

EESTI PANK
ANNUAL
REPORT 2019
2020

© EESTI PANK, 2020

Address Estonia pst 13, 15095 Tallinn,
Phone 668 0719
Fax 668 0836
Email info@eestipank.ee
Website www.eestipank.ee

Subscriptions for publications of Eesti Pank

Phone 668 0998
Fax 668 0954
email trykis@eestipank.ee

Print ISSN 1406-1414
Online ISSN 2382-8811

Layout Urmas Raidma
Printed by Folger Art

FOREWORD BY THE GOVERNOR OF EESTI PANK.....	4
THE MAIN FUNCTIONS OF EESTI PANK.....	10
ACTIVITIES OF THE SUPERVISORY BOARD OF EESTI PANK IN 2019	12
THE STATE OF THE ECONOMY IN THE EURO AREA AND ESTONIA.....	16
EESTI PANK'S ACTIVITIES IN 2019.....	20
PARTICIPATING IN THE FORMATION AND IMPLEMENTATION OF MONETARY POLICY IN THE EUROSISTEM.....	20
Monetary policy decisions	20
Implementing monetary policy in the euro area	22
Eesti Pank's monetary policy operations	24
ENSURING FINANCIAL STABILITY	28
Risks to financial stability	28
Macroprudential supervision policy	29
Financial sector policy	31
FINANCIAL ASSET MANAGEMENT	36
Reserve management	36
CASH CIRCULATION AND HANDLING	38
Managing cash circulation	38
Cash handling	39
Organising the production of banknotes and circulation coins	40
Collector coins and commemorative coins.....	40
PROMOTING THE PAYMENT MARKET.....	44
The payment systems managed by Eesti Pank	44
Oversight of payment systems.....	45
Developing the payment environment	46
DEVELOPMENTS IN STATISTICS	50
Compiling and disseminating statistics	50
Development of new areas of statistics.....	51
Development of information systems for statistics.....	52
Development of statistical organisations	52
ECONOMIC ANALYSIS AND CONSULTATION	54
Monitoring and economic analysis at Eesti Pank.....	54
Forecast.....	54
Research	55
Advisory functions.....	56
INTERNATIONAL COOPERATION AND PUBLIC COMMUNICATIONS	60
International cooperation	60
Public relations.....	63
Celebrating the centenary of Eesti Pank.....	63
ORGANISATION	66
Employees	66
Training and development work	68
ANNUAL ACCOUNTS OF EESTI PANK FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2019.....	72
APPENDIXES.....	108
APPENDIX 1. DECISIONS OF THE SUPERVISORY BOARD OF EESTI PANK IN 2019	108
APPENDIX 2. DECREES OF THE GOVERNOR OF EESTI PANK IN 2019.....	109
APPENDIX 3. PUBLICATIONS AND ARTICLES WRITTEN BY EESTI PANK.....	111



FOREWORD BY THE GOVERNOR OF EESTI PANK

The year 2019 was a special one for Eesti Pank, as the bank celebrated 100 years since it was founded. On 24 February 1919 the Provisional Government confirmed the statutes of Eesti Pank, and on 3 May the sum of 10 million marks in equity was transferred to the main account of the bank. Eesti Pank had started operation.

The centenary year was a good opportunity to talk about the operations and work of Eesti Pank to more audiences than is usually possible. This annual report describes those efforts in some depth in words and pictures.

There were changes in the management of the bank last year as the Governor and Deputy Governors changed. I was very proud to take over as Governor of Eesti Pank in the summer when Ardo Hansson reached the end of his seven-year tenure in office, during which he contributed to the development of the central bank to a degree that cannot possibly be overstated. Ardo left us an Eesti Pank that functions beautifully well and that is a well-respected partner both in economic policy discussions domestically and in the Governing Council of the European Central Bank. We have been able to play a much bigger role in setting the monetary policy of the euro area than the relative weight of Estonia would suggest. I am very grateful to Ardo for all of the work that he has done.

I am also very pleased that Maive Rute, who has a wealth of experience in international work and management, applied for the position of Deputy Governor, and that her nomination was approved by the Supervisory Board of Eesti Pank after an intense competition. Maive has brought the bank a fresh breath of energy, innovative ideas, and new topics to think about.

Finally, of great significance for all the central banks of the Eurosystem was the appointment of the new President of the European Central Bank.

Christine Lagarde has made great efforts to maintain the atmosphere of trust and credibility at the Governing Council of the European Central Bank, which is of vital importance given the role that the Governing Council plays in setting monetary policy for the euro area. A broad-based review of monetary policy strategy has already been launched at the initiative of President Lagarde, and it will start to affect the principles for setting monetary policy over the next few years.

But however special 2019 was as a year for Eesti Pank, 2020 brought a whole new paradigm to the entire world. How serious and how long lasting the impact of the coronavirus pandemic will be on the global economy is currently still very hard to predict. One thing is clear, the economic environment has already changed dramatically. It must be emphasised that this Eesti Pank annual report discusses how things stood at the end of 2019, when the picture was still rather different.

GROWTH IN THE EURO AREA ECONOMY WAS WEAKER THAN EXPECTED

The economic environment in which all of the banks of the Eurosystem had to work in 2019 was quite volatile. The trade conflict between the USA and China cast a shadow over economic activity around the globe, and the resulting uncertainty put the brakes on economic growth. The state of the global economy obviously affects the economy in the euro area, which gave off signals throughout the year that were weaker than expected, meaning that things were worse than had been forecast.

Inflation in the euro area remained below the monetary policy target of below, but close to, 2% over the medium term. In consequence the Governing Council of the European Central Bank decided in September to provide additional monetary policy support for the euro area economy to promote favourable financing conditions for all sectors of the economy.

The cuts in interest rates were followed by the decision to restart monthly purchases of an additional 20 billion euros of assets under the asset purchase programme from November. It may be remembered that the asset purchases had previously been stopped in December 2018. The asset purchases will probably now continue to be made for as long as it is necessary to support the impact of base interest rates, and will be terminated immediately before the Governing Council starts to raise base interest rates.

Despite the accommodative monetary policy of the central banks, favourable financing conditions and strong growth in lending, inflation in the euro area remained lower than previously forecast. Growth in the economy was restricted by various geopolitical factors, increasing protectionism and vulnerability in emerging markets.

Economic growth in Estonia had already started to slow down in 2019, though it was entirely expected that this loss of momentum would happen. There were no terminal threats to the growth that has built up in the Estonian economy, as the level of indebtedness of companies and households has fallen over the years and their savings have increased, so they should be better prepared for any economic difficulties that could arise. At the same time though, the economy could not continue to run at full power for long without losing competitiveness, as increasing wage costs were pushing exporters to raise prices faster than their competitors. Assessments by companies of their own competitiveness had already become more pessimistic.

The Estonian economy was doing relatively well in 2019 even so. This was particularly apparent in the labour market, where unemployment fell to its lowest level ever and the share of the working age population in employment was large. Rapid wage rises boosted purchasing power, which was further aided by low inflation in the euro area, from where Estonia imports many goods.

But although the economy was doing well, there were companies, especially exporting companies, that had lost their optimism about the state of affairs. Employees working for a wage had no cause for complaint, but companies that were fighting for staff no longer felt very confident.

EESTI PANK CARRIED OUT ITS MAIN FUNCTIONS

It is in this context that all the central banks and the European Central Bank worked together in 2019 to meet the main monetary policy target of price stability in the euro area and sustainability for the economy. Average inflation in the euro area last year was 1.2%. This is clearly below the target of 2%, but deflation has been successfully avoided as has the danger of excessively high inflation.

Eesti Pank contributed actively to the common work shared with other euro area central banks, and also managed successfully to fulfil all its other tasks. Financial stability remained under careful supervision. As a macroprudential authority, Eesti Pank has set additional capital buffers for the banks operating in Estonia and has introduced rules to limit the risks arising from housing loans. Our assessments concluded that the risks to the functioning of the financial sector were low in 2019. The own funds of the Estonian banking sector were at a high level meaning the banks were resilient to risks. Attention has been drawn in the past couple of years to the efforts of Estonian financial supervisors and banks to combat money laundering more effectively. We have proposed that in future the data collected from the banks by Eesti Pank could be made available to the Financial Intelligence Unit to make the fight against money laundering more effective.

Cash circulated well throughout the country. Consumers consider that the cash circulating in Estonia is of good quality, and access to cash has improved, as there are now more shops that allow cash to be withdrawn as cashback from their tills. Eesti Pank issued 840 million euros to credit institutions in 2019 in 26.1 million banknotes, and the launch of the second series of euro banknotes was successfully concluded.

The Eesti Pank investment portfolio increased by a further 569 million euros in 2019, and this was invested in current and new asset classes. At the end of the year the Eesti Pank investment assets stood at 1.2 billion euros, which is equal to about 4% of gross domestic product. The return on the investment portfolio was solid, earning Eesti Pank 39 million euros for the year. It is important that the central bank can earn sufficient revenues to cover its operating costs.

Eesti Pank is responsible for promoting a secure and efficiently functioning payments market, which covers payment and settlement systems. A major step forward was taken in 2019 with instant payments and the payment solutions built on them. Estonia is arguably a leading country in the

euro area in the use of instant payments. SEB Pank, Swedbank, LHV Pank and Coop Pank have joined the instant payment system, meaning that most bank clients are able to make instant payments.

We have been innovative in compiling the statistics that we are responsible for, and have reacted rapidly to changes in technology and in the needs of consumers. The statistics compiled by Eesti Pank have been recognised in international quality reports for their reliability, quality, and compliance with European Union and other international statistical requirements.

As one of our main responsibilities, Eesti Pank carries out continuous monitoring, data analysis and research of the economy. As the central bank we prepare well for our work in analysing the economies of Estonia and the euro area and carrying out additional research so that we can advise the government on issues around the state budget, and on other matters that have an important impact on the Estonian economy. The focus of most attention in 2019 was the impact analysis that the central bank carried out on changes to the pension system. The outcome of this analysis was our conclusion that there would be major risks to making participation in the funded pension system voluntary and allowing savings that have been built up in pension funds to be withdrawn.

Carrying out our main duties as the central bank requires us to work closely with international institutions. Our experts are regularly involved in over 200 different forums for cooperation, mainly coordinated by the central banks of Europe or of our region. Eesti Pank also represents Estonia in the International Monetary Fund, and our staff work closely together with the Council of the European Union, the European Commission, and other international institutions.

The cooperation between Eesti Pank and Finantsinspektsioon, the Estonian Financial Supervision and Resolution Authority, is also worth highlighting. The main task of Eesti Pank is to maintain price stability, while Finantsinspektsioon supervises financial institutions and the securities market, and so both of us stand strongly in favour of credible financial stability. As a result the two institutions work very closely together. Information is regularly exchanged as risks to the financial system are assessed, and possible steps are discussed that could help to reduce the dangers or to improve the operation of financial intermediation and the general credibility and confidence of the system.

We cooperate closely with Finantsinspektsioon in payments, where Eesti Pank has the role of overseeing the payment systems and takes part in discussions about financial technology. The joint data submission portal that Eesti Pank and Finantsinspektsioon launched in 2018 for receiving statistics is particularly significant, as it has allowed banks and other financial institutions to submit their statistical and supervisory reports much more efficiently. Our work together and our joint decision-making has also been enhanced by our participation in the European Single Supervisory Mechanism.

There are also other places where we come together professionally. Eesti Pank provides various support services to Finantsinspektsioon, while the Governor and a Deputy Governor of the central bank are members of the Supervisory Board of Finantsinspektsioon.

THE REVISED STRATEGY

Changing circumstances require us regularly to reconsider our priorities and emphases in all that we do. For this reason we revised the Eesti Pank strategy in 2019.

The revised strategy covers five main areas where we want to see evident progress. One priority for Eesti Pank to develop in its activities is as an economic adviser to the government and to the public. The work of Eesti Pank in analysing the Estonian economy and the financial sector and the economic state of the main trading partners of the country gives us a very good background for providing economic policy advice to the government and to political leaders. Eesti Pank should work even harder towards fulfilling this legally required role, by taking part in economic policy decisions not simply by answering questions that we are asked, but by considering the important economic policy choices of the state, and raising important topics ourselves. We can be pleased when our advice is actually listened to, but at the same time we must of course understand that each institution has its own role to play in setting policy.

The second main task of the central bank is to analyse changes in the financial sector and financial services, and to help the whole of society understand them. The world changes quickly, giving more choice to consumers but at the same time increasing the dangers. It is Eesti Pank's job to have a full view of the operation of the financial markets and to react to any risks that appear there.

It has become more necessary to focus on the ability of Eesti Pank and other financial institutions to carry out their core duties in the event of various crises. For this reason, one of our key goals is to be able to ensure liquidity support to the banks, the functioning of critical payments and the supply of cash in the country even in an emergency.

One way a crisis may arise is through a cyber attack. Cyber attacks through network systems against companies and state institutions have become more complex and harder to identify, and so this area is a major priority. Eesti Pank's information systems need to be extremely secure, as preserving the assets and data of the bank and our ability to do our work depend on this.

And last but not least, I must emphasise our goal of developing Eesti Pank as an organisation that is open and innovative. The central bank is also faced with changes in the labour market and needs to be able to hire and hold on to staff of the appropriate level. We must meet the expectations for contemporary flexible working choices, employee welfare, and a working environment that motivates our staff, which should include the chance to gain experience of different areas of the central bank's work. Equally we encourage all our staff to take part in activities outside the central bank that give the chance to present Eesti Pank and our work and opinions.

There is more information about the Eesti Pank strategic goals, our expected results and our activities on our website. It is important to understand with our strategy that it does not mention everything that is important for Eesti Pank and everything that we do. It mainly mentions the areas where we want to see visible change in the next five years.

THE EXECUTIVE BOARD
OF EESTI PANK: DEPUTY
GOVERNOR ÜLO KAASIK,
GOVERNOR MADIS MÜLLER
AND DEPUTY GOVERNOR
MAIVE RUTE.

There are other very important areas that are not yet covered by the strategy, such as climate change, which is becoming more critical by the day. It is clear that achieving climate neutrality will affect the economy at a global level, but by how much? What will climate neutrality cost for the Estonian economy, financial sector, businesses and consumers? These questions are also of interest to Eesti Pank.

New horizons are also appearing in fintech. Fintech companies provide financial services through new technologies that can offer clients innovative and even more convenient solutions.

And finally, we do not yet know what challenges the outbreak of the corona crisis in 2020 will set us.

I am convinced that we will be able to manage well all of our existing work and any new tasks we have. Eesti Pank has a strong and professional team and so we have no fear of setting ourselves new and ambitious goals.

I wish us all success for the next hundred years!



THE MAIN FUNCTIONS OF EESTI PANK

MISSION

As the central bank of the Republic of Estonia and a member of the Eurosystem, we contribute to the sustainable development of the Estonian economy and to increased prosperity for Estonia. We keep price growth moderate, setting a joint monetary policy together with the other central banks of the euro area and implementing it in Estonia. We maintain the stability of the Estonian financial system by helping to set policy for the financial sector. We ensure that cash is of good quality and promote a safe and efficient payment environment. We give an independent assessment of the state and outlook of the economy, we advise the government on important matters of economic policy, and we produce high-quality statistics.

VISION

The positions and actions of Eesti Pank are considered in Estonia and abroad. Eesti Pank is an efficient and innovative organisation and is the most highly regarded authority in Estonia on questions of finance and the economy at the macro level.

THE SINGLE ECONOMIC POLICY OF THE EURO AREA

As a central bank of the Eurosystem, Eesti Pank participates in setting the single monetary policy of the euro area. The decisions needed for the single monetary policy to be implemented are taken jointly by all the central banks of the Eurosystem working together. To be able to take the decisions for which it is responsible, Eesti Pank analyses processes that affect the whole of the Eurosystem and developments in the Estonian economy.

ENSURING FINANCIAL STABILITY

Eesti Pank backs up the functioning of the financial system as a whole. To do this, the central bank analyses and assesses the financial sector and the risks to it, and takes any steps necessary to reduce risks. Eesti Pank is responsible for monitoring the stability and strength of the banking system as a whole. The bank designs policies for the financial sector and helps write the law governing it and develop the framework for crisis management.

FINANCIAL ASSET MANAGEMENT

Eesti Pank maintains the value of the currency through its reserves and uses the income it earns from them to cover its operating costs. Eesti Pank administers the assets of Estonia and the European Central Bank. For the central bank to be financially independent, it needs to maintain and invest its assets. The bank also has an agreement to manage the investment portfolio of the Guarantee Fund and is ready to invest other long-term reserves of the public sector.

CURRENCY CIRCULATION

Eesti Pank is responsible for ensuring there is enough good quality cash to meet the demand for it. Together with the other central banks of the euro area and the European Central Bank, Eesti Pank issues the notes and coins of the legal tender of the euro area. Eesti Pank makes sure that demand for euro banknotes and coins is met and sufficient cash reserves are maintained, and it participates in ensuring the quality of cash and in anti-counterfeit measures for cash. Eesti Pank ensures that cash circulation functions even in an emergency.

SETTLEMENTS

Eesti Pank takes care that payments and settlements happen without interruption. Eesti Pank has the right to set up and manage payment systems. Eesti Pank operates as the overseer for important payment and settlement systems by assessing their risks and giving recommendations for making the system more efficient. Eesti Pank helps in developing the payments market, and in designing policies and regulation for it.

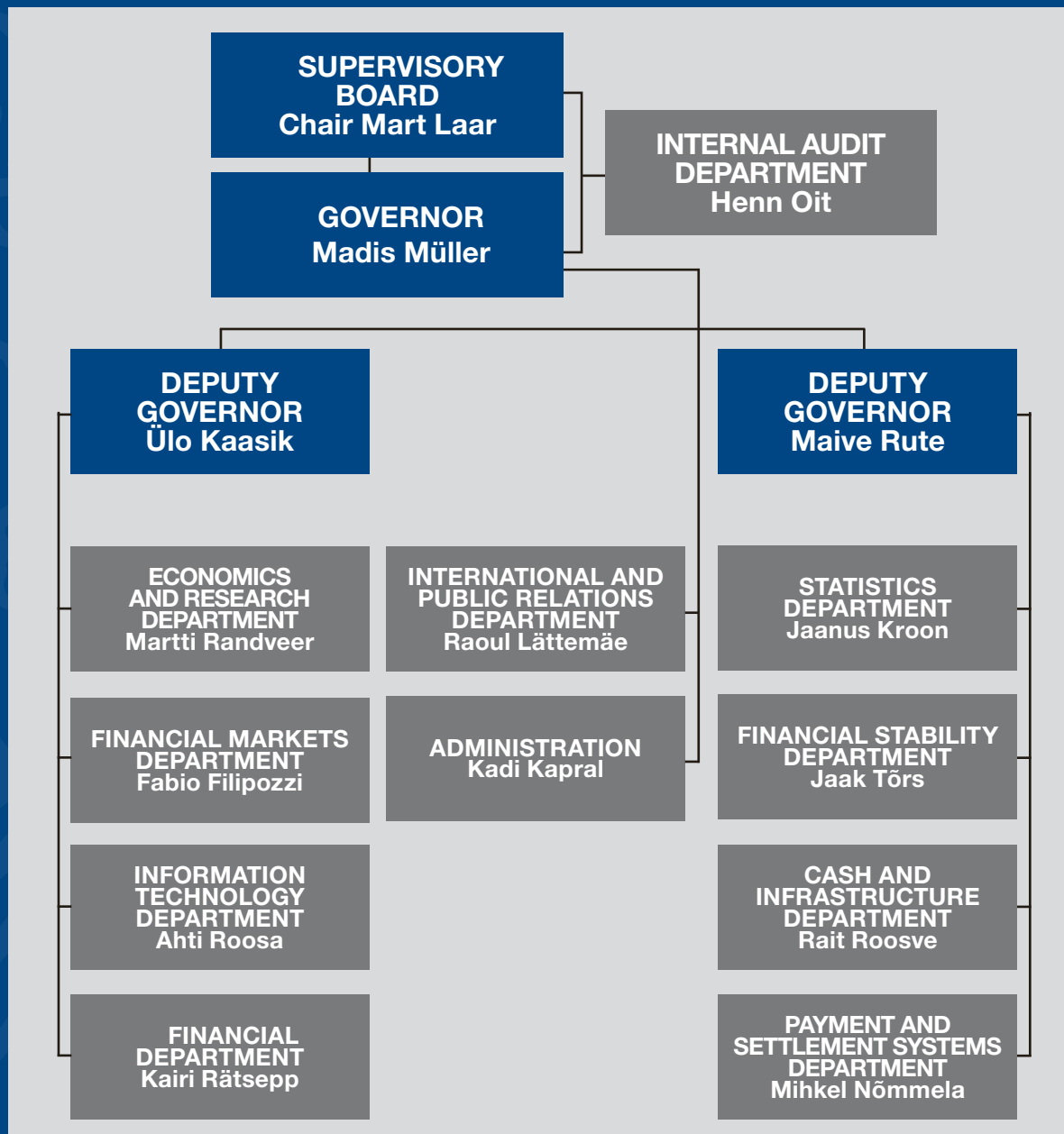
STATISTICS

Eesti Pank is the other primary agency beside Statistics Estonia that conducts official statistics in Estonia. The central bank uses statistics for supporting financial stability and in producing economic forecasts and analysis, and companies use them in making investment decisions. Eesti Pank is responsible for compiling the statistics for the Estonian financial and external sectors and for the financial account. Eesti Pank also helps compile statistics for the European economic and monetary union and works in developing new statistical methodologies.

ECONOMIC ANALYSIS AND CONSULTATION

Eesti Pank advises the government on questions of economic policy and works with research institutions, central banks in other countries and international institutions. Analysis and research by the central bank is used by the government in deciding economic policy, and by businesses and individuals in making financial decisions. Successful consultation and cooperation requires regular communication within the Eurosystem and also within international organisations and with the media.

Eesti Pank Organisation Chart in 2019



ACTIVITIES OF THE SUPERVISORY BOARD OF EESTI PANK IN 2019

One of the main responsibilities of the Eesti Pank Supervisory Board in 2019 was to organise the changeover of the Executive Board in a way that would confirm the independence and stability of policy at Eesti Pank at a time when banking in Estonia had been touched by several money-laundering scandals. This needed the departure from office of the former Governor and the appointment of a replacement to be handled smoothly and in a way that confirms the strength and sustainability of the organisation. The Supervisory Board succeeded in this task. The Eesti Pank Supervisory Board had to deal repeatedly with money laundering scandals in 2019, and it held a joint seminar on the topic with the Supervisory Board and Management Board of Finantsinspektsioon. The Supervisory Board supported Finantsinspektsioon in its efforts to combat money laundering.

The Supervisory Board had nine regular meetings in 2019 and one extraordinary meeting held electronically. It also held four seminars as an additional forum for its work.

SUPERVISION OVER THE WORK OF THE EXECUTIVE BOARD OF EESTI PANK

The Supervisory Board heard a review of Eesti Pank's financial results for 2018 and approved the annual report proposed by the Governor for 2018, and the Chair of the Board presented the approved report to the Riigikogu.

The Supervisory Board also looked over the profit distribution strategy of Eesti Pank and decided to continue with the current strategy of transferring up to 25% of profit into the state budget, and so 25% of Eesti Pank's profit for 2018, amounting to 3,478,881 euros, was transferred to the state budget.

The Supervisory Board heard explanations from the Executive Board about a technical error in the accounting that affected the size of Eesti Pank's profit for 2019. It also heard about the results of an extraordinary audit and explanations for the introduction of additional control measures.

The Supervisory Board decided to change the principles for remuneration of the Executive Board, which included clarifying the payment of compensation to the Governor of Eesti Pank for observing limits on their activities.

The Board considered the updated strategy of Eesti Pank.

The Board heard the Executive Board's reports for 2018 and the first half of 2019, and gave recognition for the quality of the reporting and the work done. As is good management practice, it also met the Governor of Eesti Pank informally.

At the last meeting of the year, the Governor of the bank presented the draft budget for 2020 to the Board, and the Board approved and acknowledged the draft budget.

The Board heard the risk management report.

INTERNAL AUDIT

The Supervisory Board twice extended the work schedule of the Internal Audit Department in 2019 and heard reports on the work of the Internal Audit Department. The Board also held two informal and un-minuted meetings with the head of the Internal Audit Department.

PARTICIPATION IN DECISION-MAKING IN THE EUROSISTEM AND IN IMPLEMENTING DECISIONS

In its meetings the Board received regular retrospective reviews of the work of the European System of Central Banks, covering how single monetary policy is set, the operation of single banking supervision, and the work of the European Systemic Risk Board. The Executive Board presented the Eesti Pank forecasts that were prepared as part of the joint broad macro-economic projection exercise (BMPE) forecast produced with the European Central Bank and the other central banks of the Eurosystem.

FINANCIAL STABILITY

Meetings of the Supervisory Board heard presentations of the Financial Stability Reviews, the Financing of the Economy review, and the Labour Market Review.

CONSULTATION AND COOPERATION ON QUESTIONS OF ECONOMIC POLICY

The Supervisory Board heard two reports in 2019 on the work of the Fiscal Council. It heard presentations on the annual report of the Fiscal Council, reviews of its work and its opinions on the state budget that was being drafted. The Supervisory Board of Eesti Pank declared its support and recognition for the work of the Fiscal Council. The Board expressed its dissatisfaction that the materials submitted by the government were unsatisfactory in the opinion of the Fiscal Council and were submitted at too short notice, and it expressed its opinion that the Fiscal Council should be more active and speak out more in public.

The Executive Board presented a review to the Supervisory Board of its work at the IMF and the Bank for International Settlements.

ORGANISATION

The Supervisory Board continued looking into the work of the departments of Eesti Pank and heard reports on the work of the Cash and Infrastructure Department, which covered the physical security of Eesti Pank and possible routes for development, and an overview of the situation of cash. The Board also heard a review of the crisis management exercise conducted by the Financial Stability Department. The Governor of Eesti Pank informed the Board of planned changes to the structure of the organisation.

APPOINTMENTS TO OFFICE

The Supervisory Board proposed that the President of the Republic appoint Madis Müller as Governor of Eesti Pank.

The Supervisory Board appointed Maive Rute as Deputy Governor of Eesti Pank.

The Supervisory Board appointed Rein Minka and Maive Rute as members of the Supervisory Board of Finantsinspektsioon.

The Supervisory Board appointed the Fiscal Council, with Raul Eamets as chair, Andrus Alber as vice-chair, and Ülo Kaasik, Martti Randveer, Urmass Varblane and Andres Võrk as members.

COLLECTOR COINS

The Supervisory Board approved the national side of three two-euro commemorative coins and the designs for two silver collector coins.

ASSESSMENTS OF THE MANAGEMENT ACTIVITIES AT EESTI PANK IN 2019

Eesti Pank succeeded in achieving the expected results for its strategic goals.

The Supervisory Board supported the work of the Executive Board to raise the level of cyber security and considered it necessary to continue monitoring.

The Supervisory Board awarded Ardo Hansson an additional bonus for his successful and effective work as Governor of Eesti Pank.

THE SUPERVISORY BOARD OF EESTI PANK IN 2019. SEATED FROM LEFT: KAIE KEREM, CHAIR MART LAAR AND LIINA TÕNISSON. STANDING FROM LEFT: JAANUS TAMKIVI, ENN LISTRA, REIN MINKA, KALEV KALLO AND URMAS VARBLANE.



THE RESPONSIBILITIES OF THE SUPERVISORY BOARD OF EESTI PANK

The Eesti Pank Supervisory Board oversees the work of Eesti Pank in all its activities.

THE SUPERVISORY BOARD HAS RESPONSIBILITY FOR:

- approving the Statute of Eesti Pank;
- supervising how the Eesti Pank budget is adhered to;
- approving the Eesti Pank annual report and submitting it to the Riigikogu;
- nominating a candidate for Governor of Eesti Pank to the President of the Republic;
- appointing and removing from office the Deputy Governors of Eesti Pank and the Head of the Internal Audit;
- nominating and removing from office the members of the Supervisory Board of Finantsinspektsioon at the proposal of the Governor;
- approving the principles for payment of the Executive Board;
- approving the Statute of the Internal Audit Department of Eesti Pank;
- nominating the internal auditors of Eesti Pank and approving the internal audit work schedule;
- setting the salary for the head of the Internal Audit Department of Eesti Pank;
- nominating the independent auditors of Eesti Pank in accordance with the Eesti Pank Act;
- distributing the profit of Eesti Pank as required by law and the profit distribution strategy approved by the Supervisory Board;
- reviewing and approving written proposals and other documents submitted to the Riigikogu in the name of Eesti Pank;
- taking decisions on the design of the national side of euro coins and on the denomination and design of collector coins in accordance with European Union rules;
- approving the design of Eesti Pank's insignia;
- deciding the establishment, reorganisation and liquidation of the independent divisions of Eesti Pank at the proposal of the Governor;
- approving the statutes of the independent divisions and representations of Eesti Pank;
- approving the statutes of the Fiscal Council and for nominating and recalling members of it¹.

¹ See the obligation added to §4² of the Eesti Pank Act in 2014; agreements between the member states of the European Union meant that more thorough supervision was started of compliance with the requirements for fiscal balance in the Stability and Growth Pact. In Estonia, the Fiscal Council supervises fiscal balance.

THE STATE OF THE ECONOMY IN THE EURO AREA AND ESTONIA

Growth slowed in the euro area economy in 2019 to 1.2%, from 1.9% in 2018. The fall was primarily caused by the state of foreign markets and difficulties in exporting, as trade tensions and geopolitical uncertainty caused a decline in global trade. Domestic demand remained strong in the euro area at the same time and the labour market improved, as unemployment fell to 7.6% while wages rose faster and employment increased, with the consequence that consumer confidence remained high.

Under these circumstances, the service sector, which is focused on the domestic market, managed to some degree to offset the negative impact that the industrial sector felt quite widely. On top of the tightness in the outflow of goods from the euro area, disruption in supply chains because of trade restrictions and stagnation in the car industry caused by non-compliance with carbon dioxide emission standards also put the brakes on trade within the euro area. Increased public sector spending helped to keep the economy going, and an important role was played by funding conditions remaining favourable, which meant that there was generally a lot of investment activity by businesses. Companies were also aided by falls in the prices of inputs, while exports were helped by the depreciation of the euro against the currencies of trading partners. As inflation in the euro area fell to 1.2% in 2019, which is below the monetary policy target of the European Central Bank, monetary policy was eased even further (for more see p20).

