most efficient EU central banks.

### Risk management

Risk management is part of the Bank of Finland's governance framework and is also linked with action planning. The Bank's risks are divided into strategic, financial and operational risks. Overall responsibility for the provision and governance of risk management and the definition of the level of risk exposure rests with the Bank's Board, but each member of staff is responsible for the management of risks falling within their own job remit. In 2017, the Bank established a new committee for operational and cyber security risks, replacing its previous iteration which comprised of a separate management group for exigent circumstances planning and a steering group for cyber threats. The committee collects organization-wide reporting for the Board and makes recommendations on risk management.

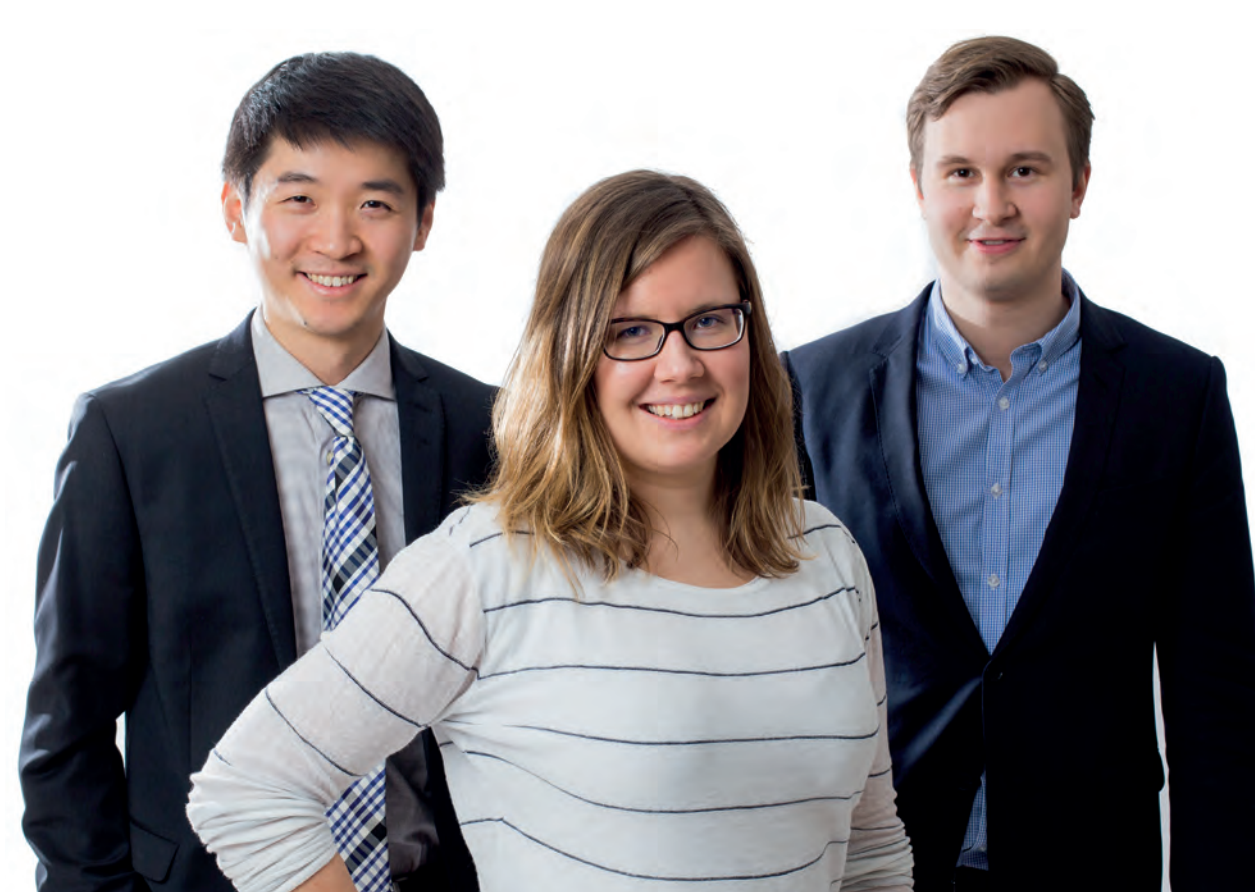


Photo: Arto Tanner.



## Bank of Finland objectives and results framework 2017–2019

	Strategic guideline	Indicator	Objective	Situation		
				12/2015	12/2016	12/2017
I Influence and service capacity	1. The Bank of Finland's influence is built on high-level expertise and research that combines both macroeconomic and financial market perspectives.	ECB Governing Council members' evaluation of the Bank of Finland's influence	> 4	4.1	–	3.8
		Quality-weighted publication index for research	> 32	32	36	25
	2. The Bank of Finland participates in preserving the service level of the financial markets and related infrastructure and offers competitive central bank services to its customers	Quality of central bank services from service users' perspective	> 95% of respondents satisfied	94%	95%	93%
		Consumer satisfaction survey on the quality and availability of cash	> 4	4.1	4.1	4.0
	3. Public confidence in the Bank of Finland and awareness of the Bank's and the Eurosystem's activities are promoted through effective, well-targeted communication.	Results of the Omnibus survey carried out by the market research company Taloustutkimus	Upper quartile of the benchmark group	3/12	3/12	3/12
		Visits (clicks) on the Bank's website	Rising trend	2.2 million	1.9 million	1.6 million <sup>1</sup>
II Efficient use of resources and capital adequacy	4. The Bank of Finland's financial assets are invested in a secure and productive manner in accordance with international commitments and crisis management requirements.	Proportion of highly safe and liquid investments of financial assets	High	High	High	High
		Return on financial assets exceeding the central bank rate on investment currencies	> 0; 5-year moving average	1.15%	0.80%	0.40%
	5. The aim is to enable stable profit distribution to the State without jeopardising the Bank's capital adequacy.	Reserve fund + provisions relative to balance sheet risks	Provisions are increased with the aim of ensuring a sufficiently strong balance sheet under all circumstances.	EUR 5,375 million	EUR 5,576 million	EUR 5,734 million
		Distributed earnings	Stable profit distribution	EUR 98,0 million	EUR 91,0 million	EUR 104,0 million
	6. The Bank of Finland is one of the most efficient central banks in the EU.	Total annual full-time-equivalent jobs	2015: 383 annual full-time equivalent 2016: 400 annual full-time equivalent* 2017: 380 annual full-time equivalent*	375	394*	379*
		Total departmental operating expenses	Budget, 2015: EUR 56 million 2016: EUR 56 million 2017: EUR 56 million	EUR 52.1 million	EUR 53.5 million	EUR 53.4 million

\* Incl. temporary staff.

<sup>1</sup> The Bank of Finland launched a new website at the beginning of 2017. The visitor figures are partially estimates and are not comparable with the figures from previous years.

	Strategic guideline	Indicator	Objective	Situation		
				12/2015	12/2016	12/2017
III Efficiency of internal processes	7. The quality of the Bank of Finland's analytic and operational processes is actively enhanced.	Fulfilled criteria as set out in department-specific agreements on objectives and outcomes	≥ 93%	78%	79%	76%
	8. The Bank of Finland's ICT solutions enable top-quality, influential work by our experts.	Feedback on IT equipment and services	93% satisfied	93%	92%	94%
		Accessibility of ICT in communication technology and content management services (24/7)	≥ 99%	New measure	New measure	99.9%
		Number of serious disruptions	Objective 0	0	0	0
	IT innovations that have increased productivity from the departments' perspective, proportion of departments that met their targets	= 100%	New measure	New measure	100%	
	9. The activities of the Bank of Finland are environmentally sustainable	Total emissions / operating expenses (energy use)	Falling trend	67.5 kg CO <sub>2</sub> emissions/energy use	64.0 kg CO <sub>2</sub> emissions/energy use	61.2 kg CO <sub>2</sub> emissions/energy use
IV Building the future	10. The Bank of Finland raises the expertise and professional competence of its staff.	Annual implementation of personal development plans	Over 80% of plans turn out well	90%	92%	85%
		Education level index	> 5.8	6.0	6.1	6.2
	11. The Bank of Finland cares for the long-term wellbeing of its staff.	Proportion of the minority gender relative to the total number of supervisory staff	Rising trend	30%	30%	36%
		Sick leave absences	Below 3.5%	3.0%	2.5	2.6%
		Employee satisfaction index exceeds external benchmark group result	> 3.5	3.7	–	3.6
	Leadership index exceeds external benchmark group result	> 3.7	4.0	3.9	3.9	

## Personnel

The Bank of Finland cares for the long-term wellbeing of its staff. Regular personnel surveys indicate that wellbeing at work is high in the Bank. Management methods emphasise a good and inspirational work atmosphere and results. The results of the personnel survey carried out in autumn 2017 were good. The work satisfaction index, i.e. the overall result at the Bank of Finland was 3.6 on a scale of 1 to 5. This is higher than the average result, 3.5, of all organisations studied by the Finnish Institute of Occupational Health. In terms of the leadership index, measuring the work of immediate superiors, the Bank has remained at a good level, with a grade of 3.9.

Continuous updating of our knowledge and skills is part of the Bank's values. The personnel have many opportunities to improve their professional skills through, for example, domestic work groups, international committees and working groups, the ESCB's comprehensive courses, high-profile seminars and job rotation.

At the end of 2017, the Bank of Finland had 357 employees. Most, or 98%, held full-time, and 2% part-time positions. 54% of the Bank's staff were men and 46% women. The average age of the employees is 46.8 years.

### **Designated HR partners for each department**

The Personnel and Financial Control division adopted in autumn 2017 an HR partner model in which each department has a designated HR partner, a person supporting managers and personnel in all personnel matters. Under the previous system, the division of work within the personnel department was based on their competence-based areas of expertise, with heads of department always contacting the relevant HR specialist. The objective of this change is to make HR services more fluent and to improve their quality.

### **Summer jobs provide valuable work experience**

The Bank has taken part annually in the nationwide Responsible Summer Job campaign, aimed at challenging employers to provide more and better summer jobs for young people. The Bank of Finland supports youth employment by annually offering summer jobs to about 50 students. Summer trainees were asked to look back on their summer job and give the Bank an overall job rating, which averaged 3.6 (on a scale of 1 to 4). They said the best thing about the summer job was to be made responsible for something that also challenged them to do their best. Team spirit and the good working atmosphere were also much praised. The Bank's website has a summer job blog in which the young people tell about their summer job experiences.

Table 5.

**Human resource management highlights<sup>1</sup>**

	2016	2017
<b>Staff size</b>		
Head count 31.12.	376	357
Man years	394	380
Number of newly retired employees	13	14
Average effective retirement age	60.8 v	61.9 v
<b>Staff structure</b>		
Average staff age	46.4 v	46.8 v
Proportion of experts and superiors	81%	80%
Proportion of women	46%	46%
<b>Salaries and bonuses</b>		
Salaries in relation to market salaries at the Bank of Finland <sup>2</sup>	100%	99%
Negotiated increases	0.43%	–
Bonuses as a proportion of payroll	–	–
Average pay for women / average pay for men	99%	100%
<b>Competence</b>		
Training costs / payroll	3.2%	3.1%
Training days / man-year	5.5	4.9
Education level index <sup>3</sup>	6.1	6.2
<b>Wellness at work</b>		
Absence rate	2.5	2.6
Employee satisfaction index	–	3.6

<sup>1</sup> Figures refer to the Bank of Finland, unless otherwise mentioned. Figures referring to the Financial Supervisory Authority are published in the FIN-FSA Annual Report.

<sup>2</sup> The reference group in the HAY market salary survey is made up of organisations representing the banking and financial sectors, public sector, and industrial and service sectors. The Bank of Finland's remuneration policy is targeted at the median level of the HAY market salary survey for all organisations (basic salary + benefits). The survey also includes FIN-FSA's staff salaries.

<sup>3</sup> Education level index is calculated from the basic level of education of staff. The index varies between 1 and 8.

Table 6.

## Budget for the Bank of Finland

	Outturn 2017 EUR m	Budgeted 2018 EUR m
<b>1. Operating expenses and income</b>		
EXPENSES		
Staff expenses	31.5	32.9
Staff-related expenses	2.9	3.3
Other expenses	25.4	28.4
DEPRECIATION	9.8	9.7
<b>Total</b>	<b>69.5</b>	<b>74.3</b>
Banknote acquisition costs	6.4	2.1
Banking service expenses	5.9	6.6
<b>Total operating expenses</b>	<b>81.8</b>	<b>83.0</b>
INCOME		
Banking service income	2.5	2.7
Real estate	5.5	5.7
Other income	0.3	0.2
Services to FIN-FSA	4.8	5.2
<b>Total income</b>	<b>13.1</b>	<b>13.8</b>
<b>Net</b>	<b>68.7</b>	<b>69.2</b>
<b>2. Investment</b>		
Real estate investment	5.8	5.4
Head office premises	1.3	0.9
Vantaa premises	4.5	4.4
Other premises	0.0	0.1
IT equipment and software	3.1	4.6
Cash handling machines	2.4	0.0
Security equipment	0.8	1.1
Other	0.1	0.0
<b>Total investment</b>	<b>12.2</b>	<b>11.2</b>

Due to rounding, totals/sub-totals may not add up.

Table 7.

## Budget for the Bank of Finland pension fund

	Outturn 2017 EUR m	Budgeted 2018 EUR m
<b>1. Operating expenses and income</b>		
EXPENSES		
Staff expenses	0.1	0.1
Expenses for pension fund activities	0.5	0.5
Pension fund real estate expenses	0.5	0.5
DEPRECIATION	0.9	0.9
PENSIONS		
Pensions paid	27.1	27.6
<b>Total expenses</b>	<b>29.0</b>	<b>29.6</b>
INCOME		
Employment pension contributions	10.0	11.1
Internal rents	1.6	1.6
<b>Total income</b>	<b>11.6</b>	<b>12.7</b>
<b>Net</b>	<b>17.4</b>	<b>16.8</b>

Due to rounding, totals/sub-totals may not add up.

## Budget and operating expenses

### Budget for the Bank of Finland

The Bank of Finland has improved its operational cost-efficiency by the overall control and evaluation of its project proposals. Projects are subject to a cost-benefit analysis based on a separate project delivery model.

In 2017, the Bank of Finland's operating expenses totalled EUR 81.8 million (EUR 85.1 million in 2016). Budgeted operating income amounted to EUR 13.1 million. The Bank's net operating expenses totalled EUR 68.7 million (for more information on operating expenses and the budget, see Table 6). Investments in 2017 totalled EUR 12.2 million.

In autumn 2017, the Bank's budgets for the period 2018–2020 were drawn up and, of these, the Board ratified the budget for 2018. The budgets for 2019–2020 will be ratified at a later date. Operating expenses and related objectives included in the budgets are monitored on a regular basis. The Board evaluates operations and cost-efficiency on the basis of quarterly budgetary monitoring.

### Pension fund budget

The pension fund's operating expenses for 2017 totalled EUR 29.0 million (EUR 29.2 million in 2016). Pensions paid (EUR 27.1 million) constituted the largest cost item. This comprises EUR 27.4 million in pensions and EUR 0.3 million in advances from the Unemployment Insurance Fund. Operating income amounted to EUR 11.6 million (Table 7). The pension fund's operations are presented in its own annual report.



## Budget for the Financial Supervisory Authority

The Board of the Bank of Finland ratifies the budget for the Financial Supervisory Authority (FIN-FSA). In 2017, the FIN-FSA's operating expenses totalled EUR 25.6 million (EUR 25.7 million in 2016). Total income amounted to EUR 28.3 million, of which supervision and processing fees accounted for EUR 25.5 million, while the Bank of Finland's contribution to funding was EUR 1.3 million. The surplus for the financial year was EUR 2.7 million. This will be taken into account in the following accounting period when setting supervision and processing fees (Table 8). Investments for 2017 totalled EUR 1.1 million. The Financial Supervisory Authority's operations are presented in its own annual report.

Table 8.

### Budget for the Financial Supervisory Authority

	<i>Outturn 2017 EUR m</i>	<i>Budgeted 2018 EUR m</i>
<b>1. Operating expenses and income</b>		
<i>EXPENSES</i>		
<i>Staff expenses</i>	15.5	19.7
<i>Staff-related expenses</i>	1.0	1.4
<i>Other expenses</i>	3.5	4.9
<i>DEPRECIATION</i>	0.9	1.2
<i>SERVICES FROM THE BANK OF FINLAND</i>		
<i>Total operating expenses</i>	25.6	32.5
<i>FUNDING OF OPERATIONS</i>		
<i>Supervision fees</i>	23.7	26.9
<i>Processing fees</i>	1.8	1.9
<i>Bank of Finland contribution to funding</i>	1.3	1.6
<i>Surplus/deficit transferred from previous year</i>	1.5	2.1
<b>Total income</b>	<b>28.3</b>	<b>32.5</b>
<i>Surplus transferred to next year</i>	2.7	0.0

*Due to rounding, totals/sub-totals may not add up.*

## Environment

The Bank of Finland ensures that its environmental responsibilities are met across all areas of operations. In 2017, maintenance work was begun on the Vantaa regional office's roof to reduce heat loss by improving insulation. In Helsinki, the Bank's offices were connected to the citywide district cooling infrastructure. Adjustments were made to the air conditioning and heat capture systems in all of the Bank's properties.

Staff restaurants in Helsinki and Vantaa received new dishwashing machines with improved energy and water consumption. The highest carbon footprint of company cars was reduced to 140 grams of CO<sub>2</sub> per kilometre.

The Bank of Finland also participated in a joint environmental initiative with a selection of other European central banks. In total, eleven central banks took part in a programme coordinated by the ECB, where three meetings were held to discuss and share experiences of the environmental challenges faced by central banks and to assess best practices. The Bank of Finland presented the positive impact digitalization has had on the efficiency of its internal services. In the same spirit, the Bank participated in one of the aforementioned meetings via online video.

The Bank monitors the environmental impact of its operations using environmental performance indicators that are proportionate to operating expenses. In 2017, the Bank created 61.17 kilograms of CO<sub>2</sub> emissions for every EUR 1,000 of operating expenses. At the end of 2016, the corresponding figure was 63.96 kilograms of CO<sub>2</sub>.

The main operational tasks of the Bank's Cash Department are related to the counting and sorting of banknotes and the assessment of their authenticity and physical condition. Specialized sorting machines that are able to process up to 33 banknotes per second are used for this purpose. When an authentic banknote is deemed to be in poor physical condition, it is generally destroyed on-line by the sorting machine's shredders and automatically packaged as waste-to-energy.

In 2017, the Bank of Finland acquired two new sorting machines for our regional office in Vantaa, where the majority of sorting takes place. The new machines boast greater energy efficiency and improved automation, which eases requirements for supervision and labour. Greater accuracy in sorting reduces banknote waste and increases the lifespan of paper currency, as a smaller proportion of banknotes is discarded by the sorting process. Furthermore, the shredding and disposal process has been developed so that the

Table 9.

### Bank of Finland's environmental impact

	Volume		
	2015	2016	2017
Electrical energy consumption (MWh)	8,436	8,223	7,584
Heating energy consumption (MWh)	8,349	9,059	9,120
Consumption of office and publication paper (tonnes)	28	10	9
CO <sub>2</sub> emissions from business travel (tonnes)	1,958	1,821	1,938
CO <sub>2</sub> emissions balance (tonnes)	5,636	5,446	5,164

Source: Bank of Finland.

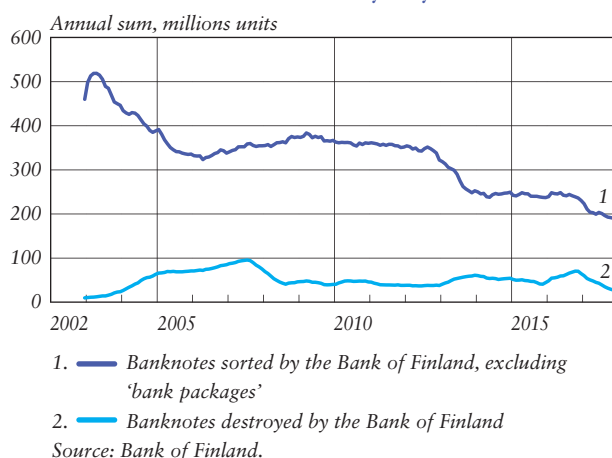
packaged waste takes up less space, allowing for a reduction in transportation costs. Banknote waste is still burned at energy plants to produce heat and electricity.

The overall volume of banknote sorting has lessened as the use of cash has decreased. At the same time, less banknotes are discarded throughout the sorting process. Sorting has also been reduced by the wider adoption of ‘bank packages’, where the currency supply’s private counterparties may store banknotes in bulk overnight without the central bank needing to sort them. The central bank does not open nor sort bank packages; we simply return them to depositors when they order corresponding notes. Annual banknote sorting performed by the Bank of Finland has fallen to under 200 million units (Chart 19).

