Eesti Pank

FINANCIAL STABILITY REVIEW

2/2017

The Eesti Pank Financial Stability Review is published twice a year. Each issue of the Review refers to the time the analysis was completed, not to the period it covered. The Review uses the latest available data at the time of preparation of each issue.

The Review is available to read at: http://www.eestipank.ee.
Copies can be ordered by telephone on +372 668 0998,
or by fax on +372 668 0954
or by email from trykis@eestipank.ee.

Print	ISSN 1736-1281
Online	ISSN 2382-9389
Layout and design	Urmas Raidma
Printed by	Kuma Print

CONTENTS

ASSESSMENT OF FINANCIAL STABILITY AND MACROPRUDENTIAL MEASURES

The financial position of Estonian companies and households was strengthened in the first half of 2017 by the revival of the Estonian economy. Economic activity generally increased in Estonia's main trading partners and so the export opportunities of companies in Estonia also improved. Growth in the Estonian economy accelerated and companies earned more profit than a year ago, although profits are still low compared to their long-term average. Profits again came under pressure from rapid rises in the average gross wage, which at the same time increased the incomes of households. The purchasing power of wage earners grew more slowly than in the previous year though, as inflation also rose.

The ratio of corporate debt to GDP declined and financial buffers increased. Companies increased their investment in the first half of this year for the first time in some years, and the growth in long-term loans picked up. As short-term borrowing declined at the same time, total debt liabilities increased slowly, and faster economic growth meant that the corporate debt burden shrank. Growth in profits increased the equity of companies, and their financial leverage remained lower than in the past decade. Corporate deposits increased, as did the coverage of short-term debt liabilities by liquid assets.

Loans and leases to households grew at the same rate as incomes, and financial assets also grew. The rapid rise in wages over a long time helped boost household confidence to the highest level of recent years. Rising incomes, increasing confidence, and low interest rates increased the demand from households for loans, and the portfolio of loans and leases grew faster in the first three quarters of 2017. The ratio of household debt to disposable income remained at almost the same level as at the end of 2016 in the second quarter of 2017 as disposable income increased rapidly. Household deposits grew strongly again, and by more than debt did.

The residential housing market perked up and moderate price growth continued. An ever-increasing amount of new residential space has come onto the market, helping to offset the pressure on prices from demand. The price index for residential property rose by 5% over the year in the second quarter of 2017, and the ratio of the average apartment price to the average gross wage was at the same level as a year previously. The lending conditions of banks for housing loans remained generally the same, and there was no major increase in the share of housing loans in the financing of transactions for residential property.

The supply of office and commercial space also increased. The construction permits issued in the first half of 2017 suggest that an increase in the supply of office space is to be expected. At the same time there has been a slight rise in the share of vacant office space, which may indicate that the market is becoming saturated. Loans to real estate companies account for a fairly large part of the loan and lease portfolio of the banks but the banking sector as a whole has not increased the share of such loans in the total portfolio. The development of commercial buildings has largely been financed through own funds, and external funds from other companies and the non-bank financial sector.

The financial position of the banking sector remains strong. Although bank loans and leases increased quickly in the first half of 2017, the quality of the loan portfolio remained good and loan losses were low. The banking sector is mainly funded through the deposits of resident clients, though the loans and deposits from Nordic parent companies play an important role in the funding of some banks. A similar amount of profit was earned to that of the previous year, and most banks increased their own funds. The changes to the income tax system that will start to apply from next year may however push banks to pay out more dividends, the consequence of which may be a reduction in the resilience to risk of the banking sector. The effect of tax changes may be that lending activity is moved to subsidiary companies, which will also imply some risk.

The state of the economy and of banking in the Nordic countries, which affects Estonian financial stability significantly, is good but the risks to it continue to build up. Economic growth remains fast in Sweden, the most important foreign country for the Estonian financial

sector, and the state of the labour market there is good. Real estate prices have been rising for a long time though, and the household debt burden is very large compared to those of other countries. The rapid rise in real estate prices and in borrowing continued in the first half of 2017. The Swedish financial supervision authorities have announced their intention to tighten further the conditions for amortisation of new loans. The funding conditions of the big Nordic banking groups operating in Estonia remain favourable, as their own funds have increased and are at a similar level to those of other large banks in Europe.