The Estonian economy grew by 4.3% in 2019, which was better than expected, but still confirmed the earlier estimates that the rate of growth in the Estonian economy was gradually slowing. In 2018 the economy had grown by 4.8% and in 2017 by as much as 5.7%, and those growth rates had led the Estonian economy to break new records. By last year the unemployment rate had fallen to its lowest rate ever even though people were participating more and more actively in the labour market. Labour market activity had indeed reached its highest ever level since Estonia regained independence, and these two changes happening together show that conditions in the economy remained good last year. Companies managed to hire additional staff, and a positive surprise was that the people entering the labour market had the skills that employers were looking for. People were switching job more actively than ever, mainly looking for better-paid jobs. The large amount of movement in the labour market equally meant that wages continued to rise fast and labour costs rose quickly for employers.

Although the rapid rise in wages encouraged people who had been out of the labour market to find employment more and more, the increase in the number of local jobseekers was not enough to satisfy companies who were looking to hire. In consequence a notable feature of the labour market last year was the strong rise in the number of short-term foreign workers. Workers came mainly from Ukraine, Belarus and Russia and helped ease the labour shortages in manufacturing, agriculture and construction especially. Over the whole year, short-term workers provided around half of the growth in employment. This also means that a notable part of the growth in the economy last year was built on temporary factors triggered by the economy being at the height of its cycle. Companies became more pessimistic about the future throughout last year and this made them more modest in their plans for growth and investment in the future. In the same way, plans for hiring have also been scaled back.

Rising incomes and strong domestic demand were the main sources of growth last year. Private consumption rose by a little over 3% in the year as a whole, and spending on investment goods rose by more than 13%. As earnings for workers rose by 9% and consumer prices rose by only 2.3%, the increase in consumption spending by households was not that large. Part of the reason for this is that more pay for work than before went to foreign workers, who spend a smaller part of their income in Estonia than residents.

Unlike confidence among companies, consumer confidence about the future did not fall, and so their investment in residential property grew by around a fifth. The desire to purchase property remained strong, which kept the real estate cycle in a good position. This desire was also reflected in demand for credit, as banks issued 7% more in housing loans to households than they did a year earlier. The total amount taken in loans and leases by households also grew rapidly, though the previous fast growth in other loans and leases slowed notably. The total volume of loans and leases to households reached 10.1 billion euros at the end of last year, of which 8 billion euros was in housing loans.

Sectors focused on the domestic market gained support from rapidly growing demand, but those focused on foreign markets found the going tougher as trade restrictions gnawed away at international trade last year and made it harder for Estonian companies to export too. Exports of goods were further restrained by the rapid rise in labour costs, which has by now been going on for some time. A large part of success in exporting depends on price competitiveness, which has been put under pressure by rising costs, and so exporting companies felt throughout the year that their competitiveness in foreign markets was deteriorating.

Exporters of services did better and made strong progress, with growth in exports of telecommunications and information services, and other business services particularly standing out. This is in line with the long-term trend that shows the Estonian economy has steadily become based more on services, while the share of traditional branches of industry has declined in both value added created and in employment. Around a quarter of the growth in the economy last year came from information and communications, which is extraordinary given the small size of this sector, so the growth in the share in the economy of both information technology and business services suggests that their contribution will continue to increase. One reason to assume this is the growth in profits in those branches of services, which creates better conditions for funding new investment, at the same time that the profitability of traditional sectors is tending more to decline.

Corporate investments and companies' other activities continued to be funded mainly by the banking sector in 2019. By the end of the year, banks and leasing companies in Estonia had given 9.2 billion euros in funding to companies in Estonia, which was the same amount as a year earlier. The portfolio would have grown by 3-4%, but two branches operating in Estonia terminated their activities, meaning that some loans were moved outside Estonia. Companies were more cautious about borrowing from the local financial sector, though they offset this by borrowing more enthusiastically from abroad and from other non-financial companies.

The moderate growth in borrowing was accompanied last year by growth in deposits. Companies had 7 billion euros in banks in Estonia at the end of last year and households had 8 billion, and the growth over the year in total deposits was 7%, which was just behind the nominal growth of 7.7% in the economy. At the same time the banks continued their efforts to dispose of deposits from non-residents from countries outside the European Union. The share of such deposits fell over the year from 1.5% to 1%.

The quality of the loan portfolio of the banks remained very good last year. The banks held 90 million euros in loans that were more than 60 days overdue, which means the share of such loans in the total portfolio of bank loans fell to 0.5%. The banking sector earned 285 million euros in net profit in 2019, which is one fifth less than a year earlier. This was mainly because of structural changes in the banking market. The net interest income of the banks fell a little as a ratio to total assets, though the interest rates on loans to companies and households rose a little. The average interest rate on long-term loans to companies was 3.1%, but in the previous three years the average figure had remained below 2.5%. The average interest rate on housing loans rose by 0.1% over the year to 2.5%. There was a small fall in net service fee income, and management fees grew at the same rate as total assets. The net profit of the banking sector equalled 1% of total assets, which put Estonian banks in fourth place for profitability among the euro area countries behind Lithuania, Latvia and Slovenia.

ESTI PANK CELEBRATED ITS CENTENARY ON 3 MAY 2019. EVENTS TO MARK THE JUBILEE STARTED MUCH EARLIER AND BETWEEN AUTUMN 2018 AND SUMMER 2019 FOUR PUBLIC LECTURES WERE HELD, WHERE INTERNATIONALLY RENOWNED FIGURES IN FINANCE AND ECONOMICS SPOKE.



THE LECTURE SERIES STARTED IN SEPTEMBER 2018 WHEN ANDY HALDANE, CHIEF ECONOMIST OF THE BANK OF ENGLAND, SPOKE ABOUT HOW THE WAY CENTRAL BANKS COMMUNICATE WITH THE PUBLIC HAS CHANGED IN RECENT DECADES.



THE FAMOUS ECONOMIST,
SOCIAL CAMPAIGNER
AND ACADEMIC
PROFESSOR JEFFREY
SACHS OF COLUMBIA
UNIVERSITY SPOKE IN
THE INDEPENDENCE HALL
OF EESTI PANK ON HOW
TO STRENGTHEN THE
EUROPEAN UNION AND
ENSURE ITS SUSTAINABLE
DEVELOPMENT.



CHIEF ECONOMIST
OF THE EUROPEAN
CENTRAL BANK,
PHILIP R LANE,
SPOKE ABOUT THE
HISTORY OF THE
SINGLE EUROPEAN
CURRENCY AND
ABOUT ITS FUTURE.

THE LECTURE SERIES
WAS CONCLUDED BY
PROFESSOR OTMAR ISSING,
AN INTERNATIONALLY
ACCLAIMED GERMAN
ECONOMIST, WHO SPOKE
ABOUT THE INDEPENDENCE,
COMMUNICATION AND
INFLUENCE OF CENTRAL
BANKS.



EESTI PANK'S ACTIVITIES IN 2019

PARTICIPATING IN THE FORMATION AND IMPLEMENTATION OF MONETARY POLICY IN THE EUROSYSTEM

MONETARY POLICY DECISIONS

Eesti Pank participates in setting the single monetary policy of the euro area. The decisions needed for this are taken jointly by all the central banks of the Eurosystem working together.

The monetary policy goal of the Eurosystem, which is the European Central Bank and the central banks of the 19 members of the euro area, is to keep prices stable in the euro area. The regulation of the European Central Bank defines price stability as annual inflation of below, but close to, 2% over the medium term.

Inflation in the euro area has been below its target level for some time already (see Figure 1), and it fell in 2019 to 1.2% on average. Inflation continued to be driven mainly by prices for energy and food. The forecast published in December 2019 by experts from the Eurosystem expects that inflation will fall further in 2020, though it will start to rise gradually after that.

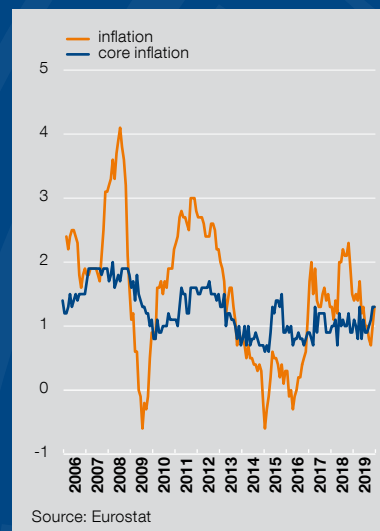
Core inflation, which excludes the prices of energy and food, picked up a little at the end of the year, but it remained at only 1.1% on average for 2019. A gradual rise in core inflation is expected over the coming years, which will be facilitated by relatively strong wage growth and a recovery in profit margins as economic activity bounces back. Increasing economic growth and rising inflation are supported by the stimulus package of monetary policy measures that the Governing Council of the European Central Bank approved in September².

So that financing conditions would remain favourable and inflation, which has been below its target for a long time, could build up some momentum, the Governing Council cut the interest rate on the deposit facility by 10 basis points to -0.50%. The minimum bid rate on main refinancing operations remains at 0.00% and the interest rate on the lending facility at 0.25%, which are the lowest rates ever seen under the economic and monetary union (see Figure 2). The central bank uses forward guidance to steer market expectations over the longer term, as it helps economic agents to understand better how quickly interest rates are likely to move and in which direction. It was decided in June to extend the period during which there was no plan to raise interest rates to the first half of 2020, but in September the time reference was removed and replaced by forward guidance conditional on the inflation trend³.

2 The package consists of cuts to the standing deposit facility, the relaunch of net asset purchases, changes to forward guidance, the adoption of a two tier system for interest on reserves, and easier borrowing conditions for targeted long-term refinancing operations (TLTRO-III).

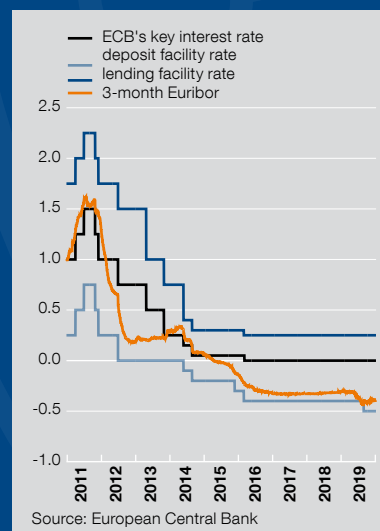
3 The Governing Council now assumes that the European Central Bank's base interest rates will remain at their current or a lower level as long as the inflation outlook is at the level it has fallen to, which in the horizon period is below 2% but close to it, with the approach reflecting constant development of core inflation.

FIGURE 1. INFLATION AND CORE INFLATION IN THE EURO AREA, %



The Governing Council of the European Central Bank decided at its September meeting to ease monetary policy with a package of measures

FIGURE 2. EUROSYSTEM KEY INTEREST RATES AND MONEY MARKET INTEREST RATES, %



The Eurosystem has complemented low interest rates with other monetary policy measures (see Table 1), in order to ease financing conditions and ensure the revitalisation of the supply of credit so as to support the transmission of monetary policy into the economy and so to raise inflation. Additional monthly asset purchases of 20 billion euros

TABLE 1. THE EUROSISTEM'S MONETARY POLICY FRAMEWORK IN 2019

The standard monetary policy framework	Maturity	Frequency	Change in 2019
1. Open market operations			
Main refinancing operations (MRO)	One week	Weekly	On 12 December the Governing Council of the European Central Bank decided to cut the deposit facility interest rate by 10 basis points to -0.50%. The Governing Council assumes that the European Central Bank's base interest rates will remain at their current or a lower level as long as the inflation outlook is at the level it has fallen to, which in the horizon period is below 2% but close to it, with the approach reflecting constant development of core inflation.
Long-term refinancing operations (LTRO)	3 months	Quarterly	
Fine-tuning operations (FTO)	As necessary	As necessary	
Structural operations	As necessary	As necessary	
2. Standing facilities			
Deposit facility (DF)	Overnight	Daily	
Marginal lending facility (MLF)	Overnight	Daily	
3. Reserve requirement			
Minimum reserve requirement (MRR)	Daily	Daily	
The main non-standard measures			
Fixed rate tender procedures with full allotment	From October 2008 until at least the end of the calculation period in March 2021	Permanent	The Governing Council of the European Central Bank decided on 7 March to continue with the standard refinancing operations by the Eurosystem in unlimited amounts and with fixed interest rates for as long as it is necessary, and at least until March 2021.
Currency swap agreements with leading non-euro area central banks	No specified term	As necessary	
The Securities Markets Programme and the Covered Bond Purchase Programmes (CBPP and CBPP2)	Purchases ended, covered securities are being held to maturity		
Repayments of the second series of targeted long-term refinancing operations (TLTRO-II)	June 2018 to March 2021	Quarterly once at least 24 months have passed from the start date of the loan	Four opportunities were opened in 2019 for early repayment in March, June, September and December
The third series of targeted long-term refinancing operations (TLTRO-II)	September 2019 to March 2021	Quarterly	On 7 March the Governing Council of the European Central Bank announced the third series of TLTRO-III, which started in September. On 12 September the council eased the initial terms announced for the operations, giving a maturity of three years and interest rates of 0% to -0.5%
The expanded asset purchase programme (APP), which covers the third purchase programme for covered bonds (CBPP3), the asset backed securities purchase programme (ABSPP), the public sector securities purchase programme (PSPP), and the corporate bond purchase programme (CSPP), which was added in 2016.	From November 2019 for as long as it is necessary to support the impact of base interest rates	Permanent	On 12 September the Governing Council of the European Central Bank decided to restart net asset purchases of 20 billion euros a month from 1 November. The purchases will be terminated immediately before the Governing Council starts to raise base interest rates.
Lending out the securities purchased under the asset purchase programmes	From 2 April 2015	As necessary	On 12 September the Governing Council decided to continue reinvesting in full the principal payments from maturing securities purchased under the asset purchase programme for an extended period of time past the date when the ECB starts raising the key interest rates, and in any case for as long as necessary to maintain favourable liquidity conditions and an ample degree of monetary accommodation.
Interest relief or tiering	From 30 October 2019		On 12 September the Governing Council decided to introduce a two-tier system for the interest paid on reserves, so that some of the excess liquidity that banks hold at the central bank would be excused the negative interest rate on the deposit facility.

started from 1 November as part of the asset purchase programme. The Governing Council expects the net purchases to run for as long as it is necessary to support the impact of its interest rates, and to end shortly before the Governing Council starts to raise the key ECB interest rates.

The principal payments from maturing securities purchased under the asset purchase programme will continue to be reinvested in full for an extended period of time past the date when the ECB starts raising the key interest rates, and in any case for as long as necessary to maintain favourable liquidity conditions and an ample degree of monetary accommodation. In other words the money sent into the euro area financial system through the asset purchases will continue to boost the economy for as long as necessary.

The Governing Council decided in March that from September 2019 it would again offer long-term loans to banks on favourable conditions. Like the earlier targeted long-term refinancing operations (TLTRO) the new TLTRO-III loan series will stimulate lending on favourable conditions so that the effect of monetary policy is passed on more smoothly to companies and consumers. The lending conditions agreed in June were made more favourable in September, with maturities of the loans being extended from two years to three among other changes.

One measure in the September package was the introduction of a two-level system for using the interest paid on reserves, so that some of the excess liquidity that banks hold at the central bank would be excused the negative interest rate on the deposit facility. The system of levels reduces the negative impact on banks of the cut in the central bank deposit interest rate and helps keep lending conditions favourable.

IMPLEMENTING MONETARY POLICY IN THE EURO AREA

Monetary policy decisions are implemented through the monetary policy operations of the Eurosystem and the standard framework for this did not change in 2019, though some non-standard measures were extended. The changes made during 2019 are presented in Table 1.

As the Eurosystem did not buy any additional assets through most of the year, but only reinvested them, the total value of assets purchased under the asset purchase programme increased in 2019 from 2.6 trillion euros to 2.7 trillion euros⁴. A net total of 40 billion euros of assets were purchased in the last two months of the year. The largest part of the total value at the end of the year was the 2.1 trillion or so euros of public sector bonds bought under the Public Sector Purchase Programme (PSPP). Public sector bonds are only bought from the secondary market, and up to 33% of a single issue of bonds can be bought and not more than 33% of the total amount from one issuer. The largest part of the private sector asset purchases were the 263 billion euros of covered bonds (CBPP3), followed by 185 billion euros of corporate bonds (CSPP), and 28 billion euros of asset-backed securities (ABSPP).

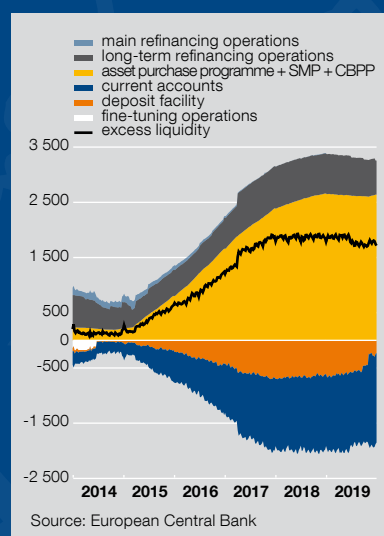
Early repayment of loans taken in the second series of targeted long-term refinancing operations continued in 2019. A total of 208.5 billion

⁴ At amortised acquisition cost.

Additional monthly asset purchases of 20 billion euros started from November as part of the asset purchase programme

Under the two-tier system for reserve remuneration, some of the excess liquidity that banks hold at the central bank is exempt from the negative deposit facility rate

FIGURE 3. CHANGES IN VOLUMES OF EUROSISTEM MONETARY POLICY OPERATIONS 2014-2019 (BILLION EUROS)



euros was repaid. There were two operations under the third series of targeted long-term refinancing operations in September and December, and a total of 101 billion euros was lent in them. This meant the total volume of long-term loans issued fell by 107.4 billion euros over the whole year, to stand at 612 billion euros at the end of the year. The purchase volumes under both of the operations in the third series were lower than expected, as 3.4 billion euros were lent out in the first operation, and 97.7 billion in the second. Participation was low in the first operation largely because immediately before the operation the Governing Council of the European Central Bank made the initial conditions more favourable, which was not expected by potential borrowers. The amount borrowed in the second operation was larger, but was still clearly below market expectations and below the amounts borrowed in similar operations under the first two series. The amounts borrowed under the weekly main refinancing operations (MRO) were low throughout the year, averaging 4.4 billion euros.

The two-tier system introduced from 30 October for interest paid on reserves, or reserve remuneration, means in practice that credit institutions subject to minimum reserve requirements will be exempt from the interest rate on the deposit facility if they hold up to six times the minimum mandatory reserve. As the single minimum reserve requirement has always been subject to the interest rate on main refinancing operations⁵, the interest exemption introduced at the end of October meant that an interest rate of zero was applied to amounts that were up to seven times the minimum reserve of funds held by commercial banks at the central bank. The remainder is still subject to the interest rate on the deposit facility, which is -0.50%.

The amount of excess liquidity⁶ in the Eurosystem did not change after the interest relief was introduced, as most transaction partners of the Eurosystem constantly hold more funds at the central bank than come under the limit for interest relief. At the end of 2019 there was still a small amount of interest relief as yet unused. Excess liquidity at the end of 2019 was at around 1.68 trillion euros. Figure 3 shows the changes in the volume of the Eurosystem's monetary policy operations.

A new reference interest rate, €STR, was introduced in the euro area in 2019, and was published for the first time on 2 October to reflect transactions on 1 October⁷. On the same day the calculation method used for EONIA was changed so that it is now €STR + 8.5 basis points. The €STR interest rate fluctuates around -0.54%, which is a little below the deposit facility rate, while EONIA is -0.45%.

⁵ The interest rate is currently 0%.

⁶ Excess liquidity is those funds that credit institutions hold at the central banks of the euro area above the compulsory minimum reserve requirements.

⁷ See also the background box on how far the reform of reference rates in the money market has gone.

EESTI PANK'S MONETARY POLICY OPERATIONS

Eesti Pank continued its activities in implementing Eurosystem monetary policy in 2019, with participation in the asset purchase programmes as the central element in it. In the first nine months of 2019 this meant replacing maturing bonds with purchases of new bonds for the same value. Eesti Pank participated in the public sector purchase programme (PSPP) among the four active purchase programmes, buying various assets in the proportion of the capital key⁸. As Estonia has not issued any sovereign bonds, the bonds of European institutions have been bought instead under the rules of the purchase programme. During the year a total of 353 million euros⁹ of bonds were reinvested and in the last two months of the year 32.4 million euros¹⁰ of bonds were purchased. As at 31 December 2019, the value of purchases on the balance sheet stood at 5.6 billion euros. More detailed information on the purchases is published on the Eesti Pank website¹¹.

Eesti Pank did not participate in the asset-backed securities purchase programme (ABSPP), the third covered bond purchase programme (CBPP3), or the corporate sector purchase programme (CSPP), but it shares the risks in solidarity with the other members of the Eurosystem in accordance with the capital key, which gave Eesti Pank 0.28% of the exposure. The Finnish central bank has bought bonds issued by the Estonian companies Elering and Eesti Energia as part of the corporate sector purchase programme (CSPP). There were two other earlier purchase programmes which have now been ended. Bonds purchased under the covered bond purchase programme (CBPP2) and the securities market programme (SMP) are held to maturity by Eesti Pank, and their volume on the Eesti Pank balance sheet is gradually falling. The risks and revenues of the SMP are also shared within the Eurosystem.

In spring 2019 the outstanding loans issued under the second series of targeted long-term refinancing operations stood at zero on the Eesti Pank balance sheet, as the 50 million euros of loans that had been there at the end of 2018 were repaid early. Local banks continue to hold sufficient liquidity buffers, and they are not very dependent on the liquidity supplied by the central bank. Even so, some Estonian credit institutions did participate in the third series of targeted long-term refinancing operations. TLTRO loans as a source of long-term financing on favourable conditions are attractive to banks in Estonia as well.

At the end the year, Eesti Pank's portfolio of monetary policy loans stood at 23 million euros. Credit institutions held some 4.9 billion euros on their settling accounts at the central bank at the end of the year, and only 0.2 billion euros of this was the mandatory reserve, while the rest was excess liquidity. No Estonian banks had unused interest relief.

8 The capital key sets the size of the participation of the national central banks in the capital of the European Central Bank. It is calculated from the weighted share of the GDP and population of each country in the euro area every five years. From 1 January 2019 the Eesti Pank share has been 0.2827%.

9 Nominal value.

10 Net amount, nominal value.

11 www.eestipank.ee/en/monetary-policy/eesti-pank-holdings-under-pspp-programme

The central element in Eesti Pank's activities in implementing monetary policy is participation in the asset purchase programme

How far has the reform of reference rates in the money market gone?

Contracts signed between banks and other market participants broadly use money market¹² interest rates, which are also called reference rates. Reference rates have an important role in the smooth functioning of financial markets, because the prices of many financial instruments and contracts depend on those interest rates being calculated objectively and accurately. The rates used in the euro area are €STR, the Euro Short-Term Rate published by the European Central Bank¹³, the EURIBOR, or Euro Interbank Offered Rate, calculated by the European Money Market Institute (EMMI), and until 3 January 2022 EONIA, or the Euro OverNight Index Average.

In 2016 the European Parliament and the European Council imposed new requirements for reference rates¹⁴ that had to be met by 31 December 2021 at the latest. EONIA, which showed the overnight price of money in the interbank market, could not meet those rules, and will be closed down completely from 3 January 2022. From 2 October 2019 EONIA is going through a transition period where it is still calculated based on €STR, an alternative risk-free reference rate, as €STR + 8.5bp. When the transition period ends €STR will act as the replacement for EONIA.

€STR was published for the first time on 2 October 2019¹⁵. €STR is based broadly on unsecured euro interest rates that the banks of the euro area charge for holding funds overnight, and unlike EONIA it takes in not only interbank transactions but also transactions with other money market participants.

EURIBOR, which is the reference rate that banks lend each other money at for longer than overnight but for less than a year, did not meet the new requirements for reference rates, as it is not based on actual transactions but on estimates of the interest rate given by around 40 of the largest banks in Europe. EMMI as the administrator of EURIBOR has been reforming it in recent years, strengthening the operating framework of EURIBOR and developing hybrid methodologies for calculating it. EMMI announced on 28 November 2019 that it had successfully finished adding all the banks of the EURIBOR panel to the hybrid methodology. The current hybrid methodology for EURIBOR is based as far as possible on transactions in money markets for the euro, meaning the interest rates at which credit institutions in the European Union and the European Free Trade Association can borrow unsecured euros from the money markets.

¹² The money market is a part of the financial market for trading short-term liquid financial instruments with a maturity that is typically less than one year.

¹³ The European Central Bank is the administrator of €STR and is responsible for supervision of it.

¹⁴ For more see <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R1011&from=EN>.

¹⁵ More on the €STR methodology can be found on the European Central Bank website: https://www.ecb.europa.eu/paym/initiatives/interest_rate_benchmarks/shared/pdf/ecb.ESTER_methodology_and_policies.en.pdf.

At the end of the year, the stock of monetary policy loans on the Eesti Pank balance sheet stood at 23 million euros

ESTONIA AND EESTI PANK'S CENTENARIES WERE MARKED BY THE ISSUE OF SEVERAL COLLECTOR AND COMMEMORATIVE COINS DEDICATED TO HISTORICAL EVENTS, IMPORTANT PEOPLE AND ESTONIAN TRADITIONS.



A CONFERENCE IN PÄRNU MUSEUM ON 16 MAY DISCUSSED THE MANY VARIOUS ACTIVITIES OF THE GREAT FIGURE OF THE ESTONIAN NATIONAL MOVEMENT, JOHANN VOLDEMAR JANNSEN. EESTI PANK PRESENTED A SILVER COLLECTOR COIN DEDICATED TO THE 200TH ANNIVERSARY OF THE BIRTH OF JANNSEN.



A TWO-EURO CIRCULATION COIN DEDICATED TO THE 150TH ANNIVERSARY OF THE SONG CELEBRATION WAS PRESENTED IN THE INDEPENDENCE HALL OF EESTI PANK ON 29 MAY. THE COIN FOR THE SONG FESTIVAL WAS DESIGNED BY GRETELISSETTE GULBIS, A 15-YEAR-OLD FROM TÖRVA, WHOSE DESIGN WAS CHOSEN THROUGH A DRAWING COMPETITION FOR CHILDREN AND A PUBLIC ONLINE VOTE.



EESTI PANK PRESENTED A SILVER COLLECTOR COIN DEDICATED TO THE HANSEATIC TOWN OF VILJANDI IN VILJANDI TOWN HALL PARK ON 8 JUNE. THE DESIGN ON THE COIN BY ELIZABETH JUUSU, A STUDENT OF THE ESTONIAN ACADEMY OF ARTS, REFERENCES GRAIN, FISH, CANDLES AND A MERCHANT'S BOAT.



THE CENTENARY OF THE FOUNDING OF THE FIRST ESTONIAN LANGUAGE UNIVERSITY WAS MARKED ON 1 DECEMBER BY THE PRESENTATION IN THE MUSEUM OF THE UNIVERSITY OF TARTU OF A TWO-EURO COMMEMORATIVE COIN AND A POSTAGE STAMP DEDICATED TO THE ANNIVERSARY.



ENSURING FINANCIAL STABILITY

RISKS TO FINANCIAL STABILITY

It is the job of Eesti Pank to help the financial system function stably. The central bank does this by assessing the risks to the stability of the financial system and taking the measures that are needed to minimise those risks.

In the assessment of Eesti Pank, the risks to the functioning of the financial sector were low in 2019. The own funds of the Estonian banking sector were at a high level, meaning the banks were resilient to risks. The loan portfolios of the banks continued to increase and financial intermediation to function smoothly.

The emerging evidence that funds from suspicious clients had passed through several banks operating in Estonia in earlier years affected the banking sector. Transactions made with money of dubious origin can harm the reputations of banks, and the result can be that the conditions under which the Swedish parent groups of the banks operating in Estonia access funds from the markets become worse. In this case the Estonian banking sector would be less able to issue loans on current terms.

Anti-money laundering rules have been tightened in recent years. The banks have improved their risk management and have taken background controls of their clients more seriously. One consequence has been a substantial reduction in the volume of non-resident deposits (see Figure 4). The share of deposits of non-European Union companies that are at high risk of money laundering fell from 14% in 2012 to below 0.1%. The risk of banks operating in Estonia being used to launder money has been substantially reduced.

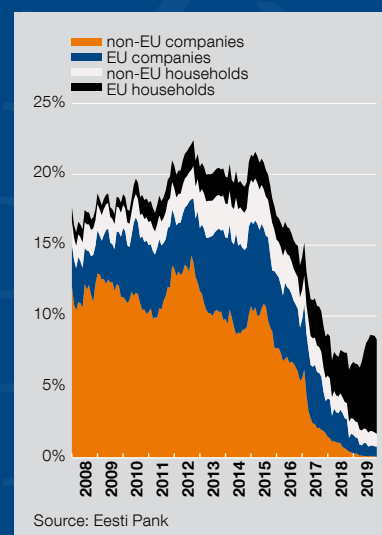
Changes in the banking market also affected the Estonian financial sector last year. Following systematic breaches of anti-money laundering rules, Finantsinspeksioon withdrew the authorisation for Danske Bank A/S to operate in Estonia, and its branch was closed at the end of the year. Luminor Bank AS became an international banking group as it established its head office in Estonia and made its Latvian and Lithuanian units into branches. In consequence the Estonian banking sector as a whole is affected much more by events in the Latvian and Lithuanian economies and banking sectors.

Nordea and DNB, the owners of Luminor, then sold a majority share to Blackstone, an investment fund, and this may affect the funding structure of the bank as funding from parent banks may be replaced by bonds issued into the markets. The ability to do this was supported by the Covered Bonds Act that was passed last year, which makes it easier for banks to use mortgages as collateral for additional funding. Increased support for market based funding may allow new opportunities in providing financial intermediation, though it also brings risks, as the financing of the economy will become more dependent on the state of financial markets.

There were no major changes last year in the loan quality of the banks. Several of the risks from the external environment became more acute, and the economic environment in Estonia's main trading partners weakened. This reduced the confidence of Estonian companies, but their ability to service their loans remained strong as the economy grew fast. At the same time, profits were put under pressure by continuing rapid rises in wage

Anti-money laundering rules have been tightened in recent years, so the banks have improved their risk management and have taken background controls of their clients more seriously

FIGURE 4. SHARE OF NON-RESIDENT DEPOSITS IN TOTAL DEPOSITS



costs. Companies were cautious in making decisions about investment, and this could make them less competitive in the future. The risks coming from rapid growth in the construction and real estate sector also remained. Demand for residential property and real estate for business use was strong last year. Numerous development projects were started though, which may leave the market out of balance if demand falls.

The ability of households to repay their loans remained good. Demand was strong for housing loans and other financial products, as wages continue to rise rapidly. If growth slows in the economy though, unemployment may rise and some borrowers may not have considered the risk of having lower income or becoming unemployed. This means that the risk remains that some households may be over-estimating their ability to service their loans over the long term, and they may fall into difficulties with repayments if economic conditions deteriorate.