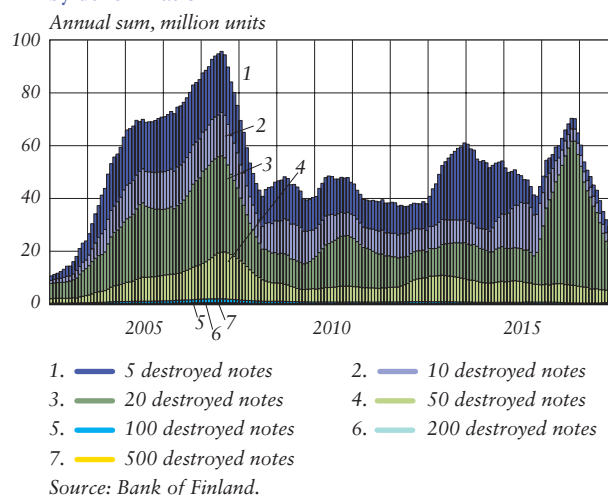
The new Europa series of banknotes has also increased the lifespan of paper currency, as the new banknotes have a coating which improves their durability. The stock of old EUR 20 banknotes has been used up and the elimination rate of the old banknote has decreased following the main replacement procedure (Chart 20). The replacement of EUR 50 banknotes began in late spring 2017. The unfit rate of old EUR 50 banknotes will not be as high as that of other denominations that were changed earlier, as the new sorting machines allow for old notes to be reintroduced into the supply chain at an improved rate.

In 2017, the Cash Department’s vehicle fleet was also upgraded. This led to a reduction in the CO2 and NO emissions associated with cash transport and improved emissions by two emission grades.

**Chart 19.**  
Euro banknotes sorted and destroyed by the Bank of Finland



**Chart 20.**  
Euro banknotes destroyed by the Bank of Finland, by denomination



## Total risk exposure

*Managing its own financial assets and implementing monetary policy both expose the Bank of Finland to risks. These risks are managed and prepared for by risk buffers. Operational risks are assessed in connection with action planning and managed in daily work on a decentralised basis.*

### Financial assets

The Bank of Finland has approximately EUR 14 billion worth of financial assets, consisting of foreign reserves, holdings of gold and assets denominated in euro. The Bank reduced its assets denominated in euro during 2017. The financial assets are exposed to exchange rate risks, interest rate risks, equity risks and credit risks.

The largest fluctuations in the value of the financial assets are caused by exchange rate risk. This is diversified by investing in the pound sterling and the Japanese yen as well as the US dollar. The bulk of the Bank's financial assets are invested in short-term bonds with an average maturity of 1.8 years at the end of 2017. The credit risk attached to the financial assets is managed by rating requirements and limits. Investments made on international stock markets diversify the risks relating to the financial assets.

### Monetary policy operations

The Eurosystem's monetary policy operations are implemented on a decentralised basis. The operations are based on the premise that the risks and returns are shared jointly by the central banks, with each country's share determined by its capital key. However, the risks related to the first and second covered bond purchase programmes (CBPP1 and 2) and the public sector purchase programme (PSPP) in respect of government debt are borne individually by each central bank involved.

The Eurosystem conducts refinancing operations with financially sound counterparties and against adequate collateral. At the end of 2017, around EUR 3 billion of the Eurosystem balance sheet was accounted for by main refinancing operations, while longer-term refinancing operations accounted for around EUR 761 billion. Targeted longer-term refinancing

operations (TLTROs) correspond, in terms of credit risk, to standard refinancing operations, but they have a longer maturity and the applicable interest rate is fixed.

The Securities Markets Programme that ended in 2012 has seen a reduction in assets as securities have matured. At the end of 2017, the Bank of Finland's SMP shares according to the capital key were as follows, by country: Spain EUR 308 million, Ireland EUR 128 million, Italy EUR 869 million, Greece EUR 159 million and Portugal EUR 127 million. The total amount of the already terminated second covered bond purchase programme (CBPP2) on the Bank of Finland's balance sheet was only EUR 97 million at year end.

The ongoing expanded asset purchase programme (EAPP) consists of the covered bond purchase programme (CBPP3), asset-backed securities purchase programme (ABSPP), public sector purchase programme (PSPP), and corporate sector purchase programme (CSPP). The purchase programme total was EUR 2,286 billion at the end of 2017. The Eurosystem has decided that the net purchases under EAPP will, as of January 2018, be EUR 30 billion a month until September 2018. The ECB Governing Council has stated that it is prepared to increase the volume of purchases and/or to lengthen the programme duration if necessary.

Government bonds and government-related bonds purchased by national central banks account for 80% of the PSPP. Under this, the Bank of Finland purchases, above all, Finnish government bonds, the risks of which it assumes itself. Purchases of bonds issued by European institutions, which are subject to a regime of loss-sharing, account for 10% of the programme. The ECB accounts for another 10% of the purchases.

The total volume of Eurosystem monetary policy operations grew by about EUR 900 billion during the course of 2017.

Table 10.

Volume of monetary policy operations at the end of 2017

EUR million	Eurosystem	Bank of Finland's calculated contribution*
Monetary policy refinancing operations	764,310	13,643
Covered bond purchase programmes	251,506	4,489
Securities markets programme	89,134	1,591
Asset-backed securities purchase programme	25,015	447
Public sector purchase programme	1.888,764	33,714
Corporate sector purchase programme	131,593	2,349

\* Calculated as a percentage (1.785%) of total Eurosystem (incl. ECB) operations.

Sources: European Central Bank and Bank of Finland.

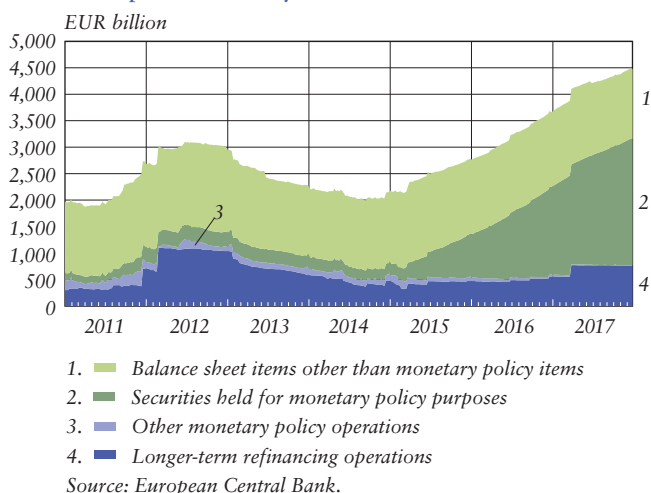
The volume of refinancing operations increased by around EUR 168 billion, and monetary policy purchase programmes by roughly EUR 732 billion.

Total risk exposure on the balance sheet

The Bank of Finland assesses total risk exposure using well-established methods. Market and credit risks to the balance sheet are measured by models based on the Value-at-Risk method, with particular emphasis on the worst percentage of the model outcomes. The risk assessment is supplemented with scenario analyses and stress tests to estimate the losses that could be incurred under possible, but improbable scenarios. In Finnish, the Bank reports on its risks on its website every quarter. In other languages, the reporting interval is longer.

At the end of 2017, total risks to the financial assets and monetary policy operations, calculated for a one-year horizon, amounted to EUR 1.9 billion (excl. gold price risk, Chart 22). The risk figure remained almost unchanged from the previous year. As the revaluation account for gold covers more than half of the gold value, its risk is calculated separately. The 'Notes on risk management' section in the financial statements (p. 93) include the risk figure for gold and the Bank of Finland's total risk exposure figure with gold included.

Chart 21. Developments in Eurosystem balance sheet items

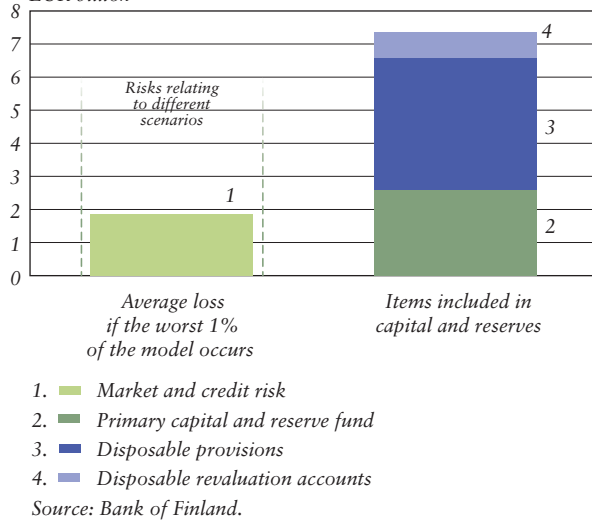


At the end of 2017, the Bank of Finland's capital and reserves totalled EUR 8.8 billion. Of this, the primary capital and reserve fund accounted for EUR 2.6 billion, provisions (excl. pension provision) for EUR 4.0 billion and revaluation accounts for EUR 2.3 billion. The Bank's risk buffers were reduced in 2017 as the revaluation accounts for exchange rates contracted.

A substantial number of long-term bonds with a fixed and rather low yield were purchased under the EAPP. As a result of these purchases the amount of variable rate central bank deposits has increased on



**Chart 22.**  
Bank of Finland's total risk exposure, capital and reserves excl. gold price risk and gold revaluation accounts  
EUR billion

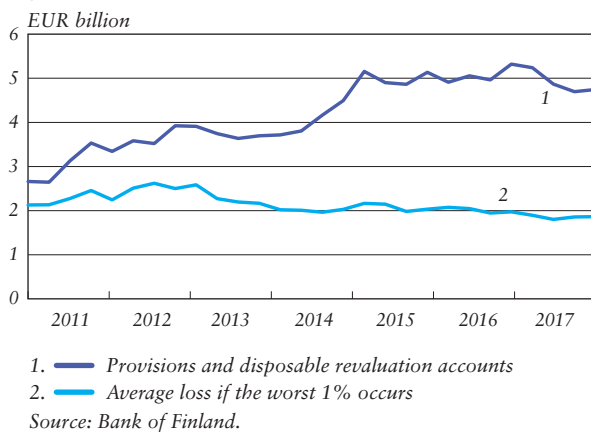


the 'Liabilities' side of the balance sheet. If the interest rate rises, so does the interest payable on central bank deposits, which reduces the central bank's net interest income. The PSPP, in particular, has increased the Bank of Finland's interest rate risk significantly, as the Bank's balance sheet included the programme's bonds to a value of some EUR 28 billion at the end of 2017.

The Bank of Finland's balance sheet expanded during 2017 by EUR 32 billion, of which EUR 17 is attributable to an increase in monetary policy operations. A major cause for the balance sheet expansion is an increase of EUR 29 billion in central bank deposits by the Bank's counterparties, which also increased receivables within the Eurosystem.

Implementation of monetary policy and safeguarding the stability and functioning of the financial system are core central bank tasks. This involves risks, which may entail losses. The Bank of Finland is prepared for risks by ensuring balance sheet strength by accumulating provisions and capital resources and by reducing risks to financial assets, wherever needed. The Bank's capital adequacy is sufficient to cover the risks arising from the exercise of its functions.

**Chart 23.**  
Development of risks and risk buffers, excl gold and gold revaluation account  
EUR billion







SUOMEN PANKKI  
FINLAND BANK

Photo: Peter Mickelsson





# **Financial statements**

## Balance sheet

<i>EUR million</i>	<i>31 Dec 2017</i>	<i>31 Dec 2016</i>
<b>ASSETS</b>		
1 <i>Gold and gold receivables</i>	1,706	1,731
2 <i>Claims on non-euro area residents denominated in foreign currency</i>	6,850	7,852
<i>Receivables from the International Monetary Fund (IMF)</i>	1,744	2,048
<i>Balances with banks and security investments, external loans and other external assets</i>	5,106	5,804
3 <i>Claims on euro area residents denominated in foreign currency</i>	478	648
4 <i>Claims on non-euro area residents denominated in euro</i>	1,231	1,803
5 <i>Lending to euro area credit institutions related to monetary policy operations denominated in euro</i>	10,148	6,728
6 <i>Other claims on euro area credit institutions denominated in euro</i>	209	31
7 <i>Securities of euro area residents denominated in euro</i>	44,995	32,761
<i>Securities held for monetary policy purposes</i>	39,588	25,786
<i>Other securities</i>	5,407	6,975
8 <i>Intra-Eurosystem claims</i>	44,750	26,609
<i>Participating interest in ECB</i>	144	144
<i>Claims equivalent to the transfer of foreign reserves</i>	728	728
<i>Net claims related to the allocation of euro banknotes within the Eurosystem</i>	3,751	3,879
<i>Other claims within the Eurosystem (net)</i>	40,127	21,858
9 <i>Other assets</i>	697	1,341
<i>Coins of euro area</i>	31	35
<i>Tangible and intangible fixed assets</i>	126	131
<i>Other current assets</i>	50	638
<i>Other</i>	490	536
<b>Total assets</b>	<b>111,065</b>	<b>79,505</b>

Totals/sub-totals may not add up due to rounding.



<i>EUR million</i>	<i>31 Dec 2017</i>	<i>31 Dec 2016</i>
<b>LIABILITIES</b>		
1 <i>Banknotes in circulation</i>	19,223	18,492
2 <i>Liabilities to euro area credit institutions related to monetary policy operations denominated in euro</i>	76,762	47,665
<i>Current accounts (covering the minimum reserve system)</i>	53,421	29,065
<i>Deposit facility</i>	23,341	18,600
3 <i>Other liabilities to euro area credit institutions denominated in euro</i>	409	31
4 <i>Liabilities to other euro area residents denominated in euro</i>	1,000	–
5 <i>Liabilities to non-euro area residents denominated in euro</i>	2,601	1,625
6 <i>Liabilities to euro area residents denominated in foreign currency</i>	–	–
7 <i>Liabilities to non-euro area residents denominated in foreign currency</i>	–	–
8 <i>Counterpart of special drawing rights allocated by the IMF</i>	1,413	1,516
9 <i>Intra-Eurosystem liabilities</i>	–	–
10 <i>Other liabilities</i>	65	32
11 <i>Revaluation accounts</i>	2,256	2,982
12 <i>Provisions</i>	4,579	4,468
13 <i>Capital and reserves</i>	2,602	2,562
<i>Primary capital</i>	841	841
<i>Reserve fund</i>	1,761	1,721
14 <i>Profit for the financial year</i>	156	131
<i>Total liabilities</i>	<b>111,065</b>	<b>79,505</b>

## Profit and loss account

<i>EUR million</i>	<i>1 Jan–31 Dec 2017</i>	<i>1 Jan–31 Dec 2016</i>
1 <i>Interest income</i>	617	483
2 <i>Interest expenses</i>	-50	-14
3 <b>NET INTEREST INCOME</b>	567	469
4 <i>Foreign exchange rate differences</i>	41	27
5 <i>Securities price differences</i>	19	74
6 <i>Valuation losses related to currencies and securities</i>	-44	-49
7 <i>Change in foreign exchange rate and price difference provision</i>	-16	-53
<b>NET RESULT OF FINANCIAL OPERATIONS, WRITE-DOWNS AND RISK PROVISIONS</b>	567	469
8 <i>Income and expenses on fees and commissions</i>	-3	-2
9 <i>Net result of pooling of monetary income</i>	-264	-190
10 <i>Provision against losses in monetary policy operations</i>	-1	-
11 <i>Share in ECB profit</i>	4	5
12 <i>Income from other equity shares and participating interests</i>	22	20
<b>CENTRAL BANKING PROFIT</b>	325	302
13 <i>Other income</i>	30	31
<i>Operating expenses</i>	-97	-101
14 <i>Staff costs</i>	-47	-48
15 <i>Administrative expenses</i>	-32	-32
16 <i>Depreciation of fixed assets</i>	-11	-10
17 <i>Banknote procurement costs</i>	-6	-10
18 <i>Other expenses</i>	-0	-0
<b>OPERATING PROFIT</b>	258	232
<i>Profit for the pension fund</i>	-	-
19 <i>Income of the pension fund</i>	31	32
20 <i>Expenses of the pension fund</i>	-31	-32
21 <i>Changes in provisions</i>	-102	-101
22 <b>PROFIT FOR THE FINANCIAL YEAR</b>	156	131

## The Board's proposal on the distribution of profit

The Board proposes to the Parliamentary Supervisory Council that EUR 52,132,672.68 of the profit of EUR 156,132,672.68 be transferred to the reserve fund in accordance with section 21, subsection 2 of the Act on the Bank of Finland and that the remaining EUR 104,000,000.00 be made available for the needs of the State.

Helsinki, 20 February 2018

THE BOARD OF THE BANK OF FINLAND

Erkki Liikanen, Chairman

Olli Rehn

Marja Nykänen

./. Mika Pösö

# Accounting conventions

## 1. General accounting conventions

The Bank of Finland observes the economic-based accounting principles and techniques adopted by the Governing Council of the ECB, and the Bank's annual accounts are drawn up in accordance with these harmonised principles. In accordance with section 11 of the Act on the Bank of Finland, the Parliamentary Supervisory Council confirms, on the proposal of the Board, the principles applied in drawing up the annual accounts.

The Bank of Finland's profit and loss account also comprises income and expenses of the Bank's pension fund and of the Financial Supervisory Authority. The ECB guideline on accounting and financial reporting does not regulate accounting for the pension fund.

## 2. Revaluation of items denominated in foreign currency and gold

Items denominated in foreign currency and gold are converted into euro at the exchange rate prevailing on the balance sheet date. Foreign currency-denominated items have been revaluated on a currency-by-currency basis. Revaluation differences related to foreign exchange rate movements and securities price movements are treated separately. Unrealised gains are recorded in revaluation accounts. Unrealised losses are taken to the profit and loss account if they exceed previous corresponding unrealised revaluation gains registered in the revaluation accounts. Unrealised losses taken to the profit and loss account are not reversed against any future unrealised gains in subsequent years. In the case of gold, no distinction is made between the price and currency revaluation differences for gold. Instead, a single gold valuation is made. Realised gains and losses related to foreign exchange rate movements during the financial year are calculated on the basis of the daily net average cost method. Foreign exchange rates used in the financial statements are presented in the table below.

<i>Currency</i>	<i>2017</i>	<i>2016</i>
<i>US dollar</i>	<i>1.1993</i>	<i>1.0541</i>
<i>Japanese yen</i>	<i>135.0100</i>	<i>123.4000</i>
<i>Swedish krona</i>	<i>9.8438</i>	<i>9.5525</i>
<i>Swiss franc</i>	<i>1.1702</i>	<i>1.0739</i>
<i>Pound sterling</i>	<i>0.8872</i>	<i>0.8562</i>
<i>Canadian dollar</i>	<i>1.5039</i>	<i>1.4188</i>
<i>Special Drawing Rights (SDR)</i>	<i>0.8420</i>	<i>0.7846</i>
<i>Gold</i>	<i>1,081.8810</i>	<i>1,098.0460</i>

## 3. Valuation and amortisation of securities

Income and expenses are recognised in the period in which they are earned or incurred. Realised income and expenses are entered in the profit and loss account. The difference between the acquisition price and nominal value of securities is entered as income or expense over the maturity of the security. Gains and losses related to securities price movements have been calculated on the basis of the average cost method.

Unrealised gains are recorded in revaluation accounts. Unrealised losses are taken to the profit and loss account if they exceed previous corresponding unrealised revaluation gains registered in the revaluation accounts. Unrealised losses taken to the profit and loss account are not reversed against any future unrealised gains in subsequent years. Both euro-denominated and foreign currency-denominated securities are valued on a security-by-security basis. If unrealised losses are entered in the profit and loss account in respect of a security or a currency, the average price of the security or the net average rate of the currency is adjusted correspondingly before the beginning of the next financial year.

Reverse repurchase agreements, or reverse repos, are recorded as collateralised outward loans on the assets side of the balance sheet. Repurchase agreements, or repos, are recorded as collateralised inward deposits on the liabilities side of the balance sheet. Securities sold under repurchase agreements remain on the Bank's balance sheet.

#### *Securities held for monetary policy purposes*

Securities currently held for monetary policy purposes are accounted for at amortised cost subject to impairment, regardless of the holding intention.

#### *Securities other than those held for monetary policy purposes*

Marketable securities and similar assets are valued either at the mid-market prices or on the basis of the relevant yield curve prevailing on the balance sheet date, on a security-by-security basis. For 2017, mid-market prices on 29 December 2017 were used.

Real estate funds are valued on the basis of the last available price. The prices are in January, when funds are reported the prices on the balance sheet date.

#### **4. Accounting conventions relating to intra-ESCB balances**

Intra-Eurosystem balances result primarily from cross-border payments in the EU that are settled in central bank money in euro. These transactions are for the most part initiated by private entities. They are settled in TARGET2 – the Trans-European Automated Real-time Gross settlement Express Transfer system – and give rise to bilateral balances in the TARGET2 accounts of EU central banks. These bilateral balances are netted and then assigned to the ECB on a daily basis, leaving each national central bank (NCB) with a single net bilateral position vis-à-vis the ECB only.

Intra-Eurosystem balances of the Bank of Finland vis-à-vis the ECB arising from TARGET2, as well as other intra-Eurosystem balances denominated in euro (e.g. interim profit distributions to NCBs, net result of pooling of monetary income), are presented on the balance sheet of the Bank of Finland as a single net asset or liability position and disclosed under ‘Other claims within the Eurosystem (net)’ or ‘Other liabilities within the Eurosystem (net)’. Intra-ESCB balances of non-euro area NCBs not arising from TARGET2 are disclosed either under ‘Claims on non-euro area residents denominated in euro’ or ‘Liabilities to non-euro area residents denominated in euro’.

Intra-Eurosystem balances arising from the Bank of Finland’s participating interest in the ECB are reported under ‘Participating interest in ECB’.

Intra-Eurosystem balances arising from the allocation of euro banknotes within the Eurosystem are included as a single net asset under ‘Net claims related to the allocation of euro banknotes within the Eurosystem’ (see ‘Banknotes in circulation’ in the notes on accounting conventions).