RISK ASSESSMENT

In the assessment of Eesti Pank, the risks to the functioning of the financial sector in autumn 2017 are low. Risks are being held down above all by the relatively large financial buffers of companies and households, and by the high equity level of the banking sector. The three main medium-level risks to financial stability are:

Risk 1

If financial markets assess that the risks to the Nordic economies or banking groups have increased, the liquidity risk of the banks operating in Estonia will increase and with it the risk to the financing of the economy. Reduced economic activity in the Nordic countries would have a negative effect on the income of Estonian exporters and their ability to service loans.

The risks from the Nordic countries could reduce the liquidity and funding of the Estonian financial sector and the ability of exporting companies to service their loans. Some banks operating in Estonia get a significant part of their funding from their parent companies, the big Nordic banking groups. Equally, liquidity is managed centrally in the big banking groups so a large part of the liquidity of banks in Estonia is controlled by foreign parent companies. Were the parent companies to reduce the funding for the subsidiaries or branches operating in Estonia, it would affect the supply of credit and less money would flow into the Estonian economy. Any setbacks to the Nordic economies would equally impact demand for Estonian exports, which would harm the capacity of exporting companies to service their loans. Were this risk to be realised, it is forecast that it would have more of an impact on the stability of the Estonian financial system than on other countries.

Risks arising from the Nordic economies come primarily from the heavy indebtedness of households there, rapid rises in real estate prices and the large share of their funds that the banks get from the markets. The high debt level combined with a fall in real estate prices could make households cut consumption if interest rates were to rise and loan servicing costs to increase. Reduced consumption would reduce the revenues of companies and their ability to service their loans, which would hurt the quality of the loan portfolio of the banks. The banking groups largely fund themselves through bonds. If international investors were to reassess the risks to the economy or banks upwards, the conditions under which the banks issue bonds could worsen quickly and substantially. The risks are mitigated by the good economic standing of the Nordic countries and the relatively strong financial position of the banks.

Risk 2

Although sales revenues increased, wage pressures will continue to threaten the profitability of Estonian companies in future. This may reduce the ability of Estonian companies to service their loans and harm the quality of the loan portfolio of the banks.

Corporate profits started to increase as sales revenues rose, but the wage pressures will continue to affect profitability in the future. Despite the rising profits, profitability remains low and wage growth may be accelerated again by various factors. A favourable external environment and rapid economic growth increase the likelihood that sales revenues will rise further. However, this depends on the ability of companies to increase productivity. Low profitability and a fall in investment may reduce the competitiveness of companies.

Lower corporate profits may reduce the ability of companies to service their loans. This could lead to an increase in the loan losses of the banks. A fall in profits would also mean that companies have to make their operations more efficient, or cease operations, which could affect household incomes and worsen their ability to pay their loans.

Risk 3

Increasing economic activity could raise further the number of transactions in the real estate market and boost the rise in prices. With interest rates low, this would increase the growth in housing loans and in loans to real estate companies, and leave the banking sector more vulnerable to risks from the real estate sector.

Improved confidence and a continuing rapid rise in wages could lead households to overestimate their ability to pay. The strong growth in the Estonian economy increases confidence about the future, and creates expectations that wages will continue to rise rapidly in the short term. This could raise demand for residential property further, pushing prices to rise further and increasing the debt burden of households. In taking on long-term loan liabilities, households should remember that incomes and real estate prices could start to fall and the cost of servicing loans could rise.

If banks were to ease their lending conditions it could fuel activity in the loan market. The banks have so far increased the supply of loans relatively moderately. The conditions for housing loans have generally remained the same, and there has been no major increase in the share of loans in the financing of transactions for residential property. Tight competition between the banks and continuing low interest rates may, however, lead the banks to increase the supply of housing loans and boost loan growth to preserve profitability.

The financing risk for commercial property has increased. There may not necessarily be enough demand for all of the new office buildings, and the ability of their owners to service their loans may deteriorate. Although loans to real estate companies have not increased as a share of the total portfolio of the banking sector as a whole, they still command a large share of the loan portfolios of the banks and the inability of owners of office buildings to service their loans could lead to loan losses for some banks. As the development of commercial buildings is largely funded from other companies and the non-bank financial sector, payment problems for the owners of office buildings could harm the ability of other bank clients to service their loans.