The functioning of the Estonian financial sector is also affected by the state of the European financial system. The European Systemic Risk Board (ESRB) considered that the biggest systemic risk to the European financial sector in 2019 was that investors may have underestimated the risks of financial instruments. Demand for the riskiest assets has increased, as investors are looking for ways to increase their return on investment while interest rates are low. If assessments of the risk level of assets rise, the market could tighten sharply. The consequence may be not only a steep fall in asset prices, but also a deterioration in the funding conditions for riskier projects.

One of the vulnerabilities of the European financial sector is that the debt burdens of the governments and the private sectors in several countries are large. This could cause problems in servicing debt if economic circumstances deteriorate unexpectedly. At the same time, low interest rates are causing problems for banks, insurers and pension funds. The cyber risks to the financial system have increased sharply too. If the operating environment of financial companies is compromised, their ability to fund the economy could be noticeably reduced.

MACROPRUDENTIAL SUPERVISION POLICY

As the macroprudential authority, Eesti Pank has set additional capital buffers for the banks operating in Estonia and has introduced rules for the issue of housing loans (see Table 2).

Eesti Pank decided in 2019 to require banks that use the internal ratings based method for risk calculation to use an average risk weighting of at least 15% for mortgages issued to Estonian residents when calculating their capital requirements. The measure was introduced because the risk weights applied to mortgages by the banks using the internal ratings based method have fallen noticeably in recent years as the economic environment has been favourable.

The risks associated with mortgages have remained above average at the same time though. If the economy continues to perform well for a long time, the share of problem loans will fall even further, and make it possible to issue loans with even lower own funds requirements.

There is a danger though that reducing risk weights too far could lead banks to allow insufficient capital to cover the risks from mortgages (see

Eesti Pank decided in 2019 to require banks that use the internal ratings based method for risk calculation to use an average risk weighting of at least 15% for mortgages issued to Estonian residents when calculating their capital requirements

TABLE 2. THE MACROPRUDENTIAL MEASURES OF EESTI PANK

Instrument	Requirement	From
Systemic risk buffer	1%	1 August 2016
Other systemically important institutions buffer		
Swedbank AS	2%	1 August 2016
AS SEB Pank	2%	1 August 2016
Luminor Bank AS	2%	1 July 2018
AS LHV Pank	1%	1 January 2019
Countercyclical capital buffer	0%	1 January 2016
Risk weight floor for mortgage loans*	15%	30 September 2019
Housing loan requirements**		
loan-to-value (LTV) limit	85%***	1 March 2015
debt service-to-income (DSTI) limit	50%	
maximum loan maturity	30 years	

* The floor is set for the average risk weight of the mortgage portfolio of credit institutions that use the IRB Approach.

** Share of loans breaching the limits may not exceed 15% of the volume of housing loans issued each quarter.

*** Up to 90% for housing loans guaranteed by KredEx.

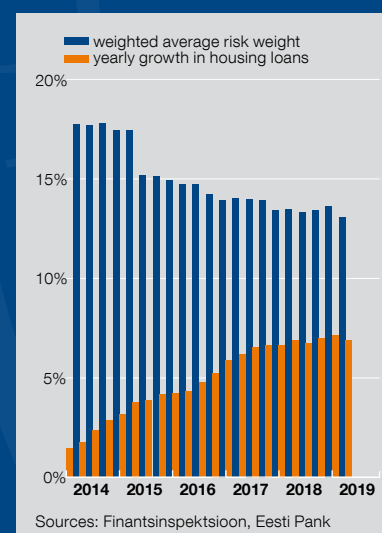
Figure 5). Eesti Pank applied the risk weight floor in accordance with the banking regulation of the European Union, and so before the measure could be introduced, the European Banking Authority (EBA), the ESRB and the European Commission had to be consulted. Following the explanations from Eesti Pank and the opinions of the EBA and the ESRB, the European Commission decided not to contest the measure.

Once a quarter, Eesti Pank assesses the needs for a countercyclical capital buffer for the banks. Countercyclical capital buffers require banks to build up capital buffers at times when credit is growing rapidly, and can then be reduced when the economic cycle turns. The growth in household debt remained quite fast in 2019, but borrowing by companies was more moderate in response to the slower growth in the economy. The rate of growth in debt in the non-financial sector remained slow, and was below nominal economic growth for the current year and the long-term average nominal growth. Cyclical risks were reduced by lending standards being maintained and loan margins rising, and so Eesti Pank decided in 2019 that it was not necessary to apply an additional countercyclical buffer requirement covering the whole loan portfolio in Estonia.

Joint macroprudential supervision across the European Union

As the macroprudential supervisory institution of the European Union, the European Systemic Risk Board (ESRB) assesses both the risks to financial stability and the macroprudential supervisory policies of the member states. It issues warnings and recommendations about important systemic risks. In 2019 it issued warnings to five countries about the risks associated with residential real estate, and recommendations to six countries to reduce the risks. The risks from residential real estate were assessed as being at

FIGURE 5. WEIGHTED AVERAGE RISK WEIGHTS FOR MORTGAGE LOANS AT THE IRB BANKS AND YEARLY GROWTH IN HOUSING LOANS



Eesti Pank analysed the proposal by the government to make the second pension pillar voluntary and commented on the draft act for it; three major risks to financial stability were identified

an average level for Estonia, and the macroprudential measures taken were considered sufficient. The ESRB also handled compliance with recommendations to improve the data on the commercial real estate market and the liquidity risk of non-bank financial intermediaries, and it identified the need to develop macroprudential measures for insurers.

Macroprudential supervision in the framework of the Single Supervisory Mechanism is conducted jointly with the European Central Bank. If the macroprudential institution of a member state does not apply sufficient measures to reduce systemic risks, the European Central Bank has the right to introduce additional measures. Although the banking systems and systemic risks are different in different countries, the European Central Bank aims to apply joint principles for the introduction and application of macroprudential measures. The European Central Bank also assesses the improvement in the resilience of banks to risks since the years following the financial crisis, the differences in how countercyclical capital buffers are applied, and the impacts of cyclical risks on the profitability of banks.

FINANCIAL SECTOR POLICY

Estonian legislation

Eesti Pank analysed the proposal by the government to make the second pension pillar voluntary and commented on the draft act for it. Three major risks to financial stability were identified.

The first is an increase in the liquidity risk of pension funds if demand to exit those funds is strong. The steady reduction in investment restrictions on pension funds in recent years has given them better options for investing funds in Estonia as well. Funds have used these options and an increasing share of pension assets has been invested in Estonia. As investments in Estonia are generally relatively illiquid and cannot be easily cashed in, it takes time to sell assets, meaning they may be sold at a low price if large amounts are withdrawn at once. The planned changes to the second pillar would make pension funds sell their assets over a relatively short time frame, and this could affect the outcome for investors.

The second risk is that the planned changes could result in the return on pension funds being smaller than expected. The risk of significant withdrawals from the funds will remain high in future, and so they will probably prefer to invest in more liquid assets that are less likely to earn the expected return.

The third risk is that the funding of long-term projects that are important for Estonia could be reduced. Second pillar pension funds play an important role in financing the local economy as they have long-term funds available and they have a relative advantage over foreign investors in assessing local projects. Furthermore, the participation of local

capital in funding a project gives confidence to foreign investors. If pension funds no longer play an active role in financing venture capital and private equity, there will be uncertainty about how that gap will be filled in the future.

In its comments on the Money Laundering and Terrorist Financing Prevention Act, Eesti Pank supported the adjustments to the act that are intended to transpose the fifth Anti-Money Laundering Directive and eliminate some weaknesses in the current legislation. The fight against money laundering and terrorist financing is very important, and Eesti Pank has supported regulation aimed at aiding that fight.

The draft act gives the Financial Intelligence Unit the right to collect the reports that it needs to be able to do its work successfully. Eesti Pank used its own experience of collecting data to help write the legislation and allow reports to be submitted through the Eesti Pank data submission portal. The draft act states that the Financial Intelligence Unit will start to collect data that were previously only collected by Eesti Pank for statistical purposes, and it will do so for supervisory purposes meaning that in future data will be collected in an integrated way.

Eesti Pank's opinion on attempts to regulate crypto assets was that the use of new technology supports development and can create new opportunities for small businesses and start-ups in particular. Eesti Pank considers that the regulation should be as neutral as possible concerning technical solutions. It is important that sufficient attention be paid to the risks from new technology and to protecting consumers and investors.

However, crypto assets are likely to have only a small impact on the stability of the financial system in the coming years, especially so given their small volumes. The risk to financial stability will mostly come through reputational risk to the Estonian financial system as an intermediary of crypto assets if those using the assets have acted in bad faith. The risks would be made worse if the operator of a virtual exchange or a provider of a wallet service were to become insolvent.

European Union legislation

The European Parliament elections in 2019 and the changeover of the European Commission gave an impetus to drafting processes and summaries of some long-term initiatives. An agreement was reached on the Covered Bonds Directive as part of the Capital Markets Union that would make it easier for banks to access long-term market-based financing. The new directive harmonises the European Union definitions of covered bonds, and their defining characteristics and supervision, which were earlier regulated at the level of member states.

Discussion started at the end of the year about a new crowdfunding regulation that would harmonise the investment and loan-based rules on crowdfunding. Crowdfunding has not so far been regulated, or has been subject to different rules in different member states, and the regulation would improve access for companies, especially start-ups, to financing while maintaining investor protection. Eesti Pank is in favour of giving small companies access to more varied sources of financing, and better funding conditions. When new forms of financing are developed

Discussion started at the end of the year about a new crowdfunding regulation that would harmonise the investment and loan-based rules on crowdfunding

The crisis exercise showed that cooperation agreements give a good basis for coordinating action, though it also identified ways that the cooperation could be improved further

though, a balance needs to be maintained between regulatory requirements and risks, while regulatory arbitrage that could see risks build up outside the capital requirements framework of the banks needs to be avoided.

Adjustments were agreed to the regulation establishing the ESRB. It was concluded that the ESRB has done its work well, and so the changes focused on making it more efficient. The ESRB was left operating at the European Central Bank, but changes were made to the regulation in an effort to make its activities more transparent and independent.

It was decided to change the regulation of European supervisory institutions to make the work of the European Union institutions responsible for financial supervision and combating money laundering more efficient. The European Banking Authority (EBA) will be given the right to assess national supervisors and, under certain conditions, to initiate investigations into banks directly and to impose sanctions. In the fight against money laundering it was proposed at the end of the year to set up a single anti-money laundering and terrorist financing supervisory mechanism. Eesti Pank has supported measures intended to improve information exchange and cooperation between institutions that fight against money laundering. If a new single supervisory authority is established, it needs to have clearly defined and specific responsibilities.

Crisis exercises

The ministries of finance, central banks, supervisory authorities, and crisis resolution authorities of the Nordic and Baltic countries together with the responsible European Union institutions organised a joint financial crisis exercise in 2019. The crisis exercise was monitored by the International Monetary Fund. The exercise assessed decision taking and coordination both domestically and internationally, public communications, and the crisis resolution measures that have been passed in regulations in recent years. It also tested readiness to cope with an emergency, looking at whether and how the internal rules of organisations were followed for example.

Resolving banking crises requires effective cooperation between institutions, and so Eesti Pank has signed agreements to this end with various domestic institutions and also with international partners such as the Nordic and Baltic central banks. The exercise showed that such agreements give a good basis for coordinating action, though it also identified ways that the cooperation could be improved further.

EESTI PANK STARTED MARKING ITS CENTENARY AND THAT OF THE REPUBLIC OF ESTONIA BY ORGANISING EXHIBITIONS IN ESTONIA AND IN THE EUROPEAN CENTRAL BANK IN FRANKFURT IN 2018.

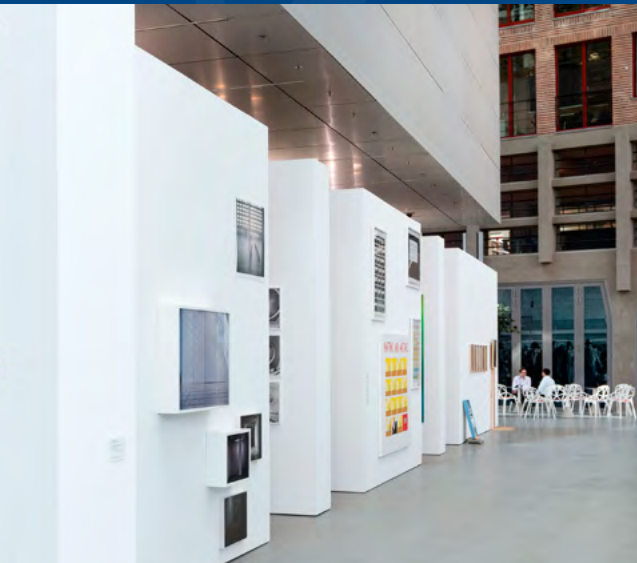
THE EXHIBITION IN THE MIKKEL MUSEUM IN TALLINN ON THE ART OF MONEY SHOWED THE DESIGNS OF MONEY THAT HAS CIRCULATED IN ESTONIA DURING THE PAST HUNDRED YEARS. THE EXHIBITION WAS ACCOMPANIED BY A MULTI-SIDED PUBLIC PROGRAMME WITH EXCURSIONS LED BY THE CURATOR, DISCUSSION EVENINGS, AND AN EDUCATION PROGRAMME AIMED AT THE YOUNG.



A TRAVELLING EXHIBITION IN THE FORM OF THE BUILDINGS OF EESTI PANK WAS OPENED IN MAY AND EXPLAINED IN A SIMPLE AND ENGAGING WAY HOW THE ROLE OF THE CENTRAL BANK IN SOCIETY HAS CHANGED OVER THE PAST HUNDRED YEARS.

CONTEMPORARY ART FROM ESTONIA

28 June - 26 October 2018



AN EXHIBITION OF CONTEMPORARY ART FROM ESTONIA WAS DISPLAYED IN THE EUROPEAN CENTRAL BANK IN FRANKFURT IN 2018 TO MARK THE CENTENARIES OF THE REPUBLIC OF ESTONIA AND OF EESTI PANK. THE EXHIBITION CONTAINED 50 WORKS FROM 14 ARTISTS, WITH PAINTINGS, PHOTOGRAPHS, SCULPTURES AND DIGITAL AND MIXED MEDIA WORKS.

*PHOTOGRAPHS:
THORSTEN JANSE*

FINANCIAL ASSET MANAGEMENT

RESERVE MANAGEMENT

Eesti Pank needs reserves for several reasons. The most important of these are to preserve confidence in the monetary system of the euro area, and if necessary to support the Estonian economy and financial system in difficult times.

Eesti Pank also needs reserves so that it can finance itself. By investing the reserve sensibly, the central bank earns income to cover its own costs, and so it does not need money from the state budget. Running its own finances guarantees the independence of the central bank.

Eesti Pank had a target in 2019 of increasing its reserves substantially so that they could achieve their purpose better. The reserves had been increased by some 300 million euros in 2018 to 659 million euros, increasing the investment in the bond portfolio.

The investment portfolio increased by a further 569 million euros in 2019, allowing further investment in current and new asset classes. At the end of the year the Eesti Pank reserves stood at 1.2 billion euros, which is equal to 4% of gross domestic product. The central banks of the euro area countries and the European Central Bank have agreed between themselves the maximum amount each euro area central bank may have in reserves. This net financial assets agreement is used to limit the ability of national central banks to create additional liquidity, in line with the goals of monetary policy. Eesti Pank has agreed under this agreement to hold much larger reserves than the current 1.2 billion euros.

The central bank's reserves are in cash, bonds, shares and gold. When the reserves are invested it is important to make sure that they keep their value and that they can also earn income. It is also important for the reserves to be liquid, which means that they can be freely used in an unexpected emergency. For this reason the central bank reserves are mainly invested in safe and reliable securities issued in large international financial markets, where there is only a small risk of money being lost.

The majority of the financial reserves, some 90%, are invested in bonds. The reserves are also put into bonds backed by real estate, and shares from advanced economies, which is mainly done to diversify the risks, but also to earn additional income.

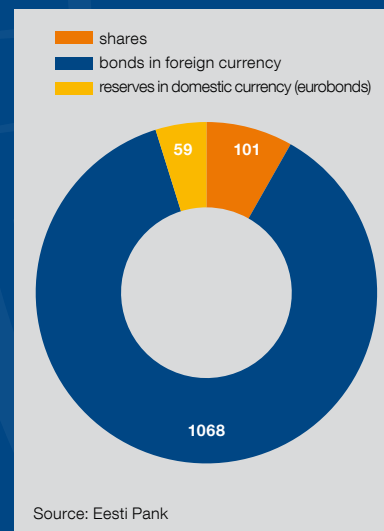
Eesti Pank has very little gold, in total only 256.6 kg or 8250 ounces, and holds it more for historical reasons than for financial reasons. Eesti Pank sold the majority of its gold assets when Estonia regained its independence, to exchange them for bonds, which allowed the goals set for the reserves to be met better.

At the end of 2019, Eesti Pank's portfolio of investment assets stood at 1228 million euros (see Figure 6). The bank had 11 million euros of gold. Eesti Pank's investment assets at the end of 2019 were mainly in high-quality bonds, and partly in the stock markets of advanced economies, and 59 million euros had been invested in bonds denominated in euros.

The value of the reserves denominated in other currencies was 1068 million euros at the end of 2019. The foreign currency reserve was made up of sovereign bonds from the USA, Australia and Canada, and mort-

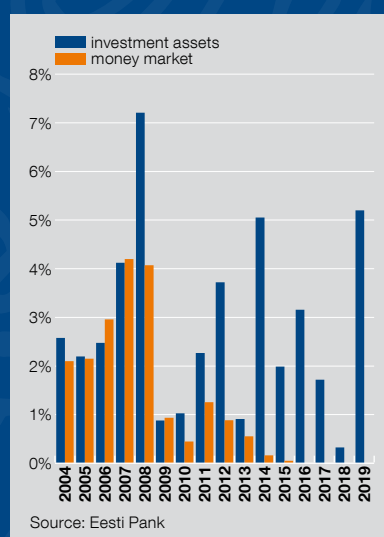
The reserves increased by 569 million euros in 2019 and at the end of the year Eesti Pank had 1.2 billion euros in reserves

FIGURE 6. THE STRUCTURE OF EESTI PANK'S INVESTMENT ASSETS IN MILLION EUROS



The return on Eesti Pank's investment assets was unusually good in 2019 at almost 39 million euros

FIGURE 7. RETURN ON INVESTMENT ASSETS AND FROM THE MONEY MARKET



gage-backed securities in the USA. The equity portfolio was the same size as in 2018 at 101 million euros.

The return on Eesti Pank's investment assets was unusually good in 2019 at almost 39 million euros. The rise of some 30% in the share portfolio from its low price level at the start of the year contributed the most to the return on the portfolio. At the same time the bond portfolio also made a substantial contribution. Interest rates came down quite sharply and broadly as the larger central banks changed the direction of their monetary policy quite sharply in the uncertain economic climate. The yield curve shifted downwards and the interest rate spreads on even the riskier bonds over sovereign bonds narrowed during the year, which also helped in earning return.

The additional income from active investment was positive in 2019, with both the Eesti Pank portfolio managers and the external managers contributing. At the end of 2019, Eesti Pank had four external asset managers. PIMCO started working with Eesti Pank in 2005 and Informed Portfolio Management from 2007, and Eesti Pank started using GSAM and Schroders as external managers in 2017. The external asset management programme is based on overlay mandates and the managers express the majority of strategies through derivative instruments.

The provision of asset management services

Full asset management services were provided to the Guarantee Fund, whose investment portfolio amounted to 250 million euros at the end of 2019. The Guarantee Fund is a legal entity under public law that secures under the conditions and to the extent set in law the funds of depositors, investors, mandatory pension holders, and holders of insurance contracts signed with insurers for mandatory pensions.

Eesti Pank also works with Suomen Pankki, the Finnish central bank, in managing a part of the European Central Bank's foreign currency reserves. The portfolio was more than 1 billion US dollars in size at the end of 2019, and the main focus in managing it is on liquidity and on maintaining value, so that it is available for use at any moment for foreign currency interventions by the Eurosystem. More details on reserve management by the European Central Bank can be found in that bank's annual report.

Changes in Eesti Pank's investment policy in recent years

Like any careful investor, Eesti Pank constantly analyses whether its current portfolio is meeting its goals, and whether it would be possible to invest better and more effectively. Eesti Pank extended its reserves last year with new asset classes, adding US inflation-protected bonds and bonds of multinational institutions. Investing the reserves in different asset classes helps to distribute risk. Eesti Pank also decided to create a separate portfolio containing 100 million US dollars of US treasuries. This portfolio is intended to make sure that there is a sufficient amount of assets in foreign currency to hand if economic circumstances become more difficult. For this reason the currency risk in the portfolio is not hedged against the euro, meaning that the value of the portfolio can fluctuate quite substantially in euros as the exchange rate moves.

CASH CIRCULATION AND HANDLING

MANAGING CASH CIRCULATION

In managing currency circulation, the core task of Eesti Pank is to ensure there is enough good quality cash and circulating assets to meet the demand for them. Together with the other central banks of the euro area and the European Central Bank, Eesti Pank issues the euro notes and coins that are the legal tender of the euro area.

People in Estonia consider the cash circulating in Estonia to be of good quality and they say that access to it has improved because an increasing number of companies are allowing cash to be withdrawn as cashback from shop tills. Cash has a strategic importance for national security as it is a means of payment that is not dependent on electronic infrastructure.

In 2019 Eesti Pank issued 840 million euros to credit institutions and 570 million euros were returned to Eesti Pank (see Table 3). Since the euro was introduced, Eesti Pank has issued a net total of 2 billion euros in cash. The exact amount of cash in circulation in Estonia cannot be measured precisely, as banknotes move both within the euro area and outside it.

Eesti Pank issued 26.1 million banknotes in 2019. The note that was issued into circulation most was the 50-euro banknote, which accounted for 47% of all the banknotes issued. The 50-euro note is so popular because it is the most commonly used in cash machines and it is used both for making payments and for saving. The project of issuing banknotes of the second series was concluded in 2019 when the 100 and 200-euro banknotes were issued on 28 May.

Following the decision of the European Central Bank, the 500-euro banknote ceased to be issued from 26 January 2019, and so Eesti Pank no longer sends them into circulation. The 500-euro banknote does remain valid as legal tender and such notes can be brought to the central bank to be exchanged for other denominations.

Eesti Pank issued around 21 million coins in 2019, of which 57% were one and two-cent coins. Eesti Pank has discussed this with various interested parties including the Consumer Protection Authority, the Estonian Traders Association and the Ministry of Economic Affairs and Communications, and has identified the need to introduce rounding

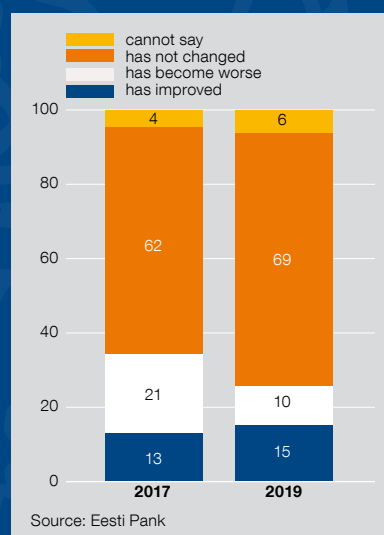
The cash circulating in Estonia is of good quality and access to it has improved

TABLE 3. CASH FLOWS BETWEEN EESTI PANK AND CREDIT INSTITUTIONS

Year	Amount (EUR billion)		Number (million)			
	Issued by Eesti Pank	Received by Eesti Pank	Issued by Eesti Pank		Received by Eesti Pank	
			banknotes	coins	banknotes	coins
2015	1.19	1.05	35.2	26.8	31.8	4.4
2016	1.00	0.84	23.1	23.9	18.7	0.7
2017	1.01	0.82	25.7	25.3	19.8	2.2
2018	0.97	0.68	25.6	26.1	17.5	2.4
2019	0.84	0.57	26.1	21.4	16.2	0.8

The survey of financial behaviour ordered by Eesti Pank found that 94% of Estonian residents use cash and only 6% say they use electronic means of payment exclusively

FIGURE 8. CHANGES IN ACCESS TO CASH IN THE PAST 12 MONTHS



rules. Alongside this, the European Commission is preparing an impact assessment on rounding rules for the euro area.

There were no major changes in the infrastructure for cash. Figure 8 shows that people's opinion of their access to cash is better than it was in previous years. People get the majority of the cash they need for everyday transactions from ATMs. Banknotes denominated from five to 50-euros can be withdrawn from ATMs, and all denominations from five to 500-euros can be paid into them. The number of companies providing cashback services, where cash can be withdrawn from shop tills, has risen, which improves access to the cash needed for everyday purchases in rural areas in particular. Some shop tills also allow clients to pay cash onto their own bank accounts, though this service is not yet at all widespread.

The survey of financial behaviour ordered by Eesti Pank found that 94% of Estonian residents use cash, and only 6% say they use electronic means of payment exclusively. Payment cards are used much more frequently for retail payments than cash is though. An economy that operates well needs to have a range of ways of making payments. Eesti Pank supports the development of the payment environment by participating in designing the legal framework for it, and by working with market participants.

Contingency of cash circulation

There are four credit institutions in Estonia, which are Swedbank, SEB Pank, Luminor Bank and LHV Pank, that are providers of vital services under the Emergency Act and must ensure cash circulation and payment services. Eesti Pank analyses the continuity plans drawn up to ensure the functioning of cash circulation and payment infrastructure at credit institutions, and approves them. Ensuring the sustainability of cash circulation will become increasingly important in future, as both the number of offices run by credit institutions and the number of staff they employ who have experience of working with cash and understand the rules for calculating cash and for security, fall.

Eesti Pank worked with providers of vital services in 2019 to test sustainability, with the goal of practising and assessing the capacity and readiness to cope in an emergency. Eesti Pank used the experience and assessments that came from the test to extend the sustainability framework, thus increasing readiness for any emergency.

CASH HANDLING

Eesti Pank has to ensure the quality of cash. Banknotes returned to Eesti Pank are sorted with fully automatic sorting machines. The authenticity of the returned banknotes is checked using parameters that only the central banks know, and worn, dirty, torn or stained banknotes are removed from circulation. Banknotes that are suitable for circulation are packaged and returned back into circulation.

Following the decision of the European Central Bank, all the banknotes of the first series that are returned from circulation are destroyed, and over time they will be replaced by banknotes of the second series.

Banknotes of the first series are a small share of those in circulation. The number of companies handling and transporting cash rose in 2019 from one to three. This change reduced the risks in availability of cash and improved the sustainability of cash within the country.

The majority of the cash that is in circulation is processed by cash handling companies. The amounts of cash processed by Eesti Pank were not different from the amounts in previous years, and 16.2 million banknotes were processed in 2019. Around 4 million of the banknotes processed were sorted as unfit for circulation and were destroyed.

Eesti Pank exchanges damaged euro banknotes and coins. Damaged banknotes are sent for expert analysis, which first establishes whether notes and coins are genuine and then assesses the extent of the damage. Banknotes are exchanged when more than 50% of them remains. Expert analysis on cash was carried out 218 times in 2019, during which 2427 damaged banknotes were analysed, and 282 coins were removed from circulation.

Eesti Pank exchanges Estonian kroons for euros. Even though the euro has been in use for nine years now, there are still some 44.6 million euros of kroons that are unreturned. Kroons were exchanged on 1358 occasions in 2019, and the total value of the kroons exchanged was some 387,800 euros. A certain amount of the kroons that were in circulation have been permanently lost or destroyed over the years, and the amounts exchanged are smaller each year, but the facility for exchanging kroons for euros remains open.

There were 285 counterfeit euro banknotes discovered in Estonia in 2019, which was fewer than in previous years. The most common counterfeits registered involved 50 and 100-euro notes. The number of counterfeits discovered in Estonia remains one of the lowest in the euro area. The number of counterfeit coins discovered in Estonia is marginal both in absolute terms and in relation to the number of genuine coins issued into circulation, and in all, 123 counterfeit coins were discovered in Estonia in 2019.

ORGANISING THE PRODUCTION OF BANKNOTES AND CIRCULATION COINS

All the central banks of the euro area are involved in the production of euro banknotes every year. In 2019 Eesti Pank fulfilled its production obligation by joining with seven other euro area central banks in a Joint European Tender to print the quota of second series 20-euro notes set by the Governing Council of the European Central Bank. The winner of the joint tender was Oberthur Fiduciare SAS printing house in France, which printed the 14.08 million banknotes ordered by Eesti Pank. The new banknotes were added to the joint reserves of the Eurosystem.

COLLECTOR COINS AND COMMEMORATIVE COINS

In 2019 Eesti Pank issued two silver collector coins, one for Johann Voldemar Jannsen, and the other for Hanseatic Viljandi. The silver coin issued to commemorate the 200th anniversary of the birth of Johann Voldemar Jannsen was designed by Heino Prunsveld and the coin was

There were 285 counterfeit euro banknotes discovered in Estonia in 2019, which was fewer than in previous years

minted in the Polish mint. The silver collector coin for Hanseatic Viljandi was designed by Elisabeth Juusu and minted in the Lithuanian mint. In both cases, 4000 collector coins were issued. A procurement was carried out for a 15-euro silver collector coin to be issued to mark the 150th anniversary of the birth of Jüri Jaakson. The procurement was won by the Dutch mint and the collector coin was issued on 10 January 2020.

As well as these collector coins, two two-euro commemorative coins with special designs were issued into circulation. A two-euro commemorative coin dedicated to the 150th anniversary of the song celebration was issued into circulation at the end of May, and 1,000,000 of the coins were minted. The coins were minted in the Slovakian mint. The other two-euro commemorative coin was dedicated to the centenary of the first Estonian-language university. A total of 1,000,000 of the coins were minted by the Lithuanian mint. Procurements were also held to mint the commemorative coins dedicated to the 200th anniversary of the discovery of Antarctica and the 100th anniversary of the Tartu Peace Treaty.

Two coin cards were made as collector items to go with the commemorative coins. The coin card for the song celebration coin was designed by Martin Rästa, and 10,000 were printed, while the coin card for the national university was designed by Indrek Ilves, and 17,500 were made.