Intra-Eurosystem balances arising from the transfer of foreign reserve assets to the ECB by NCBs joining the Eurosystem are denominated in euro and reported under ‘Claims equivalent to the transfer of foreign reserves’.

#### **5. Valuation of fixed assets**

Fixed assets are valued at cost less depreciation. Depreciation is calculated on a straight-line basis over the expected economic lifetime of an assets, beginning as a rule in the calendar month following acquisition.

The counteritem of buildings and land capitalised in the 1999 balance sheet at market prices is the revaluation account. Depreciation in respect of buildings and land has been entered by adjusting the revaluation account downwards so that depreciation does not affect the Bank’s income or expense.

The economic lifetimes of assets are calculated as follows:

- computers, related hardware and software, and motor vehicles: 4 years
- machinery and equipment: 10 years
- buildings: 25 years.

Fixed assets with a value of less than EUR 10,000 are written off in the year of acquisition.



## 6. Banknotes in circulation

The ECB and the 19 euro area NCBs, which together comprise the Eurosystem, issue euro banknotes.<sup>1</sup> The total value of euro banknotes in circulation is allocated to the NCBs on the last banking day of each month in accordance with the banknote allocation key.<sup>2</sup> The ECB has been allocated a share of 8% of the total value of euro banknotes in circulation, whereas the remaining 92% has been allocated to NCBs according to the banknote allocation key. This is disclosed under the balance sheet liability item 'Banknotes in circulation'. The difference between the value of euro banknotes allocated to each NCB in accordance with the banknote allocation key and the value of euro banknotes that it actually puts into circulation also gives rise to remunerated<sup>3</sup> intra-Eurosystem balances. These claims or liabilities are disclosed under the sub-item 'Intra-Eurosystem claims/liabilities: Net claims/liabilities related to the allocation of euro banknotes within the Eurosystem'. In the Bank of Finland's balance sheet, the item is on the asset side.

The monetary income on euro banknotes is allocated in proportion to the NCBs' paid-up shares in the capital of the ECB. The interest income and expense on these balances is cleared through the accounts of the ECB and is disclosed under 'Net interest income'. The ECB's capital key is adjusted every five years and whenever a new Member State joins the European Union.

The income accruing to the ECB on the share of 8% of the total value of euro banknotes in circulation is primarily distributed to the NCBs.<sup>4</sup>

## 7. Interim profit distribution by the ECB

The Governing Council of the ECB has decided that the seigniorage income of the ECB, which arises from the 8% share of euro banknotes allocated to the ECB, and the ECB's (net) income arising from securities purchased under the a) securities markets programme, b) the third covered bond purchase programme, c) the asset-backed securities purchase programme and d) the public sector purchase programme is due in full to the NCBs in the same financial year it accrues. Unless otherwise decided by the Governing Council, the ECB distributes this income in January of the following year in the form of an interim distribution of profit<sup>5</sup>. It is distributed in full unless it is higher than the ECB's net profit for the year and subject to any decisions by the Governing Council to make transfers to the provision for foreign exchange rate, interest rate, credit and gold price risks.

The Governing Council may also decide to reduce the amount of the income on euro banknotes in circulation to be distributed in January by the amount of the costs incurred by the ECB in connection with the issue and handling of euro banknotes. The amount distributed to NCBs is disclosed in the profit and loss account under 'Income from other equity shares and participating interests'.

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<sup>1</sup> Decision of the European Central Bank of 13 December 2010 on the issue of euro banknotes (ECB/2010/29), OJ L 35, 9.2.2011, p. 26.

<sup>2</sup> 'Banknote allocation key' means the percentages that result from taking into account the ECB's share in the total euro banknote issue and applying the subscribed capital key to the NCBs' share in that total.

<sup>3</sup> Decision (EU) 2016/2248 of the European Central Bank of 3 November 2016 on the allocation of monetary income of the national central banks of Member States whose currency is the euro (ECB/2016/36).

<sup>4</sup> Decision (EU) 2015/298 of the European Central Bank of 15 December 2014 on the interim distribution of the income of the European Central Bank (ECB/2014/57) (recast), OJ L 53, 25.2.2015, p. 24.

<sup>5</sup> Decision (EU) 2015/298 of the European Central Bank of 15 December 2014 on the interim distribution of the income of the European Central Bank (ECB/2014/57) (recast), OJ L 53, 25.2.2015, p. 24.

*Key for subscription of the ECB's capital  
from 1 January 2015*

	ESCB, capital key, %	Eurosystem, capital key, %
<i>Nationale Bank van België/Banque Nationale de Belgique</i>	2.4778	3.52003
<i>Deutsche Bundesbank</i>	17.9974	25.56743
<i>Eesti Pank</i>	0.1928	0.27390
<i>Banc Ceannais na hÉireann/Central Bank of Ireland</i>	1.1607	1.64892
<i>Bank of Greece</i>	2.0332	2.88842
<i>Banco de España</i>	8.8409	12.55961
<i>Banque de France</i>	14.1793	20.14334
<i>Banca d'Italia</i>	12.3108	17.48904
<i>Central Bank of Cyprus</i>	0.1513	0.21494
<i>Latvijas Banka</i>	0.2821	0.40076
<i>Lietuvos bankas</i>	0.4132	0.58700
<i>Banque centrale du Luxembourg</i>	0.2030	0.28839
<i>Bank Ċentrali ta' Malta/Central Bank of Malta</i>	0.0648	0.09206
<i>De Nederlandsche Bank</i>	4.0035	5.68748
<i>Oesterreichische Nationalbank</i>	1.9631	2.78883
<i>Banco de Portugal</i>	1.7434	2.47672
<i>Banka Slovenije</i>	0.3455	0.49083
<i>Národná banka Slovenska</i>	0.7725	1.09743
<i>Suomen Pankki – Finlands Bank</i>	1.2564	1.78487
<b><i>Subtotal Eurosystem</i></b>	<b>70.3916</b>	<b>100.0000</b>
<i>Българска народна банка (Bulgarian National Bank)</i>	0.8590	
<i>Česká národní banka</i>	1.6075	
<i>Danmarks Nationalbank</i>	1.4873	
<i>Hrvatska narodna banka</i>	0.6023	
<i>Magyar Nemzeti Bank</i>	1.3798	
<i>Narodowy Bank Polski</i>	5.1230	
<i>Banca Națională a României</i>	2.6024	
<i>Sveriges riksbank</i>	2.2729	
<i>Bank of England</i>	13.6743	
<b><i>Subtotal for non-euro area NCBs</i></b>	<b>29.6084</b>	
<b><i>Total</i></b>	<b>100.0000</b>	

## 8. Pension fund

In 2001 the decision was made to create a pension fund in the Bank of Finland's balance sheet for the management of the Bank's pension liability. The purpose of this measure, which came into force at the beginning of 2002, was to ensure that the funds related to the coverage of the pension liability are invested in a lucrative manner. In 2017, the Board of the Bank of Finland decided to transfer the pension fund's investment assets to be managed as part of the Bank's financial assets. The balance sheet arrangements did not change the Bank's position as a pension institution. A separate annual report is prepared on the Bank's pension fund. The assets of the pension fund are recorded in the Bank of Finland's balance sheet.

The pension fund's real estate is recorded in the balance sheet at value prevailing on transfer date less annual depreciation. If the balance sheet value of real estate has been covered by revaluation, the corresponding depreciation is recorded by reversing the revaluation so that depreciation has no impact on the pension fund's income or expense.

## 9. Recording of provisions

Provisions can be made in the annual accounts, if they are necessary for safeguarding the real value of the Bank's funds or for smoothing out variations in profit and loss arising from changes in exchange rates or market value of securities. Provisions can also be made, as necessary, to cover the Bank's pension liability.

## 10. Off-balance sheet commitments

Profits and losses arising from off-balance sheet instruments are treated in a similar manner to on-balance sheet instruments. Foreign exchange forward transactions are taken into account in calculating the net average cost of the currency position.

## 11. Changes in accounting conventions

There were no changes in accounting conventions in the financial year 2017.

## Notes on the balance sheet

### Assets

#### 1. Gold and gold receivables

The Bank's holdings of gold total 1,576,487 troy ounces (1 troy ounce = 31.103 g). In the annual accounts, gold has been valued at market price. At the beginning of 1999 the Bank of Finland – and the other national central banks (NCBs) participating in the Eurosystem – transferred about 20% of its gold holdings to the ECB.

#### Gold

	31 Dec 2017	31 Dec 2016
Holdings (troy ounces, million)	1.6	1.6
Price: EUR per troy ounce	1,081.9	1,098.0
Market price (EUR m)	1,705.6	1,731.1
Change in market value (EUR m)	-25.5	196.8

#### 2. Claims on non-euro area residents denominated in foreign currency

The item consists of claims on non-euro area residents denominated in foreign currency and included in the Bank's foreign reserves, and holdings of special drawing rights (SDRs) allocated by the International Monetary Fund (IMF).

##### 2.1 Receivables from the International Monetary Fund (IMF)

##### Breakdown of receivables from the IMF denominated in foreign currency

	31 Dec 2017		31 Dec 2016	
	EUR m	SDR m	EUR m	SDR m
Reserve tranche in the IMF	256.5	216.0	357.6	280.5
Special drawing rights (SDRs)	1,331.3	1,121.0	1,430.4	1,122.2
Other receivables from the IMF	156.0	131.3	260.0	204.0
<b>Total</b>	<b>1,743.9</b>	<b>1,468.4</b>	<b>2,047.9</b>	<b>1,606.7</b>

##### EUR/SDR exchange rate in financial years 2016 and 2017

	2017	2016
End-March	0.7874	0.8080
End-June	0.8199	0.7950
End-September	0.8355	0.7998
End-December	0.8420	0.7846

Finland's quota in the IMF is SDR 2,410.6 million. The reserve tranche is the part of the Bank's quota that has been paid to the IMF in foreign currency. Another part of the quota was formerly paid to the IMF in Finnish markka. The IMF has lent this part back to the Bank of Finland. The net effect of the Finnish markka quota on the Bank's balance sheet is zero, since the above-mentioned receivables and the liability are included in the same balance sheet item.

The Bank of Finland's SDR allocation amounts to EUR 1,331.3 million. The SDRs are reserve assets created and allocated by the IMF to its member countries. They are used in currency transactions as normal currency units. The value of the sub-item changes on the basis of foreign exchange transactions between the member countries. It is also affected by interests earned and paid as well as remuneration on the Bank's claims in the IMF.

The Bank of Finland's receivables from the IMF total EUR 1,743.9 million.

## 2.2 Balances with banks and security investments, external loans and other external assets

This item includes foreign currency-denominated deposits and security investments, as well as external loans and other external assets denominated in foreign currency.

### Breakdown of claims on non-euro area residents denominated in foreign currency

	31 Dec 2017 EUR m	31 Dec 2016 EUR m	Change EUR m
Deposits	41.0	85.1	-44.1
Coupon papers	4,172.3	4,735.9	-563.6
Discount papers	136.4	99.2	37.2
Other	756.1	884.2	-128.1
<b>Total</b>	<b>5,105.8</b>	<b>5,804.4</b>	<b>-698.6</b>

### Currency breakdown of securities of non-euro area residents denominated in foreign currency

Currency	31 Dec 2017		31 Dec 2016	
	EUR m	%	EUR m	%
Pound sterling	408.1	9.5	458.1	9.5
US dollar	3,648.7	84.7	4,109.6	85.0
Japanese yen	252.0	5.8	267.5	5.5
<b>Total</b>	<b>4,308.7</b>	<b>100.0</b>	<b>4,835.2</b>	<b>100.0</b>

### Remaining maturity of securities of non-euro area residents denominated in foreign currency

Maturity	31 Dec 2017		31 Dec 2016	
	EUR m	%	EUR m	%
Up to 1 year	646.7	15.0	1,158.7	24.0
Over 1 year	3,662.0	85.0	3,676.4	76.0
<b>Total</b>	<b>4,308.7</b>	<b>100.0</b>	<b>4,835.2</b>	<b>100.0</b>

## 3. Claims on euro area residents denominated in foreign currency

This item consists of foreign currency-denominated deposits and securities, as well as other claims on euro area residents denominated in foreign currency.

### Breakdown of claims on euro area residents denominated in foreign currency

	31 Dec 2017 EUR m	31 Dec 2016 EUR m	Change EUR m
Coupon papers	504.1	716.1	-212.1
Other	-25.7	-68.1	-42.4
<b>Total</b>	<b>478.4</b>	<b>648.0</b>	<b>-169.7</b>

### Currency breakdown of securities of euro area residents denominated in foreign currency

Currency	31 Dec 2017		31 Dec 2016	
	EUR m	%	EUR m	%
Pound sterling	161.3	32.0	202.4	28.3
US dollar	342.8	68.0	513.8	71.7
<b>Total</b>	<b>504.1</b>	<b>100.0</b>	<b>716.1</b>	<b>100.0</b>

*Remaining maturity of securities of euro area residents denominated in foreign currency*

<i>Maturity</i>	<i>31 Dec 2017</i>		<i>31 Dec 2016</i>	
	<i>EUR m</i>	<i>%</i>	<i>EUR m</i>	<i>%</i>
<i>Up to 1 year</i>	222.0	44.1	185.4	25.9
<i>Over 1 year</i>	282.0	55.9	530.7	74.1
<b><i>Total</i></b>	<b>504.1</b>	<b>100.0</b>	<b>716.1</b>	<b>100.0</b>

**4. Claims on non-euro area residents denominated in euro**

This item includes euro-denominated deposits with non-euro area banks, securities issued outside the euro area as well as other euro-denominated claims.

*Claims on non-euro area residents denominated in euro*

	<i>31 Dec 2017</i>	<i>31 Dec 2016</i>	<i>Change</i>
	<i>EUR m</i>	<i>EUR m</i>	<i>EUR m</i>
<i>Deposits</i>	279.2	381.6	-102.4
<i>Coupon papers</i>	952.2	1,421.2	-469.1
<i>Other</i>	0.1	0.1	-0.0
<b><i>Total</i></b>	<b>1,231.4</b>	<b>1,802.9</b>	<b>-571.5</b>

*Remaining maturity of securities of non-euro area residents denominated in euro*

<i>Maturity</i>	<i>31 Dec 2017</i>		<i>31 Dec 2016</i>	
	<i>EUR m</i>	<i>%</i>	<i>EUR m</i>	<i>%</i>
<i>Up to 1 year</i>	129.8	13.6	388.6	27.3
<i>Over 1 year</i>	822.4	86.4	1,032.7	72.7
<b><i>Total</i></b>	<b>952.2</b>	<b>100.0</b>	<b>1,421.2</b>	<b>100.0</b>

**5. Lending to euro area credit institutions related to monetary policy operations denominated in euro**

This item includes monetary policy instruments used by the Bank of Finland to implement monetary policy as part of the Eurosystem. The item consists of interest-bearing credit to Finnish credit institutions, and the amount recorded is determined by the credit institutions' liquidity needs.

The Eurosystem's total claims on monetary policy operations amount to EUR 764.310 million, of which the Bank of Finland holds EUR 10,148.3 million on its balance sheet. In accordance with Article 32.4 of the ESCB Statute, losses from monetary policy operations, if they were to materialise, are shared in full by the Eurosystem NCBs, in proportion to the prevailing ECB capital key shares. Losses can only materialise if both the counterparty fails and the recovery of funds received from the resolution of the collateral provided by the counterparty is not sufficient. It should be noted that for specific collateral which can be accepted by NCBs at their own discretion, risk sharing has been excluded by the Governing Council of the ECB.

**5.1 Main refinancing operations**

Main refinancing operations (MROs) are liquidity providing reverse transactions which are executed with a weekly frequency and a maturity of one week. They are conducted as fixed rate tender procedures. Main refinancing operations play a key role in achieving the aims of steering interest rates, managing market liquidity and signalling the monetary policy stance.

**5.2 Longer-term refinancing operations**

These operations (LTROs) aim to provide counterparties with additional longer-term refinancing. In 2017 operations were conducted with maturities equal to the reserve



maintenance period and with maturities of 3–48 months. The operations were conducted at fixed rate with allotment of the total amount bid.

Additionally, in 2016 the Governing Council introduced a new series of targeted longer-term refinancing operations (TLTRO II). These operations have a four-year maturity, with a possibility of repayment after two years. The applicable interest rate for TLTRO II operations depends on the individual lending benchmark of the respective counterparty between the date of allotment and January 2018. The actual rate will be set in 2018 and will be between the MRO rate and the deposit facility rate at the time of the allotment. Given that the actual rate is only known in 2018 and a reliable estimate is not possible at this juncture, the deposit facility rate has been used for calculating the TLTRO II interest for 2017, as this is deemed a prudent approach.

### 5.3 Fine-tuning reverse operations

Fine-tuning reverse operations aim to regulate the market liquidity situation and steer interest rates, particularly to smooth the effects on interest rates caused by unexpected market fluctuations. Owing to their nature, they are executed on an ad-hoc basis.

### 5.4 Structural reverse operations

These are reverse open-market transactions through standard tenders to enable the Eurosystem to adjust its structural liquidity position vis-à-vis the financial sector.

### 5.5 Marginal lending facility

Counterparties may use the marginal lending facility to obtain overnight liquidity from NCBs against eligible assets.

### 5.6 Credits related to margin calls

This item refers to cash paid to counterparties in those instances where the market value of the collateral exceeds an established trigger point implying an excess of collateral with respect to outstanding monetary policy operations.

#### *Lending to euro area credit institutions related to monetary policy operations denominated in euro*

	31 Dec 2017 EUR m	31 Dec 2016 EUR m	Change EUR m
Main refinancing operations	–	–	–
Longer-term refinancing operations	10,148.3	6,728.3	3,420.0
Fine-tuning reverse operations	–	–	–
Structural reverse operations	–	–	–
Marginal lending facility	–	–	–
Credits related to margin calls	–	–	–
<b>Total</b>	<b>10,148.3</b>	<b>6,728.3</b>	<b>3,420.0</b>

### 6. Other claims on euro area credit institutions denominated in euro

This item consists of euro-denominated deposits and balances with euro area credit institutions.

	31 Dec 2017 EUR m	31 Dec 2016 EUR m	Change EUR m
Current accounts	0.0	0.1	–0.1
Reverse repurchase agreements	209.1	30.6	178.5
Emergency Liquidity Assistance	–	–	–
<b>Total</b>	<b>209.1</b>	<b>30.8</b>	<b>178.4</b>

On 17 May 2017, the Governing Council decided to publish the text of the Emergency Liquidity Assistance (ELA) agreement with the aim of further increasing transparency regarding ELA. This publication replaces the ELA procedures document that has been available on the ECB website since October 2013. For the text of the press release, click on: <http://www.ecb.europa.eu/press/pr/date/2017/html/ecb.pr170619.en.html>.

## 7. Securities of euro area residents denominated in euro

In order to report securities held for monetary policy purpose separately, the item ‘Securities of euro area residents denominated in euro’ has been divided into two sub-positions: ‘Securities held for monetary policy purposes’ and ‘Other securities’.

### 7.1 Securities held for monetary policy purposes

As at 31 December 2017 this item consisted of securities acquired by the Bank of Finland within the scope of the three covered bond purchase programmes<sup>6</sup>, the securities markets programme (SMP)<sup>7</sup>, the public sector purchase programme (PSPP)<sup>8</sup> and the corporate sector purchase programme (CSPP)<sup>9</sup>.

Purchases under the first covered bond purchase programme (CBPP1) were completed on 30 June 2010, while the second covered bond purchase programme (CBPP2) ended on 31 October 2012. The SMP was terminated on 6 September 2012.

In 2017 the Eurosystem continued its securities purchases under the expanded asset purchase programme (APP)<sup>10</sup>, which includes the third covered bond purchase programme (CBPP3), the asset-backed securities purchase programme (ABSPP), the public sector purchase programme (PSPP supra) and the corporate sector purchase programme (CSPP). The monthly pace of combined net APP purchases by the NCBs and the ECB was EUR 80 billion on average until March 2017 and EUR 60 billion from April 2017 until the end of the year. Based on the Governing Council decision taken in October 2017, these purchases are intended to continue at a monthly pace of EUR 30 billion from January to September 2018 or beyond, if necessary, and, in any case, until the Governing Council sees a sustained adjustment in the path of inflation that is consistent with its inflation aim. The net purchases will be made alongside reinvestments of the principal payments from maturing securities purchased under the APP.

The securities purchased under all of these programmes are valued on an amortised cost basis subject to impairment (see ‘Valuation and amortisation of securities’ in the notes on accounting conventions).

The amortised cost of the securities held by the Bank of Finland, as well as their market value<sup>11</sup>, (which is not recorded on the balance sheet or in the profit and loss account but is provided for comparison purposes only), are as follows:

<sup>6</sup> Decision ECB/2009/16 of 2 July 2009 on the implementation of the covered bond purchase programme (OJ L 175, 4.7.2009, p. 18); decision ECB/2011/17 of 3 November 2011 on the implementation of the second covered bond purchase programme (OJ L 297, 16.11.2011, p. 70) and decision ECB/2014/40 of 15 October 2014 on the implementation of the third covered bond purchase programme (OJ L 335, 22.11.2014, p. 22).

<sup>7</sup> Decision ECB/2010/5 of 14 May 2010 establishing a securities markets programme (OJ L 124, 20.5.2010, p. 8).

<sup>8</sup> Decision ECB/2015/10 of 4 March 2015 on a secondary markets public sector asset purchase programme (OJ L 121, 14.5.2015, p. 20), as amended.