Macroprudential measures

The macroprudential measures imposed by Eesti Pank are currently sufficient to cope with the main risks that the risk assessment finds may threaten the functioning of the financial system in the near future. The 1% systemic risk buffer requirement that applies to all banks helps their resilience to risks arising from a possible decline in the ability of companies to service loans because of a fall in exports. The additional buffer requirements for systemically important credit institutions support their resilience further. The housing loan requirements, which Eesti Pank introduced as a preventative measure to avoid loan terms and conditions being eased excessively, help to reduce the risks from excessively fast growth in housing loans.

AS LHV Pank was added to the list of systemically important credit institutions in Estonia. Eesti Pank assesses the importance of the credit institutions operating in Estonia each year, and decides at what level their additional capital buffers should be set. This year, Eesti Pank decided to add AS LHV Pank to the list alongside Swedbank AS and AS SEB Pank. The market share of LHV Pank had increased from a year earlier, and the position of the services it offers has increased in the financial system. An additional buffer requirement of 0.5% will be applied to AS LHV Pank as a systemically important bank. The buffer rate of 2% continues to apply for Swedbank AS and AS SEB Pank. On 1 October 2017, Luminor Bank AS, which was founded by a merger of the Estonian branch of

Nordea Bank and AS DNB Pank, started operations in Estonia. Eesti Pank will decide on the importance of this bank for the Estonian financial system, and will decide the buffer requirement for it in the next assessment in 2018.

Eesti Pank does not currently consider it necessary to raise the countercyclical capital buffer rate above 0%. There has been no increase in indebtedness in the real economy, which is the ratio of debt to GDP, in the past three years, and the growth in total debt has been relatively modest. Debt liabilities will grow faster in the coming years as the economy grows, but the rate of growth will not exceed that of nominal GDP consistently or significantly. Furthermore, the banks have not loosened their lending standards and conditions and have not increased their leverage.

If credit growth increases further and debt levels rise, Eesti Pank can raise the rate of the countercyclical capital buffer above 0% or can tighten the requirements for housing loans. Households have started to borrow more as wages have risen rapidly and confidence has increased, and this could lead loan burdens to increase faster than forecast and so increase the related risks. Corporate indebtedness could also start to grow strongly again if investment increases. Eesti Pank monitors the situation and may introduce additional measures if necessary to prevent risks building up.

The main risks to Estonian financial stability

If financial markets assess that the risks to the Nordic economies or banking groups have increased, the liquidity risk of the banks operating in Estonia will increase and with it the risk to the financing of the economy. Reduced economic activity in the Nordic countries would have a negative effect on the income of Estonian exporters and their ability to service loans.	→
Although sales revenues increased, wage pressures will continue to threaten the profitability of Estonian companies in future. This may reduce the ability of Estonian companies to service their loans and harm the quality of the loan portfolio of the banks.	↓
Increasing economic activity could raise further the number of transactions in the real estate market and boost the rise in prices. With interest rates low, this would increase the growth in housing loans and in loans to real estate companies, and leave the banking sector more vulnerable to risks from the real estate sector.	→

1 = minor risk and 6 = major risk. The arrow indicates changes in the risk level from the assessment of April 2017.

DEVELOPMENT TRENDS AND RISKS AFFECTING FINANCIAL STABILITY

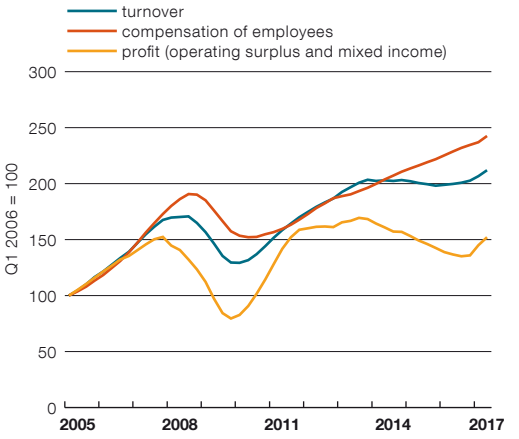
COMPANIES AND HOUSEHOLDS

The economy of the euro area has grown well in 2017, but the risks have not disappeared. The euro area economy grew by 2.2% over the year in the second quarter, which is the fastest rate of growth since 2011. This rapid growth helped the labour market in the euro area to continue to improve. Survey data from recent months indicate that growth continued at the same rapid rate in the third quarter. Among the issues that may threaten further growth are problems caused by heavy indebtedness and political uncertainty, though this has declined in the past half year.