Cash transport is an extremely secure operation

Eesti Pank is responsible for making sure there are sufficient cash stocks in the country. As there is no printing house in Estonia that can print banknotes, they have to be brought in from other central banks of the euro area or directly from a foreign printing house. Large sums of cash are involved in this, and transporting it internationally is of vital importance for national security, so it is extremely well secured. Transporting banknotes successfully and without any hitches needs thorough preparation, where every detail is considered in advance. Close cooperation is of the greatest importance for the security organs of the countries sending and receiving the cash. Most international cash transport is done by air, with secure convoys of vehicles moving the cash once it arrives on the ground. When the 100 and 200-euro banknotes of the second series arrived in Estonia in April, the international banknote transport operation was filmed by a major Estonian television reportage show.

THE EESTI PANK MUSEUM DISPLAYED SOME OF THE PRIVATE COLLECTIONS OF MONEY COLLECTORS DURING THE YEAR. SIX EXHIBITIONS WERE ORGANISED FOR THE SERIES, FEATURING THE DESIGN OF THE FIRST ESTONIAN MONEY, PAPER SCRIP, MONEY AS JEWELLERY, ERROR CURRENCY, AND COINS WITH PARTICULAR THEMES.



THE SETO CHOIR SÕSARÕ SINGING AT THE OPENING OF THE EXHIBITION OF MONEY AS JEWELLERY.



THE EXHIBITION OF ERROR CURRENCY FEATURED ITEMS FROM THE COLLECTIONS OF TWO ESTONIAN COLLECTORS, KAUPOLAAN AND ARVO-MART ELVISTO.



THE COLLECTOR KAIMAR
ILVES EXHIBITED HIS
THEMED COLLECTIONS
AND HIS PRECIOUS METAL
COINS FEATURING LYNXES.



THE EXHIBITION ON
THE DESIGN OF THE
FIRST ESTONIAN
MONEY FEATURED
ITEMS FROM THE
COLLECTIONS OF
TÕNU KARU AND
ARVO-MART ELVISTO.



THE EXHIBITION OF
PAPER SCRIP WAS
OPENED BY THE HEAD
OF THE CASH AND
INFRASTRUCTURE
DEPARTMENT OF EESTI
PANK, RAIT ROOSVE.

PROMOTING THE PAYMENT MARKET

THE PAYMENT SYSTEMS MANAGED BY EESTI PANK

Eesti Pank operates the TARGET2-Eesti component system of TARGET2 for cash settlements, and is a joint owner of the T2S securities settlement platform. It is also part of the collateral framework of the Eurosystem central banks for managing cross-border collateral. This allows banks to use securities held in the depositories of other countries as collateral for monetary policy operations. TIPS¹⁶, managed by the Eurosystem, allows payments to be settled instantly through accounts opened at the central bank.

At the end of 2019 there were 13 participants using TARGET services through Eesti Pank, for whom 15 accounts had been opened for cash settlement and four dedicated accounts for securities settlement. The turnover and number of payments through TARGET2-Eesti have fallen steadily as the number of active users of the system has declined or the users have changed their strategy. TARGET2-Eesti is now used to the same extent that it was when the euro was adopted (see Figure 9).

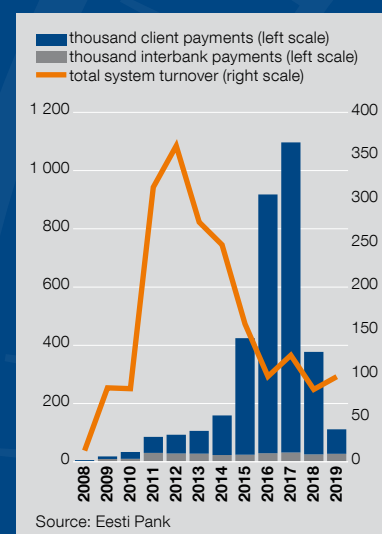
No Estonian bank has yet joined TIPS, but the overall coverage of instant payments is very good as Estonian banks use the RT1 system managed by EBA Clearing. However, RT1 and other instant payment systems are not interoperable, meaning that the ability to make cross-border instant payment depends largely on whether the banks making and receiving such payments are members of the same system or not. This inability of the systems to communicate is what led the Eurosystem to relaunch the discussions about making instant payments reachable through TARGET services. This would use accounts at the central banks to allow instant payments to be made between banks. Market participants will be involved in the discussions in 2020 in order to find a better solution.

Work continued in 2019 on the major project to consolidate TARGET services. The project was launched in 2017 and was intended to make TARGET services more user-friendly by using the same technical and functional solutions for TARGET2 and T2S and modernising the liquidity management services. The end date for the project is November 2021. By the end of the year, user specifications had been prepared, pricing principles published, and network service providers approved. These were important milestones that allow the participating banks to start their planning and development. Eesti Pank also initiated a project at the end of 2019 to bring its systems and business arrangements into line with the consolidated TARGET services. As the TARGET services manager, Eesti Pank also monitors the readiness of Estonian market participants throughout the whole project.

In 2019 Eesti Pank continued to improve its cyber resilience so that the systems of the bank could face more sophisticated cyber attacks. It also monitored that participants in TARGET2-Eesti complied with their action plans to meet the requirements for reliability and information security, and organised repeated self-assessment by the participants.

¹⁶ TIPS is the part of the Eurosystem's TARGET service that settles instant payments through accounts opened at the central bank.

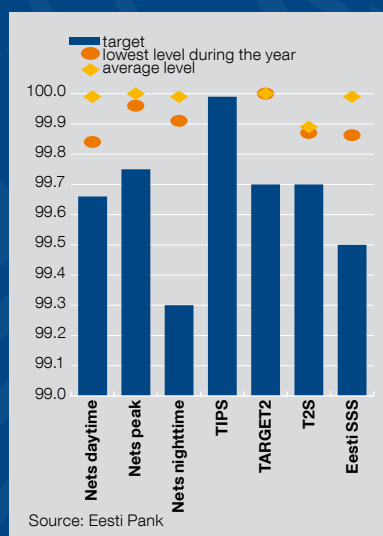
FIGURE 9. YEARLY TOTAL NUMBER AND TURNOVER OF PAYMENTS IN THE TARGET2-EESTI SYSTEM (2008–2019)



Eesti Pank initiated a project at the end of 2019 to bring its systems and business arrangements into line with the consolidated TARGET services

The opinion of the overseer was that the T2S services of the securities settlement platform are generally provided securely and efficiently

FIGURE 10. AVAILABILITY TARGETS FOR PAYMENT AND SETTLEMENT SYSTEMS AND THE LOWEST AND AVERAGE AVAILABILITIES IN 2019, %



Eesti Pank is responsible for supporting the continuous operation of payments and settlement both within Estonia and between Estonia and the rest of the world. It is also an organiser of vital services and so takes an important management role in handling emergencies alongside its work of keeping the system running under normal circumstances. An exercise held by Eesti Pank in 2019 showed that Eesti Pank and the banks that provide vital services understood the actions needed to resolve an emergency and are able to carry them out.

OVERSIGHT OF PAYMENT SYSTEMS

Eesti Pank works in the oversight of payment and settlement systems to minimise the risks coming from infrastructure to financial stability and the circulation of cash.

An assessment of the risks to the pan-European T2S securities settlement platform was carried out in 2019 jointly with the other central banks of the Eurosystem, and cyber risks to the local security settlement system and card payment system were also analysed.

The opinion of the overseer was that the T2S services of the securities settlement platform are generally provided securely and efficiently. It is important for Eesti Pank that the T2S services are secure and efficient, as most Estonian purchase and sales transactions for securities are settled there. This is why Eesti Pank joined the other central banks of the Eurosystem in assessing the risks to T2S in 2019. The risk assessment found that of the 18 applicable risk mitigation principles, 14 were met in full by the T2S operator, but additional compliance was needed for mitigating operational and business risks, and for procedures to cope with the insolvency of banks operating within T2S. Although the shortcomings that were found were not serious enough to have a critical impact on the security of the platform, the overseer issued 13 recommendations to the system operator to make T2S function more effectively.

Eesti Pank as overseer of the local securities settlement system held regular meetings with Nasdaq CSD, the Baltic central securities depository, and monitored two developments, which were the merger of the Icelandic depository with Nasdaq CSD and the creation of a link arrangement between Nasdaq and Clearstream Frankfurt. This link arrangement will improve access to the Baltic securities market, and will allow service fees to be reduced. The link was at first unilateral as Clearstream Frankfurt opened an account at Nasdaq CSD, but as a connection the other way would allow the Estonian market to expand, Nasdaq CSD started to create that connection. Eesti Pank also joined with the Latvian and Lithuanian central banks to analyse the cyber security of the system. The analysis was based on self-assessment by Nasdaq CSD.

As overseer of the card payment system, Eesti Pank regularly assessed the incidents that occurred in the system in 2019 and analysed the availability of the Nets Estonia card system separately. It looked at three points, which were how long the system was actually out for, what developments are expected in future in the card payment market, and what the availability targets are for equivalent or more important payment systems (see Figure 10). Eesti Pank found that given all this, the availability targets of the card payment system were satisfactory.

Eesti Pank also monitored the functioning of the pan-European payment systems as the settlement of the retail payments of Estonian bank clients

moved from the STEP2 retail payment system to the RT1 instant payment system, through which payments move from payer to payee within seconds. Both systems are managed by EBA Clearing. The Eurosystem assessed the risks of RT1 in 2018, and it found that the risks to RT1 were largely well mitigated, like those in STEP2, and that instant payments are a secure channel for payment. To mitigate the risks of insolvency, the overseer recommended that the moment of settlement finality should be clarified more precisely, and that the risk management framework should be enhanced. EBA Clearing met those requirements in 2019. The requirements to set targets for service levels in the instant payment system and to publish service fees for instant payments still need to be met.

Eesti Pank also fulfilled the international requirement to carry out a self-assessment of its compliance with oversight responsibilities. The scope of oversight, its legal basis, the transparency of its principles, the application of requirements, and cooperation were all assessed. The assessment found that Eesti Pank meets in full and correctly the responsibilities for the oversight function.

DEVELOPING THE PAYMENT MARKET

Eesti Pank works with banks, companies and consumer representatives to make the functioning of the payment environment more efficient and to develop it, so that consumers and companies can use new payment services and payment solutions operate well between the banks.

The priority for Eesti Pank in 2019 was the promotion of instant payments and the payment solutions to support them. At the end of 2019, instant payments made through the RT1 system exceeded the ordinary payments made through the STEP2 system in Estonia for the first time (see Figure 11). Over half of both domestic and cross-border payments made in Estonia were settled as instant payments, putting Estonia among the leading countries in Europe for this. SEB Pank, Swedbank, LHV Pank and Coop Pank have joined the instant payment system, meaning that most bank clients are able to make instant payments.

The whole of the Eurosystem worked to promote instant payments. The focus was on monitoring the spread of instant payments and on the interoperability of different instant payment systems, with the goal of pan-European reachability.

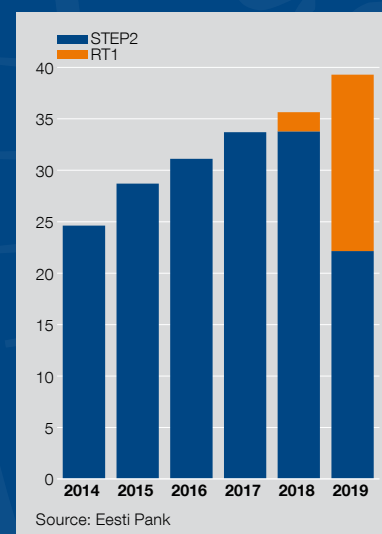
Eesti Pank led the larger banks, merchants and consumer representatives in a joint project to develop an action plan for instant payment solutions, with the goal of developing the payment market in Estonia and creating a level playing field for new payment solutions to be adopted. The plan was approved by the Estonian Payment Forum in June 2019. The action plan agreed the technical solutions needed for instant payments to spread, and a timetable for adopting those solutions.

The broader aim of the action plan is to simplify the accounting procedures of companies by using electronic invoices and receipts and to bring additional payment solutions based on instant payments to shops. Members of the forum will work together to carry out the action plan.

A lot of attention was focused in 2019 on various technical initiatives, and Eesti Pank took a role in promoting and coordinating their introduction. One of the most important and plausible of these initiatives is the proxy payment that allows money to be transferred between banks using only the mobile telephone number of the payee without the payer even needing to know the

The risks to the instant payment system used by the banks in Estonia are well mitigated and instant payments are a secure channel for payment

FIGURE 11. TOTAL NUMBER OF DOMESTIC PAYMENTS EACH YEAR IN THE STEP2 RETAIL PAYMENT SYSTEM AND THE RT1 INSTANT PAYMENT SYSTEM (MILLION PAYMENTS)



Estonia is among the leading countries of the euro area in the use of instant payments

bank account number. This needs a person's bank account number to be connected to their telephone number in a specially created proxy database. The plan moving forward would be to introduce interbank payment requests that would be used for person-to-person transactions.

Eesti Pank contributed to the work of the working group of the European Retail Payments Board (ERPB), as the ERPB wanted to create the rulebook for instant payment solutions at points of interaction. The rules were drawn up in cooperation with several interested parties so that the rules could be used as the basis for further development of any such instant payment solution.

Eesti Pank monitored the launch of open banking deriving from the entry into force of the Payment Services Directive of the European Union. From the second half of 2019, bank clients have been able to give third parties access to their bank accounts to initiate payments and view account information. This change allows fintech companies to start operating in the financial services market so as to increase competition and innovation. In reality it is not the fintech companies but the incumbent banks that have taken the lead in introducing open banking solutions in Estonia.

Eesti Pank also monitored the development of financial technology in 2019, as such technology has an important role to play in defining the payment market. One of the main topics was crypto assets and the risks associated with them.

Eesti Pank took part in discussions about central banks issuing digital currency and about setting the European payments strategy. The strategy aims to find a solution for using instant payments at points of sale that would work across all of Europe and would be globally recognised, user-friendly and secure.

The right instant payment solution for each person in Estonia

To support the development of instant payments, it was decided in December 2018 to set up an expert group of market participants under the Estonian Payment Forum, so that banks and companies could work together to find a payment solution that would work as a digital wallet for everyone in Estonia.

The working group agreed on targets to be achieved by the end of 2021:

- Simple and instant person-to-person (P2P) mobile payments with a function for requesting money between banks.
- A means of paying based on instant payments that can be used in e-commerce and on mobile devices.
- Tests of simple and instant mobile payments, and if companies are interested enough, then the launch of those payments in places where it is not currently possible to pay by card.

Further research looked into how the payments required by the state from people and companies for fees, land taxes, fines and so forth could be digitalised. This would allow people to make the payment in their internet bank without having to fill in any extra information in the payment order.

THE CENTENARY YEAR WAS A GOOD OPPORTUNITY TO PRESENT THE BANK, ITS ART COLLECTION AND THE HISTORY OF MONEY TO THE ESTONIAN PUBLIC MORE BROADLY. EXCURSIONS, SEMINARS AND FAMILY DAYS WERE HELD THROUGHOUT THE YEAR.



THE EESTI PANK MUSEUM JOINED MUSEUMS ACROSS EUROPE FOR THE NIGHT OF MUSEUMS ON 18 MAY. THE EESTI PANK BAND PLAYED, AND THERE WAS A QUIZ AND A PHOTOGRAPH STAND.

THE FAMILY DAY FOR AWARENESS OF MONEY, WHICH HAS BY NOW BECOME A TRADITION, WAS HELD IN THE EESTI PANK MUSEUM ON 28 SEPTEMBER. FINANTSINSPEKTSIOON AND THE MINISTRY OF FINANCE HELPED TO PUT TOGETHER THE EXCITING AND INFORMATIVE PROGRAMME. PHOTOGRAPHS: ARNO MIKKOR



IN AUTUMN 2019, EXCURSIONS FOR THE PUBLIC WERE HELD AROUND EESTI PANK. THE TOURS SHOWED OFF THE VARIETY OF THE HISTORICAL BUILDINGS OF THE CENTRAL BANK AND THE PEARLS OF ITS ART COLLECTION. THE TOURS WERE GUIDED BY MÄRT KARMO, AN EXPERT ON THE HISTORY OF EESTI PANK; PROFESSOR MART KALM, THE RECTOR OF THE ESTONIAN ACADEMY OF ARTS; MAIT VÄLJAS, THE HEAD OF THE LIBRARY OF THE ESTONIAN ACADEMY OF ARTS; AND EERO EPNER, AN ART EXPERT AND DRAMATIST.



DEVELOPMENTS IN STATISTICS

COMPILING AND DISSEMINATING STATISTICS

Eesti Pank is the other primary agency beside Statistics Estonia that produces official statistics in Estonia, and it is responsible for state finance and general government statistics and financial accounts statistics. Statistical data are used in analysis of the Estonian economy and the financial sector, and in forecasting, and the whole dataset serves as an input for the European Union, the economic and monetary union and other international statistical work. Eesti Pank is involved in developing statistical methodologies for the European economic and monetary union and in maintaining the single registers and databases of the European System of Central Banks.

Statistical work starts from the list of statistical responsibilities of Eesti Pank, which is part of the national statistical programme. The 2019 calendar for data release and dissemination was followed correctly and in full. The international quality reports compiled for each year recognise the statistics of Eesti Pank for their reliability, quality, and compliance with European Union and other international requirements.

There continues to be a lot of interest in the statistics published on the public-facing dissemination website and the most popular areas and tools were the same as they were in the previous year (see Figure 12). The greatest interest was in financial sector statistics and they were viewed most frequently from desktop computers (see Figure 13).

Interest has grown most in recent years in statistics on payments. The section of the website for statistics on payments was extended following feedback from users of statistics. Tables and figures were updated in order to provide more varied and interesting information to a broader public than previously. The most important changes were that the grouping of means of payment was updated, some less important data segments were replaced with new and more relevant ones, and the time series of payments was extended to five years.

Important information on the wealth and consumption habits of Estonian households was added after the results of the Household Finance and Consumption Survey (HFCS) conducted in Estonia in 2017 were published on the website in October and presented in a public lecture. The survey is conducted every three years.

The benchmark revision to adjust the retrospective time series of the financial accounts and balance of payments statistics was also conducted in 2019 as required by the European Central Bank and Eurostat. Retrospective statistics are usually corrected up to four years back, but in this case the corrections went back to 2004. As the updated time series had to be available through every dissemination channel, there was a substantial leap in the number of statistical indicators that were sent to international organisations (see Figure 14).

The earlier form of statistical press releases were redesigned as infographics and indicator dashboards so that the information revealed in the statistics and its main messages could reach consumers more effi-

FIGURE 12. USE OF STATISTICS ON THE EESTI PANK WEBSITE BY FIELD

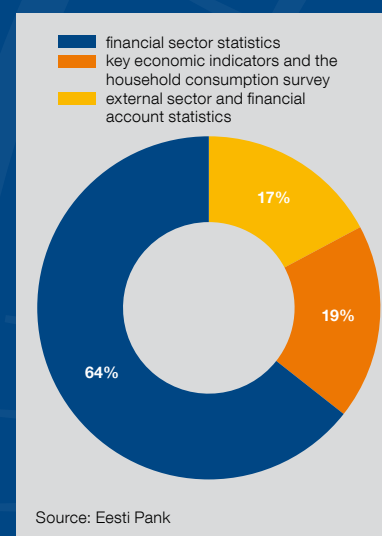


FIGURE 13. USE OF STATISTICS ON THE EESTI PANK WEBSITE BY DEVICE TYPE

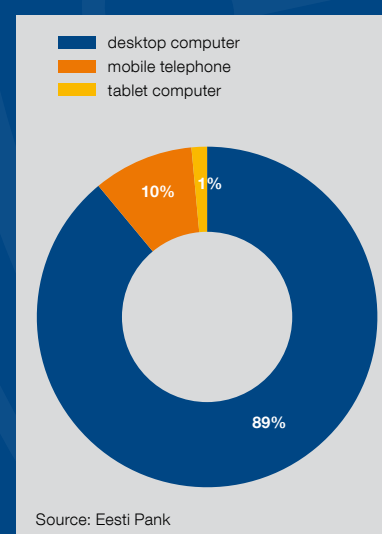
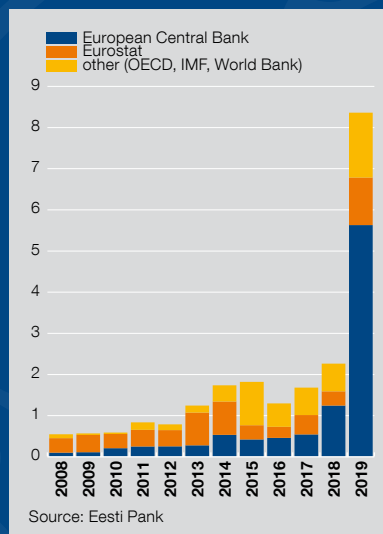


FIGURE 14. STATISTICS SENT TO INTERNATIONAL ORGANISATIONS, MILLION INDICATORS



The hard work that started in 2018 continued throughout the year on building the quality control system for the AnaCredit detailed credit database

ciently and the data could be used more easily. This new form was used first for balance of payments statistics and international travel statistics. The minimum plan for 2020 is to add infographics and indicator dashboards for payment statistics and financial accounts statistics.

DEVELOPMENT OF NEW AREAS OF STATISTICS

Following from Eesti Pank's strategic goal of giving the public broader statistics than before on the non-bank financial sector in Estonia, cooperation was tightened with FinanceEstonia, the umbrella organisation for non-bank financial intermediaries. The aim of this cooperation was to find an appropriate compromise between the expectations of consumers of statistics and what is actually possible, as the new need for data inevitably increased costs, including the additional burden of reporting. Analysis was also made of how the statistical tables and figures that are published are used. This was then used to replace statistics that attracted less interest with ones that were more relevant. As part of this it is planned to start releasing comprehensive statistics on investment funds, including pension funds, in the second quarter of 2020.

The hard work that started in 2018 continued throughout the year on building the quality control system for the AnaCredit detailed credit database. This included describing the internal connections within the database and aligning it with other data sources, and the introduction of automation for procedures. The success of this work is shown by the very high opinion that the European Central Bank had of the quality of Estonian detailed credit data. The AnaCredit data will become one of the key inputs for analysing the credit market in the pan-euro-area database being created for that purpose, which should be ready in 2020.

The European Central Bank had three focuses in developing statistical methodologies in 2019, concentrating on the balance statistics of monetary financial institutions, payment statistics, and financial accounts statistics. Major changes are expected in reporting requirements for these three areas, with the consequence that from 2021 the statistics on them will be published in greater detail. The ESCB also focused on creating a single reporting framework for banks, which will become one of the main international reporting priorities in the near future and which will require concerted efforts.

The transfer to a single reporting framework for banks

Compiling statistics and organising supervision of banks requires a lot of different data, and submitting them is a large burden on credit institutions. To ease the reporting requirements, the European System of Central Banks (ESCB) has set a long-term target of standardising the requirements for statistical collection across countries as much as possible. To achieve this it has started developing an integrated reporting framework (IReF).

The principle behind the IRef is that rather than the banks having to submit lots of separate and only loosely related reports, one single, but much more detailed, set of integrated reports could be compiled and sent to the central bank. The advantage of submitting data in this format is that it would reduce the need for the banks to recognise the methodologies needed and resolve inconsistencies when aggregating data, and so reporting would become more efficient and less costly for them. Another advantage of the more detailed datasets is that changes need to be made in managing the compilation of reports much less often. This helps to make the time series for data more comparable. It is generally understood that alongside a reduction in the costs for the banks, another advantage will be a continuing improvement in the quality of the data collected.

Presentations of the IRef ideas in various forums have received a great deal of support from credit institutions. The banks also approve of the plan of the ESCB to move over to IReF gradually in the years 2024-2027.

DEVELOPMENT OF INFORMATION SYSTEMS FOR STATISTICS

Several information technology developments were started in 2019 to help make the systems of compiling and disseminating statistics sustainable and efficient. The largest of these was the transfer of publication of statistics on the website of the bank to a new and more modern platform that makes the system more flexible so that it can cope with future needs for development.

There was also a major change in the collection of data, as the functionality of validations between reports was developed. This innovation is expected to make the data collection process notably more efficient, and provide those submitting data with more holistic feedback.

The compilation of statistics in a rapidly changing world depends ever more on information technology solutions. Preparations were started for the development of a new information system for compiling statistics to cope with the ever more detailed and ever-increasing volumes of data and the constantly increasing demand from consumers for data. This will be one of the largest development projects in statistics in the years ahead. It is planned that the new system can go over completely from compiling statistics from individual data points as has been done until now, to compiling them in an integrated way.

DEVELOPMENT OF STATISTICAL ORGANISATIONS

To be able to manage better with its new roles and to be ready to use the new technology, the Statistics Department focused on the development goals of its staff members. A future-focused competence model was designed for this purpose, which can be used for setting targets and planning training.

The foreign trade statistics for services that are currently Eesti Pank's responsibility started to be transferred to Statistics Estonia in the second half of 2019

From 2019 Eesti Pank is compiling not only the quarterly financial accounts but also the annual financial accounts that Statistics Estonia earlier compiled, while the foreign trade statistics for services, which are currently Eesti Pank's responsibility, started to be transferred to Statistics Estonia in the second half of the year. This should be completed in 2021, allowing the institutions to specialise better, and linking the foreign trade statistics for services with the enterprise statistics that Statistics Estonia compiles.

One particularly notable event in statistics in 2019 was the external thematic meeting of the Statistics Committee of the European System of Central Banks that was held in Tallinn in June. Organising this was a major undertaking for the smallest statistics department of any of the central banks in the euro area. The positive responses it received demonstrated that the event was an all-round success.

ECONOMIC ANALYSIS AND CONSULTATION

MONITORING AND ECONOMIC ANALYSIS AT EESTI PANK

Eesti Pank needs to monitor the economy continuously in order to carry out its main tasks. Analytical work is divided into two parts for publication of results.

A notable part of Eesti Pank's analysis, looking at topics such as money market operations and transactions, settlements, and cash circulation, is not as a rule distributed further than the European System of Central Banks. An exception is made for comments, opinion articles or blogs by experts from Eesti Pank.

The second part of the monitoring work looks at financial stability and the state of the Estonian economy more generally, and it sets the goal of informing the public or directing public opinion through the publication of regular public reports.

The following reports were published on the Eesti Pank website in 2019:

1. The Financing of the Economy, which covers how non-financial companies and the banks are able to fund themselves.
2. The Competitiveness Report, which analyses how competitive Estonian exporters are in foreign markets, and describes the position of the economy from a macro perspective.
3. Two Labour Market Reviews, which cover supply and demand for labour and the impact of labour from abroad.
4. Two Financial Stability Reviews, which contain estimates of the risks to the operation of the financial sector, including the ability of borrowers to service their loans.

The quarterly review of the Estonian Economy and Monetary Policy discussed key topics for the economy, and in June and December it also contained an updated forecast of the performance of the economy.

On top of its regular reviews, Eesti Pank produced analysis in 2019 of the risks in the immediate term and the longer perspective of the plan of the new governing coalition to make the mandatory funded pension voluntary. The results of the analysis were published in November.

Alongside these reports, Eesti Pank published its regular commentaries and press releases on the Estonian economy and continued with public lectures presenting the results of its economic analysis.

FORECAST

Eesti Pank produced four economic forecasts in 2019 rather than the traditional two, publishing reviews of the Estonian economy in March, June, September and December. On two occasions, in June and December, the forecast was compiled in cooperation with the European Central Bank and other central banks of the Eurosystem and on the other two occasions in March and September it was compiled independently. The euro area forecast, which is an important input for the

Eesti Pank produced four economic forecasts in 2019

The share of the Estonian population in employment has risen to its highest level ever

monetary policy decisions taken by the Governing Council of the European Central Bank, is based in June and December on the individual national forecasts of the member states, but in March and September the forecast of the euro area is made for each country, but it is done by the European Central Bank.

The euro area forecasts are coordinated by the monetary policy committee of the European Central Bank, which is the umbrella for the working groups on forecasting, state finances and the development of forecasting models. Experts from Eesti Pank participate in the monetary policy committee and in its working groups. Experts from Eesti Pank helped compile the forecasts for the Estonian economy produced by the European Commission and the OECD.

The baseline scenarios in the Eesti Pank series of reviews of the Estonian economy and monetary policy were supported by discussion of several topical issues. The context surrounding the forecast helped in publishing the impact analysis of the income tax reform, together with corporate expectations for output volumes in the industrial sector, and short-term advance indicators for the main long-term labour market figures. Constant changes in the structure of the Estonian economy made the composition of exports and their impact on the growth of wealth a topic of particular attention.

As global trade was very volatile in 2019, detailed reviews looked at the impact of protectionism more broadly, and more narrowly at the dangers surrounding Brexit. Two of the most important special topics were probably the discussion of short-term employment in Estonia and how it affected the Estonian labour market and economy, and the economic impact of the changes planned to the second pillar of the pension system. In the reviews of government activities, particular attention was focused on the ability of the state to smooth the economic cycle. The concepts behind the inflation forecast were also made clearer by the identification of the equilibrium inflation rate and of the impact of the base effect on inflation.

Eesti Pank pointed out repeatedly in its forecasts in 2019 that the economy was already starting to grow more slowly, though good conditions were maintained. This was shown clearly in the labour market, where the share of society in employment rose to its highest level ever as unemployment fell very low at the same time, while wages rose a little more slowly than a year before, though labour costs continued to be pushed up rapidly by labour shortages. These conditions brought larger tax receipts than usual to the state, and Eesti Pank gave its opinion that the general government budget should not under the circumstances be in deficit.

RESEARCH

In line with the strategic research plan, the monetary policy and research department mainly focused on researching monetary policy and financial stability, and development of the macroeconomic and banking modelling system. Eesti Pank published nine working papers and two occasional papers in 2019 presenting the research results of Eesti Pank economists and visiting researchers (see Appendix 3). Articles based on the research are also published in academic journals and

in the working papers series of the European Central Bank. Economists of the research division and visiting researchers together authored or co-authored 19 articles that were published or accepted for publication in scientific journals in 2019 (see Appendix 3). One paper was also published in the working papers series of the European Central Bank. The results of research work were also presented at international academic conferences.

Researchers continued working with Estonian and foreign partners in 2019, and staff from the department participated in the Household Finance and Consumption Network run by the central banks of the euro area. Three experts from abroad came to work at the bank as part of the visiting researcher programme, as did one Estonia-based guest researcher. Open seminars were organised again, with 13 guest lecturers speaking at the bank.

The Eesti Pank research prizes were awarded in 2019 for doctoral work to Nataliia Ostapenko for her work on monetary policy shocks and their contradictory impacts in the real economy, and in the Masters category to Caio Augusto Raduy Koslyk, who researched the impact of technology news on the business cycle in the USA.

As part of its research work, Eesti Pank supported the organisation of the international academic conference Economic Challenges in Enlarged Europe 2019, and the doctoral summer school for economics researchers from the University of Tartu and Tallinn University of Technology. Under an agreement on cooperation between the University of Tartu and Eesti Pank, staff from the bank gave courses in the university on macroeconomics and econometrics.