<sup>9</sup> Decision ECB/2016/16 of 1 June 2016 establishing a corporate sector purchase programme (OJ L 157, 15.6.2016, p. 28).

<sup>10</sup> Further details for the APP can be found on the ECB’s website: <https://www.ecb.europa.eu/mopol/implementation/html/index.en.html>.

<sup>11</sup> Market values are indicative and are derived on the basis of market quotes. When market quotes are not available, market prices are estimated using internal Eurosystem models.

Securities held for monetary policy purposes

	31 Dec 2017 EUR m		31 Dec 2016 EUR m		Change EUR m	
	Balance sheet value	Market value	Balance sheet value	Market value	Balance sheet value	Market value
First covered bond purchase programme (CBPP1)	–	–	15.1	15.4	–15.1	–15.4
Second covered bond purchase programme (CBPP2)	97.0	101.4	170.7	178.2	–73.7	–76.8
Third covered bond purchase programme (CBPP3)	5,335.1	5,381.1	3,603.4	3,660.8	1,731.7	1,720.3
Securities markets programme (SMP)	1,341.9	1,485.4	1,606.0	1,784.9	–264.1	–299.5
Public sector asset purchase programme (PSPP sovereign)	25,167.7	25,242.5	18,902.4	19,140.1	6,265.3	6,102.4
Public sector asset purchase programme (PSPP supra)	3,067.3	3,089.8	–	–	3,067.3	3,089.8
Corporate sector purchase programme (CSPP)	4,579.0	4,539.4	1,488.2	1,473.4	3,090.9	3,065.9
<b>Total</b>	<b>39,588.0</b>	<b>39,839.5</b>	<b>25,785.7</b>	<b>26,252.9</b>	<b>13,802.3</b>	<b>13,586.7</b>

The Governing Council assesses on a regular basis the financial risks associated with the securities held under these programmes. Annual impairment tests are conducted on the basis of the estimated recoverable amounts as at the year-end and are approved by the Governing Council.

In accordance with Article 32.4 of the ESCB Statute, losses from holdings of securities purchased under the SMP, CBPP3 and CSPP as well as securities of supranational organisations (supra) purchased under the PSPP, if they were to materialise, are shared in full by the Eurosystem NCBs, in proportion to the prevailing ECB capital key shares. As a result of an impairment test conducted on the CSPP portfolio, it was concluded that the holding of one security is impaired. In accordance with the principle of prudence, the Governing Council has deemed it appropriate to establish a provision against losses in monetary policy operations (see item 12 ‘Provisions’ in the notes on the balance sheet). The affected security was sold in January 2018.

The following table shows, for each programme, total holdings of Eurosystem NCBs and the Bank of Finland’s share held on the balance sheet.

	Held by NCBs		On the Bank of Finland’s balance sheet	
	31 Dec 2017 EUR m	31 Dec 2016 EUR m	31 Dec 2017 EUR m	31 Dec 2016 EUR m
Securities markets programme (SMP)	82,490.0	94,802.9	1,341.9	1,606.0
Third covered bond purchase programme (CBPP3)	220,954.6	186,965.4	5,335.1	3,603.4
Public sector asset purchase programme (PSPP supra)	203,932.0	139,639.0	3,067.3	–
Corporate sector purchase programme (CSPP)	131,593.1	51,069.3	4,579.0	1,488.2
<b>Total</b>	<b>638,969.7</b>	<b>472,476.6</b>	<b>14,323.3</b>	<b>6,697.5</b>

## 7.2 Other securities

This item includes coupon bonds and discount papers issued in the euro area as well as investments in equity funds.

### Breakdown of other securities of euro area residents denominated in euro

	31 Dec 2017 EUR m	31 Dec 2016 EUR m	Change EUR m
Coupon papers	3,158.5	5,232.6	-2,074.1
Discount papers	1,578.7	1,451.1	127.6
Equity funds	670.1	291.8	378.2
<b>Total</b>	<b>5,407.3</b>	<b>6,975.5</b>	<b>-1,568.2</b>

### Remaining maturity of other securities of euro area residents denominated in euro

Maturity	31 Dec 2017		31 Dec 2016	
	EUR m	%	EUR m	%
Up to 1 year	2,922.4	61.7	2,893.7	43.3
Over 1 year	1,814.8	38.3	3,790.1	56.7
<b>Total</b>	<b>4,737.2</b>	<b>100.0</b>	<b>6,683.7</b>	<b>100.0</b>

## 8. Intra-Eurosystem claims

### 8.1 Participating interest in ECB

Pursuant to Article 28 of the ESCB Statute, the ESCB national central banks are the sole subscribers to the capital of the ECB. Subscriptions depend on shares which are fixed in accordance with Article 29.3 of the ESCB Statute and which are subject to adjustment every five years.

The share in the ECB's capital of each NCB participating in the Eurosystem is determined on the basis of a so-called capital key. The capital key is calculated relative to the population and gross domestic product of each country. It is adjusted every five years and whenever new members join the EU. The Bank of Finland's percentage share in the ECB's capital has been 1.2564%, i.e. EUR 144.3 million, since 1 January 2015.

### 8.2 Claims equivalent to the transfer of foreign reserves

This item includes the share of foreign reserve assets, EUR 728.1 million, transferred by the Bank of Finland to the ECB when Finland joined the Eurosystem. These claims are denominated in euro at a value fixed at the time of their transfer.

The remuneration of these claims is calculated daily at the latest available marginal interest rate used by the Eurosystem in its tenders for main refinancing operations, adjusted to reflect a zero return on the gold component.

### 8.3 Net claims related to the allocation of euro banknotes within the Eurosystem

This item consists of a so-called CSM item (Capital Share Mechanism) relating to the subscription of ECB's capital, less the so-called ECB issue figure. The amount of euro banknotes in circulation under the CSM is adjusted in the balance sheet to correspond to the ECB's capital key. The figure for ECB issue represents the ECB's share (8%) of euro banknotes in circulation. For both figures, the counter entry is recorded under the balance sheet liability item 'Banknotes in circulation'.<sup>12</sup>

At the end of 2017, the balance sheet item totalled EUR 3,750.9 million (EUR 3,878.6 million in 2016). The decrease in comparison to 2016 was due to the increase of 5.5% in

<sup>12</sup> According to the accounting regime chosen by the Eurosystem on the issue of euro banknotes, a share of 8% of the total value of the euro banknotes in circulation is allocated to the ECB on a monthly basis. The remaining 92% of the value of the euro banknotes in circulation are allocated to the NCBs also on a monthly basis, whereby each NCB shows in its balance sheet a share of the euro banknotes issued corresponding to its paid-up share in the ECB's capital. The difference between the value of the euro banknotes allocated to the NCB according to the aforementioned accounting regime, and the value of euro banknotes put into circulation, is recorded as 'Net claims/liabilities related to the allocation of euro banknotes within the Eurosystem'.

banknotes put into circulation by the Bank of Finland, while banknotes in circulation in the Eurosystem as a whole only increased by 3.8% from 2016. The remuneration of these claims is calculated daily at the latest available marginal interest rate used by the Eurosystem in its tenders for main refinancing operations.

#### 8.4 Other claims within the Eurosystem (net) or liability item Other liabilities within the Eurosystem (net)

##### Other claims/liabilities within the Eurosystem (net)

	31 Dec 2017 EUR m	31 Dec 2016 EUR m	Change EUR m
Due to/from ECB in respect of TARGET2 (including balances held with Eurosystem banks through correspondent accounts)	40,373.2	22,031.0	18,342.2
Due to/from ECB in respect of monetary income	-264.0	-189.9	-74.1
Due from ECB in respect of the ECB's interim profit distribution	17.6	17.2	0.4
<b>Other claims/liabilities within the Eurosystem (net)</b>	<b>40,126.8</b>	<b>21,858.4</b>	<b>18,268.5</b>

The balance of EUR 40,126.8 million as at 31 December 2017 consisted of three components: 1) the position of the Bank of Finland vis-à-vis the ECB in respect of the transfers issued and received through TARGET2 by the ESCB national central banks, including the ECB, plus the balances held with Eurosystem central banks through correspondent accounts; 2) the position vis-à-vis the ECB in respect of the pooling and allocation of monetary income within the Eurosystem pending settlement; and 3) the Bank of Finland's position vis-à-vis the ECB in respect of the ECB's interim profit distribution and any amounts receivable or refundable.

The first component, i.e. the year-end net transfers via TARGET2, constituted a credit balance of EUR 40,373.2 million. The remuneration of this position is calculated daily at the latest available marginal interest rate used by the Eurosystem in its tenders for main refinancing operations.

The second component, i.e. the position vis-à-vis the ECB in respect of the annual pooling and allocation of monetary income within the Eurosystem NCBs, had a debit balance of EUR -264.0 million at year-end (see 'Net result of pooling of monetary income' in the notes on the profit and loss account).

With respect to 2017, the Governing Council decided to distribute EUR 987.7 million from the ECB's income derived from banknotes in circulation, the SMP-related security portfolio and the APP (see 'Interim profit distribution by the ECB' in the notes on accounting conventions). The Bank's share amounted to EUR 17.6 million.

#### 9. Other assets

This item consists of the Bank of Finland's holdings of euro coins, fixed assets and investment assets (shares and other equity). The item also includes valuation results of off-balance sheet items, accruals and other receivables as well as the pension fund's assets which consist entirely of real estates. Investment assets earmarked by the Bank for the pension fund, EUR 599 million, were transferred to the Bank's financial assets in March 2017 and are henceforth managed as part of these assets. The investment instruments are recorded on the assets side of the balance sheet, under items 7.2 'Other securities' and 9. 'Other assets' (sub-item 'Shares and other equity').

##### Tangible fixed assets

Book value	31 Dec 2017 EUR m	31 Dec 2016 EUR m	Change EUR m
Land	8.5	8.5	-
Buildings	96.3	100.9	-4.6
Machinery and equipment	12.4	11.1	1.4
Art and numismatic collection	0.5	0.5	0.0
<b>Total</b>	<b>118.8</b>	<b>121.0</b>	<b>-3.2</b>



*Intangible fixed assets*

<i>Book value</i>	<i>31 Dec 2017</i> <i>EUR m</i>	<i>31 Dec 2016</i> <i>EUR m</i>	<i>Change</i> <i>EUR m</i>
<i>IT systems</i>	8.5	10.5	-2.0
<i>Total</i>	8.5	10.5	-2.0

*Other holdings and sundry assets*

	<i>31 Dec 2017</i> <i>EUR m</i>	<i>31 Dec 2016</i> <i>EUR m</i>	<i>Change</i> <i>EUR m</i>
<i>Coins of euro area</i>	31.3	35.2	-3.9
<i>Shares and other equity</i>	34.9	25.1	9.8
<i>Pension fund's assets</i>	15.1	612.9	-597.8
<i>Accruals</i>	404.0	361.9	42.1
<i>Items relating to valuation of off-balance sheet items</i>	83.9	171.0	-87.0
<i>Other sundry assets</i>	1.8	3.3	-1.5
<i>Total</i>	571.0	1 209.3	-638.3

## Liabilities

### 1. Banknotes in circulation

This item consists of the Bank of Finland's share, in accordance with the ECB's capital key and adjusted for the share allocated to the ECB, of the total amount of euro banknotes in circulation.

In 2017 the total value of euro banknotes in circulation increased by 3.8%. According to the allocation key, the Bank of Finland had euro banknotes in circulation worth EUR 19,223.2 million at the end of the year, compared with EUR 18,492.5 at the end of 2016. The value of the euro banknotes actually issued by the Bank of Finland in 2017 increased by 5.5% from EUR 14,613.9 million to EUR 15,472.3 million. As this was less than the allocated amount, the difference of EUR 3,750.9 million (3,878.6 million in 2016) is shown under asset sub-item 'Net claim related to the allocation of euro banknotes within the Eurosystem'.

<i>Banknotes in circulation</i>	<i>31 Dec 2017</i> <i>EUR m</i>	<i>31 Dec 2016</i> <i>EUR m</i>
EUR 5	85.9	86.0
EUR 10	-68.8	-56.9
EUR 20	3,071.5	2,899.0
EUR 50	10,071.6	9,248.3
EUR 100	-862.9	-750.6
EUR 200	490.3	462.5
EUR 500	2,684.6	2,725.6
<i>Total</i>	<i>15,472.3</i>	<i>14,613.9</i>
<i>ECB issue</i>	<i>-1,671.7</i>	<i>-1,608.1</i>
<i>CSM figure</i>	<i>5,422.5</i>	<i>5,486.7</i>
<i>Banknotes in circulation in accordance with the ECB's capital key</i>	<i>19,223.2</i>	<i>18,492.5</i>

### 2. Liabilities to euro area credit institutions related to monetary policy operations denominated in euro

#### *Liabilities to euro area credit institutions related to monetary policy operations denominated in euro*

	<i>31 Dec 2017</i> <i>EUR m</i>	<i>31 Dec 2016</i> <i>EUR m</i>	<i>Change</i> <i>EUR m</i>
<i>Current accounts (covering the minimum reserve system)</i>	<i>53,420.8</i>	<i>29,065.0</i>	<i>24,355.8</i>
<i>Deposit facility</i>	<i>23,341.2</i>	<i>18,600.2</i>	<i>4,741.0</i>
<i>Fixed-term deposits</i>	-	-	-
<i>Fine-tuning reverse operations</i>	-	-	-
<i>Deposits related to margin calls</i>	-	-	-
<i>Total</i>	<i>76,762.0</i>	<i>47,665.2</i>	<i>29,096.8</i>

#### *2.1 Current accounts (covering the minimum reserve system)*

Current accounts contain the credit balances of the transaction accounts of credit institutions that are required to hold minimum reserves. Banks' minimum reserve balances have been remunerated since 1 January 1999 at the latest available marginal interest rate used by the Eurosystem in its tenders for main refinancing operations. Since June 2014, banks' reserve holdings exceeding the required minimum reserves are remunerated at zero per cent or the deposit facility rate, whichever is lower.

#### *2.2 Deposit facility*

The deposit facility refers to overnight deposits placed by banks that access the Eurosystem's liquidity absorbing standing facility at the pre-specified rate.

### 2.3 Fixed-term deposits

Fixed-term deposits are fine-tuning liquidity absorbing operations that take the form of deposits.

### 2.4 Fine-tuning reverse operations

Fine-tuning reverse operations are used to offset high liquidity imbalances.

### 2.5 Deposits related to margin calls

This item refers to deposits made by counterparties in those instances where the market value of the collateral pledged falls short of an established trigger point.

## 3. Other liabilities to euro area credit institutions denominated in euro

This item consists of euro-denominated liabilities related to repo agreements with euro area counterparties or other operations unrelated to Eurosystem monetary policy operations.

## 4. Liabilities to other euro area residents denominated in euro

This item consists of euro-denominated liabilities to the public sector (EUR 1,000 million) and credit institutions other than those subject to the reserve requirement (EUR 0.1 million).

## 5. Liabilities to non-euro area residents denominated in euro

This item consists of balances of international organisations and non-euro area banks with the Bank of Finland and repo agreements with non-euro area counterparties.

## 6. Liabilities to euro area residents denominated in foreign currency

As at 31 December 2017, the Bank of Finland had no liabilities to euro area residents denominated in foreign currency.

## 7. Liabilities to non-euro area residents denominated in foreign currency

As at 31 December 2017, the Bank of Finland had no liabilities to non-euro area residents denominated in foreign currency.

## 8. Counterpart of special drawing rights allocated by the IMF

This item is the counteritem of SDRs (cf. item on the asset side). Originally the amount of SDRs and their counteritem were equal. As a result of transactions, the Bank of Finland's claims related to SDRs were smaller than their counteritem on the liabilities side of the balance sheet at the end of 2017. On the liabilities side, the counteritem is a fixed amount totalling SDR 1,189.5 million. In the balance sheet, the item is presented in euro, valued at the rate prevailing on 29 December 2017 (EUR 1,412.7 million).

## 9. Intra-Eurosystem liabilities

Intra-Eurosystem liabilities and claims have been elaborated on in more detail in the notes on the balance sheet under assets item 'Intra-Eurosystem claims'. At the end of financial year 2017, the Bank of Finland had no intra-Eurosystem liabilities.

## 10. Other liabilities

This item consists of accruals, accounts payable and other liabilities. Accruals include e.g. transferable items recorded in connection with the financial accounts and interest payable on credit under repo agreements and long-term financial operations. Subitem 'Other' includes e.g. liabilities related to value-added and withholding tax payments as well as salaries and pensions to be paid.

<i>Other liabilities</i>	<i>31 Dec 2017 EUR m</i>	<i>31 Dec 2016 EUR m</i>	<i>Change EUR m</i>
<i>Accruals</i>	66.4	30.0	36.3
<i>Accounts payable</i>	0.1	–	0.1
<i>Other</i>	–1.4	2.4	–3.8
<i>Total</i>	65.1	32.5	32.7

## 11. Revaluation accounts

The item includes unrealised valuation gains arising from the market valuation of foreign currency-denominated items and securities. The item also includes revaluations of land and buildings and other valuation differences arising from changes in accounting practice in 1999.

<i>Revaluation accounts</i>	<i>31 Dec 2017 EUR m</i>	<i>31 Dec 2016 EUR m</i>	<i>Change EUR m</i>
<i>Gold</i>	1,316.6	1,342.1	-25.5
<i>Foreign currencies:</i>			
<i>USD</i>	601.7	1,207.6	-605.9
<i>GBP</i>	28.4	57.8	-29.5
<i>JPY</i>	69.7	112.0	-42.4
<i>SDR</i>	-	9.1	-9.1
<i>Other currencies</i>	0.2	0.2	0.0
<i>Securities</i>	16.1	50.9	-34.8
<i>Equity funds</i>	55.8	27.1	28.7
<i>Other revaluations</i>	167.5	175.1	-7.6
<b><i>Total</i></b>	<b>2,255.8</b>	<b>2,981.8</b>	<b>-726.0</b>

## 12. Provisions

Under section 20 of the Act on the Bank of Finland, provisions can be made in the annual accounts, if they are necessary for safeguarding the real value of the Bank's funds or for smoothing out variations in profit and loss arising from changes in exchange rates or market values of securities. At the end of 2017 these provisions totalled EUR 4,578.7 million. Provisions consist of a general provision, provision against real value loss, pension provision, foreign exchange rate and price difference provision as well as a provision against losses in monetary policy operations.

The pension provision is made to cover the Bank of Finland's pension liabilities. These liabilities total EUR 553.3 million: 109.2% of this amount is covered by the pension provision, i.e. EUR 604.3 million. The change in the pension provision consists of a reduction of EUR -0.4 million in the revaluation account and a loss of EUR -8.3 million for the pension fund which was covered by reducing the pension provision. At the end of 2017, real estate in the value of EUR 15.1 million was earmarked for covering the pension provision (see item 9 'Other assets' in the notes on the balance sheet). No specified assets have been earmarked for covering the remaining portion (EUR 589.2 million) of the pension provision. Instead, these assets are managed as part of the Bank's financial assets.

As a result of the impairment test conducted on its CSPP portfolio, the Governing Council has deemed it appropriate to establish a provision totalling EUR 68.9 million against losses in monetary policy operations, in relation to a security held by an NCB of the Eurosystem. The size of this provision has been calculated taking into account the information regarding the security sale in January 2018. This is in line with the framework for accounting and financial reporting in the European System of Central Banks for post balance sheet events.

In accordance with Article 32.4 of the ESCB Statute, this provision is funded by all the NCBs of participating Member States in proportion to their subscribed capital key shares in the ECB prevailing in 2017. As a result, the Bank of Finland established a provision for EUR 1.2 million equivalent to 1.78487% of the total provision.

<i>Provisions (EUR m)</i>	<i>Total provisions 31 Dec 2015</i>	<i>Changes in provisions 2016</i>	<i>Total provisions 31 Dec 2016</i>	<i>Changes in provisions 2017</i>	<i>Total provisions 31 Dec 2017</i>
<i>Foreign exchange rate and price difference provision</i>	728	53	834	16	850
<i>General provision</i>	1,645	50	1,695	50	1,745
<i>Provision against real value loss</i>	1,275	51	1,326	52	1,378
<i>Pension provision</i>	615	-2	613	-9	604
<i>Provision against losses in monetary policy operations</i>	-	-	-	1	1
<b><i>Total</i></b>	<b>4,317</b>	<b>151</b>	<b>4,468</b>	<b>110</b>	<b>4,579</b>

### 13. Capital and reserves

This item consists of the Bank's primary capital and reserve fund. Under section 21 of the Act on the Bank of Finland, the loss shall be covered from the reserve fund, if the annual accounts of the Bank show a financial loss. If the reserve fund is insufficient to cover part of the loss, the uncovered part may be left temporarily uncovered. Any profits in subsequent years shall be used first to cover such uncovered losses.

<i>Capital and reserves (EUR m)</i>	<i>31 Dec 2017</i>	<i>31 Dec 2016</i>	<i>Change</i>
<i>Primary capital</i>	840.9	840.9	–
<i>Reserve fund</i>	1,760.6	1,721.0	39.6
<b>Total</b>	<b>2,601.5</b>	<b>2,562.0</b>	<b>39.6</b>

### 14. Profit for the financial year

The profit for the financial year 2017 totalled EUR 156.1 million.