The economies of the countries around Estonia grew quickly in the first half of 2017, increasing the export opportunities for Estonian companies. Growth in the economies of Latvia and Lithuania was around 4% in the second quarter of 2017, and in Sweden and Finland it was 3%. The exporting opportunities of the Estonian companies have been improved by the increased purchasing power of consumers and by strong export growth in Finnish and Swedish manufacturing, as Estonian exports to the Nordic countries are largely used as inputs for Nordic exports and industry. The Swedish real estate sector has been very active, partly because of low interest rates. Increased imbalance in the Swedish real estate market could pose a danger to the Swedish economy and restrict the funding of the banks, which would negatively impact Estonian exporting companies and would hinder the access to funds of the entire Estonian business sector. Growth in the Russian economy reached 2.5%, though weak purchasing power among the public meant that retail sales have again grown little, and the opportunities for Estonian exporters in Russian markets continue to be constrained by import restrictions on food products from the European Union.

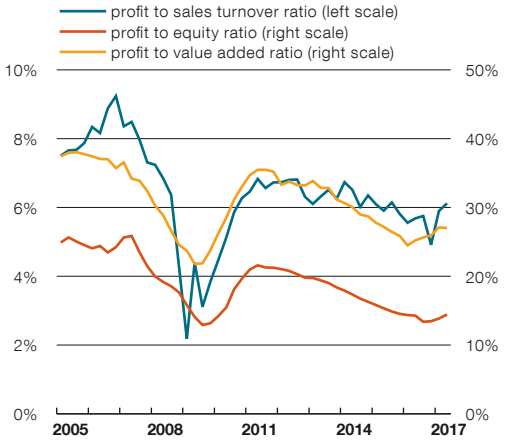
The Estonian economy has grown rapidly in 2017. Estonian GDP grew by 5.7% over the year in the second quarter at constant prices, and at a double-digit rate in current prices. The data available so far for the third quarter show that the economy continued to grow rapidly. The growth has been fairly general across different sectors of the economy.

Figure 1. Sales turnover, compensation of employees and profit of companies (four-quarter moving sum)



Source: Statistics Estonia

Figure 2. Corporate profitability



Sources: Eesti Pank, Statistics Estonia

Despite the recent rise in profits, the profitability of companies remains low and further growth in profits is endangered by strong wage pressures. Strong demand and higher inflation have allowed companies to increase their sales revenues in 2017 and this has increased corporate profits (see Figure 1). Profits increased in the first half-year in most sectors, but did so particularly quickly in construction, while profits in manufacturing increased by only 3%. The fall in profits in previous years meant that profits as a share of corporate sales revenues remain relatively low next to their levels of the past 15 years (see Figure 2). Wage pressure will remain high in the near future, though it is important for the competitiveness of companies

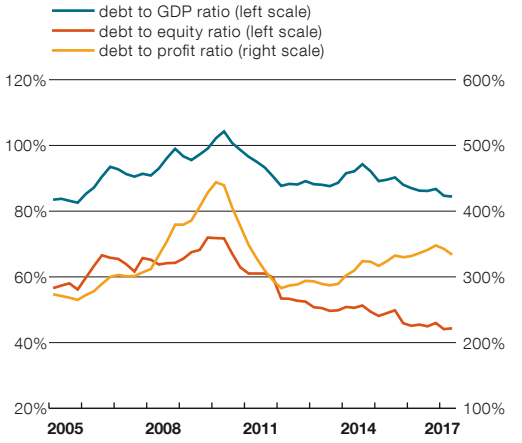
and their ability to service their loans that wage costs not grow faster than revenues.