The Eesti Pank Occasional Papers is a series of papers where the bank publishes reviews of its analysis and research work. The papers cover a wide range of topical subjects and may be of interest to everyone interested in economics, including professional economists, political decision-makers, people in business, and anyone who simply wants to know more about economics.

ADVISORY FUNCTIONS

Eesti Pank is an advisor to the government in several important areas of economic policy. Eesti Pank's areas of expertise are primarily balanced economic development and the stability of the Estonian financial sector, and the better functioning of the European economic and monetary union in relation to the sector.

Analysis by Eesti Pank showed that the economy in Estonia continued to grow relatively quickly in 2019, inflation was falling, the current account was in surplus, and external liabilities were declining. The main risks in the near future come mainly from the external environment, such as Brexit, trade conflicts and regional tensions¹⁷. The resilience of the Estonian economy to potential crises has improved in recent years. Several economic indicators suggested though that price competitiveness was declining in foreign markets, which could pose a threat to the long-term capacity for growth of the Estonian economy.

¹⁷ For more on the risks to the financial sector and on Eesti Pank's positions on it, see the section "Ensuring Financial Stability".

Although growth has started to fade gently in the economy, the Estonian economy will be functioning at above its sustainable level for several more years to come

Eesti Pank did not support the government's plan to make participation in the funded pension system voluntary and to allow savings that have been built up in pension funds to be withdrawn

Eesti Pank emphasised repeatedly in its messages that although growth has started to fade gently in the economy, the Estonian economy will be functioning at above its sustainable level for several more years to come. Under these circumstances, the Estonian economy does not need support from fiscal policy. The structural deficit of the general government deepened in previous years, which indicates that fiscal policy has been loose. The government plans to reduce gradually the budget deficit that has built up, starting from the minimum requirement to improve the fiscal position that is contained in the fiscal rules. Eesti Pank recommends rather that the general government budget should be returned to structural balance as quickly as possible. As the improvement in the fiscal position could coincide with growth slowing in the economy, it is recommended that the cost structure should be kept as supportive of economic growth as is possible.

Eesti Pank did not support the government's plan to make participation in the funded pension system voluntary and to allow savings that have been built up in pension funds to be withdrawn. Withdrawing the pension savings that have been built up in the second pillar is likely to make the economic indicators for Estonia more volatile in the coming years. Increased volatility in the economy could then reduce the long-term sustainable rate of economic growth. Making the second pillar voluntary will mean increased expenses for the government in the long term as society ages.

The traditional meetings with the Riigikogu and members of the government continued to be held, as did those with large companies and professional associations. These meetings allow Eesti Pank not only to get its message across but also to hear information from others. At the Riigikogu, the bank works mainly with the Finance Committee. Eesti Pank presented its opinions on the planned pension reform of the government to the social commission as well.

The independent Fiscal Council set up in 2014 to assess Estonian fiscal policy gets technical support from Eesti Pank in the form of rooms, technical equipment, and some background information that the Fiscal Council itself interprets.

SCHOOL PUPILS WERE GIVEN THE CHANCE TO DEBATE MONEY AND ECONOMIC POLICY AS PART OF THE CENTENARY CELEBRATIONS. DEBATES WERE ORGANISED JOINTLY WITH THE ESTONIAN DEBATING SOCIETY IN TALLINN, PÄRNU AND TARTU, AND WERE ATTENDED BY MEMBERS OF THE EESTI PANK EXECUTIVE BOARD.

THE CONTROVERSIAL TOPIC OF WHETHER THE FUTURE WOULD BE CASH FREE WAS DEBATED IN THE MIINA HÄRMA GÜMNAASIUM IN TARTU.





WHETHER INFLATION IS BENEFICIAL FOR THE ECONOMY OR HARMFUL WAS DEBATED BY SCHOOL PUPILS OF THE TALLINN ENGLISH COLLEGE AND THE SÜTEVAKA GÜMNAASIUM IN PÄRNU.

INTERNATIONAL COOPERATION AND PUBLIC COMMUNICATIONS

INTERNATIONAL COOPERATION

Eesti Pank's work in carrying out its main duties is tightly interwoven with that of the European Central Bank, whether in analysing and forecasting economic developments, taking monetary policy decisions, or assessing financial stability. Eesti Pank represents Estonia at the International Monetary Fund, which monitors the economic policies of member states and offers financial assistance if needed. Eesti Pank staff also work together with the Council of the European Union and the European Commission and other international institutions. There are some 200 working groups, task forces and other bodies for cooperation in all these international forums (see Table 4).

Elections to the European Parliament, changes at the top of the European Commission and a new President of the European Central Bank made 2019 a year for new directions in the European Union. One novel topic that ran throughout was coping with climate change, which was also part of the strategic review of monetary policy started by the European Central Bank. The most important of the discussions in the European Union that continued into 2019 were those concerning financial stability, such as the creation of a common backstop for the Single Resolution Fund and a common deposit insurance scheme, strengthening the anti-money laundering framework and deepening the Capital Markets Union. Discussions also continued about regulation of fintech and about virtual currencies or crypto assets. The European Central Bank and Eesti Pank were both technically ready for the departure of the United Kingdom from the European Union by the end of 2018. The economic impacts of Brexit were monitored and preparations made for negotiations over the future relationship in 2019.

The work of the International Monetary Fund (IMF) focused last year on easing the consequences of the cooling of the global economy. The IMF recommends that its member states run fiscal policies that support growth and flexible monetary policies, and that they reduce risks in the financial sector. The IMF continues to emphasise multilateral cooperation, as the current deceleration in economic growth is largely the consequence of political factors in the form of trade tensions. The IMF also analysed climate change and found that the most effective way of reducing greenhouse gas emissions would be to tax fossil fuels.

It continued its review of the monitoring work of the organisation and its compensation system with the aim of making its operations more efficient. Unfortunately, not all the member states supported the reform of the quota system that is at the base of the funding of the IMF's work, and so the IMF is trying to supplement the quota-based funding with multilateral and bilateral loan agreements with member states.

Eesti Pank participates in the work of the IMF through the Nordic-Baltic Constituency. It helped prepare positions for the constituency on all these topics, and also on the activities of the euro area and on the fight against money laundering and terrorism. Eesti Pank hosted meetings in Tallinn for the members of the Nordic-Baltic Monetary and Financial Committee and their alternates.

The most important of the ongoing discussions in the European Union for Eesti Pank in 2019 were those concerning financial stability, such as the standing protective measures of the Single Resolution Mechanism and the creation of common deposit insurance scheme, and deepening of the Capital Markets Union

TABLE 4. EESTI PANK'S PARTICIPATION IN THE WORK OF INTERNATIONAL ORGANISATIONS AND INSTITUTIONS*

European System of Central Banks	
Governing Council of the European Central Bank	Ardo Hansson, Madis Müller
General Council of the European Central Bank	Ardo Hansson, Madis Müller
Supervisory Board of the European Central Bank	Madis Müller, Maive Rute
Public Relations Committee	Viljar Rääsk, Eva Vahur
Budget Committee	Kairi Rätsepp, Helga Käärik
Financial Stability Committee	Jaak Tõrs
Information Technology Committee	Ahti Roosa, Jarmo Inkinen
Committee on Controlling	Helga Käärik, Kairi Rätsepp
Market Infrastructure and Payments Committee	Mihkel Nõmmela, Kaire Torsus
Organisational Development Committee	Kairi Rätsepp, Helga Käärik
Banknote Committee	Rait Roosve, Margot Luukas
Human Resources Conference	Kadi Kapral, Riina Padar-Leppiman
Accounting and Monetary Income Committee	Liivi Teder, Kairi Rätsepp
Monetary policy committee	Martti Randveer, Peeter Luikmel
International Relations Committee	Raoul Lättemäe, Anu Randveer
Risk Management Committee	Kaari Kumari, Gerlyn Peetson
Internal Auditors Committee	Henn Oit, Janno Kase
Committee on Statistics	Jaanus Kroon, Ain Paas
Market Operations Committee	Fabio Filipozzi, Kristel Leo
Legal Committee	Kadi Kapral, Marek Feldman
Council of the European Union	
Informal Council of Economics and Finance Ministers	Ardo Hansson, Madis Müller
Economic and Financial Committee (EFC)	Madis Müller, Raoul Lättemäe, Maive Rute
European Commission	
European Commission and the European Central Bank statistics forum	Jaanus Kroon
Committee on Monetary, Financial and Balance of Payments Statistics	Jaanus Kroon
Organisation for Economic Cooperation and Development	
Economic Policy Committee	Martti Randveer, Ilmar Lepik
Committee on Financial Markets	Taavi Raudsaar
International Monetary Fund (IMF)	
Board of Governors	Ardo Hansson, Madis Müller
Nordic-Baltic Monetary and Financial Committee (NBMFC)	Madis Müller, Raoul Lättemäe
The European Systemic Risk Board (ESRB)	
General Board	Ardo Hansson, Madis Müller
Advisory Technical Committee	Jana Kask
European Banking Authority (EBA)	
Committee of European Banking Supervisors	Jaak Tõrs, Indrek Saapar
Bank for International Settlements	
Board of Governors	Ardo Hansson, Madis Müller
Central bank management working group	Ardo Hansson
Irving Fisher Committee on Central Bank Statistics	Jaanus Kroon
Committee for heads of security at central banks	Rait Roosve
* Only those committees and forums that had meetings and discussions in 2019 are listed in the table.	

Eesti Pank helped organise the monitoring visits of the IMF to Estonia. The IMF concluded in its full-scale consultation in October that the Estonian economy was doing well, though it recommended that growth running at above its long-term sustainable level meant that fiscal stimulation should be reduced. Estonia can use its fiscal space in the medium term though to support investments that increase productivity and structural reforms. Attention needs to remain focused on strengthening the fight against money laundering and terrorist financing.

Alongside the work at the European Union and the IMF there were many meetings with other central banks, the European Commission, credit rating agencies, and foreign embassies, where Eesti Pank gave presentations on the development of and outlook for the Estonian economy, and innovations in financial technology. Eesti Pank staff shared their experience and knowledge with staff of the Belarusian central bank and at an international conference as part of the European Union's technical assistance project.

Eesti Pank shared its experience

Experts from Eesti Pank are keen to share their knowledge and experience with colleagues from other central banks. One way to do this is by providing technical help in joint projects. Opportunities to work together arise through participation in the technical assistance task force of the international cooperation committee of the European Central Bank and through bilateral relations with other central banks and organisations.

In 2019 Eesti Pank participated in a twinning project of the European Commission that aimed to strengthen the institutional framework of the Belarusian central bank. The programme was funded by the European Union and lasted 18 months, ending in July 2019. The project was led by the central banks of Germany, Poland and Lithuania and central banks of France, Austria, Romania, Slovenia and Finland participated alongside Eesti Pank. Eesti Pank contributed to the project by helping the Belarusian central bank develop a new communication strategy and make the organisation of work in its communication department more efficient.

Staff from the Eesti Pank Statistics Department showed their Belarusian colleagues how work is organised in their department, and how cross-border statistics are collected using mobile big data. Eesti Pank also participated together with the OECD and other statistical organisations in a training seminar organised by the Indonesian central bank, where it discussed the Estonian experience of statistical measurement of digital commerce and e-commerce, and the compilation of cross-border statistics using big data.

Estonia's technological experience in the payments market and fintech was shared internationally in the *Global Dialogue on Regulatory Approaches for Inclusive FinTech* organised by the Alliance for Financial Inclusion.

Even more attention was focused in 2019 on clarity and ease of understanding in the messages from Eesti Pank so that they can also be understood by people who are not trained economists

The centenary year was a good opportunity to present the bank and its operations to the Estonian public more broadly

PUBLIC RELATIONS

The public relations work of Eesti Pank supports the central bank in achieving its goals. The better it can explain its work and those goals to society the more successfully it can achieve its aims.

The public most commonly come across messages, analysis and opinions from Eesti Pank through the media, and so a large part of the bank's public relations work involves communicating with journalists, writing articles, giving interviews and responding to enquiries. Fresh and relevant information is always made available to the public through the Eesti Pank website and through Twitter and YouTube.

The Eesti Pank Museum is open to all visitors for free and visitors are welcome to attend public lectures and other public events that the bank organises. Spokespeople from the bank make presentations in meetings and conferences, and articles and commentaries are written on topical issues.

The main priority in messages in 2019 was even more clarity and ease of understanding, as those messages also need to be understood by people who are not trained economists. More infographics, examples and comparisons were used than in previous years, and attention was focused on the principles of communicating in clear language.

In the second half of the year the government's plan to make the second pillar of the pension system voluntary came under close public attention. At the end of August the government published the general skeleton for the changes, and Eesti Pank did an economic impact analysis of this, which it presented to the government and the public in October with its own proposals.

Eesti Pank analysed the immediate impact that changes to the pension system could have on inflation and the Estonian economy, and the long-term impact it could have on the sustainability of the state finances. The broader goal of the central bank was to encourage the thorough and multi-sided discussion in society that should precede such very important economic policy decisions. To promote this discussion the central bank organised a seminar on pensions jointly with the IMF at the end of September 2019. Experts on pensions discussed the experience of Poland, Hungary and Sweden at the seminar, and compared how the pension system has developed in different countries. Estonian officials and designers of the pension system were also invited to speak.

CELEBRATING THE CENTENARY OF EESTI PANK

On 3 May 2019, Eesti Pank celebrated 100 years since it was founded. The centenary year was a good opportunity to present the bank and its operations to the Estonian public more broadly.

As the fates of the Republic of Estonia and Eesti Pank have been tightly connected, the events to celebrate the anniversary started in 2018. In 2018 Eesti Pank helped the European Central Bank organise an exhibition of contemporary Estonian art, and in the centenary year it joined with the Estonian Art Museum to organise an exhibition in Estonia

on the art of money that ran for several months in the Mikkel Museum. The exhibition showed the designs of money that circulated in Estonia during the past hundred years. The exhibition was accompanied by a book *The Art of Money and Estonia 1918-2018*. The museum also ran an educational programme on money, tours by the curators of the exhibition, and discussion evenings focused on money.

During the year the Eesti Pank Museum displayed some of the private collections of money collectors. Six temporary exhibitions were organised for the series, featuring the design of the first Estonian money, paper scrip, money as jewellery, error currency, and coins with particular themes.

The travelling exhibition made for the Eesti Pank centenary travelled around Estonia from May 2019 and presented the buildings of Eesti Pank and the role and history of the central bank. The exhibition was set up in the Mustamäe keskus, Stroomi keskus, Solaris keskus, Ülemiste keskus and Viimsi keskus in Tallinn, and in the Port Artur 2 shopping centre in Pärnu. At the end of the year the exhibition was in the Tasku kaubanduskeskus shopping centre in Tartu. The travelling exhibition will visit further places in Estonia in 2020.

A cycle of lectures was held in the Independence Hall of Eesti Pank in 2018 and 2019 to celebrate the centenary year, and it hosted internationally renowned figures from finance and economics. There were four lectures in the series, which were aimed at people from the public and private sectors, with a focus on topics like central-bank communication, transparency and independence, and on the European Union and the future of the euro currency.

There was a lot of public interest in the tours of Eesti Pank organised in the autumn, which presented the architecture of the buildings of the central bank, its history, and its art collection. The tours were guided by Märt Karmo, an expert on the history of Eesti Pank; Professor Mart Kalm, the rector of the Estonian Academy of Arts; Mait Väljas, the head of the library of the Estonian Academy of Arts; and Eero Epner, an art expert and dramatist. There was a lot of interest in the tours and it is probable that they will be run again in future.

Two family days with different programmes were also run to celebrate the centenary. It is traditional for the Eesti Pank Museum to celebrate Estonian Independence Day on 24 February, and it did so in 2019 by opening an exhibition on rare currency that has circulated in Estonia. Families were invited to mark the start of the school year on 28 September with a special programme on awareness of money, which was put together with help from Finantsinspektsioon and the Ministry of Finance.

Debates were organised in partnership with the Estonian Debating Society and held in various schools around Estonia to help explain the role of Eesti Pank and the functioning of the economy in greater depth. The debates were introduced and commented on by members of the Eesti Pank Executive Board, and were held in the Tallinn English College, the Sütevaka Gümnaasium in Pärnu and the Miina Härma Gümnaasium in Tartu. The school students debated whether inflation was beneficial or harmful for the economy, and whether the future would be cashless.

The various events held to celebrate the centenary of Eesti Pank went off very successfully; they helped increase public understanding of Eesti Pank and its work, thus bringing the central bank closer to society

Several collector and commemorative coins were issued to mark the centenaries of the Republic of Estonia and of the central bank. Coins were presented in 2019 in the main building of Eesti Pank in Tallinn, and also in Pärnu, Viljandi and Tartu.

An event was held on 3-5 April in connection with Automation, Artificial Intelligence and the Economy, a special edition of the economic journal *Economic Policy*, as a symbolic gift from Eesti Pank to economists. The event in Tallinn featured a panel discussion and a public debate and was attended by well-known economists from Europe and elsewhere.

The culmination of the centenary year celebrations was an event to thank Eesti Pank's long-term partners held on 3 May. The day started with the morning show of Estonian national television being broadcast live directly from Eesti Pank. The whole programme was focused on Eesti Pank and covered topical items and the various areas of activity of the bank. Some 80,000 people watched the special edition of the programme. In the second half of the day a reception was held in the Independence Hall of Eesti Pank for a large number of partners from the public and private sectors. President of the Republic Kersti Kaljulaid and speaker of the Riigikogu Henn Pölluas came to congratulate the bank on its anniversary, as did many former leaders of Eesti Pank. The main event of the reception was the presentation of a book on the history of Eesti Pank written by Villu Zirnask. This was the first full review of the creation and development of Eesti Pank. The stamp released by Eesti Post for the centenary of Eesti Pank was also presented, and visitors could see an exhibition on the history of the central bank.

The various events held to celebrate the centenary of Eesti Pank went off very successfully. They helped increase public understanding of Eesti Pank and its work, thus bringing the central bank closer to society.

ORGANISATION

EMPLOYEES

Eesti Pank is the smallest central bank in the euro area by number of employees. It is important for us as a public sector employer that our staff be skilled and dedicated.

On average there were 229 employees in 2019. The total staff turnover was 10%, which is higher than in previous years (see Figure 15). The main reason for the increase in turnover was the structural changes that were started in 2019 and applied in full from 1 January 2020.

There were 16 employees with suspended contracts, 10 of them on maternity leave. Inter-institutional rotation saw one employee working at the Government Office of Estonia in 2019, one at the International Monetary Fund, and two at the European Central Bank. The contract of one employee was suspended for higher education studies. There were 15 employees working part-time. Eight interns worked at Eesti Pank during 2019.

The average age of Eesti Pank employees was 47 and at the end of 2019 the youngest employee was 23 years old and the oldest was 71.

The average length of employment in Eesti Pank is 13 years. Women account for 57% of the Eesti Pank staff, and 43% are men, and 79% of staff have a Master's degree or equivalent and 8% a doctorate.

Competitive recruitment was held for 22 positions in 2019, and in three cases the competitions were internal.

REMUNERATION

The salaries of the Governor of Eesti Pank and the Deputy Governors are set by the Supervisory Board. The salary of the Governor is 10,200 euros a month, and those of the Deputy Governors are 8400 euros a month.

The remuneration policy of the bank aims to support the recruitment and retention of enthusiastic staff with the necessary qualifications, and to pay employees in the organisation fairly and competitively in the labour market. The salaries of the central bank staff are competitive with those paid in the financial sector in Tallinn and Harjumaa.

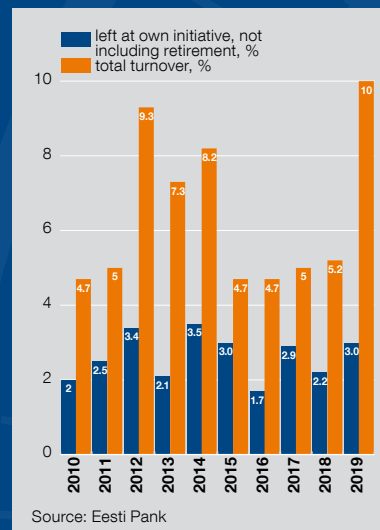
The staff costs of Eesti Pank were 7.6% higher in 2019 than they were in 2018. Staff costs include the payments and bonuses to the outgoing Governor on leaving office.

Cyber security in the organisation as a strategic goal

The Eesti Pank strategy for 2020-2024 was approved in 2019, and one of its development goals was to ensure the security of its information systems in providing services even during a cyber attack. To achieve this, Eesti Pank has passed a plan for cyber incidents that would make the organisation more ready to manage the increasing dangers that come from cyberspace.

Staff turnover in Eesti Pank was higher than usual because of structural changes

FIGURE 15. STAFF TURNOVER IN THE PAST DECADE



The Information Technology Department of Eesti Pank planned separate resources for monitoring cyberspace and the dangers to the information systems. Additional investment was made to add measures to protect the external perimeter of data communications and to remove malware coming from the use of the internet and email. An analysis tool based on logs was also installed.

The additional layers of security allow vulnerabilities to be identified in the information systems, secure points to be installed in systems, and information assets to be managed. A cyber exercise was run that gave confidence that the strategic direction chosen is the right one, and it supports cyber security at the central bank.

To protect the organisation, it is important for staff to have some knowledge of cyber threats. During the year the Information Technology Department organised some practical training for users of information systems. Eesti Pank plans to release a training and assessment environment next year to raise staff awareness of cyber hygiene.

Changes to the Executive Board

The Executive Board of Eesti Pank has three members, with a Governor and two Deputy Governors. The Governor of Eesti Pank serves a term of seven years and may not be appointed to office for more than one consecutive term. The term of office of the Deputy Governors is five years. The term of office of Governor Ardo Hansson ended on 6 June 2019, and on 7 June 2019 the Deputy Governor Madis Müller took over as Governor of Eesti Pank.

As Deputy Governor Madis Müller became Governor of Eesti Pank, one position of Deputy Governor was left unfilled, and so a public competition was announced to fill it. The competition was organised with the help of the business management consultants Tripod.

The result of the open competition was that the Supervisory Board of Eesti Pank confirmed Maive Rute as the new Deputy Governor of Eesti Pank and member of the Executive Board on 29 July 2019. She started work on 1 October 2019. At the same time the areas of responsibility of the Executive Board were reorganised.

Governor Madis Müller manages Eesti Pank and is a member of the Governing Council of the European Central Bank, which sets monetary policy for the euro area. He is also responsible for the Internal Audit Department, the General Secretariat and Administration, and is on the supervisory boards of Finantsinspeksioon and the Guarantee Fund.

Deputy Governor Ülo Kaasik is responsible for monetary policy analysis, forecasting and economic research. He is also responsible for the financial accounting and reporting of Eesti Pank, for the design of the information technology environment, and until Maive Rute joined the board he had responsibility for statistics. Ülo Kaasik is a member of the Estonian Fiscal Council and of the Latvian fiscal council.

Deputy Governor Maive Rute has overall responsibility for financial stability, the circulation of currency, and the trustworthiness and uninterrupted operation of payment systems, and for statistics. Maive Rute is a member of the Supervisory Board of the European Central Bank directing banking supervision. She is also a member of the Statistical Council and of the supervisory board of Finantsinspektsioon, and of the government commission on preventing money laundering and terrorist financing.

What is the work of the internal auditors of Eesti Pank?

The internal auditors of Eesti Pank audit various areas of the work of the bank following their working plan, and they draw up audit reports and give recommendations where necessary for changes that could be made. Where needed, external experts are brought in for the audit. The work plan for the audit comes in two parts, with the Eesti Pank internal audit plan that the Supervisory Board of the bank approves, and the European System of Central Bank's audit plan, which is approved by the Governing Council of the European Central Bank. On average the Internal Audit Department carries out 12 audits a year.

The Internal Audit Department is unusual because it comes directly under both the Supervisory Board and the Executive Board. For this reason the department reports on its activities to the Supervisory Board twice a year and to the Executive Board four times a year. Both boards can assign additional work to the internal audit on top of the planned audits.

The internal auditors also put their skills to the test by spending some time working in the internal audit teams of other European central banks.

TRAINING AND DEVELOPMENT WORK

In 2019, 95% of the bank's staff, totalling 217 employees, attended training courses. The average per employee was 5.4 days of training and 1.8% of human resources spending was invested in staff development.

Eesti Pank's partners in external training were the European Central Bank and the central banks of various other countries, together with the Joint Vienna Institute and the US Federal Reserve. Training organisations in Estonia provide the majority of the training, with both specialised and open training courses, and the seminars of Eesti Pank also play an important role in staff development.

Twice a year the bank runs an induction programme for new employees to introduce new staff to each other, develop a sense of team spirit and explain the various activities of Eesti Pank.

In 2019, 95% of the bank's staff, totalling 217 employees, attended training courses

Eesti Pank and Finantsinspektsioon together held a health month event for the fourth year in a row, doing so in both May and October. Staff could attend various lectures, participate in a step counting competition, try orienteering in the city, an excursion by bicycle and much more. Colleagues from various departments were involved in preparing and running the programme for the health month.

The chamber choir and national dance group of Eesti Pank were again active, and thematic evenings around travel, music and film were also organised.

Employees and their families were invited to the traditional summer days and winter days, and efforts to promote a healthy lifestyle were popular such as counting the steps taken during a month or the minutes of sporting activity during a couple of months. A bowling event was held for employees twice in the year, and various sports competitions were available for sportier members of staff, while competitions were held with other European central banks.

EESTI PANK'S OFFICIAL ANNIVERSARY ON 3 MAY SAW A RECEPTION IN THE INDEPENDENCE HALL FOR THE BANK'S PARTNERS FROM THE PUBLIC AND PRIVATE SECTORS. A BOOK ON THE HISTORY OF EESTI PANK BY VILLU ZIRNASK WAS PRESENTED AT THE EVENT TOGETHER WITH AN ANNIVERSARY POSTAGE STAMP ISSUED BY EESTI POST.

PRESIDENT OF THE
REPUBLIC OF ESTONIA
KERSTI KALJULAIID
RECEIVED THE FIRST BOOK
ON THE HISTORY OF THE
CENTRAL BANK SIGNED BY
THE AUTHOR.



AMONG THE AUDIENCE
WERE THE BANKER
AND FINANCIER BO
KRAGH, CHAIRMAN OF
THE BOARD OF EESTI
POST ANSI ARUMEEL,
AND FORMER EESTI
PANK GOVERNORS
VAHUR KRAFT AND SIIM
KALLAS.



A CELEBRATORY
ATMOSPHERE WAS
CREATED BY THE EESTI
PANK CHAMBER CHOIR
UNDER THEIR CONDUCTOR
PEETER PERENS.



THE MAIN NATIONAL
BREAKFAST TELEVISION
SHOW WAS BROADCAST
LIVE FROM EESTI PANK ON
ITS 100TH ANNIVERSARY
ON 3 MAY.

ANNUAL ACCOUNTS OF EESTI PANK FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2019

THE FINANCIAL POSITION OF EESTI PANK

CAPITAL AND RESERVES

Eesti Pank had EUR 474.1 million of capital as at 31 December 2019. More detailed information on the capital of Eesti Pank is given under Item 29 “Capital and Reserves” in the notes on the Balance Sheet.

PROVISION FOR FINANCIAL RISKS

Following from risk assessments, Eesti Pank increased its provision for financial risks. The size of the provision and the continuing need for it is reassessed each year, with various factors considered. The risk assessment is based on a calculation of the value at risk of risk bearing assets, which takes into account the size of the risk-bearing assets, the extent of risks that are realised during the year, and the forecast for the year to come. As at 31 December 2018 the provision made to cover financial risks was EUR 71.8 million. The bank made an additional provision of EUR 9.8 million in 2019, and as a result the total risk provision increased to EUR 71.8 million. See also Item 27 “Provisions” in the notes on the Balance Sheet.

PROVISION FOR THE OBLIGATION TO EXCHANGE ESTONIAN KROONS FOR EUROS

Nine years have passed since the euro was introduced and there are still some EUR 44.6 million of Estonian kroons that have not been returned from circulation. It is highly probable that not all the kroons that were issued will be exchanged for euros in the future, as some will have been destroyed and some retained as souvenirs. For this reason a special purpose provision of EUR 29.6 million euros was set up in 2016. Future exchanges of kroons for euros will be funded from the provision. The provision was reduced in 2019 by EUR 387.8 thousand (EUR 392.7 thousand in 2018) as kroons were returned, and consequently the provision for the obligation to exchange kroons was reduced to 28.3 million euros.

REVALUATION ACCOUNTS

Unrealised profit from gold, foreign currency and securities is not recorded as income in the Profit and Loss Account and is transferred to the revaluation accounts on the liability side of the Eesti Pank Balance Sheet. Assets on these accounts are used to reduce any future impact on the financial results of the bank from unfavourable developments in prices or exchange rates. Such financial buffers can help strengthen the resilience of the bank to underlying risks. The total value of the revaluation accounts for gold, currency and securities was EUR 34.8 million euros at the end of December 2019 and EUR 11.6 million at the end of 2018. For more details, see the notes on accounting principles, and Item 28 “Revaluation Accounts” in the notes to the Balance Sheet.

FINANCIAL RESULTS FOR 2019

Eesti Pank’s net profit in 2019 was EUR 28.4 million, and it was EUR 10.7 million in 2018.

Net interest income rose to EUR 29.4 million in 2019 from EUR 28.3 million in 2018. The majority of the interest income came from derivative transactions, securities and the excess reserves of Estonian credit institutions. The return on the investment portfolio was high in 2019, with the largest contribution coming from the rise of around 30% in the equity portfolio from its low price level at the start of the year. The bond portfolio also made a major contribution, as the income curve shifted downward quite substantially because of the changing direction in the monetary policy of the larger central banks during the year. More foreign currency bonds were purchased

in 2019, increasing the size of the portfolio substantially. The net income of Eesti Pank was increased by income from equity shares and participating interest of EUR 8.3 million euros, which includes EUR 4.0 million of profit distributed by the European Central Bank. For more details, see Item 33 “Income from equity shares and participating interests” in the notes on the Profit and Loss Account.

The total operating expenses of Eesti Pank, including depreciation, increased from EUR 19.7 million in 2018 to EUR 20.3 million in 2019. The largest expenses were on staff costs and information and communications technology.

RISKS

Eesti Pank has a risk management system that covers all the processes of the bank and allows various risks to be handled in a single framework. Risk management aims to reduce the adverse effects that unforeseen events can have on achievement of the bank’s objectives. To this end, risk management is integrated with the investment, planning, budgeting and management reporting processes.