<i>Profit for the financial year (EUR m)</i>	<i>2017</i>	<i>2016</i>	<i>Change</i>
<i>Transferred for the needs of the State</i>	104.0	91.0	13.0
<i>Bank of Finland's share of profit (transferred to reserve fund)</i>	52.1	39.6	12.6
<b>Total</b>	<b>156.1</b>	<b>130.6</b>	<b>25.6</b>

### Off-balance sheet commitments

<i>Off-balance sheet commitments</i>	<i>31 Dec 2017 EUR m</i>	<i>31 Dec 2016 EUR m</i>
<i>Futures contracts</i>		
<i>Nominal value of purchase agreements</i>	1,668.0	–
<i>Nominal value of sales agreements</i>	–163.7	–
<i>Market value of FX-swap agreements</i>	11.9	36.6
<i>Investment commitments related to real estate funds</i>	64.4	–



## Notes on the profit and loss account

### 1. Interest income

Interest income from and outside the euro area totalled EUR 617.3 million. Of this, EUR 89.1 million consisted of foreign currency-denominated interest income and EUR 528.1 million of euro-denominated interest income.

The interest rate on overnight deposits was negative throughout the year, which means that interest has been charged on central bank deposits. This so-called negative interest accrues on both overnight deposits and minimum reserve deposits in excess of the minimum reserve requirements.

ESCB items – claims equivalent to the transfer of foreign reserves to the ECB, claims and liabilities relating to the ECB's share of euro banknotes and to the application and adjustment of the ECB capital key, as well as TARGET2 balances – are remunerated at the interest rate on the main refinancing operations (MRO). Since the MRO rate was 0% throughout 2017, no interest income was earned from ESCB items.

<i>Interest income received outside the euro area (EUR m)</i>	2017			2016		
	<i>Euro-denominated</i>	<i>Foreign currency-denominated</i>	<i>Total</i>	<i>Euro-denominated</i>	<i>Foreign currency-denominated</i>	<i>Total</i>
<i>Non-euro area coupon bonds</i>	1.1	69.5	70.6	3.6	55.4	59.0
<i>Non-euro area discount papers</i>	–	1.0	1.0	–	0.5	0.5
<i>Non-euro area deposits</i>	3.0	0.8	3.9	1.0	0.6	1.6
<i>Other</i>	5.8	8.6	14.4	4.4	1.6	6.0
<b><i>Total</i></b>	<b>9.9</b>	<b>80.0</b>	<b>89.9</b>	<b>9.0</b>	<b>58.2</b>	<b>67.2</b>

<i>Interest income received from the euro area (EUR m)</i>	2017			2016		
	<i>Euro-denominated</i>	<i>Foreign currency-denominated</i>	<i>Total</i>	<i>Euro-denominated</i>	<i>Foreign currency-denominated</i>	<i>Total</i>
<i>Euro area coupon bonds</i>	–6.3	9.0	2.7	7.6	8.1	15.7
<i>Euro area discount papers</i>	–9.1	–	–9.1	–4.9	–	–4.9
<i>Euro area deposits</i>	1.9	0.1	2.0	0.2	0.0	0.2
<i>Dividends on euro-denominated investments</i>	8.2	–	8.2	5.2	–	5.2
<i>ESCB items</i>	–	–	–	5.6	–	5.6
<i>Interest income from monetary policy lending</i>	0.0	–	0.0	0.5	–	0.5
<i>Interest income from nonetary policy securities</i>	154.2	–	154.2	136.8	–	136.8
<i>Interest income from negative interest rates</i>	364.2	–	364.2	256.0	–	256.0
<i>Other</i>	5.0	–	5.0	0.4	0.1	0.5
<b><i>Total</i></b>	<b>518.2</b>	<b>9.1</b>	<b>527.3</b>	<b>407.2</b>	<b>8.2</b>	<b>415.4</b>

<i>Total interest income (EUR m)</i>	2017			2016		
	<i>Euro-denominated</i>	<i>Foreign currency-denominated</i>	<i>Total</i>	<i>Euro-denominated</i>	<i>Foreign currency-denominated</i>	<i>Total</i>
<i>Interest income received outside the euro area</i>	9.9	80.9	89.9	9.0	58.2	67.2
<i>Interest income received from the euro area</i>	518.2	9.1	527.3	407.2	8.2	415.4
<b><i>Total</i></b>	<b>528.1</b>	<b>89.1</b>	<b>617.3</b>	<b>416.2</b>	<b>66.4</b>	<b>482.6</b>

### 2. Interest expenses

<i>Interest expenses paid outside the euro area (EUR m)</i>	2017			2016		
	<i>Euro-denominated</i>	<i>Foreign currency-denominated</i>	<i>Total</i>	<i>Euro-denominated</i>	<i>Foreign currency-denominated</i>	<i>Total</i>
<i>Non-euro area deposits</i>	–2.7	–0.1	–2.8	–0.9	–0.0	–0.9
<i>Other</i>	–0.4	–7.2	–7.5	–	–1.4	–1.4
<b><i>Total</i></b>	<b>–3.1</b>	<b>–7.2</b>	<b>–10.4</b>	<b>–0.9</b>	<b>–1.4</b>	<b>–2.3</b>

<i>Interest expenses paid in the euro area (EUR m)</i>	2017			2016		
	<i>Euro-denominated</i>	<i>Foreign currency-denominated</i>	<i>Total</i>	<i>Euro-denominated</i>	<i>Foreign currency-denominated</i>	<i>Total</i>
<i>Monetary policy items</i>	-37.8	-	-37.8	-8.9	-	-8.9
<i>Other</i>	-2.0	-	-2.0	-2.8	-	-2.8
<b><i>Total</i></b>	<b>-39.8</b>	<b>-</b>	<b>-39.8</b>	<b>-11.7</b>	<b>-</b>	<b>-11.7</b>

<i>Total interest expenses (EUR m)</i>	2017			2016		
	<i>Euro-denominated</i>	<i>Foreign currency-denominated</i>	<i>Total</i>	<i>Euro-denominated</i>	<i>Foreign currency-denominated</i>	<i>Total</i>
<i>Interest expense paid outside the euro area</i>	-3.1	-7.2	-10.4	-0.9	-1.4	-2.3
<i>Interest expense paid in the euro area</i>	-39.8	-	-39.8	-11.7	-	-11.7
<b><i>Total</i></b>	<b>-43.0</b>	<b>-7.2</b>	<b>-50.2</b>	<b>-12.6</b>	<b>-1.4</b>	<b>-14.0</b>

### 3. Net interest income

<i>Net interest income</i>	31 Dec 2017 EUR m	31 Dec 2016 EUR m
<b><i>Interest income</i></b>		
<i>Financial assets</i>	98.8	83.8
<i>Monetary policy items</i>	518.4	137.2
<i>ESCB claims</i>	-	5.6
<b><i>Total</i></b>	<b>617.3</b>	<b>482.6</b>
<b><i>Interest expenses</i></b>		
<i>Financial assets</i>	-12.4	-5.1
<i>Monetary policy items</i>	-37.8	-8.9
<i>ESCB liabilities</i>	-	-
<b><i>Total</i></b>	<b>-50.2</b>	<b>-14.0</b>
<b><i>NET INTEREST INCOME</i></b>	<b>567.1</b>	<b>468.6</b>

### 4. Foreign exchange rate differences

This item includes realised exchange rate gains and losses arising from the sale of currency positions. In 2017 gains related to foreign exchange rate movements amounted to EUR 41.3 million.

### 5. Securities price differences

This item includes realised gains and losses arising from the sale of securities. In 2017 the realised gains related to securities price movements totalled EUR 18.6 million.

### 6. Valuation losses related to currencies and securities

This item consists of valuation losses related to currencies and securities. Each security type and currency is treated separately. In 2017, valuation losses related to currencies totalled EUR 18.2 million and valuation losses related to securities amounted to EUR 25.9 million.

### 7. Change in foreign exchange rate and price difference provision

Realised net gains arising from foreign exchange rate and price differences, EUR 15.8 million, were used to increase provisions in accordance with the financial reporting policy. All provisions have been specified in the notes on the balance sheet under liabilities.

### 8. Income and expenses on fees and commissions

The item includes fees and commissions related to investment activities.

## 9. Net result of pooling of monetary income

<i>Monetary income</i>	<i>31 Dec 2017</i>	<i>31 Dec 2016</i>
	<i>EUR m</i>	<i>EUR m</i>
<i>Net monetary income pooled by the Bank of Finland</i>	456.5	366.7
<i>Net monetary income allocated to the Bank of Finland</i>	192.6	176.8
<i>Net monetary income according to the capital allocation key</i>	-263.9	-189.9
<i>Corrections to monetary income reallocation of previous years</i>	-0.1	-0.0

The amount of each Eurosystem NCB's monetary income is determined by measuring the annual income that derives from the earmarkable assets held against its liability base. The liability base consists mainly of the following items: banknotes in circulation; liabilities to euro area credit institutions related to monetary policy operations denominated in euro; intra-Eurosystem liabilities of the NCBs arising from the issuance of ECB debt certificates; net intra-Eurosystem liabilities resulting from TARGET2 transactions; net intra-Eurosystem liabilities related to the allocation of euro banknotes within the Eurosystem; accrued interest recorded at quarter-end by each NCB on monetary policy liabilities the maturity of which is one year or longer; liabilities vis-à-vis the ECB backing the claim in relation to swap agreements that earn net income for the Eurosystem. Any interest paid on liabilities included within the liability base is to be deducted from the monetary income to be pooled.

The earmarkable assets consist mainly of the following items: lending to euro area credit institutions related to monetary policy operations denominated in euro; securities held for monetary policy purposes; intra-Eurosystem claims equivalent to the transfer of foreign reserve assets to the ECB; net intra-Eurosystem claims resulting from TARGET2 transactions; net intra-Eurosystem claims related to the allocation of euro banknotes within the Eurosystem; claims on euro area counterparties related to swap agreements between the ECB and non-Eurosystem central banks that earn net income for the Eurosystem; accrued interest recorded at quarter-end by each NCB on monetary policy assets the maturity of which is one year or longer; a limited amount of each NCB's gold holdings in proportion to each NCB's capital key share.

The amount of each NCB's monetary income shall be determined by measuring the actual income that derives from the earmarkable assets recorded in its books. As an exception to this, gold is considered to generate no income and the following are considered to generate income at the latest available marginal interest rate used by the Eurosystem in its tenders for main refinancing operations: (i) securities held for monetary policy purposes under Decision ECB/2009/16 of 2 July 2009 on the implementation of the covered bond purchase programme, (ii) securities held for monetary policy purposes under Decision ECB/2011/17 of 3 November 2011 on the implementation of the second covered bond purchase programme and (iii) debt instruments issued by central, regional and local governments and recognised agencies and substitute debt instruments issued by public non-financial corporations under Decision ECB/2015/10 of 4 March 2015 on the implementation of a secondary markets public sector asset purchase programme. Where the value of a NCB's earmarkable assets exceeds or falls short of the value of its liability base, the difference shall be offset by applying to the value of the difference the latest available marginal rate for the Eurosystem's main refinancing operations.

The monetary income pooled by the Eurosystem is to be allocated among the NCBs according to the subscribed ECB's capital key. The difference between the monetary income pooled by the Bank of Finland amounting to EUR 456.5 million and reallocated to the Bank of Finland amounting to EUR 192.6 million is the net result arising from the calculation of monetary income.

## 10. Provision against losses in monetary policy operations

This item contains the Bank of Finland's share in the provision against losses in monetary policy operations, which was established in relation to a security held by an NCB of the Eurosystem in its CSSP portfolio (see 'Provisions' in the notes on the balance sheet).

## 11. Share in ECB profit

The ECB distributed EUR 227 million profit for the financial year 2016, of which the Bank of Finland's share recorded for the financial year 2017 totalled EUR 4.0 million.

## 12. Income from other equity shares and participating interests

This item includes the Bank of Finland's share, EUR 17.6 million, in income on the SMP- and APP-related portfolios distributed by the ECB in the form of interim profit distribution for the financial year 2017. The item also includes dividends received on shares in the BIS, EUR 3.9 million, and income on real estate funds, EUR 0.2 million.

## 13. Other income

This item consists of the Financial Supervisory Authority's supervision and processing fees, EUR 25.5 million, deducted by a surplus of EUR 1.2 million to be carried forward to the next financial year, as well as income from real estate, EUR 5.6 million, and commissions and fees.

## 14. Staff costs

<i>Staff costs</i>	<i>31 Dec 2017</i>	<i>31 Dec 2016</i>
	<i>EUR m</i>	<i>EUR m</i>
<i>Salaries and fees</i>	36.7	38.3
<i>Employer's payments to the pension fund</i>	7.4	7.4
<i>Other staff-related costs</i>	2.9	2.7
<i>Total</i>	<i>47.0</i>	<i>48.4</i>

<i>Average staff size</i>	<i>2017</i>	<i>2016</i>
	<i>Number of staff</i>	<i>Number of staff</i>
<i>Bank of Finland</i>	365	373
<i>Financial Supervisory Authority</i>	181	181
<i>Total</i>	<i>546</i>	<i>554</i>

<i>Basic salaries paid to the members of the Board</i>	<i>2017</i>
	<i>EUR</i>
<i>Erkki Liikanen</i>	262.564
<i>Pentti Hakkarainen (until 31 Jan 2017)</i>	100.063
<i>Seppo Honkapohja (until 31 Dec 2017)</i>	303.161
<i>Marja Nykänen (from 1 Feb 2017)</i>	177.192
<i>Olli Rehn (from 1 Feb 2017)</i>	185.262
<i>Total</i>	<i>1,028.242</i>

Fringe benefits (meal benefit, company-paid telephone and company car) paid to the members of the Board totalled EUR 42,798.

Pension benefits of the members of the Board are determined according to the Bank of Finland's Pension Rule, without special terms and under same terms and conditions as confirmed in the Rule for other personnel. As applicable, the Bank of Finland's Pension Rule is in line with the State Employees' Pension Scheme. A former board member may be paid compensation for income loss if the person may not, because of qualifying period provisions, accept employment from elsewhere or if the pension from the Bank of Finland is less than the compensation for income loss. Full compensation for income loss amounts to 60% of salary and is paid for one year, adjusted with the pension paid by the Bank, so that the sum of full compensation and pension do not exceed 60% of salary.

## 15. Administrative expenses

<i>Administrative expenses</i>	<i>31 Dec 2017</i> <i>EUR m</i>	<i>31 Dec 2016</i> <i>EUR m</i>
<i>Supplies and purchases</i>	0.5	0.5
<i>Machinery and equipment</i>	6.8	6.5
<i>Real estate</i>	9.0	9.3
<i>Staff-related expenses</i>	3.8	3.6
<i>Purchase of services</i>	10.2	10.0
<i>Other</i>	2.0	1.9
<b>Total</b>	<b>32.2</b>	<b>31.8</b>

This item includes rents, meetings and interest group-related costs, expenses arising from the purchase of services and cost of equipment. Expenses involved in training, travel and recruitment of staff are also recorded under this item.

## 16. Depreciation of fixed assets

<i>Depreciation of tangible fixed assets</i>	<i>31 Dec 2017</i> <i>EUR m</i>	<i>31 Dec 2016</i> <i>EUR m</i>
<i>Buildings</i>	2.8	2.8
<i>Machinery and equipment</i>	3.1	2.9
<b>Total</b>	<b>6.0</b>	<b>5.7</b>

<i>Depreciation of intangible fixed assets</i>	<i>31 Dec 2017</i> <i>EUR m</i>	<i>31 Dec 2016</i> <i>EUR m</i>
<i>IT systems</i>	4.8	4.6
<b>Total</b>	<b>4.8</b>	<b>4.6</b>

## 17. Banknote production services

Costs related to banknote production services totalled EUR 6.4 million.

## 18. Other expenses

The bulk of other expenses is related to the use and maintenance of property.

## 19. Income of the pension fund

This item includes income of the Bank of Finland pension fund's investment activities up to end-March, EUR 9.2 million. The item also includes the Bank of Finland's and Financial Supervisory Authority's employer contributions as well as employee's share of premium income, EUR 10.0 million. Income from the pension fund's real estate, EUR 1.6 million, is also recorded under this item.

## 20. Expenses of the pension fund

This item includes pensions paid, EUR 27.4 million, the Bank of Finland pension fund's management costs, depreciation of the pension fund's fixed assets and expenses of the pension fund's investment activities up to end-March.

## 21. Changes in provisions

This item includes the increase of the provision against real value loss, EUR 52 million and the increase of the general provision, EUR 50 million. All provisions have been specified in the notes on the balance sheet under liabilities.

## 22. Profit for the financial year

The profit for the financial year 2017 totalled EUR 156.1 million. The Board proposes to the Parliamentary Supervisory Council that EUR 104.0 million of the profit be made available for the needs of the State.



## Appendices to the financial statements

<i>EUR million</i>	<i>31 Dec 2017</i>	<i>31 Dec 2016</i>
<i>Shares and other interests, nominal value</i>		
<i>Bank for International Settlements (BIS)<sup>1</sup></i>	<i>22.4 (1.96%)</i>	<i>22.4 (1.96%)</i>
<i>Shares in housing companies</i>	<i>2.5</i>	<i>2.5</i>
<i>Other shares and interests</i>	<i>0.1</i>	<i>0.1</i>
<i>Total</i>	<i>25.0</i>	<i>25.1</i>
<i>Bank of Finland's liability share in the APK fund</i>	<i>0.3</i>	<i>0.3</i>
<i>Liability arising from pension commitments</i>		
<i>Bank of Finland's pension liability<sup>2</sup></i>	<i>553.3</i>	<i>563.7</i>
<i>– of which covered by provisions</i>	<i>604.3</i>	<i>612.9</i>
<i>Customer service office</i>		
<i>Deposits</i>	<i>22.6</i>	<i>24.4</i>
<i>Loans</i>	<i>3.0</i>	<i>3.3</i>

<sup>1</sup> In parentheses, the Bank of Finland's relative holdings of the BIS shares in circulation.

<sup>2</sup> Pension liability for 2017 includes indexation of pensions and paid-up policies entering into force on 1 January 2018.

### The Bank of Finland's real estate

<i>Building</i>	<i>Address</i>	<i>Year of completion</i>	<i>Volume m<sup>3</sup> (approx.)</i>
<i>Helsinki</i>	<i>Rauhankatu 16</i>	<i>1883/1961/2006</i>	<i>52,108</i>
	<i>Rauhankatu 19</i>	<i>1954/1981</i>	<i>40,487</i>
	<i>Snellmaninkatu 6<sup>1</sup></i>	<i>1857/1892/2001</i>	<i>23,600</i>
	<i>Snellmaninkatu 2<sup>1</sup></i>	<i>1901/2003</i>	<i>3,225</i>
	<i>Ramsinniementie 34</i>	<i>1920/1983/1998</i>	<i>4,800</i>
<i>Oulu</i>	<i>Kajaaninkatu 8</i>	<i>1973</i>	<i>17,230</i>
<i>Vantaa</i>	<i>Turvalaaksontie 1</i>	<i>1979</i>	<i>334,243</i>
<i>Inari</i>	<i>Saariseläntie 9</i>	<i>1968/1976/1998</i>	<i>6,100</i>

<sup>1</sup> Transferred to the ownership of the Bank of Finland's pension fund from the beginning of 2002.

## Five-year review

The following table presents the Bank of Finland's balance sheets and profit and loss accounts for the past five financial years.