The ability of companies to service their loans improved in the first half of 2017. Corporate indebtedness and financial leverage are lower than in the past decade and liquidity is good (see Figure 3). After several years, companies have started to increase their investments in fixed assets again, and to fund these they have taken out long-term debt liabilities, annual growth in which reached around 7% at the end of the second quarter. Short-term debt liabilities have declined at the same time, meaning that the yearly growth in total debt remained below 3%. As nominal GDP grew noticeably faster than this, the indebtedness of companies, which is the ratio of debt liabilities to GDP, declined substantially. Growth in profits increased the equity and the financial leverage of companies as the ratio of debt liabilities to equity declined. Liquid assets have been built up primarily as deposits. Increased deposits and a reduction in the use of short-term loans have improved the coverage of debt liabilities with liquid assets. Increases in the ability of companies to pay and in their liquid assets are again being supported by the very low base interest rates, which mean that companies are spending a lot less on interest payments.

The payment behaviour of companies remains good. The share of companies with payment difficulties, seen as overdue debts to suppliers, or with tax arrears was very low in the first half of 2017 next to the level of the previous four years (see Figure 4). Although the average amount owed to suppliers and the average tax debt increased slightly, they are still low by the levels of the past decade. The number of bankruptcies fell for the seventh consecutive year and is very low.

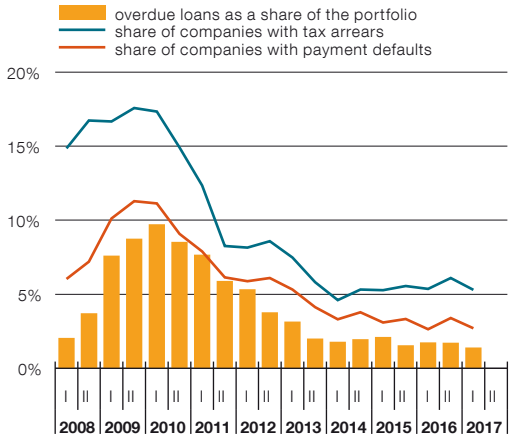
The main risk to financial stability in Estonia from the business sector stems from a possible fall in profits. Although corporate income rose a little faster at the end of last year and profits started to grow again, wage pressures will remain very high in future and wage growth may accelerate further. It is equally unclear how far the fall in profits and investment over several years has affected the competitiveness of Estonian companies and their potential for growth. A fall in profits may reduce the ability of companies to service their loans, which may worsen the quality of the loan portfolios of the banks.

Figure 3. Corporate indebtedness and leverage



Sources: Eesti Pank, Statistics Estonia

Figure 4. Payment behaviour of companies



Sources: Krediidiinfo, Eesti Pank

The general state of the economy remained good for households in the first half of 2017. The yearly growth in the average gross monthly salary was 6.8% in the second quarter of 2017, which is close to the average rate seen in 2016 (see Figure 5). Increased demand for labour may lead wage growth to increase further, while a rise in the tax-free income threshold in 2018 will raise the incomes of wage earners. The employment rate was high in the second quarter of 2017 at 66.9%. The unemployment rate has not significantly changed.

As inflation has picked up, the purchasing power of wage earners is increasing more slowly than nominal wages. Inflation was at its fastest for four years in July 2017 at 3.6%. Eesti Pank's forecast expects inflation to remain high until the end of the year. It should fall in the first half of next year, but it will still remain above the average for the euro area.

The consumer confidence indicator was at its highest level of recent years in the first half of 2017 for Estonia and for the euro area as a whole (see Figure 6). Consumer expectations for the general state of the economy in Estonia have improved, though inflation expectations have risen too. There has been no significant change over the year in people's expectations for the economic situation of their own family.

The debt liabilities of Estonian households continued to grow rapidly in the first quarters of 2017. The yearly growth in household debt liabilities had reached around 6.4% by the end of the second quarter of 2017. The fastest growth was in housing loans and car leases. As household debt liabilities have grown at a similar rate to household incomes, the ratio of household debt to disposable income was similar in the first quarter of 2017 to what it was in 2016 at 74%. Faster growth in the economy reduced the ratio of household debt to GDP a little, and in the second quarter of 2017 it stood at 41% (see Figure 7).