Reporting and analysis of risks show that risks arising from the external environment have increased. Eesti Pank contributes to risk management for the whole of the euro area through the committees and management bodies of the European System of Central Banks. Contingency plans have been drawn up for services the bank considers critical to reducing the impact of any possible interruption and to ensuring the continuity of services. The external auditors regularly assess the risk management of the bank.

The financial risks at Eesti Pank are assessed using both Value at Risk (VaR) and Expected Shortfall measures. The need to use multiple measures was caused by the large increase in the Balance Sheet and the risks stemming from changes.

Eesti Pank’s reserves are exposed to various risks such as market, credit and liquidity risks. Risks are managed constantly, with various risk limits set on investments and precautionary measures employed like the four-eyes principle, and separation between decision-making and control functions.

Investment risk not related to monetary policy is measured where possible by the risk variable VaR (Value at Risk). The benchmark portfolio is approved by the Executive Board of Eesti Pank and sets the overall risk tolerance of Eesti Pank’s investments. The benchmark portfolio currently contains bond units, mortgage-backed securities, fund units with a government guarantee, and equity fund units. The Executive Board also decides the acceptable level of foreign exchange risk for the management portfolio. The foreign exchange risk of the bond portfolio is hedged with forward transactions for foreign currency. Risks that are not measured by VaR are limited by the amount or by other parameters. Counterparty risk is managed through various contracts. The list of financial instruments that are permitted for managing investment assets is approved by the Governor of Eesti Pank. The risk management division observes that the risks remain within their permitted limits.

In addition to the risks from reserve management, the assets of Eesti Pank are subject to risks from monetary policy transactions. Risks related to monetary policy transactions are managed jointly in the Eurosystem Risk Management Committee, which comprises representatives of the central banks of the euro area, including Eesti Pank. A risk framework has been established that sets out conditions of transaction counterparties, assets that qualify as collateral for monetary policy operations, financial instruments to be purchased within the purchase programmes, and similar. No major changes were made last year in the monetary policy collateral risk framework. Under Article 32.4 of the Statute of the ESCB, the Eurosystem central banks share any losses realised from securities bought in monetary policy operations or held under the Securities Market Programme and the expanded asset purchase programme other than government bonds, in full in proportion to the prevailing ECB capital key shares¹⁸.

APPROVAL OF THE ANNUAL ACCOUNTS FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2019 BY THE EXECUTIVE BOARD OF EESTI PANK

The Executive Board recognises its responsibility for the Annual Accounts of Eesti Pank for the financial year ended 31 December 2019.

The Annual Accounts have been drawn up in accordance with the rules established in Article 26.4 of the Statute of the European System of Central Banks and of the European Central Bank. The parts of the Annual Accounts that are not regulated by ECB guidelines have been drawn up in accordance with the financial reporting standards generally accepted in Estonia. The Annual Accounts give a true and fair view of the assets and liabilities, equity and financial performance of Eesti Pank.

The preparation of the Annual Accounts in conformity with the above requirements requires the Executive Board to provide estimates of the determinants affecting the assets and liabilities of Eesti Pank as at the accounting date and income and expenses during the accounting period. These estimates are based on the information available about Eesti Pank, its intentions and risks as at the date of preparation of the Annual Accounts. The final outcome of the economic transactions reflected in the Annual Accounts may differ from the estimates of the Executive Board.

On 16 March 2020, all the members of the Executive Board of Eesti Pank on that day signed the Annual Accounts digitally.

Madis Müller Governor of Eesti Pank, Chairman of the Executive Board

Ülo Kaasik Deputy Governor of Eesti Pank, Member of the Executive Board

Maive Rute Deputy Governor of Eesti Pank, Member of the Executive Board

BALANCE SHEET AS AT 31 DECEMBER 2019 AND 2018

		<i>thousand euros</i>	
	Item	31.12.2019	31.12.2018*
ASSETS			
Gold and gold receivables	1	11 172	9 248
Claims on non-euro area residents denominated in foreign currency		1 228 839	646 439
Receivables from the IMF	2	82 899	81 639
Balances with banks, security investments and other external assets	3	1 145 940	564 800
Claims on euro area residents denominated in foreign currency	4	35 614	55 265
Claims on non-euro area residents denominated in euro	5	33 330	34 314
Lending to euro area credit institutions related to monetary policy operations denominated in euro	6	23 000	50 000
Other claims on euro area credit institutions denominated in euro	7	7 590	8 545
Securities of euro area residents denominated in euro		5 661 519	5 691 135
Securities held for monetary policy purposes	8	5 620 962	5 649 200
Other securities	9	40 557	41 935
Intra-Eurosystem claims		2 242 673	2 390 432
Participating interest in the European Central Bank	10	92 147	88 853
Claims equivalent to the transfer of foreign reserves	11	114 048	111 730
Net claims related to the allocation of euro banknotes within the Eurosystem	12	1 408 675	1 414 982
Other claims within the Eurosystem (net)	13	627 803	774 867
Other assets		92 647	80 535
Tangible and intangible fixed assets	14	15 711	16 370
Other financial assets	15	234	234
Off-balance-sheet instruments revaluation differences	16	397	459
Accruals and prepaid expenses	17	59 944	46 885
Sundry	18	16 361	16 587
TOTAL ASSETS		9 336 384	8 965 913

* Data for 2018 have been corrected (see "Correction to the comparative data in the Annual Accounts in the Annual Report for 2019" in the appendix on accounting principles).

The notes on pages 78–104 form an integral part of the Annual Accounts.

		<i>thousand euros</i>	
	Item	31.12.2019	31.12.2018*
LIABILITIES			
Banknotes in circulation	19	3 361 129	3 102 458
Liabilities to euro area credit institutions related to monetary policy operations denominated in euro		4 901 979	4 855 524
Current accounts (including cover for the minimum reserve system)	20	4 901 979	4 855 524
Liabilities to other euro area residents denominated in euro	21	244 767	217 448
General Government		228 992	204 453
Other liabilities		15 775	12 995
Liabilities to non-euro area residents denominated in euro	22	14 520	48 292
Liabilities to non-euro area residents denominated in foreign currency	23	9 310	8 907
Counterpart of the special drawing rights allocated by the IMF	24	76 459	75 313
Other liabilities		80 734	70 998
Off-balance-sheet instruments revaluation differences	16	130	10 144
Accruals and income collected in advance	25	19 641	5 525
Sundry	26	60 963	55 329
Provisions	27	110 188	100 972
Revaluation accounts	28	34 815	11 570
Capital and reserves	29	474 128	463 691
Capital		259 814	249 377
Reserves		214 314	214 314
Profit for the year		28 355	10 740
TOTAL LIABILITIES		9 336 384	8 965 913

* Data for 2018 have been corrected (see "Correction to the comparative data in the Annual Accounts in the Annual Report for 2019" in the appendix on accounting principles).

The notes on pages 78–104 form an integral part of the Annual Accounts.

2019 PROFIT AND LOSS ACCOUNT FOR 2019 AND 2018

		<i>thousand euros</i>	
	Item	2019	2018*
Interest income		115 389	64 930
Interest expenses		-85 964	-36 677
Net interest income	30	29 425	28 253
Realised gain arising from financial operations		19 928	26 770
Write-downs on financial assets		-2 757	-14 827
Provision for financial risks		-9 800	-26 800
Net result of financial operations, write-downs and risk provisions	31	7 371	-14 857
Fees and commissions income		327	225
Fees and commissions expenses		-42	-142
Net income from fees and commissions	32	285	83
Income from equity shares and participating interests	33	8 295	6 861
Net result of pooling of monetary income	34	1 772	7 389
Other income	35	1 470	2 744
	Total net income	48 618	30 473
Staff costs	36	-10 433	-9 651
Administrative expenses	37	-6 231	-6 148
Depreciation of tangible and intangible fixed assets	14	-1 911	-1 880
Banknote production services	38	-704	-1 031
Other operating expenses	39	-984	-1 023
	Operating expenses	-20 263	-19 733
	Profit for the year	28 355	10 740

* Data for 2018 have been corrected (see "Correction to the comparative data in the Annual Accounts in the Annual Report for 2019" in the appendix on accounting principles).

The notes on pages 78–104 form an integral part of the Annual Accounts.

NOTES ON THE ANNUAL ACCOUNTS OF EESTI PANK

ACCOUNTING POLICIES USED IN THE ANNUAL ACCOUNTS

General principles

The Annual Accounts of Eesti Pank have been drawn up in accordance with the rules established in Article 26.4 of the Statute of the European System of Central Banks and of the European Central Bank¹⁹. The parts of the Annual Accounts that are not regulated by ECB guidelines have been drawn up in accordance with the financial reporting standards generally accepted in Estonia.

The preparation of the Annual Accounts requires the Executive Board to provide estimates of the determinants affecting the assets and liabilities of Eesti Pank and income and expenses during the accounting period as at the balance sheet date. These estimates are based on the information available about Eesti Pank and its intentions and risks as at the date of preparation of the Annual Accounts.

No Cash Flow Statement is presented as it does not provide significant relevant information to the readers of the Annual Accounts of Eesti Pank, given the bank's role as the central bank.

The Annual Accounts have been prepared in thousands of euros unless indicated otherwise.

The Balance Sheet items are grouped by residency (euro area, non-euro area) and currency (euro, other currency). The assets and liabilities related to monetary policy are recorded on separate rows.

The Annual Accounts have been prepared on the historical cost basis, except in cases explained in the following accounting principles.

Changes to the accounting principles

Several changes were made to the accounting principles in 2019 to make financial reporting more efficient²⁰. The most important of these changes are listed below.

- Marketable investment funds are to be valued at market prices on a net basis, excluding any underlying assets, provided that they meet the following criteria:
 - a. the purchase is for investment purposes only and does not affect day-to-day sales and purchase decisions;
 - b. the investment strategy and mandate of the fund are defined in advance and all conditions are set out in the contract;
 - c. the result of the investment is assessed as one investment in line with the investment strategy of the fund;
 - d. the fund is an independent unit whatever its legal form, and it is managed independently, including in its day-to-day investment decisions.
- Reverse transactions denominated in euro with euro area residents other than credit institutions are recorded under the item "other financial assets" on the assets side and in the item "liabilities to other euro area residents denominated in euro" on the liabilities side.
- The scope of the general risk provision was broadened to cover all financial risks on the bank's balance sheet, as it was earlier limited to currency, interest rate, credit and gold price risks. In this context, all financial risks is defined as meaning market, liquidity and credit risks.

These changes did not result in any recalculation of the comparison data for 2018.

¹⁹ Decision of the ECB of 3 November 2016 on the legal framework for accounting and financial reporting in the European System of Central Banks (recast)(ECB/2016/34), OJ L 347, 20.12.2016, p3.

²⁰ Decision of the ECB of 28 November 2019 (ECB/2019/34) amending Decision (EU) 2016/2249 on the legal framework for accounting and financial reporting in the European System of Central Banks, OJ L 332, 23.12.2019, p184.

Correction to the comparative data in the Annual Accounts in the Annual Report for 2019

A technical accounting error meant that the profit of Eesti Pank for 2018 was overstated in error by EUR 3.2 million. When allocating the reserves of the central bank, Eesti Pank manages the exchange rate risk through currency swaps. The error occurred when the counterparty of a currency swap changed its location from the United Kingdom to Germany in anticipation of Brexit at a time when the first half of the transaction had already been completed. The change of location of the counterparty meant that the financial transaction software did not close the currency swap at the right time and the error was then transferred into the accounting entries.

The financial department discovered the error at the end of April 2019. As the profit for 2018 was misreported as EUR 3.2 million higher, the result of the correction was that the profit for 2018 was EUR 3.2 million lower, and the undistributed profit of the central bank was reduced by the same amount. Eesti Pank has since introduced additional control measures to prevent similar errors in the future, and has also conducted an additional internal audit of the accounts.

To make the data comparable with those of 2019, the Balance Sheet and Income Statement in the annual accounts for 2018 have been amended as follows:

<i>thousand euros</i>				
	Item	As at 31.12.2018	Correction	As corrected at 31.12.2018
Other assets		83 711	-3 176	80 535
Sundry	18	19 763	-3 176	16 587
TOTAL ASSETS		8 969 089	-3 176	8 965 913

<i>thousand euros</i>				
	Item	As at 31.12.2018	Correction	As corrected at 31.12.2018
Other liabilities		73 890	-2 892	70 998
Off-balance-sheet instruments revaluation differences	16	13 036	-2 892	10 144
Revaluation accounts	28	8 678	2 892	11 570
Profit for the year		13 916	-3 176	10 740
TOTAL LIABILITIES		8 969 089	-3 176	8 965 913

<i>thousand euros</i>				
	Item	Before correction 2018	Correction	As corrected 2018
Realised gain arising from financial operations		29 946	-3 176	26 770
Net result of financial operations, write-downs and risk provisions	31	-11 681	-3 176	-14 857
Total net income		33 649	-3 176	30 473
Profit for the year		13 916	-3 176	10 740

Assets and liabilities

Assets and liabilities are recognised in the Balance Sheet when it is probable that any associated future economic benefit will flow to or from Eesti Pank; almost all of the risks and rewards related to assets and liabilities have been transferred; and the cost or value of an asset or a liability and the resulting gains or losses can be measured reliably.

Financial assets and liabilities

A financial asset is any asset that is cash, or a contractual right to receive cash or any other financial assets from another entity, or a contractual right to exchange financial assets with another entity under conditions that are potentially favourable. A financial liability is any liability that is a legal obligation to deliver cash or any other financial assets to another entity or to exchange financial assets with another entity under conditions that are potentially unfavourable.

Financial assets are initially recorded at their acquisition cost, which is the fair value of the amount paid for the financial asset in question. Financial liabilities are initially recorded at their acquisition cost, which is the fair value of the amount received for the financial liability in question. Subsequent measurement of financial assets and liabilities is based on the market value, the acquisition cost or amortised cost depending on the type of the asset or liability. Market value is the amount for which an asset could be exchanged, or a liability settled between knowledgeable, disinterested and willing parties in an arm's length transaction. Financial assets recorded at market value are revalued on every balance sheet date.

Financial assets recorded at adjusted acquisition cost are written down if the recoverable amount of an asset is likely to be smaller than its carrying amount. The impairment of significant financial assets is measured for each object separately. The impairment of financial assets that are not individually significant and for which it is not known directly whether impairment has happened is measured for all assets together. Write-downs of financial assets are recorded as an expense of the accounting period in the Profit and Loss Account.

Recording of transactions in foreign currency

With the exception of spot transactions in securities, transactions in financial instruments denominated in foreign currency are recorded in off-balance-sheet accounts on the trade date. On the settlement date, off-balance-sheet entries are reversed and transactions are recorded on the Balance Sheet. The purchase and sale of foreign currency affect the net foreign currency position on the trade date; realised results arising from sales are also calculated on the trade date. The interest accrued on financial instruments denominated in foreign currency and the premiums or discounts are calculated and recorded on a daily basis. These amounts also affect the foreign currency position on a daily basis.

Assets and liabilities denominated in foreign currencies are converted to euros at the official daily fixing of the European Central Bank effective on the balance sheet date. Income and expenses are converted at the official European Central Bank exchange rate prevailing on the trade date. The revaluation of on-balance-sheet and off-balance-sheet instruments and foreign exchange assets and liabilities is performed on a currency-by-currency basis.

The special drawing right (SDR) of the International Monetary Fund (IMF) is defined in terms of a basket of currencies. To revalue Eesti Pank's holdings of SDRs, the value of the SDR was calculated as the weighted sum of the exchange rates of five currencies (the US dollar, the euro, the Japanese yen, the pound sterling and the Chinese renminbi) converted into euros as at 31 December 2019.

The official daily fixings applied on 31 December 2019 and 2018 were as follows:

	31.12.2019	31.12.2018
USD	1.1234	1.1450
GBP	0.85080	0.89453
JPY	121.94	125.85
CNY	7.8205	7.8751
SDR	0.810438	0.822774

Gold

Gold is valued at the market price prevailing at the year end, and no distinction is made between price and currency devaluation differences for gold. Instead, a single gold valuation is accounted for on the basis of the price in euro per fine ounce of gold, which, for the year ending 31 December 2019, was derived from the exchange rate of the euro against the US dollar on 31 December 2019.

Securities

Securities held for monetary policy purposes

Securities held for monetary policy purposes are accounted for at amortised cost subject to impairment.

Other securities

Marketable securities (other than securities held for monetary policy purposes) and similar assets are valued either at the mid-market prices on the basis of the relevant yield curve prevailing on the balance sheet date, on a security-by-security basis. For the year ending 31 December 2019, mid-market prices on 31 December 2019 were used.

Income recognition

Income and expenses are recorded in the Profit and Loss Account during the accounting period on an accrual basis regardless of when cash was received or paid. Realised gains and losses arising from the sale of foreign exchange, gold and securities are calculated from the average price of each asset taken to the Profit and Loss Account.

Unrealised gains are not taken to the Profit and Loss Account, but are recognised on the Balance Sheet under "Revaluation accounts".

Unrealised losses are recorded in the Profit and Loss Account under "Write-downs on financial assets" if, at the year-end, they exceed previous revaluation gains registered in the corresponding revaluation account. Unrealised losses on any one currency or security or on gold are not netted against unrealised gains on other currencies or securities or gold. In the event of an unrealised loss on any currency or security or on gold at the year end, the average cost of that item is reduced to the year end exchange rate or market price.

Premiums or discounts arising on purchased securities are recorded as part of interest income and are amortised on a daily basis over the remaining life of the securities.

The interest income and expenses from monetary policy operations are presented on a net basis for each balance sheet item or sub-item.

Reverse transactions

Repurchase transactions (sale/repurchase transactions) are recorded as collateralised loans taken at their fair value, meaning securities are recorded as assets on the Balance Sheet and the repurchase sum as a liability.

Reverse repurchase transactions (purchase/resale transactions) are recorded as collateralised loans granted. Securities used as collateral for reverse repurchase transactions are not recorded on the Balance Sheet of Eesti Pank.

Investments in shares

Investment in shares is recorded at market value if it can be assessed reliably. The assessment of the market value of shares is not reliable if they are not actively traded and there are no alternative methods for assessing their value reliably. In this case shares are recorded at their acquisition cost subject to impairment. Profits and losses on the sale of shares are recorded in the Profit and Loss Account after all conditions of sale have been fulfilled. Dividend income is recorded as income for the period.

Fixed assets

Fixed assets are assets with a useful life of over a year and an acquisition cost in excess of EUR 3200. Fixed assets are recorded at their acquisition cost, which is the purchase price and other expenditure directly related to bringing assets to the location and condition necessary for their intended use. Land, buildings, utility systems of buildings, IT hardware, software and other assets with long-term useful lives are recorded as fixed assets on the Balance Sheet. Prepayments for fixed assets are also recorded as fixed assets.

Land and objects of art and culture are not depreciable assets. Other fixed assets are depreciated on a straight-line basis over the estimated useful lives of the assets at the following rates.

	2019
Land and buildings	3%
Utility systems of buildings	10%
Hardware	20%
Software, motor vehicles	15–50%
Other fixed assets	7–20%

The need to differentiate between software depreciation rates arose due to the introduction of application software with high acquisition cost and varying useful life.

Subsequent expenditure incurred for items of fixed assets are recognised as fixed assets when it is probable that Eesti Pank will derive future expected benefits from the asset and the cost of the asset can be measured reliably. Current maintenance and repair costs are recognised as expenses for the period.

Provision for financial risks

Given the nature of the operations of the central bank, Eesti Pank may set up a provision on the balance sheet for financial risks. The management of the bank decides to increase or reduce the provision, using a reasonable estimate of the bank's exposure. The provision is used to cover the uncovered losses in revaluation accounts to the extent approved by the Executive Board. If the size of the provision is reduced because of risk estimates, the amount it is reduced by is recorded as income for the recording period.

Claims and liabilities to Finantsinspeksioon

The Balance Sheet of Eesti Pank contains a claim on Finantsinspeksioon for services provided by Eesti Pank and the acquisition of low-value assets, and a liability to Finantsinspeksioon in relation to its settlement account held with Eesti Pank.

Off-balance-sheet instruments

Currency instruments, namely foreign exchange forward instruments, forward legs of foreign exchange swaps and other currency instruments involving exchange of one currency for another at a future date, are included in the net foreign currency position for the purpose of calculating foreign exchange gains and losses. The difference between the spot exchange rate and the exchange rate at maturity is treated on both the purchase and sale sides as an accrued interest liability or asset.

Interest-rate instruments are revalued on an item-by-item basis. Daily changes in the variation margin of open interest rate futures contracts are recorded in the Profit and Loss Account. The valuation of option transactions and of interest rate swaps is based on generally accepted valuation methods, using observable market prices and rates and the discount factors from the settlement dates to the valuation date.

Contingent liabilities

Contingent liabilities are recorded in the Notes on the Annual Accounts and include commitments, guarantees and other liabilities which may, under certain conditions, become liabilities in the future, though the probability of their realisation is considered lower by the management of the bank than the probability of non-realisation.

Post-balance-sheet events

Assets and liabilities are adjusted for events that occur between the balance sheet date and the date of compilation of the Annual Accounts but are related to transactions during the accounting period or earlier periods or materially affect the condition of assets and liabilities on the balance sheet date. Important post-balance-sheet events that do not affect the condition of assets and liabilities on the balance sheet date are disclosed in the Notes.

Banknotes in circulation

The European Central Bank and the euro area national central banks, which together comprise the Eurosystem, issue euro banknotes²¹. The total value of euro banknotes in circulation is allocated to the Eurosystem central banks on the last working day of each month in accordance with the banknote allocation key²².

The European Central Bank has been allocated a share of 8% of the total value of euro banknotes in circulation, and the remaining 92% has been allocated to the Eurosystem central banks according to their weightings in the capital key of the ECB. Eesti Pank's share of the total banknotes allocated to the Eurosystem central banks is disclosed in the Balance Sheet under the liability item "Banknotes in circulation".

The difference between the value of euro banknotes allocated to each Eurosystem central bank in accordance with the banknote allocation key and the value of euro banknotes that it actually puts into circulation also gives rise to remunerated intra-Eurosystem balances. These claims or liabilities²³ are disclosed under the sub-item "Intra-Eurosystem balances: net claims/liabilities related to the allocation of euro banknotes within the Eurosystem" (see "Intra-Eurosystem balances" in the notes on accounting policies).

From the cash changeover year until five years following the cash changeover year²⁴ the intra-Eurosystem balances arising from the allocation of euro banknotes are adjusted in order to avoid significant changes from previous years in the relative income positions of the Eurosystem central banks. The adjustments are effected by taking into account the differences for the observation period²⁵ between the average value of banknotes released into circulation by the central banks of the Eurosystem countries and the average value of the banknotes that would have been allocated to them during that period under the ECB's capital key. The adjustments are reduced in annual stages until the first day of the sixth year after the cash changeover year when income on banknotes is allocated fully in proportion to the Eurosystem central banks' paid-up shares in the ECB's capital. The interest income and expense on these balances is cleared through the accounts of the ECB and is disclosed under "Net interest income" in the Profit and Loss Account.

Collector coins

The nominal value of collector coins that have been issued is no longer recorded as a liability on the Balance Sheet as the probability of the coins being bought back is very small and their value as precious metal exceeds their nominal value. Income from the sale of collector coins is recorded in the Profit and Loss Account as it is generated.

Interim profit distribution of 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 income arising from securities purchased under the Securities Markets Programme (SMP), the third covered bond purchase programme (CBPP3) and the asset-backed securities purchase programme (ABSPP) shall be due in full to the Eurosystem central banks in the same financial year it accrues. Unless otherwise decided by the Governing Council, the European Central Bank distributes this income in January

21 Decision of the ECB of 13 December 2010 on the issue of euro banknotes (recast) (ECB/2010/29), OJ L 35, 9.2.2011, p. 26.

22 Banknote allocation key – the percentages that result from taking the ECB's share in the total euro banknote issue and applying the subscribed capital key to the NCBs' share of that total.

23 Decision of the ECB of 3 November 2016 on the allocation of monetary income of the national central banks of Member States whose currency is the euro (recast) (ECB/2016/36), OJ L 347, 20.12.2016, p. 26.

24 The year of changeover to the euro is the year when euro banknotes become the legal tender of a member state.

25 The period is 24 months long and starts 30 months before the day that the euro banknotes become the legal tender of the country in question. For Eesti Pank the period was from July 2008 to June 2010.

of the following year in the form of an interim distribution of profit²⁶. It is distributed in full unless the European Central Bank's net profit for the year is less than its income earned. The distributed profit may be reduced if the Governing Council decides to make transfers to the provision for financial risks. The Governing Council may also decide to charge costs incurred by the European Central Bank in connection with the issue and handling of euro banknotes against income earned on euro banknotes in circulation.

The amount distributed to the Eurosystem central banks is disclosed in the Profit and Loss Account under "Income from equity shares and participating interests".

Intra-Eurosystem balances

Intra-Eurosystem claims arising from Eesti Pank's participating interest in the ECB are reported under "Participating interest in the European Central Bank". Intra-Eurosystem claims arising from Eesti Pank's participating interest in the ECB are reported under "Participating interest in the European Central Bank". This item covers the subscriptions of national central banks to the subscribed capital of the ECB, net amounts paid by the national central banks because of an increase in their share in the equity capital of the ECB²⁷ following an adjustment of the capital key, and contributions under article 48.2 of the statutes of the ESCB in relation to the central banks of member states whose derogations have been abrogated.

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".

Intra-Eurosystem balances arising from the allocation of euro banknotes within the Eurosystem are included as a net single asset or liability under "Net claims/liabilities related to the allocation of euro banknotes within the Eurosystem" (see "Banknotes in circulation" in the notes on accounting policies).

Intra-Eurosystem balances result primarily from cross-border payments in the European Union which are settled in central bank money in euro. These transactions are for the most part initiated by private entities, meaning credit institutions, corporations and individuals. These transactions are settled in TARGET2²⁸ and give rise to bilateral balances in the TARGET2 accounts of EU central banks. These bilateral balances are netted out and then assigned to the ECB on a daily basis, leaving each national central bank with a net bilateral position towards the ECB. Intra-Eurosystem balances of euro area NCBs towards the ECB arising from TARGET2, and other intra-Eurosystem balances denominated in euro such as interim profit distributions to NCBs or monetary income results are presented in the Balance Sheet as a single net asset or liability position and disclosed under "Other claims within the Eurosystem (net)" or "Other liabilities within the Eurosystem (net)".

26 Decision of the ECB of 15 December 2014 on the interim distribution of the income of the European Central Bank (recast) (ECB/2014/57) (OJ L 53, 25.2.2015, p 24).

27 The total value of equity capital covers all the reserves of the European Central Bank, revaluation accounts and a provision for the same value as reserves, minus the loss carried over from earlier periods. If the capital key is adjusted during the financial year, the value of equity capital also includes the accumulated net profit or net loss of the European Central Bank at the date of the adjustment.

28 The Trans-European Automated Real-time Gross Settlement Express Transfer system.

NOTES ON THE BALANCE SHEET

NOTE 1 – GOLD AND GOLD RECEIVABLES

Changes in the value of Eesti Pank's gold reserves are as follows:

	31.12.2019	31.12.2018
Gold (ounces)	8250.171	8250.171
Ounce market value (EUR)	1354.104	1120.961
Revaluation (thousand EUR)	3 984	2 060
Market value (thousand EUR)	11 172	9 248

ITEM 2 – RECEIVABLES FROM THE IMF

Receivables from the IMF are the SDR account in the IMF and the reserve position in the IMF.

	<i>thousand euros</i>	
	31.12.2019	31.12.2018
SDR account in the IMF	30 364	29 892
Reserve position in the IMF	52 535	51 747
Participation in the IMF	300 976	295 838
IMF No.1 account	-248 441	-244 091
Total	82 899	81 639

The SDR account in the IMF

An SDR account is generated for each IMF Member State for conducting loan transactions and various other related operations. The SDR account is used to record the SDRs distributed to support the foreign reserves of IMF Member States and to increase global liquidity (see Item 24 "Counterpart of the Special Drawing Rights Allocated by the IMF").

Reserve position in the IMF

Eesti Pank represents the Republic of Estonia in the IMF. A quota has been established for each IMF member determining its participation (subscription) and voting power in the IMF. Participation in the IMF is recorded under assets on the Balance Sheet and is equal to the country's quota.

At the end of 2019 the quota of the Republic of Estonia was SDR 243.6 million.

The reserve position in the IMF comprises the net amount of the quota and the IMF No.1 account. The size of the reserve position is affected by Estonia's participation in the IMF's Financial Transactions Plan (FTP). No loan payments were made under the FTP in 2019; in 2018 payments in to the FTP of SDR 8.0 million were made and amounts were refunded in relation to the FTP of SDR 0.73 million. Estonia has participated in the IMF's FTP since 2012.

ITEM 3 – BALANCES WITH BANKS, SECURITY INVESTMENTS AND OTHER EXTERNAL ASSETS

Item 3 reflects bank balances in foreign currency with credit institutions outside the euro area; shares, reverse repurchase agreements and term deposits denominated in US dollars; and security investments denominated in United States, Canadian and Australian dollars of non-euro area residents. Eesti Pank's foreign reserves were invested mainly in US government-guaranteed mortgage-backed securities funds, and government bonds of Australia and Canada. The fair value of investments is based on the prices quoted in active markets.

thousand euros

	31.12.2019	31.12.2018
Securities	936 382	402 295
Equities	100 846	40 482
Securities funds	97 897	101 178
Reverse repurchase transactions	9 310	8 956
Fixed-term deposits	980	1 223
Current accounts	525	10 666
Total	1 145 940	564 800

thousand euros

	31.12.2019	31.12.2018
USD	750 420	458 236
CAD	212 921	48 721
AUD	182 513	48 790
JPY	47	129
CNH	32	32
NOK	14	6
GBP	4	178
CHF	3	8 769
DKK	1	2
NZD	-2	-31
SEK	-13	-32
Total	1 145 940	564 800

ITEM 4 – CLAIMS ON EURO AREA RESIDENTS DENOMINATED IN FOREIGN CURRENCY

Item 4 reflects bank balances in foreign currency with credit institutions in the euro area and investments in securities denominated in US dollars of euro area residents.

thousand euros

	31.12.2019	31.12.2018
Securities	30 040	0
Current accounts	5 574	2 244
Equities	0	53 021
Total	35 614	55 265

thousand euros

	31.12.2019	31.12.2018
USD	34 111	54 590
AUD	478	220
GBP	425	-32
CAD	318	341
SEK	180	187
JPY	94	-50
CHF	8	9
Total	35 614	55 265

ITEM 5 – CLAIMS ON NON-EURO AREA RESIDENTS DENOMINATED IN EURO

Item 5 reflects investments denominated in euro by non-euro area residents in securities, reverse repurchase transactions and bank balances in euros in credit institutions outside the euro area.