BALANCE SHEET (EUR m)	2017	2016	2015	2014	2013
<b>Assets</b>					
<i>Gold and gold receivables</i>	1,706	1,731	1,534	1,557	1,373
<i>Claims on non-euro area residents denominated in foreign currency</i>	6,850	7,852	7,483	7,020	6,585
<i>Receivables from the International Monetary Fund (IMF)</i>	1,744	2,048	1,890	1,913	1,955
<i>Balances with banks and security investments, external loans and other external assets</i>	5,106	5,804	5,592	5,106	4,630
<i>Claims on euro area residents denominated in foreign currency</i>	478	648	417	360	297
<i>Claims on non-euro area residents denominated in euro</i>	1,231	1,803	1,443	1,044	1,347
<i>Lending to euro area credit institutions related to monetary policy operations denominated in euro</i>	10,148	6,728	690	722	2,475
<i>Main refinancing operations</i>	–	–	–	15	–
<i>Longer-term refinancing operations</i>	10,148	6,728	690	707	2,475
<i>Other claims on euro area credit institutions denominated in euro</i>	209	31	0	37	0
<i>Securities of euro area residents denominated in euro</i>	44,995	32,761	19,662	11,316	10,063
<i>Securities held for monetary policy purposes</i>	39,588	25,786	12,096	3,568	3,717
<i>Other securities</i>	5,407	6,975	7,588	7,748	6,346
<i>Intra-Eurosystem claims</i>	44,750	26,609	25,096	24,584	26,539
<i>Participating interest in ECB</i>	144	144	144	144	141
<i>Claims equivalent to the transfer of foreign reserves</i>	728	728	728	728	722
<i>Net claims related to the allocation of euro banknotes within the Eurosystem</i>	3,751	3,879	4,103	3,962	3,522
<i>Other claims within the Eurosystem (net)</i>	40,127	21,858	20,121	19,749	22,154
<i>Other assets</i>	697	1,341	1,088	1,082	1,052
<i>Coins of euro area</i>	31	35	32	29	23
<i>Tangible and intangible fixed assets</i>	126	131	138	143	149
<i>Other current assets</i>	50	638	657	698	641
<i>Other</i>	490	536	261	213	238
<b>Total assets</b>	<b>111,065</b>	<b>79,505</b>	<b>57,414</b>	<b>47,722</b>	<b>49,731</b>

BALANCE SHEET (EUR m)	2017	2016	2015	2014	2013
<i>Liabilities</i>					
<i>Banknotes in circulation</i>	19,223	18,492	17,790	16,793	15,753
<i>Liabilities to euro area credit institutions related to monetary policy operations denominated in euro</i>	76,762	47,665	27,559	20,308	23,803
<i>Current accounts (covering the minimum reserve system)</i>	53,421	29,065	25,889	20,233	14,303
<i>Deposit facility</i>	23,341	18,600	1,670	75	–
<i>Fixed-term deposits (liquidity-absorbing fine-tuning operations)</i>	–	–	–	–	9,500
<i>Other liabilities to euro area credit institutions denominated in euro</i>	409	31	–	–	–
<i>Liabilities to other euro area residents denominated in euro</i>	1,000	0	74	0	0
<i>Liabilities to non-euro area residents denominated in euro</i>	2,601	1,625	681	4	582
<i>Liabilities to euro area residents denominated in foreign currency</i>	–	–	–	–	0
<i>Liabilities to non-euro area residents denominated in foreign currency</i>	–	–	46	58	66
<i>Counterpart of special drawing rights allocated by the IMF</i>	1,413	1,516	1,514	1,418	1,330
<i>Intra-Eurosystem liabilities</i>	–	–	–	–	–
<i>Other liabilities</i>	65	32	12	22	21
<i>Revaluation accounts</i>	2,256	2,982	2,762	2,304	1,556
<i>Provisions</i>	4,579	4,468	4,317	4,163	3,939
<i>Capital and reserves</i>	2,602	2,562	2,514	2,501	2,442
<i>Primary capital</i>	841	841	841	841	841
<i>Reserve fund</i>	1,761	1,721	1,673	1,660	1,601
<i>Profit for the financial year</i>	156	131	146	150	239
<i>Total liabilities</i>	111,065	79,505	57,414	47,722	49,731

<b>PROFIT AND LOSS ACCOUNT (EUR m)</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
<i>Interest income</i>	617	483	313	329	565
<i>Interest expenses</i>	-50	-14	-3	-12	-23
<b>Net interest income</b>	<b>567</b>	<b>469</b>	<b>310</b>	<b>317</b>	<b>542</b>
<i>Foreign exchange rate differences</i>	41	27	26	16	-6
<i>Securities price differences</i>	19	74	47	38	56
<i>Valuation losses related to currencies and securities</i>	-44	-49	-19	-4	-19
<i>Change in foreign exchange rate and price difference provision</i>	-16	-53	-54	-50	-31
<b>Net result of financial operations, write-downs and risk provisions</b>	<b>567</b>	<b>469</b>	<b>310</b>	<b>317</b>	<b>542</b>
<i>Income and expenses on fees and commissions</i>	-3	-2	-1	-0	-1
<i>Net result of pooling of monetary income</i>	-264	-190	-38	1	-111
<i>Provisions against losses from monetary policy operations</i>	-1	-	-	-	6
<i>Share in ECB profit</i>	4	5	3	1	8
<i>Income from other equity shares and participating interests</i>	22	20	18	18	28
<b>Central banking profit</b>	<b>325</b>	<b>302</b>	<b>291</b>	<b>337</b>	<b>472</b>
<b>Other income</b>	<b>30</b>	<b>31</b>	<b>31</b>	<b>31</b>	<b>33</b>
<b>Operating expenses</b>	<b>-97</b>	<b>-101</b>	<b>-76</b>	<b>-43</b>	<b>-94</b>
<i>Staff costs</i>	-47	-48	-49	-50	-52
<i>Pension fund contribution</i>	-	-	17	57	-
<i>Administrative expenses</i>	-32	-32	-30	-30	-29
<i>Depreciation of fixed assets</i>	-11	-10	-9	-8	-8
<i>Banknote production services</i>	-6	-10	-4	-11	-5
<i>Other expenses</i>	-0	-0	-0	-0	-0
<b>Operating profit</b>	<b>258</b>	<b>232</b>	<b>246</b>	<b>325</b>	<b>411</b>
<b>Profit for the pension fund</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>34</b>
<b>Changes in provisions</b>	<b>-102</b>	<b>-101</b>	<b>-100</b>	<b>-175</b>	<b>-206</b>
<b>Profit for the financial year</b>	<b>156</b>	<b>131</b>	<b>146</b>	<b>150</b>	<b>239</b>

Totals/sub-totals may not add up due to rounding.

# Notes on risk management

## **Risk management and control of investment of financial assets**

Investment activities are exposed to risks, which risk management seeks to identify, measure and limit. In managing these risks, the Bank of Finland uses widely employed risk management methods, market and credit risk models as well as sensitivity analyses.

Risk management of investment activities by the Bank of Finland has been entrusted jointly to the Administration Department's Risk Control and Financial Accounting division and the Banking Operations Department. Risk control of investment activities and reporting on risks and returns are the responsibility of the Administration Department's Risk Control and Financial Accounting division.

Risks to investment activities are reported daily to the persons involved in operational investment activities and monthly to the Bank of Finland Board. Reports on developments in investment returns are produced at monthly intervals. Returns are considered quarterly in the Markets Committee, chaired by the Board member responsible for investment activities. The Board discusses risks and returns twice a year. Cases of non-compliance with the limits imposed are reported immediately. An extensive report on total financial risks is submitted to the Board at quarterly intervals.

## **Decision-making framework for investment of financial assets and risk management, and various risk committees**

Decisions on investment of financial assets and related risk management are taken by the Bank of Finland Board, the Markets Committee and, in the case of operational matters, also by the Investment Group and the Risk Group.

The Board is responsible for decisions on investment activities objectives, investment policy and risk management principles. Such decisions relate, among other things, to the size of the Bank's own financial assets and foreign reserves, currency distribution of foreign reserves, the strategic allocation of the investment portfolio by investment category, the leeway permitted in investment activities by investment category and the level of interest rate and credit risks. The Board also decides on maximum credit risk limits.

Within the limits imposed by the Board, the Markets Committee makes detailed decisions on the investment of the Bank's financial assets and risk management. Such decisions include the criteria for counterparties and issuers and more specific credit risk limits. The chair of the Markets Committee, who is also responsible for decision-making on the Committee, is the Board member responsible for the Bank of Finland's own investments.

The emphasis of work in the Investment Group and the Risk Group is on the preparation of matters to be considered by decision-making bodies. In addition, the Investment Group acts as an internal decision-maker within the Banking Operations Department and as coordinator of matters common to the investment and risk control functions. The Head of Banking Operations chairs the Investment Group and makes decisions therein. The Head of the Administration Department's Risk Control and Financial Accounting division chairs the Risk Group and makes decisions therein.

The Bank of Finland has a Financial Risks Committee which, independently of the management of financial assets is tasked with supporting the Board by supervising and assessing financial risks that may affect the Bank's balance sheet. The committee is not a decision-making body but instead gives recommendations and may submit matters to the Board for information or decision, as necessary. The Financial Risks Committee is chaired by the Board member responsible for risk control.

The Bank of Finland also has an Operational and Cyber Risks Committee. The task of the committee is to evaluate the Bank's level of operational and cyber risks management and to give instructions and make recommendations on development of risk management procedures. Similarly to the Financial Risks Committee, the Operational and Cyber Risks Committee is not a decision-making body but instead gives recommendations and may submit matters to the Board for information or decision, as necessary. The Operational and Cyber Risks Committee is chaired by the Board member responsible for risk control.

### The Bank of Finland's estimated total risk, including gold

The Bank of Finland's total risks are discussed in the section 'Total risk exposure' (p. 56–58). The figures presented there exclude gold, owing to its large revaluation account. When all risks – including gold – are added together, the Bank of Finland's total risk exposure is estimated at about EUR 2.2 billion annually. The gold price risk was EUR 0.7 billion, and the revaluation account for gold EUR 1.3 billion.

### Risk measures and breakdowns

Table 1.

#### Breakdown of debt securities and deposits in the Bank of Finland's financial assets, by credit rating<sup>1</sup>

<i>Credit rating</i>	<i>29 Dec 2017 EUR m</i>	<i>31 Dec 2016 EUR m</i>
AAA	4,171	5,795
AA+	2,981	3,503
AA	2,249	2,967
AA–	223	232
A+	1,351	1,599
A	206	321
A–	195	251
BBB+	23	77
BBB	0	0
BBB–	0	0
Below BBB–	0	0
No credit rating	3	19
<b>Total</b>	<b>11,402</b>	<b>14,763</b>

<sup>1</sup> Covered bonds have been classified according to their own credit rating and not the credit rating of their issuer. The Bank of Japan is dealt with according to the credit rating of the government.

Due to rounding, the totals may not add up.

Source: Bank of Finland.



Table 2.

Breakdown of debt securities in the Bank of Finland's financial assets, by home country of issuer (according to debt security's market value)

Country or region	29 Dec 2017 EUR m	31 Dec 2016 EUR m
<b>Euro area</b>	<b>5,076</b>	<b>7,003</b>
Germany	1,918	2,534
France	1,509	1,862
Netherlands	693	1,006
Austria	390	470
Belgium	312	560
Finland	228	502
Ireland	26	44
Spain	0	21
Luxembourg	0	4
<b>Rest of Europe</b>	<b>1,076</b>	<b>1,500</b>
Sweden	396	421
United Kingdom	328	540
Norway	224	375
Denmark	91	116
Switzerland	37	48
<b>America</b>	<b>3,407</b>	<b>3,675</b>
United States	2,675	2,971
Canada	731	705
<b>Asia and Oceania</b>	<b>627</b>	<b>765</b>
Japan	423	408
Australia	159	289
Singapore	33	38
New Zealand	7	0
South Korea	5	29
<b>International institutions</b>	<b>375</b>	<b>820</b>
<b>Total</b>	<b>10,560</b>	<b>13,762</b>

Due to rounding, totals and subtotals may not correspond to the sum of all figures.

Source: Bank of Finland.

Table 3.

Sensitivity of the Bank of Finland's financial assets to exchange rate and interest rate changes

EUR m	2017	2016
Change in the value of the Bank of Finland's financial assets after appreciation of the euro exchange rate by 15% relative to foreign reserve currencies and gold as at 31 Dec	-949	-1,081
Change in the value of the Bank of Finland's financial assets after an interest rate rise of 1%, with the amount, composition and modified duration for the financial assets as at 31 Dec	-202	-265

Source: Bank of Finland.

### Definitions and concepts

- **Market risk** means the risk that the net value of assets will decline due to changes in market prices. Market price changes refer to changes in, for example, interest rates, exchange rates, the price of gold or stock prices, which are referred to as interest rate risk, exchange rate risk, gold price risk or equity risk, respectively.
- **Credit risk** means the risk of financial losses arising from changes in the creditworthiness of a counterparty to a financial transaction or a securities issuer or from default by a counterparty or issuer.
- **Liquidity risk** means the risk that assets cannot be made available when the need arises or their conversion into cash causes additional costs.
- **Operational risk** refers to the risk of extra costs or losses resulting from inadequate or failed internal processes, personnel, systems or external events.
- **Investment portfolio** consists of foreign currency-denominated and euro-denominated fixed-income investment portfolios and long-term investments. Its objective is to safeguard the value of financial assets and the Bank of Finland's ongoing ability to meet with its central bank commitments.
- **Foreign reserves** consist of unhedged foreign-currency investments and claims. These include the foreign-currency fixed-income investment portfolio and net receivables from the IMF.
- **Cash** refers to covered and uncovered short-term bank deposits.
- **Modified duration** is a measure of interest rate risk, indicating how much the value of a fixed-income investment or investments changes in response to a small change in interest rates. For example, if the modified duration is 2 and interest rates rise by 1%, the value of the fixed-income investment falls by 2%.
- **VaR figure** at a certain confidence level means a loss in excess of which a loss occurs with a probability corresponding to the confidence level in question, over a target horizon. For example, if VaR 99% on a one-day horizon is EUR 3 million, this means there is a 1% probability the current day's result will be worse than a loss of EUR 3 million (and a 99% probability the result will be better).
- **Expected Shortfall** at a certain confidence level indicates the size of the expected loss in the event that the loss exceeds the VaR-level loss for that confidence level. For example, with an ES of 99%, this is an average loss of 1% on risk realisations.

## Auditor's report

In our capacity as the auditors elected by Parliament, we have audited the accounting records, financial statements and administration of the Bank of Finland for the financial year 2017 in accordance with generally accepted auditing standards.

During the financial year the Bank's Internal Audit audited the Bank's accounting records and activities. We have examined the internal audit reports.

We have read the Bank's annual report and received representations from the Board concerning the Bank's activities.

The financial statements have been drawn up in accordance with the principles of financial statements approved by the Parliamentary Supervisory Council and current rules and regulations. The financial statements give a true and fair view of the Bank's financial position and results.

We propose that the profit and loss account and balance sheet for the financial year audited by us be approved. We recommend that the profit for the financial year be disposed of as proposed by the Board.

Helsinki, 9 March 2018

Sanna Lauslahti

Esko Kiviranta

Toimi Kankaanniemi

Lotta Kauppila  
Authorised Public Accountant

Markku Koskela  
Authorised Public Accountant

# Statement regarding the audit as defined in Article 27 of the Statute of the European System of Central Banks and the European Central Bank

To the Bank of Finland

## Report on the audit of financial statements

### Opinion

In our opinion, the financial statements give a true and fair view of the Bank of Finland's financial position and results, in accordance with the Accounting Principles and Methods approved by the Governing Council of the European Central Bank and the Act on the Bank of Finland, and comply with statutory requirements.

#### *Object of the audit*

We have audited the financial statements of the Bank of Finland (business identity code 0202248-1) for the year ended 31 December 2017. The financial statements comprise the balance sheet, the profit and loss account and notes.

### Basis for opinion

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the 'Auditor's responsibilities for the audit of the financial statements'.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

#### *Independence*

We are independent of the Bank of Finland in accordance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

### Responsibilities of the Board of the Bank of Finland for the financial statements

The Board of the Bank of Finland is responsible for the preparation of financial statements that give a true and fair view of the Bank of Finland's financial position and results, in accordance with the laws and regulations governing the preparation of the Bank's financial statements, and that comply with statutory requirements. The Bank of Finland Board is also responsible for such internal control as it determines necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Bank of Finland Board is responsible for assessing the Bank's ability to continue as going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the Bank or cease operations, or there is no realistic alternative but to do so.

### Auditor's responsibilities for the audit of financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with good auditing practice will always detect material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with good auditing practice, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Bank's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the Bank of Finland Board's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Bank's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Bank to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Helsinki, 28 February 2018  
PricewaterhouseCoopers Oy Ab  
Authorised Public Accountants

Jukka Paunonen  
Authorised Public Accountant

# Appendices

## Monetary policy measures of the Eurosystem in 2017

**January–December** In accordance with the decisions of the Governing Council of the ECB, main refinancing operations and longer-term regular and non-standard refinancing operations continued to be conducted as fixed rate tender procedures with full allotment. The interest rate on the 3-month longer-term refinancing operations was fixed at the average of the rates on the main refinancing operations over their duration. Purchases under the expanded asset purchase programme (APP) were made at a monthly pace of EUR 80 billion between January and March before decreasing to EUR 60 billion for the remainder of 2017.

**January** At its monetary policy meeting on 19 January, the Governing Council revised its adjustments of the parameters of the expanded asset purchase programme made in December 2016. The Governing Council specified that the purchase of assets with yields below the deposit facility rate (DFR) will only occur under the public sector purchase programme (PSPP). As such, the purchase programme continues to prioritise assets with yields above the DFR, and assets that underperform this rate will only be bought to the extent needed. This means that the amount of purchases that have to be made at yields below the DFR will vary across jurisdictions. This amount may also change over time, reflecting changes in market interest rates relative to the DFR.

**May** At its monetary policy meeting on 18 May, the Governing Council revised its definition of ‘wind-down entities’ and amended their eligibility to access monetary policy operations. The changes took effect on 21 July 2017.

**June** At its meeting on 8 June, the Governing Council adjusted its forward guidance, announcing that it now expected interest rates to remain at their present levels for an extended period of time, and well past the horizon of the net asset purchases. Previous forward guidance had included the possibility of lowering key interest rates further still.

On 19 June, the ECB published the text of the Emergency Liquidity Assistance agreement (ELA), specifying the rules and processes applying to the provision of ELA and outlining the role of the Governing Council therein.

**July** New requirements on bank-issued covered bonds took effect as of 1 July 2017. Accordingly, credit rating agencies are now required to publish new issue reports and quarterly surveillance reports for rated covered bond programmes.

**October** On 26 October, the Governing Council of the ECB took several monetary policy decisions. The interest rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility remained unchanged at 0.00%, 0.25% and -0.40% respectively. It was decided that the main refinancing operations and the three-month longer-term refinancing operations were to be conducted as fixed rate tender procedures with full allotment for as long as necessary, and at least until the end of the last reserve maintenance period of 2019. As regards non-standard monetary policy measures, it was decided that purchases under the asset purchase programme were to continue until the end of September 2018 at the monthly pace of EUR 60 billion, changing to EUR 30 billion from January 2018. Furthermore, the Governing Council stated its readiness to increase the APP in size and/or duration, should the euro area outlook become less favourable. The Eurosystem will reinvest the principal payments from maturing securities purchased under the APP for an extended period after the end of its net asset purchases, and in any case for as long as necessary. This will contribute both to favourable liquidity conditions and to an appropriate monetary policy stance.

Furthermore, the Governing Council announced the monthly publication of the expected redemption amounts for the asset purchase programme, over a rolling 12-month horizon, accompanied also by historical redemption figures since the start of the APP. The Council also provided additional information about reinvestment in relation to the public sector purchase



programme (PSPP). Principal redemptions on securities purchased under the PSPP are reinvested by the Eurosystem in a flexible and timely manner in the month they fall due, on a best effort basis, or in the subsequent two months, if warranted by market liquidity conditions. During the period of net asset purchases, PSPP principal redemptions will be reinvested in the jurisdiction in which the maturing bond was issued. All of these revisions highlight the ECB's commitment to greater transparency in monetary policy.

## December

On 6 December, the Governing Council approved the development of the Eurosystem Collateral Management System (ECMS) with a planned launch for November 2022. The ECMS will provide a harmonised platform for collateral operations across the Eurosystem and will replace the corresponding existing systems of the 19 national central banks concerned.

On 14 December, the Governing Council decided on changes to the collateral eligibility criteria applicable to unsecured bank bonds (UBBs), i.e. unsecured debt instruments issued by credit institutions, investment firms or entities closely linked to them, due to take effect during the first quarter of 2018. UBBs that are subject to statutory, contractual or structural subordination (e.g. UBBs issued by bank holding companies) will become ineligible as collateral. In addition, UBBs issued by credit institutions or investment firms or their closely linked entities established outside the EU will also become ineligible. UBBs issued by entities that are on the list of agencies eligible for the ECB's Public Sector Purchase Programme and government-guaranteed bank bonds (GGBBs) will remain eligible until maturity provided that they are not subject to contractual or structural subordination and that they have been issued before 31 December 2018.

# Key measures affecting the financial markets in 2017

## Measures by the European System of Central Banks

- February** On 2 February 2017 the Governing Council approved two new direct links (from Euroclear Bank to LuxCSD and from Clearstream Banking AG-system to LuxCSD) and one new relayed link (Clearstream Banking AG-CREATION via Clearstream Banking S.A. to LuxCSD) to be used for the collateralisation of Eurosystem credit operations.
- March** On 15 March 2017 the Governing Council approved two new direct links (from Euroclear France to Clearstream Banking AG-system and from Euroclear France to Monte Titoli) to be used for the settlement of Eurosystem credit operations.
- May** On 5 May 2017 the Governing Council approved the comprehensive assessments of TARGET2, EURO1 and STEP2-T and took note of the comprehensive assessment of CORE(FR) performed by the Banque de France. These four payment systems are classified as systemically important payment systems (SIPS) and are assessed against Regulation ECB/2014/28 on oversight requirements for systemically important payment systems. The Governing Council furthermore decided to assign lead oversight of the European Payment Council's SEPA Instant Credit Transfer (SCT Inst) scheme and EBA CLEARING's instant payment infrastructure solution to the ECB.
- In order to further enhance the transparency regarding the provision of emergency liquidity assistance (ELA) by the national central banks (NCBs), on 17 May 2017 the Governing Council decided to make the related agreement public. The ELA agreement specifies the rules which apply to the provision of ELA and the role of the Governing Council in that respect.
- June** On 21 June 2017 the Governing Council approved the launch of the development of a pan-European instant payment settlement service, 'Target Instant Payment Settlement' (TIPS). The instant payment settlement service enables citizens and firms to transfer money between each other in real time, and the service will be available round the clock, every day of the year.
- August** On 24 August 2017 the Governing Council approved a policy to be followed by the Eurosystem regarding the identification and oversight of critical service providers of financial market infrastructures (FMIs). The policy operationalises the Eurosystem Oversight Policy Framework in a harmonised manner and is applicable to FMIs that fall under the legal mandate of the Eurosystem, notably the systemically important payment systems (i.e. TARGET2, EURO1, STEP2-T, CORE(FR)), retail payment systems, card payment schemes and T2S.
- November** On 27 November 2017 the Governing Council adopted Guideline ECB/2017/38 on the procedures for the collection of granular credit and credit risk data ('AnaCredit'). The database will comprise credit data from all Member States whose currency is the euro. AnaCredit will support the Eurosystem, the European System of Central Banks and the European Systemic Risk Board in the performance of their tasks, including monetary policy analysis and monetary policy operations, risk management, financial stability surveillance as well as macroprudential policy and research, and banking supervision.
- December** On 6 December 2017 the Governing Council approved the launch of two major projects in the field of market infrastructure and payments. The first project will consolidate the Eurosystem's real-time gross settlement system TARGET2 and the securities settlement platform TARGET2-Securities (T2S) and will provide market participants with enhanced liquidity management procedures. The projects are expected to go live in November 2021 and November 2022, respectively. The second project will develop a Eurosystem Collateral Management System, which will provide a harmonised platform for collateral operations across the Eurosystem and replace a number of functions of existing national systems.