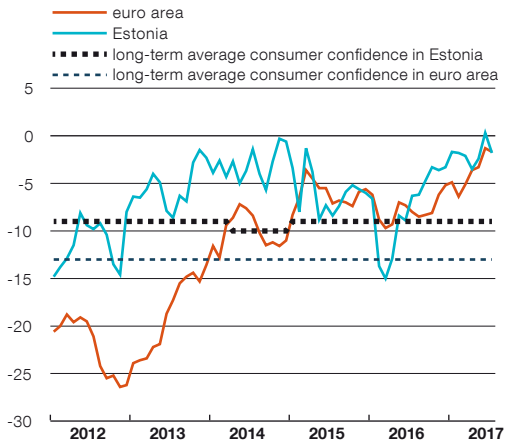
The interest burden of households, which is the ratio between the annual interest costs of their loans and disposable income, has remained at 1.9% (see Figure 7). The natural renewal of the loan portfolio will lead the average interest rate in the portfolio to rise, raising the interest burden over time as well. The average interest margin on housing loans has increased a little.

Deposits continued to grow faster than wages or debt liabilities in the first half of 2017. At the end of the second quarter, the yearly growth in deposits was around 9%. The consumer sentiment survey of the Estonian Institute of Economic Research showed that 50% of families have managed to save in 2017, which is the highest figure recorded by any sentiment

Figure 5. Unemployment rate and growth in average gross wages

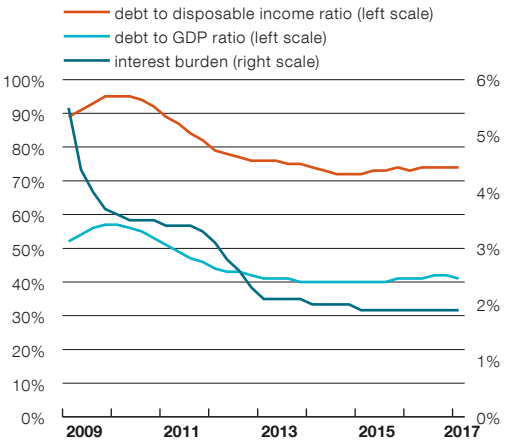
Sources: Statistics Estonia, Eesti Pank

Figure 6. Consumer confidence indicator (seasonally adjusted)



Sources: Estonian Institute of Economic Research, European Commission

Figure 7. Household indebtedness

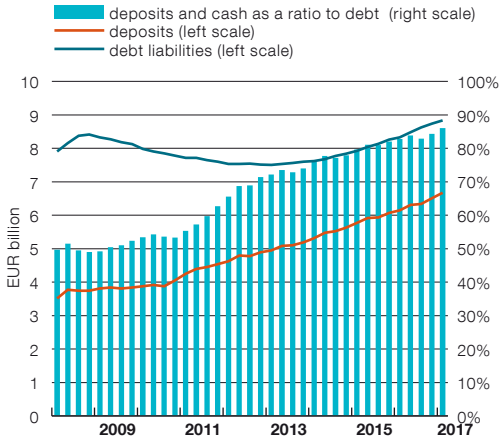


Sources: Statistics Estonia, Eesti Pank

survey in Estonia since 1991[1]. This meant that the ratio of household savings and cash to debt rose slightly in the first quarters of 2017, to 87% at the end of the second quarter (see Figure 8).

The favourable financial position of households has been good for their ability to service their loans. At the end of the second quarter of 2017 the share of household loans overdue more than 60 days in the total loan portfolio to households was 0.63%. It is important though that households do not overestimate their ability to service their loans in the expectation of continuing wage growth, but remember that wages may rise more slowly and interest rates can rise.