	<i>thousand euros</i>	
	31.12.2019	31.12.2018
Securities	18 234	17 560
Reverse repurchase transactions	14 852	16 112
Current accounts	244	642
Total	33 330	34 314

ITEM 6 – LENDING TO EURO AREA CREDIT INSTITUTIONS RELATED TO MONETARY POLICY OPERATIONS DENOMINATED IN EURO

The total Eurosystem holding of monetary policy assets amounts to 624,232 million euros, of which Eesti Pank holds 23 million euros (50 million euros in 2018) of long-term refinancing transactions. Under Article 32.4 of the Statute of the ESCB, any losses from monetary policy operations, if they were to materialise, are shared in full by the Eurosystem central banks in proportion to the prevailing ECB capital key shares. Eesti Pank's share in the capital key is 0.2827%.

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. Risk sharing has been excluded by the Governing Council of the ECB for specific collateral which can be accepted by NCBs at their own discretion.

In 2019 the Governing Council of the ECB introduced a new series of seven targeted long-term refinancing operations (TLTRO-III). These operations have a three-year maturity, and may be repaid after two years. In accordance with the Governing Council decisions, the final interest rate applicable to each TLTRO-III operation may be as low as the average deposit facility interest rate that applied during the operation. As the actual interest rate will only become clear from 2021 and it is not possible to estimate it reliably until then, a conservative stance has been taken and the calculation of interest for the TLTRO-III in 2019 uses the interest rate on the deposit facility.

ITEM 7 – OTHER CLAIMS ON EURO AREA CREDIT INSTITUTIONS DENOMINATED IN EURO

Item 7 reflects bank balances in euro at euro area credit institutions.

ITEM 8 – SECURITIES HELD FOR MONETARY POLICY PURPOSES

Item 8 reflects securities acquired by Eesti Pank within the scope of the second purchase programme for covered bonds (CBPP2)²⁹, the Securities Markets Programme (SMP)³⁰ and the public sector asset purchase programme (PSPP)³¹.

The Securities Market Programme was ended on 6 September 2012. The second Covered Bond Purchase Programme was ended on 31 October 2012.

The Eurosystem's expanded asset purchase programme (APP)³² covers the third covered bonds

29 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).

30 Decision ECB/2010/5 of 14 May 2010 establishing a securities markets programme (OJ L 124, 20.05.2010, p 8).

31 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, with amendments).

32 For more on the asset purchase programmes, see the ECB website <https://www.ecb.europa.eu/mopo/implement/omt/html/index.en.html>

purchase programme (CBPP3)³³, the asset backed securities purchase programme (ABSPP)³⁴, the public sector securities purchase programme (PSPP), and the corporate bond purchase programme (CSPP)³⁵.

On 1 November 2019 the Eurosystem restarted net purchases of an average of 20 billion euros of securities a month within the expanded asset purchase programme. This was preceded by a 10-month period from the end of 2018 when the Eurosystem only handled the reinvestment in full of the principal payments from maturing securities purchased under the asset purchase programme. The Governing Council expects the net purchases to run for as long as it is necessary to support the impact of its interest rates, and to end shortly before the Governing Council starts to raise the key ECB interest rates. The Governing Council intends to continue reinvesting for an extended period of time past the date when it starts raising the key interest rates, and in any case for as long as necessary to maintain favourable liquidity conditions ample degree of monetary accommodation.

Securities purchased under all the purchase programmes are valued on an amortised cost basis subject to impairment (see "Securities" in the notes on accounting policies). The amortised cost and market value³⁶ of securities, which are not recorded on the Balance Sheet or Profit and Loss Account and are presented only for the purposes of information, are:

thousand euros

	31.12.2019		31.12.2018	
	Amortised acquisition cost	Market value	Amortised acquisition cost	Market value
Public sector asset purchase programme	5 589 017	5 757 697	5 576 850	5 592 876
Securities Markets Programme	24 953	25 916	64 861	66 882
Second covered bond purchase programme	6 992	7 497	7 489	8 177
Total	5 620 962	5 791 110	5 649 200	5 667 935

The total Eurosystem central banks holding of Securities Market Programme securities amounts to EUR 44,216 million, the holding under the third covered bond purchase programme amounts to EUR 241,934 million, and the holding of bonds of European institutions purchased under the public sector purchase programme amounts to EUR 225,169 million. The Governing Council of the ECB assesses on a regular basis the financial risks associated with the securities held under these programmes. Annual impairment tests are conducted, using the data as at year end, and the results are approved by the Governing Council of the ECB. Indicators of impairment of the assets are assessed for each purchase programme separately.

Under Article 32.4 of the Statute of the ESCB, the Eurosystem central banks share any losses that materialise from securities held under the Securities Market Programme and the expanded Asset Purchase Programme other than government bonds, in full in proportion to the prevailing ECB capital key shares.

As a result of the impairment test conducted on the portfolio of the corporate sector purchase programme, the Governing Council considered it appropriate to maintain the provision in 2019 against the credit risks from monetary policy operations (see item 27 "Provisions").

The impairment test of securities purchased in 2019 under the third covered bond purchase programme (CBPP3) found that the value of one security had fallen. This security was issued by a credit institution that remained in serious financial difficulties in 2019. The Governing Council considered

33 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).

34 Decision ECB/2014/45 of 19 November 2014 on the implementation of the asset-backed securities purchase programme (OJ L 1, 6.1.2015, p 4 as amended).

35 Decision ECB/2016/16 of 1 June 2016 on the implementation of the corporate sector purchase programme (OJ L 1, 6.1.2015, p 4 as amended).

36 Market values are approximate and are derived from quoted market values. If no market quotation is available, the market value is calculated using the internal models of the Eurosystem.

that the fall in value did not affect the future expected cash flow. In consequence the loss from the fall in the value of the security purchased under the third covered bond purchase programme was not reflected at the end of the year.

ITEM 9 – OTHER SECURITIES

Item 9 reflects investments in bonds denominated in euro by euro area residents.

ITEM 10 – PARTICIPATING INTEREST IN THE ECB

Item 10 reflects the participating interest of Eesti Pank in the ECB. Article 28 of the Statute of the ESCB states that the national central banks of the ESCB are the sole subscribers of the capital of the ECB. Subscriptions depend on the capital key weighting, which is set out in Article 29 of the ESCB Statute, and which is adjusted every five years or when the composition of national central banks in the ESCB changes.

For Eesti Pank this item reflects the subscription to the subscribed capital of the ECB, net amounts paid by Eesti Pank because of an increase in its share in the equity capital of the ECB following an adjustment of the capital key, and contributions under article 48.2 of the statutes of the ESCB.

Under article 29.3 of the statute of the ESCB and the ECB the capital key adjustment that happens every five years changed the capital key weightings of the national central banks in the ECB on 1 January 2019.

	Capital key weigh- ting from 01.01.2019 %	Subscribed capital from 31.12.2018 %
Nationale Bank van België / Banque Nationale de Belgique	2.5280	2.4778
Deutsche Bundesbank	18.3670	17.9973
Eesti Pank	0.1968	0.1928
Central Bank of Ireland	1.1754	1.1607
Bank of Greece	1.7292	2.0332
Banco de España	8.3391	8.8409
Banque de France	14.2061	14.1792
Banca d'Italia	11.8023	12.3108
Central Bank of Cyprus	0.1503	0.1513
Latvijas Banka	0.2731	0.2821
Lietuvos Bankas	0.4059	0.4132
Banque centrale du Luxembourg	0.2270	0.2030
Central Bank of Malta	0.0732	0.0648
De Nederlandsche Bank	4.0677	4.0035
Oesterreichische Nationalbank	2.0325	1.9631
Banco de Portugal	1.6367	1.7434
Banka Slovenije	0.3361	0.3455
Národná banka Slovenska	0.8004	0.7725
Suomen Pankki – Finlands Bank	1.2708	1.2564
Subtotal – euro area national central banks	69.6176	70.3915
Българска народна банка (Bulgarian National Bank)	0.8511	0.8590
Česká národní banka	1.6172	1.6075
Danmarks Nationalbank	1.4986	1.4873
Hrvatska narodna banka	0.5673	0.6023
Magyar Nemzeti Bank	1.3348	1.3798
Narodowy Bank Polski	5.2068	5.1230
Banca Națională a României	2.4470	2.6024

	Capital key weighing from 01.01.2019 %	Subscribed capital from 31.12.2018 %
Sveriges Riksbank	2.5222	2.2729
Bank of England	14.3374	13.6743
Subtotal – non-euro area national central banks	30.3824	29.6085
Total*	100.0000	100.0000

* Owing to rounding, the total may not correspond to the sum of all figures shown.

Following the adjustment to the capital key, the subscribed capital and equity capital of the central banks of the European Union countries in the ECB were recalculated. Following the recalculation, Eesti Pank paid the ECB an additional EUR 433 thousand on 2 January 2019.

The subscriptions of the central banks of the European Union to the capital of the ECB are shown in the following table.

	Subscribed capital as of 01.01.2019	Paid-in capital as of 01.01.2019	Subscribed capital as at 31.12.2018	Paid-in capital as at 31.12.2018
Nationale Bank van België / Banque Nationale de Belgique	273 656 179	273 656 179	268 222 025	268 222 025
Deutsche Bundesbank	1 988 229 048	1 988 229 048	1 948 208 997	1 948 208 997
Eesti Pank	21 303 614	21 303 614	20 870 614	20 870 614
Central Bank of Ireland	127 237 133	127 237 133	125 645 857	125 645 857
Bank of Greece	187 186 022	187 186 022	220 094 044	220 094 044
Banco de España	902 708 165	902 708 165	957 028 050	957 028 050
Banque de France	1 537 811 329	1 537 811 329	1 534 899 402	1 534 899 402
Banca d'Italia	1 277 599 809	1 277 599 809	1 332 644 970	1 332 644 970
Central Bank of Cyprus	16 269 986	16 269 986	16 378 236	16 378 236
Latvijas Banka	29 563 094	29 563 094	30 537 345	30 537 345
Lietuvos Bankas	43 938 704	43 938 704	44 728 929	44 728 929
Banque centrale du Luxembourg	24 572 766	24 572 766	21 974 764	21 974 764
Central Bank of Malta	7 923 905	7 923 905	7 014 605	7 014 605
De Nederlandsche Bank	440 328 813	440 328 813	433 379 158	433 379 158
Oesterreichische Nationalbank	220 018 269	220 018 269	212 505 714	212 505 714
Banco de Portugal	177 172 891	177 172 891	188 723 173	188 723 173
Banka Slovenije	36 382 849	36 382 849	37 400 399	37 400 399
Národná banka Slovenska	86 643 357	86 643 357	83 623 180	83 623 180
Suomen Pankki – Finlands Bank	137 564 190	137 564 190	136 005 389	136 005 389
Subtotal – euro area national central banks*	7 536 110 122	7 536 110 122	7 619 884 851	7 619 884 851
Българска народна банка (Bulgarian National Bank)	92 131 635	3 454 936	92 986 811	3 487 005
Česká národní banka	175 062 014	6 564 826	174 011 989	6 525 450
Danmarks Nationalbank	162 223 556	6 083 383	161 000 330	6 037 512
Hrvatska narodna banka	61 410 265	2 302 885	65 199 018	2 444 963
Magyar Nemzeti Bank	144 492 194	5 418 457	149 363 448	5 601 129
Narodowy Bank Polski	563 636 468	21 136 368	554 565 112	20 796 192
Banca Națională a României	264 887 923	9 933 297	281 709 984	10 564 124
Sveriges Riksbank	273 028 328	10 238 562	246 041 586	9 226 559
Bank of England	1 552 024 564	58 200 921	1 480 243 942	55 509 148
Subtotal – non-euro area national central banks*	3 288 896 948	123 333 636	3 205 122 218	120 192 083
Total*	10 825 007 070	7 659 443 757	10 825 007 070	7 740 076 935

* Owing to rounding, the total may not correspond to the sum of all figures shown.

When Estonia joined the euro area, Article 48.2 of the ESCB's Statute started to apply to Eesti Pank, requiring the central bank to pay a part of the reserves, revaluation accounts and risk provisions of the ECB in proportion to its share in the subscribed capital of the ECB. This item recognises the total amount paid for the reserves, revaluation accounts and the risk provisions of the ECB of EUR 70,843 thousand.

ITEM 11 – CLAIMS EQUIVALENT TO THE TRANSFER OF FOREIGN RESERVES

Item 11 reflects claims of Eesti Pank arising from the transfers of foreign reserve assets to the ECB when Eesti Pank joined the Eurosystem. These foreign reserves were 85% in Japanese yen and 15% in gold. The claims are denominated in euro at a value fixed at the time of the transfer. The remuneration of claims translated from foreign currency is calculated daily at the latest available marginal rate for the Eurosystem's main refinancing operations, adjusted to reflect a zero return on the gold component.

Following the adjustment to the capital key, Eesti Pank paid an additional amount of EUR 2,318 thousand to the foreign reserves of the ECB on 2 January 2019.

ITEM 12 – NET CLAIMS RELATED TO THE ALLOCATION OF EURO BANKNOTES WITHIN THE EUROSISTEM

Item 12 reflects Eesti Pank's claims towards the Eurosystem relating to the allocation of euro banknotes within the Eurosystem (see "Banknotes in circulation" and "Intra-Eurosystem balances" in the notes on accounting policies)³⁷. 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.

ITEM 13 – OTHER CLAIMS WITHIN THE EUROSISTEM (NET)

Item 13 reflects net claims arising from the TARGET2 balance, the amount due to the difference arising from the monetary income pooled from and allocated to the Eurosystem central banks, and the amount due to the ECB's interim profit distribution.

	<i>thousand euros</i>	
	31.12.2019	31.12.2018
TARGET2	622 182	763 962
Monetary income reallocation	1 576	7 642
Interim profit distribution of the ECB	4 045	3 263
Total	627 803	774 867

The remuneration of the TARGET2 balance is calculated daily at the latest available marginal interest rate used by the Eurosystem in its tenders for main refinancing operations.

Claims on the ECB in connection with the reallocation of monetary income come from the difference between the amounts collected and allocated by the Eurosystem NCBs (see item 34 of the Profit and Loss account, "Net result of pooling of monetary income").

This item also covers amounts payable by the ECB to euro area central banks in the ECB's interim profit distribution (see "Interim profit distribution of the ECB" in the notes on accounting policies). At the decision of the Governing Council of the ECB, the ECB distributed its income of EUR 1,431 million in 2019 between the national central banks of the euro area (see item 33 of the Profit and Loss account "Income from equity shares and participating interests").

³⁷ Under the calculation methodology chosen for the euro banknotes of the Eurosystem, the ECB is allocated 8% of the total value of the euro banknotes in circulation each month. The remaining 92% of euro banknotes in circulation is divided between the national central banks each month and the national central banks report their euro banknotes on their balance sheets in the proportion of their subscribed capital of the ECB. In accordance with this accounting methodology, the difference between the value of euro banknotes allocated to a national central bank and the amount of euro banknotes issued into circulation is recorded under "Intra-Eurosystem net claims/liabilities related to the allocation of euro banknotes within the Eurosystem".

ITEM 14 – TANGIBLE AND INTANGIBLE FIXED ASSETS

thousand euros

Acquisition cost	Buildings	Hardware	Software	Other fixed assets	Motor vehicles	Total
Balance at the end of 2018	28 167	4 007	5 465	6 089	31	43 759
Acquisitions	89	437	188	394	0	1 108
Disposals	0	-286	-157	-63	0	-506
Balance at the end of 2019	28 256	4 158	5 496	6 420	31	44 361
Accumulated depreciation						
Balance at the end of 2018	15 575	2 811	3 512	5 530	29	27 457
Depreciation charge	997	409	330	173	2	1 911
Disposals	0	-280	-157	-64	0	-501
Balance at the end of 2019	16 572	2 940	3 685	5 639	31	28 867
Carrying amount						
Balance at the end of 2018	12 592	1 196	1 953	559	2	16 302
Balance at the end of 2019	11 684	1 218	1 811	781	0	15 494
Prepayments for fixed assets						
Balance at the end of 2018	0	0	68	0	0	68
Balance at the end of 2019	9	0	208	0	0	217
Total fixed assets						
Balance at the end of 2018	12 592	1 196	2 021	559	2	16 370
Balance at the end of 2019	11 693	1 218	2 019	781	0	15 711

The cost of fixed assets acquired in 2019 was EUR 1,108 thousand; in 2018 it was EUR 1,440 thousand. The largest share of the spending on procurements for buildings was spent on the renovation of buildings. The central server room was expanded and the Finantsinspektsioon entrance was renovated. Hardware procurement was related to the acquisition of information technology equipment. The largest software procurements were the data submission portal, planning and risk management software, payment and settlement software, and development of the statistics module, and contributions to the development of other ESCB software systems. The major part of the acquisition of other fixed assets was for the renewal of licences for banknote sorters and purchases of security equipment for the bank. The outdated technology in the press room of the museum was also replaced.

ITEM 15 – OTHER FINANCIAL ASSETS

Item 15 reflects the shares in the Bank for International Settlements and SWIFT.

Eesti Pank holds 214 shares (200 voting shares) in the Bank for International Settlements at an acquisition cost of EUR 217,118, and five shares in SWIFT at an acquisition cost of EUR 17,150.

ITEM 16 – OFF-BALANCE-SHEET INSTRUMENTS
REVALUATION DIFFERENCES

Item 16 reflects valuation changes in swap and forward transactions in foreign currency outstanding at year-end. These valuation changes result from the conversion of such transactions into their euro equivalents at the exchange rates prevailing on the balance sheet date, compared with the euro values resulting from the conversion of the transactions at the average cost of the respective foreign currency on that date. The year-end sum for 2018 has been corrected (see “ Correction to the comparative data in the Annual Accounts in the Annual Report for 2019” in the appendix on accounting principles).

ITEM 17 – ACCRUALS AND PREPAID EXPENSES

Item 17 records interest from financial instruments using the accrual principle, and various prepayments for services. It also records a claim on Finantsinspektsioon for services provided by Eesti Pank and the acquisition of current assets.

	<i>thousand euros</i>	
	31.12.2019	31.12.2018
Interest claims	57 684	44 722
Securities	43 340	43 142
Derivative instruments	13 951	896
Fixed-term deposits and current accounts	197	194
Monetary policy operations	187	480
Reverse repurchase transactions	8	9
Loans	1	1
Claims on Finantsinspektsioon	1 098	920
Prepaid expenses	976	919
Other claims	186	324
Total	59 944	46 885

ITEM 18 – SUNDRY ASSETS

	<i>thousand EUR</i>	
	31.12.2019	31.12.2018
Foreign exchange transactions	9 057	12 124
Loans to employees of Eesti Pank	3 808	4 224
Correction of the profit distribution for 2018	3 176	0
Forward transactions in foreign currency	154	42
Credits related to margin calls	98	118
Other	61	67
Derivative instruments	7	12
Total	16 361	16 587

Housing loans secured by real estate have been granted to employees of Eesti Pank for a maximum of 30 years. The interest rate on housing loans granted before 2012 is the deposit facility interest payable to credit institutions plus the risk margin but together not more than the upper limit of the interest rate. The deposit facility rate equals the ECB deposit interest rate, which was -0.4% to -0.5% in 2019; in 2018 it was -0.4%. The upper limit on the interest rate is twice the interest rate on the European Central Bank's main refinancing operations. The interest rate on housing loans granted since 2012 is the six-month EURIBOR plus 0.5% but no more than the upper limit on the interest rate. The interest rate on housing loans granted since June 2014 is the six-month EURIBOR plus 1.25%. In addition, study loans have been granted to employees for a maximum of ten years with a 5% interest rate. From 1 July 2015, Eesti Pank ceased providing loans to employees.

The item also reflects balances related to currency exchange transactions and forward transactions in foreign currency outstanding at year-end. These balances arise from the conversion of such transactions into their euro equivalents at the respective currency's average cost on the balance sheet date, compared with the euro values at which the transactions were initially recorded.

The item also includes corrected amounts for currency exchange transactions in 2018. The uncorrected profit in the annual report for 2018 was divided in full between the Eesti Pank reserves and the state budget, and the correction of an error in the financial data for 2018 meant there was an uncovered loss in 2018. Under the legislative framework of financial reporting and accounting for the

European system of Central Banks, losses from previous years are recorded before they are covered under "Sundry other assets". Following the correction, the profit distribution for 2019 will be adjusted by the amount corrected for 2018 (see "Correction to the comparative data in the Annual Accounts in the Annual Report for 2019" in the appendix on accounting principles).

ITEM 19 – BANKNOTES IN CIRCULATION

Item 19 reflects Eesti Pank's share of the total euro banknotes in circulation (see "Banknotes in circulation" in the notes on accounting policies). The value of euro banknotes actually issued by Eesti Pank is smaller than the allocation of such banknotes to Eesti Pank. The claim arising from this difference is reflected in Item 12 "Net claims related to the allocation of euro banknotes within the Eurosystem".

	<i>thousand EUR</i>	
	31.12.2019	31.12.2018
Euro banknotes	1 952 454	1 687 475
Adjustments of euro banknotes	1 701 028	1 684 745
ECB banknotes (8%)	-292 353	-269 762
Total	3 361 129	3 102 458

ITEM 20 – CURRENT ACCOUNTS (INCLUDING COVER FOR THE MINIMUM RESERVE SYSTEM)

Item 20 reflects the current accounts of credit institutions with Eesti Pank. The remuneration paid on the balance on the current accounts of credit institutions, held to cover the minimum reserve, is calculated at the latest available marginal interest rate used by the Eurosystem in its tenders for main refinancing operations. The balances held in excess of the minimum reserve requirements are remunerated at the lower rate of either 0% or the deposit facility rate. From 30 October 2019, the Governing Council of the ECB introduced a two-tier system for reserve remuneration, so that some of the excess liquidity the banks hold at the central bank would be exempt from the negative deposit facility rate. The annual interest rate on this part of the excess liquidity is 0%. The size of the reserves held in excess of the minimum reserve requirements, which were exempt from the interest rate on the deposit facility as at the end of the year, was fixed at six times the mandatory reserve requirement³⁸. The excess liquidity to which the exemption does not apply continues to be remunerated at the lower rate of either 0% or the deposit facility rate. The deposit facility rate equals the ECB deposit interest rate, which was -0.4% to -0.5% in 2019; in 2018 it was -0.4%. The average balance on the accounts of credit institutions was 4,552,226,653 euros in 2019 (3,890,313,394 euros in 2018).

ITEM 21 – LIABILITIES TO OTHER EURO AREA RESIDENTS DENOMINATED IN EURO

Item 21 reflects mainly the current accounts of Finantsinspektsioon and the Guarantee Fund held with Eesti Pank. Interest on the current account of Finantsinspektsioon is calculated monthly from the daily balance of the current account using the EONIA (euro overnight index average) interest rate, and the interest rate on the Guarantee Fund account is the deposit facility rate.

ITEM 22 – LIABILITIES TO NON-EURO AREA RESIDENTS DENOMINATED IN EURO

Item 22 reflects the euro deposits of non-euro area residents and reverse repurchase transactions with non-euro area residents.

³⁸ The Governing Council of the ECB may over time adjust this multiplier following changes in the level of excess liquidity held.

ITEM 23 – LIABILITIES TO NON-EURO AREA RESIDENTS DENOMINATED IN FOREIGN CURRENCY

Item 23 reflects the US dollar denominated reverse repurchase transactions of non-euro area residents with non-euro area residents.

ITEM 24 – COUNTERPART OF THE SPECIAL DRAWING RIGHTS ALLOCATED BY THE IMF

Item 24 reflects the liability to the IMF arising from the IMF's decision of 7 August 2009 to increase the SDR issues for all of its member states. This was done in order to increase global liquidity using support from the foreign reserves of the member states. As a result, Estonia received SDR 61,965,241 (see Item 2 "Receivables from the IMF").

ITEM 25 – ACCRUALS AND DEFERRED INCOME

	<i>thousand EUR</i>	
	31.12.2019	31.12.2018
Interest liabilities	15 932	1 507
Derivative instruments	15 819	954
SDR allocation	99	135
Repurchase transactions	10	7
Monetary policy operations	4	411
Tax liabilities	1 206	1 049
Accounts payable	853	1 523
Employee salaries payable	785	729
Vacation reserve	508	512
Other liabilities	357	205
Total	19 641	5 525

Item 25 reflects accrued interest on financial instruments, most of which are interest liabilities on derivative instruments.

ITEM 26 – SUNDRY LIABILITIES

	<i>thousand EUR</i>	
	31.12.2019	31.12.2018
Euro coins	60 915	55 273
Other liabilities	32	20
Derivative instruments	16	26
Credits related to margin calls	0	10
Total	60 963	55 329

Item 26 mainly reflects euro coins issued.

ITEM 27 – PROVISIONS

	<i>thousand EUR</i>	
	31.12.2019	31.12.2018
Provision for financial risks	81 600	71 800
Exchange liability for Estonian kroons	28 343	28 731
Write-downs of securities held for monetary policy purposes	245	441
Total	110 188	100 972

Item 27 reflects the risk provision for financial risks, the provision to cover the exchange liability for the kroon, and the provision for the impairment of the corporate sector security.

The aim of risk provision is to cover the financial risks of monetary policy operations and investment assets with a provision. The increase in the risk provision stems from various risk assessments such as Value at Risk and Expected Shortfall. In deciding the size of the provision, the amount set aside for it in the past five years, which averages EUR 10.7 million, and the size of the bank's reserves are considered as well as the risk assessments. There was an additional provision of EUR 9.8 million on 31 December 2019 (EUR 26.8 million in 2018), meaning the total general risk provision increased to EUR 81.6 million. The increase in risk was mainly due to the continued purchase of securities under the asset purchase programmes³⁹. Under Article 32.4 of the Statute of the ESCB, the Eurosystem central banks share any losses that materialise from securities held under the Securities Market Programme and the expanded Asset Purchase Programme other than government bonds in full in proportion to the prevailing ECB capital key shares.

A provision of 29.6 million euros was set up in 2016 to cover the liability for exchanging kroons for euros, which covered 66% of the liability. Future exchanges of kroons for euros will be funded from the provision. The revision was reduced in 2019 by EUR 387.8 thousand (EUR 392.7 thousand in 2018) through the return of kroons. Estonian kroon banknotes and coins can be exchanged for euros at the shop of the Eesti Pank Museum with no limit of amount or duration at the rate of 1 EUR = 15.6466 EEK. The executive board assesses the size of the provision for the exchange liability every year, considering how much has been brought back in kroons for exchange during the year.

In line with the decision of the Governing Council of the ECB and under Article 32.4 of the statute of the ESCB the provision to cover credit risks stemming from monetary policy operations is funded by the central banks of all member states in proportion to their participation in the capital key in the year when the value initially fell. During the annual impairment test conducted on the portfolio of the corporate sector purchase programme, the Governing Council of the ECB reviewed the size of the provision for the credit risk that materialised in 2018, and decided to reduce the total size of the provision from EUR 161,074,918 on 31 December 2018 to EUR 89,388,328 by 31 December 2019. Eesti Pank's share in this provision totalled EUR 244,832, or 0.2739% of the total provision, having been EUR 441,179 in 2018.

This change is recorded in the Profit and Loss Account of the central bank. Eesti Pank earned income of EUR 196,347 from this in 2019 (see Item 34 "Net result of pooling monetary income" in the notes on the Profit and Loss Account).

ITEM 28 – REVALUATION ACCOUNTS

	<i>thousand EUR</i>	
	31.12.2019	31.12.2018
Equities	19 275	0
Securities	7 965	5 883
Gold	3 984	2 060
Securities funds	3 093	0
Derivative instruments	344	471
Foreign currency	154	3 156
Total	34 815	11 570

Revaluation accounts represent revaluation reserves that arise from unrealised gains on assets and liabilities.

The unrealised losses at the end of the year are recognised in the Profit and Loss Account as expenses under "Write-downs".

³⁹ The expanded asset purchase programme covers the third covered bond purchase programme (CBPP3), the asset backed securities purchase programme (ABSPP), the public sector securities purchase programme (PSPP), and the corporate bond purchase programme (CSPP). For more on the asset purchase programme, see the ECB website <http://www.ecb.europa.eu/mopo/implement/omt/html/index.en.html>

The foreign currency revaluation account for the end of 2018 has been corrected (see “Correction to the comparative data in the Annual Accounts in the Annual Report for 2019” in the appendix on accounting principles).

ITEM 29 – CAPITAL AND RESERVES

Changes in capital and reserves in 2019:

	31.12.2019	Distribution of profit for 2018	31.12.2018
Fixed Capital	100 000	0	100 000
Reserve capital	159 814	10 437	149 377
Special purpose reserve	214 314	0	214 314
Total	474 128	10 437	463 691

thousand EUR

Under Section 30 of the Eesti Pank Act, at least 25% of the annual profit must be allocated to increasing statutory capital up to the amount set by the Riigikogu⁴⁰. The amount set by the Riigikogu for the statutory capital is given in the Eesti Pank Act as EUR 100 million⁴¹. At the decision of the Supervisory Board of Eesti Pank, Eesti Pank directs at least 25% of its annual profits to building up its reserve capital⁴². Following the decision of the Eesti Pank Supervisory Board of 28 April 2015 on the distribution of Eesti Pank’s profits for 2014, Eesti Pank’s reserve capital was equal to its statutory capital. When Eesti Pank’s reserve capital became equal to its statutory capital, the Riigikogu decided on 12 April 2016 to continue increasing Eesti Pank’s reserve capital to EUR 300 million. After these allocations, part of the profit can be allocated for establishing and supplementing endowments and foundations for specific purposes, at the decision of the Supervisory Board of Eesti Pank. The remaining profit is transferred to the state budget. Eesti Pank transferred profit of EUR 3.5 million for 2018 to the state budget in 2019.