## Main opinions issued by the Bank of Finland in 2017

Opinions concerning legislation on and development of the financial markets

<i>Opinion</i>	<i>Subject</i>	<i>Date</i>
<b>To the Commerce Committee of the Finnish Parliament</b>	Communication of the Government to Parliament on the proposal of the European Commission for improving the shock-absorption capacity of banks	21 Feb
	Communication of the Government to Parliament on the proposal of the European Commission for improving the shock-absorption capacity of banks II	23 Feb
	Government Bill to Parliament for an Act amending the Act on Credit Institutions and for certain related Acts	23 Oct
	Government Bill to Parliament for an Act amending the Act on Payment Institutions and for certain related Acts	26 Oct
	Government Bill to Parliament for Acts amending the Investment Services Act and for or an Act on trading in financial instruments and for certain related Acts	13 Nov
<b>To the Finance Committee of Finnish Parliament</b>	Common backstop for the Single Resolution Fund	29 Jun
<b>To the Financial Supervisory Authority</b>	Amendments to FIN-FSA Regulations and guidelines 3/2015 Calculation of maximum loan-to-value ratio	6 Feb
	Amendments to FIN-FSA Regulations and guidelines on the marketing of financial services and products	2 Jun
	Amendments to FIN-FSA Regulations and guidelines on accounting, financial statements and management reports in the financial sector	27 Nov
<b>To the Ministry of Justice</b>	Amendments to the Payment Services Act	28 Apr
<b>To the Ministry of Social Affairs and Health</b>	Final report of the working group preparing national implementation of the Directive on insurance distribution	9 Jun

<i>Opinion</i>	<i>Subject</i>	<i>Date</i>
<b>To the Ministry of Finance</b>	Memorandum of the working group on the development of bond markets	10 Mar
	Draft Government Bill to Parliament for Acts amending the Act on Credit Institutions and the Act on the Financial Stability Authority	13 Apr
	Draft Government Bill to Parliament for Acts amending the Act on the recovery and resolution of credit institutions and investment firms and certain related Acts	13 Apr
	Government Bill to Parliament for an Act amending the Investment Services Act and for an Act on trading in financial instruments and for certain related Acts	9 Jun
	Reform of the banking and payment account system, evaluation memorandum	19 Jun
	Confirmation of the contributions to the Investors' Compensation Fund	31 Jul
	Government Bill amending the Act on the taxation of income and wealth of taxpayers with limited tax liability, and the Act on withholding tax, and section 9 of the Act on the public disclosure and confidentiality of tax information	28 Aug
	Reform of the Payment Institutions Act	30 Aug
	Draft Ministry of Finance Decree on financial statements, consolidated financial statements and the management reports of credit institutions and investment firms	17 Nov
	Application for the amendment of the rules of Euroclear Finland Ltd	22 Nov
	Revision of the legislation on credit institutions	30 Nov
	Regulation on additional capital requirement imposed based on structural features	8 Dec

# Bank of Finland publications in 2017

## Periodical publications

*Euro & talous* Five issues (in Finnish) were published online at [www.eurojatalous.fi](http://www.eurojatalous.fi).

*Bank of Finland Bulletin* Five issues were published online at [www.bofbulletin.fi](http://www.bofbulletin.fi).

## Annual report

Published online in Finnish, Swedish and English.

## Research publications

*Scientific monographs* E:51 *Pasi Ikonen* Financial depth, debt, and growth. Dissertation.

*Expository studies* A:118 *Anne Hedman and Maritta Nieminen* Laillisen maksuvälineen juridiikasta.

*Discussion Papers* 37 online studies and reports in the areas of macroeconomics and financial markets were published in English.

## Statistical publications

*International Reserves and Foreign Currency Liquidity*, a monthly publication (in English).

## Studies published by the Institute for Economies in Transition

### Research publications

22 online studies were published in the *BOFIT Discussion Papers* series (in English).

10 online reports were published in the *BOFIT Policy Brief* series (in Finnish or English).

### Monitoring publications

*BOFIT Viikkokatsaus*, a weekly online publication (in Finnish).

*BOFIT Weekly*, a weekly online publication (in English).

*BOFIT Venäjä-ennuste*, a bi-annual online publication on the Russian economy (in Finnish).

*BOFIT Forecast for Russia*, a bi-annual online publication (in English).

*BOFIT Kiina-ennuste*, a bi-annual online publication on the Chinese economy (in Finnish).

*BOFIT Forecast for China*, a bi-annual online publication (in English).

### Orders and subscriptions

Brochures can be ordered on the Bank of Finland website at [www.bof.fi](http://www.bof.fi) > Media and publications > Publications > Printed brochures order form.

A comprehensive list of publications is available on the Bank of Finland website at [www.bof.fi](http://www.bof.fi) > Media and publications > Publications.

# Supplementary tables

Totals/sub-totals may not add up because of rounding.

0 less than half the final digit shown

. logically impossible

.. data not available

– nil

\_ change in contents of series



Table 1.

## Monthly balance sheet of the Bank of Finland, EUR m

ASSETS		Jan	Feb	Mar
1	Gold and gold receivables	1,731	1,731	1,831
2	Claims on non-euro area residents denominated in foreign currency	7,824	7,808	7,658
2.1	Receivables from the IMF	2,047	2,034	2,026
2.2	Balances with banks and security investments, external loans and other external assets	5,777	5,774	5,632
3	Claims on euro area residents denominated in foreign currency	692	690	663
4	Claims on non-euro area residents denominated in euro	1,748	1,847	1,496
4.1	Balances with banks, security investments and loans	1,748	1,847	1,496
4.2	Claims arising from the credit facility under ERM II	–	–	–
5	Lending to euro area credit institutions related to monetary policy operations denominated in euro	6,728	6,728	10,148
5.1	Main refinancing operations	–	–	–
5.2	Longer-term refinancing operations	6,728	6,728	10,148
5.3	Fine-tuning reverse operations	–	–	–
5.4	Structural reverse operations	–	–	–
5.5	Marginal lending facility	–	–	–
5.6	Credits related to margin calls	–	–	–
6	Other claims on euro area credit institutions denominated in euro	198	280	278
7	Securities of euro area residents denominated in euro	33,826	34,859	35,694
7.1	Securities held for monetary policy purposes	26,723	27,760	29,197
7.2	Other securities	7,103	7,099	6,497
8	General government debt denominated in euro	–	–	–
9	Intra-Eurosystem claims	48,256	64,809	69,503
9.1	Participating interest in ECB	144	144	144
9.2	Claims equivalent to the transfer of foreign reserves	728	728	728
9.3	Claims related to the issuance of ECB debt certificates	–	–	–
9.4	Claims related to TARGET and correspondent accounts (net)	43,488	60,242	64,955
9.5	Other intra-Eurosystem claims (net)	3,896	3,695	3,676
10	Other assets	1,328	1,317	822
<b>Total assets</b>		<b>102,332</b>	<b>120,070</b>	<b>128,092</b>

Totals/sub-totals may not add up due to rounding.  
Source: Bank of Finland.

<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
1,831	1,831	1,718	1,718	1,718	1,718	1,718	1,718	1,706
7,667	7,594	7,191	7,199	7,207	7,193	6,990	6,959	6,850
2,012	1,975	1,896	1,875	1,858	1,855	1,818	1,796	1,744
5,655	5,620	5,295	5,324	5,349	5,337	5,172	5,163	5,106
612	602	560	525	499	526	503	512	478
1,448	1,197	1,216	1,342	1,479	1,561	1,083	1,341	1,231
1,448	1,197	1,216	1,342	1,479	1,561	1,083	1,341	1,231
-	-	-	-	-	-	-	-	-
10,148	10,158	10,148	10,148	10,148	10,158	10,148	10,148	10,148
-	10	-	-	-	10	-	-	-
10,148	10,148	10,148	10,148	10,148	10,148	10,148	10,148	10,148
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
478	510	224	452	332	250	351	241	209
36,288	36,841	38,547	39,668	40,451	41,312	42,744	44,130	44,995
30,427	31,583	33,140	34,222	34,991	35,906	37,442	38,753	39,588
5,861	5,259	5,406	5,446	5,460	5,405	5,302	5,378	5,407
-	-	-	-	-	-	-	-	-
75,506	67,498	60,724	63,329	65,733	73,170	71,123	84,922	44,750
144	144	144	144	144	144	144	144	144
728	728	728	728	728	728	728	728	728
-	-	-	-	-	-	-	-	-
70,958	62,909	56,119	58,724	61,115	68,597	66,549	80,325	40,373
3,676	3,717	3,733	3,733	3,746	3,701	3,701	3,725	3,504
645	637	760	584	578	504	606	599	697
134,623	126,869	121,089	124,967	128,147	136,392	135,267	150,570	111,065

Table 1.  
(cont.)

<b>LIABILITIES</b>		<b>Jan</b>	<b>Feb</b>	<b>Mar</b>
1	<i>Banknotes in circulation</i>	18,402	18,239	18,299
2	<i>Liabilities to euro area credit institutions related to monetary policy operations denominated in euro</i>	70,145	87,132	94,999
2.1	<i>Current accounts (covering the minimum reserve system)</i>	51,920	60,952	65,485
2.2	<i>Overnight deposits</i>	18,225	26,180	29,514
2.3	<i>Fixed-term deposits</i>	–	–	–
2.4	<i>Fine-tuning reverse operations</i>	–	–	–
2.5	<i>Deposits related to margin calls</i>	–	–	–
3	<i>Other liabilities to euro area credit institutions denominated in euro</i>	198	135	278
4	<i>Liabilities to other euro area residents denominated in euro</i>	20	1,020	1,012
4.1	<i>General government</i>	–	1,000	1,000
4.2	<i>Other liabilities</i>	20	20	12
5	<i>Liabilities to non-euro area residents denominated in euro</i>	1,638	1,781	1,631
6	<i>Liabilities to euro area residents denominated in foreign currency</i>	–	–	–
7	<i>Liabilities to non-euro area residents denominated in foreign currency</i>	25	34	25
7.1	<i>Deposits, balances and other liabilities</i>	25	34	25
7.2	<i>Liabilities arising from the credit facility under ERM II</i>	–	–	–
8	<i>Counterpart of special drawing rights allocated by the IMF</i>	1,516	1,516	1,511
9	<i>Intra-Eurosystem liabilities</i>	190	–	–
9.1	<i>Liabilities related to promissory notes backing the issuance of ECB debt certificates</i>	–	–	–
9.2	<i>Liabilities related to TARGET and correspondent accounts (net)</i>	–	–	–
9.3	<i>Other intra-Eurosystem liabilities (net)</i>	190	–	–
10	<i>Other liabilities</i>	338	352	173
11	<i>Revaluation accounts</i>	2,982	2,982	3,003
12	<i>Capital and reserves</i>	6,879	6,879	7,161
12.1	<i>Primary capital</i>	841	841	841
12.2	<i>Reserve fund</i>	1,721	1,721	1,761
12.3	<i>Pension provisions</i>	615	615	613
12.4	<i>Other provisions</i>	3,702	3,702	3,946
<b>Total liabilities</b>		<b>102,332</b>	<b>120,070</b>	<b>128,092</b>

Totals/sub-totals may not add up due to rounding.  
Source: Bank of Finland.

<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
18,436	18,510	18,668	18,739	18,741	18,776	18,813	18,883	19,223
101,491	93,445	88,429	91,455	94,486	103,171	101,702	116,598	76,762
60,916	56,015	56,573	59,178	64,446	64,365	54,979	65,648	53,421
40,576	37,430	31,856	32,277	30,040	38,806	46,723	50,950	23,341
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
318	480	224	452	332	282	351	241	409
850	1,003	650	1,020	1,002	400	1,400	1,413	1,000
850	1,003	650	1,000	1,000	-	1,000	1,000	1,000
0	0	0	20	2	400	400	413	0
1,651	1,603	1,768	1,914	2,177	2,252	1,684	2,052	2,601
-	-	-	-	-	-	-	-	-
22	5	4	4	0	20	0	0	-
22	5	4	4	0	20	0	0	-
-	-	-	-	-	-	-	-	-
1,511	1,511	1,451	1,451	1,451	1,451	1,424	1,424	1,413
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
181	240	309	347	371	453	477	544	221
3,003	3,003	2,516	2,516	2,516	2,516	2,346	2,346	2,256
7,161	7,070	7,070	7,070	7,070	7,070	7,070	7,070	7,180
841	841	841	841	841	841	841	841	841
1,761	1,761	1,761	1,761	1,761	1,761	1,761	1,761	1,761
613	613	613	613	613	613	613	613	604
3,946	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,974
134,623	126,869	121,089	124,967	128,147	136,392	135,267	150,570	111,065

Table 2.

## Key interest rates of the Eurosystem

<i>Fixed rate tenders</i> <i>Interest rate on main refinancing operations</i>			<i>Variable rate tenders</i> <i>Minimum bid rate</i>		
<i>Decision date</i>	<i>Effective</i>	<i>%</i>	<i>Decision date</i>	<i>Effective</i>	<i>%</i>
22 Dec 1998	1 Jan 1999	3.00	8 Jun 2000	28 Jun 2000	4.25
8 Apr 1999	14 Apr 1999	2.50	31 Aug 2000	6 Sep 2000	4.50
4 Nov 1999	10 Nov 1999	3.00	5 Oct 2000	11 Oct 2000	4.75
3 Feb 2000	9 Feb 2000	3.25	10 May 2001	15 May 2001	4.50
16 Mar 2000	22 Mar 2000	3.50	30 Aug 2001	5 Sep 2001	4.25
27 Apr 2000	4 May 2000	3.75	17 Sep 2001	19 Sep 2001	3.75
8 Jun 2000	15 Jun 2000	4.25	8 Nov 2001	14 Nov 2001	3.25
			5 Dec 2002	11 Dec 2002	2.75
8 Oct 2008	15 Oct 2008	3.75	6 Mar 2003	7 Mar 2003	2.50
6 Nov 2008	12 Nov 2008	3.25	5 Jun 2003	6 Jun 2003	2.00
4 Dec 2008	10 Dec 2008	2.50	1 Dec 2005	6 Dec 2005	2.25
15 Jan 2009	21 Jan 2009	2.00	2 Mar 2006	8 Mar 2006	2.50
5 Mar 2009	11 Mar 2009	1.50	8 Jun 2006	15 Jun 2006	2.75
2 Apr 2009	8 Apr 2009	1.25	3 Aug 2006	9 Aug 2006	3.00
7 May 2009	13 May 2009	1.00	5 Oct 2006	11 Nov 2006	3.25
7 Apr 2011	13 Apr 2011	1.25	7 Dec 2006	13 Dec 2006	3.50
7 Jul 2011	13 Jul 2011	1.50	8 Mar 2007	14 Mar 2007	3.75
3 Nov 2011	9 Nov 2011	1.25	7 Jun 2007	13 Jun 2007	4.00
8 Dec 2011	14 Dec 2011	1.00	3 Jul 2008	9 Jul 2008	4.25
5 Jul 2012	11 Jul 2012	0.75			
2 May 2013	8 May 2013	0.50			
7 Nov 2013	13 Nov 2013	0.25			
5 Jun 2014	11 Jun 2014	0.15			
4 Sep 2014	10 Sep 2014	0.05			
10 Mar 2016	16 Mar 2016	0.00			

*Standing facilities*

<i>Decision date</i>	<i>Effective</i>	<i>Interest rate on deposit facility</i>	<i>Interest rate on marginal lending facility</i>
		<i>%</i>	<i>%</i>
22 Dec 1998	1 Jan 1999	2.00	4.50
22 Dec 1998	4 Jan 1999	2.75	3.25
21 Jan 1999	22 Jan 1999	2.00	4.50
8 Apr 1999	9 Apr 1999	1.50	3.50
4 Nov 1999	5 Nov 1999	2.00	4.00
3 Feb 2000	4 Feb 2000	2.25	4.25
16 Mar 2000	17 Mar 2000	2.50	4.50
27 Apr 2000	28 Apr 2000	2.75	4.75
8 Jun 2000	9 Jun 2000	3.25	5.25
31 Aug 2000	1 Sep 2000	3.50	5.50
5 Oct 2000	6 Oct 2000	3.75	5.75

Standing facilities

		Interest rate on deposit facility	Interest rate on marginal lending facility
Decision date	Effective	%	%
10 May 2001	11 May 2001	3.50	5.50
30 Aug 2001	31 Aug 2001	3.25	5.25
17 Sep 2001	18 Sep 2001	2.75	4.75
8 Nov 2001	9 Nov 2001	2.25	4.25
5 Dec 2002	6 Dec 2002	1.75	3.75
6 Mar 2003	7 Mar 2003	1.50	3.50
5 Jun 2003	6 Jun 2003	1.00	3.00
1 Dec 2005	6 Dec 2005	1.25	3.25
2 Mar 2006	8 Mar 2006	1.50	3.50
8 Jun 2006	15 Jun 2006	1.75	3.75
3 Aug 2006	9 Aug 2006	2.00	4.00
5 Oct 2006	11 Oct 2006	2.25	4.25
7 Dec 2006	13 Dec 2006	2.50	4.50
8 Mar 2007	14 Mar 2007	2.75	4.75
7 Jun 2007	13 Jun 2007	3.00	5.00
3 Jul 2008	9 Jul 2008	3.25	5.25
8 Oct 2008	8 Oct 2008	2.75	4.75
8 Oct 2008	9 Oct 2008	3.25	4.25
6 Nov 2008	12 Nov 2008	2.75	3.75
4 Dec 2008	10 Dec 2008	2.00	3.00
15 Jan 2009	21 Jan 2009	1.00	3.00
5 Mar 2009	11 Mar 2009	0.50	2.50
2 Apr 2009	8 Apr 2009	0.25	2.25
7 May 2009	13 May 2009	0.25	1.75
7 Apr 2011	13 Apr 2011	0.50	2.00
7 Jul 2011	13 Jul 2011	0.75	2.25
3 Nov 2011	9 Nov 2011	0.50	2.00
8 Dec 2011	14 Dec 2011	0.25	1.75
5 Jul 2012	11 Jul 2012	0,00	1.50
2 May 2013	8 May 2013	0.00	1.00
7 Nov 2013	13 Nov 2013	0.00	0.75
5 Jun 2014	11 Jun 2014	-0.10	0.40
4 Sep 2014	10 Sep 2014	-0.20	0.30
3 Dec 2015	9 Dec 2015	-0.30	0.30
10 Mar 2016	16 Mar 2016	-0.40	0.25

\* In times of a negative interest rate on the deposit facility, the deposit rate has also been applied to deposits in excess of the minimum reserves, and extensively to other deposits as well.  
Source: European Central Bank.



Table 3.

## Reserve base of euro area credit institutions subject to reserve requirements, EUR bn

Reserve base as of:	Total	Liabilities to which a 1% reserve coefficient is applied		Liabilities to which a 0% reserve coefficient is applied		
		Deposits (overnight, up to 2 years' agreed maturity and notice period)	Debt securities up to 2 years' agreed maturity	Deposits (over 2 years' agreed maturity and notice period)	Repos	Debt securities over 2 years' agreed maturity
	1	2	3	4	5	6
<b>2016</b>						
Nov	19,041.9	11,486.4	593.6	2,004.3	1,404.2	3,553.4
<b>2017</b>						
Jan	18,872.6	11,516.7	588.4	1,978.0	1,258.2	3,531.2
Feb	..	..	..	..	..	..
Mar	18,905.4	11,665.0	606.0	1,972.8	1,155.9	3,505.7
Apr	19,021.9	11,712.1	586.3	1,951.1	1,301.3	3,471.0
May	18,950.6	11,682.6	576.8	1,939.3	1,284.7	3,467.2
Jun	..	..	..	..	..	..
Jul	18,849.1	11,699.8	570.3	1,913.9	1,225.0	3,440.2
Aug	..	..	..	..	..	..
Sep	18,753.2	11,739.4	587.2	1,895.3	1,137.2	3,394.1
Oct	19,029.6	11,831.4	584.4	1,869.3	1,350.7	3,393.9
Nov	..	..	..	..	..	..
Dec	..	..	..	..	..	..

Source: European Central Bank.