Figure 8. Deposits and debt liabilities of households



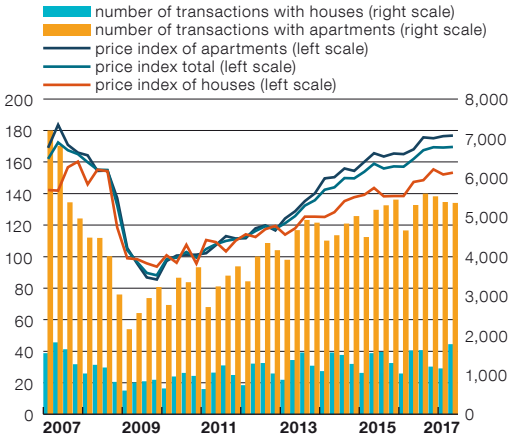
Source: Eesti Pank

THE REAL ESTATE MARKET

The housing market

The number of transactions in the Estonian housing market rose in the first half of 2017 and prices continued to rise moderately. Data from Statistics Estonia show that price indexes for housing and for apartments rose by some 5% in the second quarter of 2017 (see Figure 9). The yearly growth in the average price of a square metre in apartment transactions according to data from the Land Board was some 6% in Tallinn and below 1% elsewhere in Estonia. The number of transactions with housing in general and with apartments in particular was around 10% higher in the first half of 2017 than a year earlier (see Figure 9). The number of transactions and the average price in the apartment market continued to grow moderately in the third quarter.

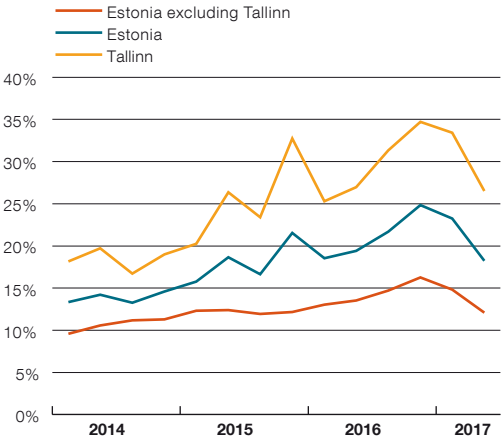
Figure 9. Residential property price indexes (2010 = 100) and number of transactions



Sources: Statistics Estonia, Estonian Land Board

The average price of apartments has been affected notably in recent years by new apartments being sold for the first time. The share of new apartments, which are usually more expensive than those in the secondary market, in all transactions has risen in recent years, but has fluctuated widely from quarter to quarter (see Figure 10). There has also been a lot of fluctuation from quarter to quarter in the average square metre price of new apartments (see Figure 11).

Figure 10. The share of transactions with new apartments



Source: Estonian Land Board

1 Estonian Institute of Economic Research "Konjunktuur 2 (201)", 2017

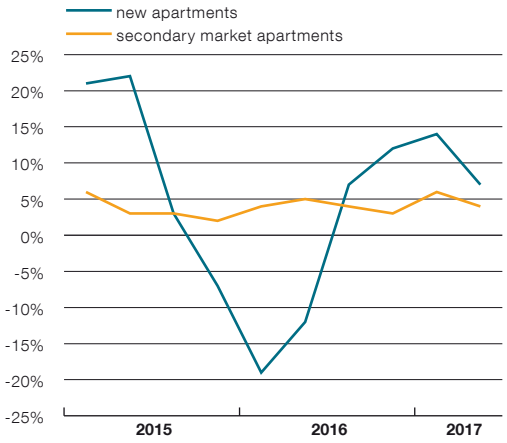
Quite often the sales of apartments in newly finished apartment buildings all happen within a short time. This can mean that a large number of transactions may be made with apartments in a highly desirable region in one quarter, then in the next quarter the majority of transactions may be for apartments in a lower-priced suburb. A large share of the transactions with apartments are made with apartments in the secondary market in Tallinn, where the yearly rise in the average price has held at close to 5% in recent years (see Figure 11)[2].

Ever more new apartments have come to the market, and the number of construction permits suggests that construction activity will remain busy in the near term. Usage permits were issued in the first half of 2017 for about 10% more residential space by floor area than a year earlier. Some 20% more construction permits for residential space were issued in the first half of 2017 than a year previously, and 40% more in Tallinn (see Figure 12).

An increase in the supply of residential space will help to balance out the upwards pressure on prices coming from demand. Although more usage permits have been issued than previously, it is estimated that the number of dwellings for which usage permits have been issued during a year covers about 1% of the housing stock in Estonia as a whole, and less than 2% in Tallinn and Harjumaa, which probably does not exceed the volume needed to renew the housing stock. The ratio of housing investment to GDP has been below the average level for the European Union for a long time since the crisis, and has only approached that average in recent years.