40 Eesti Pank Act § 30 (2)

41 Eesti Pank Act § 25 (2)

42 Eesti Pank Act § 30 (3)

NOTES ON THE PROFIT AND LOSS ACCOUNT

ITEM 30 – NET INTEREST INCOME

	<i>thousand EUR</i>	
	2019	2018
Net interest income	29 425	28 253
Interest income	115 389	64 930
Derivative instruments	62 041	25 125
Intra-Eurosystem balances	30 360	27 170
Securities	18 392	8 547
Securities funds	2 828	2 741
Deposits	920	714
Reverse repurchase transactions	468	279
Current accounts	333	306
Fixed-term deposits	40	40
Loans to employees of Eesti Pank	7	8
Interest expenses	-85 964	-36 677
Derivative instruments	-81 046	-32 691
Securities	-3 309	-2 848
Current accounts	-841	-754
Repurchase transactions	-735	-181
Intra-Eurosystem balances	-33	-203

	<i>thousand EUR</i>	
	2019	2018
Intra-Eurosystem interest income	30 360	27 170
Monetary policy operations	17 528	15 261
Securities held for monetary policy purposes	12 832	11 909
Intra-Eurosystem interest expenses	-33	-203
Monetary policy operations	-33	-203

ITEM 31 – NET RESULT OF FINANCIAL OPERATIONS,
WRITE-DOWNS AND RISK PROVISIONS

	<i>thousand EUR</i>	
	2019	2018
Net result of financial operations, write-downs and risk provisions	7 371	-14 857
Realised gain arising from financial operations	19 928	26 770
Securities	11 863	-722
Exchange rate income/expenses	4 491	1 470
Equities	2 592	24 867
Derivative instruments	907	1 351

	<i>thousand EUR</i>	
	2019	2018
Securities funds	204	-144
Financial asset management costs	-129	-52
Write-downs on financial assets	-2 757	-14 827
Securities	-2 121	-303
Exchange rate write-downs	-497	-230
Derivative instruments	-139	-326
Equities	0	-12 267
Securities funds	0	-1 707
Net change of loan portfolio write-downs	0	6
Provision for financial risks	-9 800	-26 800

Exchange rate income/expenses for the end of 2018 has been corrected (see "Correction to the comparative data in the Annual Accounts in the Annual Report for 2019" in the appendix on accounting principles).

ITEM 32 – NET INCOME FROM FEES AND COMMISSIONS

	<i>thousand EUR</i>	
	2019	2018
Net income from fees and commissions	285	83
Fees and commissions income	327	225
Current accounts service fees	326	225
Fines, arrears and other	1	0
Fees and commissions expenses	-42	-142
Commission fees	-41	-141
Other fees and commissions	-1	-1

ITEM 33 – INCOME FROM EQUITY SHARES AND PARTICIPATING INTERESTS

	<i>thousand EUR</i>	
	2019	2018
Income from equity shares and participating interests	8 295	6 861
Interim profit distribution of the ECB	4 045	3 263
Dividends from investments	2 644	2 390
Partial allocation of ECB profit	1 052	786
Dividends from participation in the IMF	490	361
Dividends from the Bank for International Settlements	64	61

The item mainly shows the profit distributed to Eesti Pank by the European Central Bank earned on securities purchased under the Securities Markets Programme, the third covered bond purchase programme, the asset-backed securities purchase programme and the public sector asset purchase programme (see "Interim profit distribution of the ECB" in the notes on accounting policies).

ITEM 34 – NET RESULT OF POOLING OF MONETARY INCOME

	<i>thousand EUR</i>	
	2019	2018
Net result of pooling of monetary income	1 772	7 389
Monetary income reallocation	1 620	6 914
Monetary income pooled by Eesti Pank	-30 326	-26 519
Monetary income allocated to Eesti Pank	31 946	33 433
Adjustment for the monetary income of previous years	-44	728
Write-downs of securities held for monetary policy purposes	196	-253

The net result of pooling of monetary income from the Eurosystem central banks in 2018 totalled EUR 11,300,936 thousand, which includes the share of Eesti Pank. The monetary income pooled by the Eurosystem is allocated between the Eurosystem central banks in line with their subscription to the ECB's capital key. The difference between the monetary income pooled by Eesti Pank of EUR 30,326 thousand and that reallocated to Eesti Pank of EUR 31,946 thousand is the net result of EUR 1,620 thousand in monetary income.

The amount of each national central bank's monetary income is determined by measuring the actual annual income that derives from the earmarkable assets held against its liability base.

Earmarkable assets are: lending to euro area credit institutions related to monetary policy operations denominated in euro; securities held for monetary policy purposes; 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; interest claims accrued recorded at the end of the month on monetary policy transactions with a maturity of over one year; and a limited amount of each national central bank's gold holdings in proportion to each national central bank's capital key share.

The liability base consists mainly of: banknotes in circulation; liabilities to euro area credit institutions related to monetary policy operations denominated in euro; net intra-Eurosystem liabilities resulting from TARGET2 transactions; net intra-Eurosystem liabilities related to the allocation of euro banknotes within the Eurosystem; and interest liabilities accrued recorded at the end of the month on monetary policy transactions with a maturity of over one year. Any interest paid on liabilities included within the liability base is to be deducted from the monetary income to be pooled.

Gold is considered to generate no income. Securities held for monetary policy purposes under Decision ECB/2009/16 of 2 July 2009 on the implementation of the covered bonds purchase programme, Decision ECB/2011/17 of 3 November 2011 on the implementation of the second covered bond purchase programme, and Decision ECB/2015/10 of 4 March 2015 on a secondary markets public sector asset purchase programme are considered to generate income at the latest available marginal interest rate used by the Eurosystem in its tenders for main refinancing operations. Where the value of an NCB's earmarkable assets exceeds or falls short of the value of its liability base, the difference is offset by applying to the value of the difference the latest available marginal rate for the Eurosystem's main refinancing operations and the total income or expense for the year is considered in the allocation of monetary income.

The item also covers Eesti Pank's share of the provision against losses in monetary policy operations (see Item 27 "Provisions").

ITEM 35 – OTHER INCOME

	<i>thousand EUR</i>	
	2019	2018
Other income	1 470	2 744
Expenses compensated by Finantsinspektsioon	752	658
Income from the sale of collector coins and other numismatic products	479	1 518
Income from sales of assets	102	1
Exchange liability for euro collector coins	71	498
Income on financial asset management	17	17
Rental income	15	23
Other income	34	29

Under the cooperation agreement between Finantsinspektsioon and Eesti Pank, Finantsinspektsioon reimburses monthly 100% of the cost of the support services provided by Eesti Pank. Eesti Pank provides Finantsinspektsioon with information technology, accounting, real estate, and administration services. Finantsinspektsioon covers the depreciation costs of the fixed assets used.

Income from asset management includes the service fee paid by the Guarantee Fund to Eesti Pank for investing their assets. Income from the rent of the training centre of Eesti Pank is recorded under "Rental income".

ITEM 36 – STAFF COSTS

	<i>thousand EUR</i>	
	2019	2018
Staff costs	-10 433	-9 651
Salaries	-7 604	-7 071
Social tax	-2 569	-2 374
Compensations and benefits	-203	-152
Unemployment insurance tax	-57	-54

Compensation and benefits include pension benefits and fringe benefits tax calculated on the discount price for the rent of the training centre.

On average, there were 223.9 employees at Eesti Pank in full-time equivalent in 2019, and 226.6 in 2018.

ITEM 37 – ADMINISTRATIVE EXPENSES

	<i>thousand EUR</i>	
	2019	2018
Administrative expenses	-6 231	-6 148
Information technology maintenance	-2 012	-2 141
Financial asset management	-1 483	-1 433
Real estate renovation and management	-985	-913
Public relations and publications	-489	-306
Business travel	-428	-428
Training	-180	-202

	<i>thousand EUR</i>	
	2019	2018
Economic research	-168	-112
Office	-162	-162
Communications and transport	-42	-65
Legal expertise and arbitration	-7	-3
External representation	0	-115
Other administrative expenses	-275	-268

Maintenance costs for information technology cover the costs of maintenance of software and hardware, data communication and consultation for procurements.

The costs of financial asset management comprise the cost of market information, fees and costs of cross-border payments, and management costs of foreign reserves.

The costs of public relations and publications cover the costs of public events, publications, information agencies, the public website and online databases, public relations research polls, information campaigns, and the Museum of Eesti Pank.

Business travel expenses reflect the costs of staff business travel on behalf of Eesti Pank and for work with international organisations and financial institutions. There were a total of 619 business trips in 2019; there were 638 in 2018.

ITEM 38 – BANKNOTE PRODUCTION SERVICES

Eesti Pank participates in the production of euro banknotes together with other central banks of the euro area. The Governing Council of the ECB sets the amount of euro cash that must be produced each year for the euro area countries. Eesti Pank procured its euro banknotes through a joint tender with seven other euro area central banks. Production of the second series of 20-euro banknotes for the Eurosystem was paid for.

ITEM 39 – OTHER OPERATING EXPENSES

	<i>thousand EUR</i>	
	2019	2018
Other operating expenses	-984	-1 023
Production of collector coins and numismatic products	-378	-248
Production of coins	-312	-507
Cash circulation management	-87	-59
Other expenses	-207	-209

ITEM 40 – DERIVATIVE INSTRUMENTS

	<i>thousand EUR</i>	
	31.12.2019	31.12.2018
Currency swaps and forward transactions		
Purchase	1 080 513	564 007
Sale	-1 071 301	-563 056
Value of interest rate future contracts		
Purchase	38 958	328 320
Sale	-72 592	-256 403

thousand EUR

	31.12.2019	31.12.2018
Value of currency futures contracts		
Purchase	8 602	9 738
Sale	-9 065	-9 937
Value of interest rate swap contracts		
Purchase	23 470	68 528
Sale	-33 465	-47 569
Value of interest rate option contracts		
Purchase	6 600	0
Sale	-15 400	-14 084

ITEM 41 – CONTINGENT LIABILITIES

Bank for International Settlements

Since 1930 Eesti Pank has a contingent liability to the Bank for International Settlements for the unpaid part of the share capital (75%) of the BIS denominated in Swiss gold francs, which totalled EUR 648 thousand at the end of 2019 (see Item 15 “Other financial assets”).

ITEM 43 – IMPORTANT POST-BALANCE-SHEET EVENTS

Following the departure of the United Kingdom from the European Union and the departure of the Bank of England from the European System of Central Banks, the capital key subscriptions of the national central banks changed on 1 February 2020.

	Capital key weighting from 01.02.2020 %	Subscribed capital from 31.01.2020 %
Nationale Bank van België / Banque Nationale de Belgique	2.9630	2.5280
Deutsche Bundesbank	21.4394	18.3670
Eesti Pank	0.2291	0.1968
Central Bank of Ireland	1.3772	1.1754
Bank of Greece	2.0117	1.7292
Banco de España	9.6981	8.3391
Banque de France	16.6108	14.2061
Banca d'Italia	13.8165	11.8023
Central Bank of Cyprus	0.1750	0.1503
Latvijas Banka	0.3169	0.2731
Lietuvos Bankas	0.4707	0.4059
Banque centrale du Luxembourg	0.2679	0.2270
Central Bank of Malta	0.0853	0.0732
De Nederlandsche Bank	4.7662	4.0677
Oesterreichische Nationalbank	2.3804	2.0325
Banco de Portugal	1.9035	1.6367
Banka Slovenije	0.3916	0.3361
Národná banka Slovenska	0.9314	0.8004
Suomen Pankki – Finlands Bank	1.4939	1.2708
Subtotal – euro area national central banks*	81.3286	69.6176

	Capital key weighting from 01.02.2020 %	Subscribed capital from 31.01.2020 %
Българска народна банка (Bulgarian National Bank)	0.9832	0.8511
Česká národní banka	1.8794	1.6172
Danmarks Nationalbank	1.7591	1.4986
Hrvatska narodna banka	0.6595	0.5673
Magyar Nemzeti Bank	1.5488	1.3348
Narodowy Bank Polski	6.0335	5.2068
Banca Națională a României	2.8289	2.4470
Sveriges Riksbank	2.9790	2.5222
Bank of England	0.0000	14.3374
Subtotal – non-euro area national central banks*	18.6714	30.3824
Total*	100.0000	100.0000

* Owing to rounding, the total may not correspond to the sum of all figures shown.

The adjusted capital key was used for revaluing the payments of the central banks of the EU member states to the capital of the ECB and the contributions of the euro area central banks to the foreign currency reserve. Following the adjustment of the capital key, Eesti Pank transferred on 3 February 2020 an additional capital contribution of EUR 59 thousand to the ECB. Eesti Pank will transfer the remaining capital contribution to the ECB in two parts in 2021 and 2022 to make a total contribution of EUR 3,437 thousand. Eesti Pank's share of the ECB's foreign reserves was reduced by EUR 400 thousand, and the reserves, revaluation accounts and risk provision of the ECB were reduced by EUR 391 thousand.

The wide spread of the coronavirus (SARS-CoV-2) has made it more probable that all risks will be realised. We currently believe that our continuity processes and reserves are sufficient to survive the period of the pandemic successfully. We are monitoring the situation and will adjust our operations accordingly.



KPMG Baltics OÜ
Narva mnt 5
Tallinn 10117
Estonia

Telephone +372 6 268 700
Fax +372 6 268 777
Internet www.kpmg.ee

Independent Auditors' Report *(Translation of the Estonian original)*

To the Supervisory Board of Eesti Pank

Opinion

We have audited the accompanying financial statements of Eesti Pank (the "Bank"), which comprise:

- the balance sheet as at 31 December 2019,
- the profit and loss account for the year then ended, and
- notes, comprising significant accounting policies and other explanatory information.

In our opinion, the accompanying financial statements give a true and fair view of the financial position of Eesti Pank as at 31 December 2019, and of its financial performance for the year then ended in accordance with the Guideline of the European Central Bank of 3 November 2016 on the legal framework for accounting and financial reporting in the European System of Central Banks (ECB/2016/34), and the Bank of Estonia (Eesti Pank) Act.

Basis for Opinion

We conducted our audit in accordance with International Standards on Auditing (Estonia). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report.

We are independent of the Bank in accordance with the ethical requirements that are relevant to our audit of the financial statements in Estonia, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other Information

The Executive Board is responsible for the other information. The other information comprises the overview of the financial position of Eesti Pank, but does not include the financial statements and our auditors' report thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of Executive Board and Those Charged with Governance for the Financial Statements

The Executive Board of the Bank is responsible for the preparation and fair presentation of the financial statements in accordance with the Guideline of the European Central Bank of 3 November 2016 on the legal framework for accounting and financial reporting in the European System of Central Banks (ECB/2016/34), and the Bank of Estonia (Eesti Pank) Act. The Executive Board of the Bank is also responsible for such internal control as the Executive Board determines is 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 Executive Board of the Bank is responsible for using the going concern basis of accounting in accordance with Article 4 of the applicable Guideline (ECB/2016/34).



Those charged with governance are responsible for overseeing the Bank's financial reporting process.

Auditors' Responsibilities for the Audit of the 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 auditors' 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 International Standards on Auditing (Estonia) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with International Standards on Auditing (Estonia), 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 the Executive Board.
- Conclude on the appropriateness of the Executive 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 auditors' 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 auditors' report.
- 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 in a manner that achieves fair presentation.

We communicate with those charged with governance regarding 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.

Tallinn, 16 March 2020

/signed/

Eero Kaup
Certified Public Accountant, Licence No 459

KPMG Baltics OÜ
Licence No 17

APPENDIXES

APPENDIX 1. DECISIONS OF THE SUPERVISORY BOARD OF EESTI PANK IN 2019

- 12.02.2019 Decision No 2-1** Profit distribution strategy of Eesti Pank
- 12.02.2019 Decision No 2-2** Amendment of decision no 6-1 of 06.09.2011 of the Eesti Pank Supervisory Board confirming the procedure for selecting candidates to be Governor of Eesti Pank
- 26.03.2019 Decision No 3-1** Annual Report of Eesti Pank 2018
- 26.03.2019 Decision No 3-2** Eesti Pank profit distribution for 2018
- 26.03.2019 Decision No 3-3** Approval of the design for the national side of a two-euro commemorative coin
- 26.03.2019 Decision No 3-4** Appointment of the members of the Fiscal Council
- 26.03.2019 Decision No 3-5** Proposal to nominate the Governor of Eesti Pank
- 16.04.2019 Decision No 4-1** Approval of the design and nominal value of a collector coin dedicated to the 150th anniversary of the birth of Jüri Jaakson
- 16.04.2019 Decision No 4-2** Approval of the design for the national side of the two-euro commemorative coin dedicated to the centenary of the Tartu Peace Treaty
- 16.04.2019 Decision No 4-3** Salary of the Deputy Governors of Eesti Pank
- 16.04.2019 Decision No 4-4** Salary of the Head of the Internal Audit Department
- 16.04.2019 Decision No 4-5** Salary of the Governor of Eesti Pank
- 28.05.2019 Decision No 5-1** Additions to the audit plan of the Internal Audit Department of Eesti Pank
- 28.05.2019 Decision No 5-2** Amendment of the principles for payment of the Executive Board
- 28.05.2019 Decision No 5-3** Payment of a bonus to Ardo Hansson
- 29.07.2019 Decision No 7-1** Repeal of decision No 3-4 of the Supervisory Board of Eesti Pank of 26.04.2011 confirming the procedure for appointing Deputy Governors of Eesti Pank
- 17.09.2019 Decision No 7-2** Appointment of the Deputy Governors of Eesti Pank
- 03.12.2019 Decision No 8-1** Appointment of the members of the Supervisory Board of Finantsinspektsioon
- 03.12.2019 Decision No 10-1** Additions to the audit plan of the Internal Audit Department of Eesti Pank

APPENDIX 2. DECREES OF THE GOVERNOR OF EESTI PANK IN 2019

No 1, 18 January 2019

The list of statistical actions of Eesti Pank under the official statistical programme

(officially published: RT I, 22.01.2019, 6)

The decree confirmed the list of statistical actions of Eesti Pank under the official statistical programme 2019–2023.

No 2, 01 March 2019

Amendments to Decree No 7 of the Governor of Eesti Pank of 13 March 2018

(officially published: RT I, 05.03.2019, 17)

AS LHV Pank was added to the list of providers of vital services in the Decree No 7 of the Governor of Eesti Pank of 13 March 2018 “Descriptions and requirements for continuous operation of payment services and cash circulation”.

No 3, 16 April 2019

Issue of the silver collector coin dedicated to Hanseatic Viljandi

(officially published: RT I, 18.04.2019, 6)

Under the decree a silver collector coin dedicated to the Hanseatic town of Viljandi with a nominal value of 8 euros was issued on 08 June 2019.

No 4, 16 April 2019

Issue of the silver collector coin dedicated to the 200th anniversary of the birth of Johann Voldemar Jannsen

(officially published: RT I, 18.04.2019, 7)

Under the decree a silver collector coin dedicated to the 200th anniversary of the birth of Johann Voldemar Jannsen with a nominal value of 12 euros was issued on 16 May 2019.

No 5, 19 June 2019

Amendments to Decree No 7 of the Governor of Eesti Pank of 29 March 2014

(officially published: RT I, 26.06.2019, 10)

The decree changed the reporting deadlines in Decree No 7 of the Governor of Eesti Pank of 29 May 2014 “Establishment of Supplementary Reports on Credit Institutions’ Balance Sheet”, added the principles for defining bonds and their collateral, and introduced new wordings for Appendixes 8, 9 and 12.

No 6, 27 August 2019

Setting a risk weight floor for mortgage loans

(officially published: RT I, 04.09.2019, 1)

The decree required Estonian credit institutions that use the internal ratings based approach to use a risk weight floor of at least 15% of mortgage-backed retail claims on Estonian resident clients when calculating their total exposures.

No 7, 06 November 2019

Amendment of Decree No 4 of the Governor of Eesti Pank of 9 May 2008 "Approval of TARGET2-Eesti rules"

(officially published: RT I, 12.11.2019, 1)

The rules for TARGET2-Eesti were harmonised with Guideline ECB/2019/30 of the European Central Bank of 4 October 2019 amending Guideline ECB/2012/27 on a Trans-European Automated Real-time Gross settlement Express Transfer system (TARGET2). The main change to the content was to make emergency resolution more efficient so that important payments may be processed more smoothly in an emergency. The conditions for participating in investment firms were clarified together with the procedure for self-certification by system participants and the requirements for providers of TARGET2 network services.

No 8, 19 December 2019

Issue of a silver collector coin dedicated to the 150th anniversary of the birth of Jüri Jaakson

(officially published: RT I, 20.12.2019, 28)

Under the decree a silver collector coin dedicated to the 150th anniversary of the birth of Jüri Jaakson with a nominal value of 15 euros was issued on 10 January 2020.

APPENDIX 3. PUBLICATIONS AND ARTICLES WRITTEN BY EESTI PANK

ANNUAL REPORT

The Annual Report gives a review of the central bank's activities during the reporting year and the financial statement. Its appendixes contain a list of decrees of the Governor of Eesti Pank and of the decisions of the Supervisory Board, and a list of the publications of the year.

Issues published in 2019:

- Eesti Pank Annual Report 2018

FINANCIAL STABILITY REVIEW

The Financial Stability Review is Eesti Pank's main publication analysing financial stability. It gives the results of the bank's analyses and its assessment of financial stability, and discusses policy measures. The Financial Stability Review is published twice a year.

Issues published in 2019:

- Financial Stability Review 1/2019
- Financial Stability Review 2/2019

THE ESTONIAN ECONOMY AND MONETARY POLICY

The Estonian Economy and Monetary Policy is an Eesti Pank review released four times a year that summarises the main recent events in the global and Estonian economies. Twice a year, in June and December, the review also contains the forecast for the Estonian economy for the current year and the next two calendar years.

Issues published in 2019:

1. Estonian Economy and Monetary Policy 1/2019
2. Estonian Economy and Monetary Policy 2/2019
3. Estonian Economy and Monetary Policy 3/2019
4. Estonian Economy and Monetary Policy 4/2019

LABOUR MARKET REVIEW

The Labour Market Review discusses the most important trends in the Estonian labour market, labour supply and demand, labour costs, institutional developments of the labour market, and other related issues. The Labour Market Review is published twice a year.

Issues published in 2019:

- Labour Market Review 1/2019
- Labour Market Review 2/2019

FINANCING OF THE ECONOMY

The review of financing and lending of businesses and households covers banking and leasing statistics, financial accounts analysis and credit supply and demand. The review is published once a year.

Issues published in 2019:

- Financing of the Economy. February 2019

ESTONIAN COMPETITIVENESS REPORT

Eesti Pank publishes the Estonian Competitiveness Report once a year. Competitiveness can be analysed in several different ways and each issue considers several widely-used groups of indicators for competitiveness. Competitiveness is assessed through assessment of Estonian export capacity using relative productivity growth, changes in export indicators and similar, and of competitiveness indicators for relative prices and costs.

Issues published in 2019:

- Estonian Competitiveness Report

WORKING PAPERS

The Working Papers are summaries of the economic studies conducted at Eesti Pank. The target group of the Working Papers is, above all, economists and economic experts, and the papers are often published in English only.

Issues published in 2019:

- **Working Papers of Eesti Pank 1/2019:**

Jacopo Bonchi. Asset Price Bubbles with Low Interest Rates: Not All Bubbles are Alike

- **Working Papers of Eesti Pank 2/2019:**

Thomas Y. Mathä, Stephen Millard, Tairi Rõõm, Ladislav Wintr and Robert Wyszynski. Shocks and labour cost adjustment: evidence from a survey of European firms

- **Working Papers of Eesti Pank 3/2019:**

Juan Carlos Cuestas, Yannick Lucotte and Nicolas Reigl. The evolution and heterogeneity of credit procyclicality in Central and Eastern Europe

- **Working Papers of Eesti Pank 4/2019:**

Jaanika Meriküll, Merike Kukk and Tairi Rõõm. What explains the gender gap in wealth? Evidence from administrative data

- **Working Papers of Eesti Pank 5/2019:**

Jaanika Meriküll and Tairi Rõõm. Are survey data underestimating the inequality of wealth?

- **Working Papers of Eesti Pank 6/2019:**

Merike Kukk and Natalia Levenko. Macroeconomic imbalances and loan quality in panels of European countries

- **Working Papers of Eesti Pank 7/2019:**

Juan Carlos Cuestas. On the evolution of competitiveness in Central and Eastern Europe: is it broken?

- **Working Papers of Eesti Pank 8/2019:**

Dmitry Kulikov and Nicolas Reigl. Inflation Expectations in Phillips Curve Models for the Euro Area

- **Working Papers of Eesti Pank 9/2019:**

Cécile Couharde, Olivier Damette, Rémi Generoso and Kamiar Mohaddes. The Effects on Growth of El Niño and La Niña: Local Weather Conditions Matter

OCCASIONAL PAPERS

The Eesti Pank Occasional Papers is a series of papers where the bank publishes reviews of its analysis and research work. The papers cover a wide range of topical subjects and may be of interest to everyone interested in economics, including professional economists, political decision-makers, people in business, and anyone who simply wants to know more about economics. Issues published in 2018:

- **Occasional Papers of Eesti Pank 1/2019.**

Jaanika Meriküll and Tairi Rõõm. Estonian Household Finance and Consumption Survey: Results from the 2017 wave

- **Occasional Papers of Eesti Pank 2/2019.**

Juha Kilponen, Massimiliano Pisani, Sebastian Schmidt, Vesna Corbo, Tibor Hledik, Josef Hollmayr, Samuel Hurtado, Paulo Júlio, Dmitry Kulikov, Matthieu Lemoine, Matija Lozej, Henrik Lundvall, José R. Maria, Brian Micallef, Dimitris Papageorgiou, Jakub Rysanek, Dimitrios Sideris, Carlos Thomas, and Gregory de Walque. Comparing Fiscal Consolidation Multipliers across Models in Europe

OTHER PUBLICATIONS

Villu Zirnask. **The History of Eesti Pank.** Eesti Pank, 2019

The Euro. Eesti Pank, 2019. In Estonian and English

From the Mark to the Kroon. Eesti Pank, 2019. In Estonian and English

BLOG POSTS

Kaspar Oja. Where is Estonian labour going?

Katri Urke. Lower investment activity will curb economic growth

Jaak Tõrs. Does Tamm want less profit than Svensson?

Jaanika Meriküll. Would people voluntarily save as much for retirement as they do with a mandatory funded pension?

Rasmus Kattai. Higher inflation has been driven by political choices and increasing wealth

Rasmus Kattai. Estonians are not prepared for a crisis

Ardo Hansson. The new government must provide certainty about the future

Lenno Uusküla. The traces of monetary policy in our wallets

Ardo Hansson. Government, don't make the economy worse

Madis Müller. The impact of suspicions of money laundering and what we can learn

Interview with **Governor Madis Müller** by the newspaper Harju Elu

Madis Müller. What can we expect from the Estonian economy and Eesti Pank?

Kaspar Oja. What would make Estonia even more successful?

Merike Kukk. Are house prices in Estonia overvalued?

Jaanika Meriküll. Those who have joined the second pillar have a lot more in savings than those who have not joined

Tairi Rõõm. The most expensive asset of Estonian families is their residence

Katri Urke. How does immigration affect the labour market?

Karsten Staehr. The Nobel prize went to research into global poverty

Kaspar Oja. We are breaking one of the myths about pensions

Eva Branten. Household debt is very unevenly distributed

Natalja Viilmann. A hard Brexit may cost the Estonian economy as much as 1% of GDP

Liina Kulu. The latest OECD economic review recommends that Estonia abandon its reform of the second pension pillar

SELECTED WORKS BY EESTI PANK STAFF PUBLISHED OR ACCEPTED FOR PUBLICATION IN 2019

Author(s)	Title	Published
Jaanika Meriküll, Tairi Rõõm	Stress tests of the household sector using microdata from survey and administrative sources	International Journal of Central Banking (accepted for publication)
Karin Sakowski, Maaja Vadi, Jaanika Meriküll	Patterns of Organisational Innovation: Comparison of Western and Eastern Countries in Europe	Innovation: The European Journal of Social Science Research, 2019, Vol 32, Issue 2, pp. 270-290.
Merike Kukk, Alari Paulus, Karsten Staehr	Cheating in Europe: underreporting of self-employment income in comparative perspective	International Tax and Public Finance (accepted for publication)
Merike Kukk	Debt repayment problems: short-term and long-term implications for spending	Review of Economics of the Household, 2019, Vol. 17, No. 2, pp 715-740.
Juan Carlos Cuestas Olivares, Merike Kukk	The Spanish housing market: is it fundamentally broken?	Applied Economics Letters (accepted for publication)
Juan Carlos Cuestas Olivares, Yannick Lucotte, Nicolas Reigl	Banking sector concentration, competition and financial stability: the case of the Baltic countries	Post-Communist Economies, 2019, Vol 32:2, pp 215-249.
Juan Carlos Cuestas, Estefanía Mourelle, Paulo José Regis	Real exchange rate misalignments in CEECs: Have they hindered growth?	Empirica, 2019, pp 1-24.
Juan Carlos Cuestas Olivares	Changes in sovereign debt dynamics in Central and Eastern Europe	International Journal of Finance and Economics (accepted for publication)
Javier Ordóñez, Mercedes Monfort, Juan Carlos Cuestas Olivares	Oil prices, unemployment and the financial crisis in oil-importing countries: the case of Spain	Energy, 2019, Volume 181, pp. 625-634.
Juan Carlos Cuestas Olivares, Javier Ordóñez, Karsten Staehr	Unit labour costs and the dynamics of output and unemployment in the southern European crisis countries	Empirica, 2019, Vol. 46, pp. 597-616.
Karsten Staehr, Lenno Uusküla	Macroeconomic and macro-financial factors as leading indicators of non-performing loans. Evidence from the EU countries	Journal of Economic Studies (accepted for publication)
Moritz Degler, Karsten Staehr	Price and income convergence and the dynamic Penn effect in Central and Eastern Europe	Economic Change and Restructuring (accepted for publication)
Karsten Staehr, Robert Vermeulen	Heterogeneous effects of competitiveness shocks on macroeconomic performance across euro area countries	The World Economy, 2019, Vol. 42, Issue 1, pp 68-86.
Natalia Levenko, Kaspar Oja, Karsten Staehr	Total factor productivity growth in Central and Eastern Europe before, during and after the global financial crisis	Post-Communist Economies, 2019, Vol. 31, No. 2, pp. 137-160.
Nicolas Reigl, Lenno Uusküla	Alternative frameworks for measuring credit gaps and setting countercyclical capital buffers	Journal of Financial Economic Policy (accepted for publication)
Punnoose Jacob, Lenno Uusküla	Deep habits and exchange rate pass-through	Journal of Economic Dynamics and Control, 2019, Vol. 105, pp. 67-89.
Juha Kilponen, Massimiliano Pisani, Sebastian Schmidt, Vesna Corbo, Tibor Hledik, Josef Hollmayr, Samuel Hurtado, Paulo Júlio, Dmitry Kulikov, Matthieu Lemoine, Matija Lozej, Henrik Lundvall, José R. María, Brian Micallef, Dimitris Papageorgiou, Jakub Rysanek, Dimitrios Sideris, Carlos Thomas, and Gregory de Walque	Comparing Fiscal Consolidation Multipliers across Models in Europe	International Journal of Central Banking, 2019, September, pp. 285-320.
Natalja Levenko	Perceived uncertainty as a key driver of household saving. International Review of Economics and Finance	International Review of Economics and Finance (accepted for publication)