## Reserve base of Finnish credit institutions subject to reserve requirements, EUR m

Reserve base as of:	Total	Liabilities to which a 1% reserve coefficient is applied		Liabilities to which a 0% reserve coefficient is applied		
		Deposits (overnight, up to 2 years' agreed maturity and notice period)	Debt securities up to 2 years' agreed maturity	Deposits (over 2 years' agreed maturity and notice period)	Repos	Debt securities over 2 years' agreed maturity
	1	2	3	4	5	6
<b>2016</b>						
Nov	386,302	249,051	11,338	22,248	23,654	80,011
<b>2017</b>						
Jan	343,063	235,435	10,772	22,233	399	74,224
Feb	..	..	..	..	..	..
Mar	370,004	261,895	11,482	20,766	752	75,109
Apr	367,363	259,868	11,443	20,865	877	74,311
May	364,044	258,682	11,328	20,751	1,138	72,145
Jun	..	..	..	..	..	..
Jul	354,418	248,768	10,554	20,349	3,198	71,550
Aug	..	..	..	..	..	..
Sep	363,483	258,986	10,737	21,027	2,599	70,134
Oct	365,881	262,203	10,481	20,399	1,788	71,010
Nov	371,990	266,007	10,583	20,603	1,967	72,829
Dec	..	..	..	..	..	..

Source: Bank of Finland.

Table 4.

## Reserve maintenance of euro area credit institutions subject to reserve requirements, EUR bn

<i>Maintenance period ending in</i>	<i>Required reserves</i>	<i>Actual reserves</i>	<i>Excess reserves</i>	<i>Deficiencies</i>	<i>Interest rate on minimum reserves, %</i>
	1	2	3	4	5
<b>2016</b>					
<i>Dec</i>	117.4	823.9	706.5	0.0	0.00
<b>2017</b>					
<i>Jan</i>	118.8	919.0	800.3	0.0	0.00
<i>Feb</i>	..	..	..	..	..
<i>Mar</i>	120.4	960.9	840.5	0.0	0.00
<i>Apr</i>	..	..	..	..	..
<i>May</i>	120.6	1 081.1	960.5	0.0	0.00
<i>Jun</i>	122.3	1 178.7	1 056.4	0.0	0.00
<i>Jul</i>	122.6	1 169.2	1 046.7	0.0	0.00
<i>Aug</i>	..	..	..	..	..
<i>Sep</i>	122.1	1 242.7	1 120.4	0.0	0.00
<i>Oct</i>	122.3	1 253.3	1 131.0	0.0	0.00
<i>Nov</i>	..	1 351.3	..	..	..
<i>Dec</i>	122.9	1 309.7	1 186.8	0.0	0.00

Source: European Central Bank.

## Reserve maintenance of Finnish credit institutions subject to reserve requirements, EUR m

<i>Maintenance period ending in</i>	<i>Required reserves</i>	<i>Actual reserves</i>	<i>Excess reserves</i>	<i>Deficiencies</i>	<i>Interest rate on minimum reserves, %</i>
	1	2	3	4	5
<b>2016</b>					
<i>Dec</i>	2,659.4	53,366.9	50,707.5	0.0	0.0
<b>2017</b>					
<i>Jan</i>	2,535.0	44,210.3	41,675.2	0.0	0.0
<i>Feb</i>	..	..	..	..	..
<i>Mar</i>	2,578.3	56,814.9	54,236.6	0.0	0.0
<i>Apr</i>	..	..	..	..	..
<i>May</i>	2,436.4	58,098.2	55,661.8	0.0	0.0
<i>Jun</i>	2,708.3	60,068.3	57,360.0	0.0	0.0
<i>Jul</i>	2,687.7	59,040.5	56,352.9	0.0	0.0
<i>Aug</i>	..	..	..	..	..
<i>Sep</i>	2,674.9	63,471.0	60,796.2	0.0	0.0
<i>Oct</i>	2,568.2	61,039.2	58,471.1	0.0	0.0
<i>Nov</i>	..	..	..	..	..
<i>Dec</i>	2,672.2	64,336.2	61,664.0	0.0	0.0

Source: Bank of Finland.

Table 5.

Euro area monetary aggregate M3 and corresponding items of Finnish monetary financial institutions<sup>1</sup>

	Euro area monetary aggregate M3			Liabilities of Finnish monetary financial institutions included in euro area M3 <sup>2</sup>		
	Stock <sup>4</sup> , EUR bn	12-month change <sup>3,4</sup> , %	3-month mov avg of 12-month change <sup>3,4</sup> , %	Stock, EUR bn	12-month change <sup>3</sup> , %	3-month mov avg of 12-month change <sup>3</sup> , %
	1	2	3	4	5	6
2013	9,833.7	1.0	1.2	145.2	4.1	3.8
2014	10,339.8	3.9	3.6	147.9	1.3	0.9
2015	10,852.4	4.7	4.9	156.9	5.2	5.7
2016	11,398.3	5.0	4.8	160.1	1.8	2.3
2017	11,863.8	4.6	4.7	169.9	6.7	5.2
2017						
Jan	11,440.4	4.7	4.8	161.4	0.3	-0.4
Feb	11,481.7	4.6	4.8	157.1	-3.2	-0.5
Mar	11,572.0	5.1	4.8	162.5	1.4	0.1
Apr	11,571.5	4.8	4.9	166.1	2.0	2.4
May	11,600.7	4.9	4.8	166.1	3.7	3.6
Jun	11,636.3	4.8	4.8	167.7	5.0	3.9
Jul	11,673.8	4.5	4.8	166.5	3.1	3.9
Aug	11,741.1	5.0	4.9	167.1	3.7	3.4
Sep	11,787.4	5.2	5.1	167.0	3.4	3.9
Oct	11,799.8	5.0	5.0	164.0	4.6	3.9
Nov	11,858.8	4.9	4.8	163.3	3.8	5.0
Dec	11,863.8	4.6	4.7	169.9	6.7	5.2

<sup>1</sup> Excl. negotiable instruments held by central governments and non-euro area residents.

<sup>2</sup> Excl. notes and coins held by the public.

<sup>3</sup> Calculated from monthly differences in stocks adjusted for reclassifications, other revaluations, exchange rate variations and any other change which do not arise from transactions.

<sup>4</sup> Seasonally and calendar effect adjusted.

Sources: European Central Bank and Bank of Finland.

Table 6.

## Key market interest rates

	Eonia rate	Euribor rates (actual/360)						Yields on Finnish government bonds	
		1-month	2-month	3-month	6-month	9-month	12-month	5-year	10-year
	1	2	3	4	5	6	7	8	9
2013	0.09	0.130	0.177	0.221	0.337	0.441	0.536	0.815	1.863
2014	0.10	0.131	0.170	0.209	0.308	0.391	0.475	0.506	1.436
2015	-0.11	-0.072	-0.043	-0.020	0.053	0.103	0.167	0.099	0.725
2016	-0.32	-0.338	-0.298	-0.264	-0.164	-0.098	-0.034	-0.352	0.356
2017	-0.35	-0.372	-0.340	-0.329	-0.260	-0.195	-0.145	-0.213	0.551
2017									
Jan	-0.35	-0.371	-0.339	-0.326	-0.236	-0.152	-0.095	-0.430	0.503
Feb	-0.35	-0.372	-0.341	-0.329	-0.241	-0.165	-0.106	-0.292	0.522
Mar	-0.35	-0.372	-0.340	-0.329	-0.241	-0.171	-0.110	-0.132	0.511
Apr	-0.36	-0.372	-0.340	-0.330	-0.246	-0.179	-0.119	-0.220	0.383
May	-0.36	-0.373	-0.341	-0.329	-0.251	-0.179	-0.127	-0.182	0.488
Jun	-0.36	-0.373	-0.342	-0.330	-0.267	-0.195	-0.149	-0.250	0.564
Jul	-0.36	-0.373	-0.341	-0.330	-0.273	-0.206	-0.154	-0.053	0.762
Aug	-0.36	-0.372	-0.340	-0.329	-0.272	-0.211	-0.156	-0.155	0.646
Sep	-0.36	-0.372	-0.340	-0.329	-0.273	-0.218	-0.168	-0.188	0.582
Oct	-0.36	-0.372	-0.340	-0.330	-0.274	-0.221	-0.180	-0.177	0.595
Nov	-0.35	-0.372	-0.341	-0.329	-0.274	-0.219	-0.189	-0.254	0.519
Dec	-0.34	-0.369	-0.339	-0.328	-0.271	-0.220	-0.190	-0.243	0.504

Sources: European Central Bank, Reuters and Bloomberg.

Table 7.

Nominal competitiveness indicators for Finland and effective exchange rate of the euro calculated by the ECB

	Narrow indicator <sup>1</sup>	Narrow euro area indicator <sup>1</sup>	Broad indicator <sup>1</sup>	Effective exchange rate of the euro, narrow group of countries <sup>1</sup>
January–March 1999 = 100				
	1	2	3	4
2013	103.4	101.1	105.0	110.1
2014	105.3	101.9	107.2	109.0
2015	99.9	99.6	105.1	97.7
2016	101.6	100.3	107.2	99.4
2017	104.0	101.3	107.8	102.2
2017				
Jan	101.2	100.1	106.3	98.8
Feb	100.6	99.9	105.8	98.2
Mar	101.3	100.2	106.1	98.8
Apr	101.3	100.2	105.9	98.5
May	103.3	101.0	107.2	100.6
Jun	104.3	101.4	107.8	101.9
Jul	104.7	101.6	108.5	103.4
Aug	105.8	102.1	109.2	105.3
Sep	105.8	102.1	109.1	105.5
Oct	105.8	102.1	109.1	105.0
Nov	106.6	102.4	109.5	105.0
Dec	107.3	102.7	109.7	105.5

<sup>1</sup> An upward movement of the index represents an appreciation of the euro. The narrow indicator comprises 12 countries, 1999, the narrow plus euro area indicator 23 countries, and the broad indicator 37 countries. Sources: European Central Bank and Bank of Finland.

Table 8.

Harmonised Index of Consumer Prices for euro area and Finland, annual change, %

	Euro area	Finland
	1	2
2013	1.4	2.2
2014	0.4	1.2
2015	0.0	-0.2
2016	0.2	0.4
2017	1.5	0.8
2017		
Jan	1.8	0.9
Feb	2.0	1.4
Mar	1.5	0.9
Apr	1.9	1.0
May	1.4	0.9
Jun	1.3	0.9
Jul	1.3	0.6
Aug	1.5	0.8
Sep	1.5	0.8
Oct	1.4	0.5
Nov	1.5	0.9
Dec	1.4	0.5

Sources: Eurostat and Statistics Finland.

Table 9.

## Key euro exchange rates, currency value of one euro

	US dollar			Japanese yen		
	Low	Average	High	Low	Average	High
	1	2	3	4	5	6
2013	1.2768	1.3281	1.3814	113.93	129.66	145.02
2014	1.2141	1.3285	1.3953	134.95	140.31	149.03
2015	1.0552	1.1095	1.2043	126.52	134.31	145.21
2016	1.0364	1.1069	1.1569	111.17	120.20	132.25
2017	1.0385	1.1297	1.2060	116.01	126.71	135.01
2017						
Jan	1.0385	1.0614	1.0755	120.91	122.14	123.01
Feb	1.0513	1.0643	1.0808	118.79	120.17	122.25
Mar	1.0514	1.0685	1.0889	119.17	120.68	122.42
Apr	1.0578	1.0723	1.0930	116.01	118.29	121.76
May	1.0860	1.1058	1.1243	122.47	124.09	125.67
Jun	1.1147	1.1229	1.1413	122.78	124.58	128.59
Jul	1.1329	1.1511	1.1729	128.46	129.48	130.37
Aug	1.1697	1.1807	1.2048	128.02	129.70	131.25
Sep	1.1741	1.1915	1.2060	129.50	131.92	134.01
Oct	1.1605	1.1756	1.1856	131.83	132.76	134.41
Nov	1.1562	1.1738	1.1952	131.54	132.39	133.45
Dec	1.1736	1.1836	1.1993	132.45	133.64	135.01
	Pound sterling			Swedish krona		
	Low	Average	High	Low	Average	High
	7	8	9	10	11	12
2013	0.8108	0.8493	0.8789	8.2931	8.6515	9.0604
2014	0.7773	0.8061	0.8383	8.7661	9.0985	9.6234
2015	0.6963	0.7258	0.7842	9.1141	9.3535	9.6557
2016	0.7324	0.8195	0.9049	9.1381	9.4689	10.0025
2017	0.8343	0.8767	0.9297	9.4183	9.6351	10.0160
2017						
Jan	0.8457	0.8610	0.8781	9.4390	9.5110	9.5695
Feb	0.8445	0.8527	0.8633	9.4183	9.4762	9.5675
Mar	0.8555	0.8656	0.8756	9.4610	9.5279	9.5778
Apr	0.8343	0.8482	0.8562	9.5145	9.5941	9.6390
May	0.8399	0.8555	0.8737	9.6273	9.7097	9.7895
Jun	0.8676	0.8772	0.8855	9.6398	9.7538	9.7953
Jul	0.8771	0.8862	0.8961	9.5333	9.5892	9.6735
Aug	0.8943	0.9112	0.9297	9.4818	9.5485	9.6210
Sep	0.8757	0.8947	0.9208	9.4690	9.5334	9.6490
Oct	0.8785	0.8907	0.9024	9.5195	9.6138	9.7415
Nov	0.8739	0.8879	0.8991	9.7288	9.8479	9.9728
Dec	0.8753	0.8826	0.8877	9.8438	9.9370	10.0160

Source: European Central Bank.

Table 10.

## Other euro exchange rates, currency value of one euro, average

	<i>Czech koruna</i>	<i>Danish krone</i>	<i>Hungarian forint</i>	<i>Polish zloty</i>	<i>Swiss franc</i>	<i>Norwegian krone</i>
	1	2	3	4	5	6
2013	25.980	7.458	296.873	4.197	1.231	7.807
2014	27.536	7.455	308.706	4.184	1.215	8.354
2015	27.279	7.459	309.996	4.184	1.068	8.950
2016	27.034	7.445	311.438	4.363	1.090	9.291
2017	26.326	7.439	309.193	4.257	1.112	9.327
2017						
Jan	27.021	7.435	308.987	4.367	1.071	8.999
Feb	27.021	7.435	308.502	4.308	1.066	8.860
Mar	27.021	7.436	309.714	4.287	1.071	9.092
Apr	26.823	7.438	311.566	4.237	1.073	9.199
May	26.572	7.440	309.768	4.200	1.090	9.400
Jun	26.264	7.438	308.285	4.211	1.087	9.499
Jul	26.079	7.437	306.715	4.236	1.106	9.399
Aug	26.101	7.438	304.366	4.267	1.140	9.320
Sep	26.075	7.440	308.368	4.269	1.147	9.327
Oct	25.766	7.443	309.951	4.263	1.155	9.398
Nov	25.538	7.442	311.891	4.227	1.164	9.608
Dec	25.645	7.443	313.163	4.203	1.169	9.841

	<i>Bulgarian lev</i>	<i>Croatian kuna</i>	<i>Romanian leu</i>	<i>Russian rouble</i>	<i>Turkish lira</i>	<i>Australian dollar</i>
	7	8	9	10	11	12
2013	1.956	7.579	4.419	42.337	2.534	1.378
2014	1.956	7.634	4.444	50.952	2.906	1.472
2015	1.956	7.614	4.445	68.072	3.025	1.478
2016	1.956	7.533	4.490	74.145	3.343	1.488
2017	1.956	7.464	4.569	65.938	4.121	1.473
2017						
Jan	1.956	7.530	4.502	63.498	3.987	1.425
Feb	1.956	7.448	4.514	62.152	3.901	1.389
Mar	1.956	7.423	4.548	61.910	3.923	1.402
Apr	1.956	7.450	4.529	60.572	3.915	1.424
May	1.956	7.432	4.554	63.164	3.946	1.488
Jun	1.956	7.410	4.572	65.114	3.955	1.486
Jul	1.956	7.412	4.569	68.771	4.102	1.477
Aug	1.956	7.405	4.579	70.290	4.144	1.492
Sep	1.956	7.464	4.599	68.699	4.138	1.495
Oct	1.956	7.509	4.590	67.865	4.323	1.510
Nov	1.956	7.551	4.635	69.209	4.571	1.539
Dec	1.956	7.539	4.635	69.409	4.551	1.549

Sources: European Central Bank and Bank of Finland.



Table 10.  
(cont.)

	<i>Canadian dollar</i>	<i>Chinese yuan renminbi</i>	<i>Hong Kong dollar</i>	<i>Indonesian rupiah</i>	<i>South Korean won</i>	<i>Malaysian ringgit</i>
	13	14	15	16	17	18
2013	1.368	8.165	10.302	13856.597	1453.903	4.186
2014	1.466	8.186	10.302	15748.918	1398.142	4.345
2015	1.419	6.973	8.601	14870.389	1256.544	4.337
2016	1.466	7.352	8.592	14720.830	1284.181	4.583
2017	1.465	7.629	8.805	15118.009	1276.738	4.853
2017						
Jan	1.403	7.319	8.233	14181.250	1254.414	4.732
Feb	1.394	7.314	8.259	14186.742	1215.917	4.728
Mar	1.431	7.369	8.298	14255.457	1211.233	4.741
Apr	1.441	7.389	8.336	14265.963	1215.638	4.722
May	1.504	7.613	8.611	14730.600	1245.015	4.771
Jun	1.494	7.646	8.758	14940.116	1271.288	4.805
Jul	1.464	7.796	8.989	15363.835	1305.206	4.939
Aug	1.489	7.876	9.235	15753.089	1335.933	5.058
Sep	1.464	7.826	9.309	15852.420	1348.893	5.019
Oct	1.480	7.789	9.176	15904.422	1331.006	4.972
Nov	1.498	7.772	9.162	15875.672	1292.052	4.890
Dec	1.511	7.807	9.248	16048.787	1283.391	4.824

	<i>New Zealand dollar</i>	<i>Philippine peso</i>	<i>Singapore dollar</i>	<i>Thai baht</i>	<i>South African rand</i>	<i>IMF SDRs</i>
	19	20	21	22	23	24
2013	1.621	56.427	1.662	40.830	12.833	0.874
2014	1.600	58.979	1.682	43.147	14.404	0.874
2015	1.593	50.522	1.525	38.028	14.172	0.793
2016	1.589	52.556	1.528	39.043	16.266	0.796
2017	1.590	56.973	1.559	38.296	15.049	0.815
2017						
Jan	1.492	52.800	1.517	37.645	14.401	0.786
Feb	1.473	53.208	1.505	37.258	14.039	0.785
Mar	1.525	53.683	1.501	37.260	13.813	0.789
Apr	1.539	53.441	1.500	36.967	14.438	0.786
May	1.591	55.108	1.542	38.103	14.667	0.804
Jun	1.554	56.045	1.554	38.181	14.502	0.812
Jul	1.566	58.306	1.579	38.834	15.135	0.825
Aug	1.617	60.161	1.607	39.267	15.631	0.837
Sep	1.643	60.732	1.608	39.497	15.677	0.839
Oct	1.670	60.471	1.599	39.069	16.115	0.834
Nov	1.704	59.733	1.591	38.623	16.519	0.833
Dec	1.700	59.602	1.594	38.639	15.585	0.836

Sources: European Central Bank and Bank of Finland.

Table 11.

## Irrevocable euro conversion rates as from 1 Jan 1999

Country	Currency	Units of currency per euro	Euro since	Country	Currency	Units of currency per euro	Euro since
Austria	schilling	13.7603	1 Jan 1999	Portugal	escudo	200.482	1 Jan 1999
Belgium	franc	40.3399	1 Jan 1999	Creece	drachma	340.750	1 Jan 2001
Germany	mark	1.95583	1 Jan 1999	Slovenia	tolar	239.640	1 Jan 2007
Spain	peseta	166.386	1 Jan 1999	Cyprus	pound	0.585274	1 Jan 2008
Finland	markka	5.94573	1 Jan 1999	Malta	lira	0.429300	1 Jan 2008
France	franc	6.55957	1 Jan 1999	Slovakia	koruna	30.1260	1 Jan 2009
Ireland	pound	0.787564	1 Jan 1999	Estonia	kroon	15.6466	1 Jan 2011
Italy	lira	1936.27	1 Jan 1999	Latvia	lats	0.702804	1 Jan 2014
Luxembourg	franc	40.3399	1 Jan 1999	Lithuania	litas	3.4528	1 Jan 2015
Netherlands	guilder	2.20371	1 Jan 1999				

Source: European Union.

Table 12.

## Exchange rate mechanism ERM II

Currency	Central rate EUR 1 =	Fluctuation band, %	Upper rate*	Lower rate*	Valid from
Danish krone	7.46038	± 2.25	7.62824	7.29252	4 Jan 1999

\* Intervention at the margin is, in principle, automatic and unlimited.  
Source: European Central Bank.

Table 13.

## Banknote denominations sorted at the Bank of Finland, number in millions

Euro banknotes	2012	2013	2014	2015	2016	2017
500 euro	1.8	1.4	1.2	1.0	1.0	0.9
200 euro	1.0	0.8	0.7	0.7	0.5	0.5
100 euro	6.9	5.6	5.7	5.4	5.0	4.9
50 euro	79.4	60.3	65.4	66.1	65.9	52.5
20 euro	149.0	114.6	112.1	105.3	96.0	69.7
10 euro	37.9	32.3	30.4	27.4	28.8	28.1
5 euro	46.3	37.5	33.9	31.2	33.3	33.5
<b>Total</b>	<b>322.3</b>	<b>252.5</b>	<b>249.4</b>	<b>237.1</b>	<b>230.5</b>	<b>190.2</b>

Source: Bank of Finland.

# Organisation of the Bank of Finland

14 March 2018

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The Financial Supervisory Authority, headed by Anneli Tuominen, operates in association with the Bank of Finland.