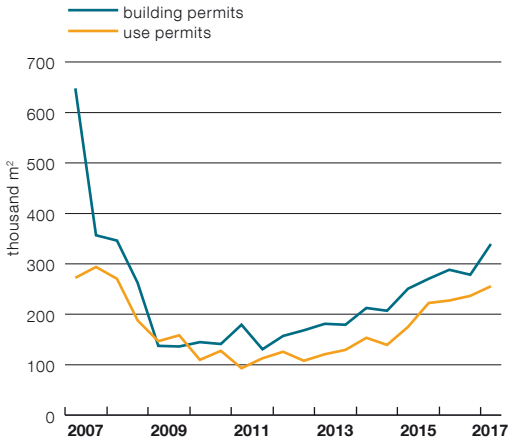
Changes in the average price asked for apartments to rent indicate that demand has also remained strong in the rental market. The number of apartments advertised for rent in Tallinn has remained at between 600 and 1000 for the past five years, and it did not rise in the first half of 2017. The average price asked for apartments to rent has continued to rise (see Figure 13).

Figure 11. Annual growth in the average square metre price of apartments in Tallinn



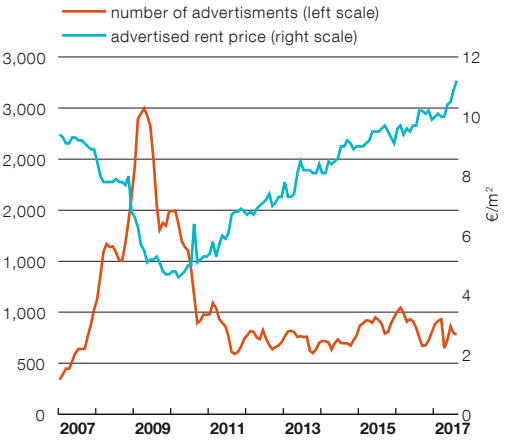
Sources: Estonian Land Board, Eesti Pank calculations

Figure 12. Building and use permits for residential property



Source: Statistics Estonia

Figure 13. Adverts for apartments to rent in Tallinn and average advertised price per square metre



Source: KV.ee

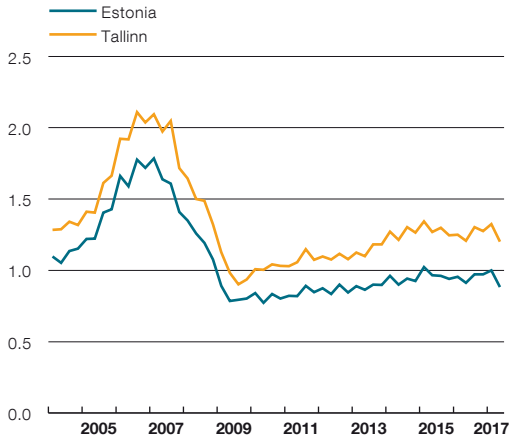
2 In recent years the rise in the average price for apartments has been pushed by transactions with new apartments, but in the second quarter of 2017 the share of transactions with new apartments was almost unchanged from a year earlier, and the average price was not notably affected by changes in the structure of transactions.

Demand for housing and the rise in prices in the housing market have been supported by the rapid growth in household incomes, and the average price of apartment transactions has risen at a similar rate to the average gross monthly salary in recent years. As wages have risen fast, the average square metre price of apartment transactions as a ratio to monthly incomes remained at the same level in the second quarter of 2017 as it was a year earlier, at 1.2 in Tallinn and 0.88 for Estonia as a whole, and it does not exceed its average level of 2004-2017 (see Figure 14).

The actions of the banks have not increased activity in the housing market. The supply of loans from the banks increased moderately and lending conditions have not been made looser. The turnover of housing loans as a ratio to the total value of residential property transactions has not changed significantly. The average interest margin on new housing loans in the first half of 2017 even rose, and there was no particular change in the distributions of loan-to-value ratios, debt service-to-income ratios, or the maturities of the loans.

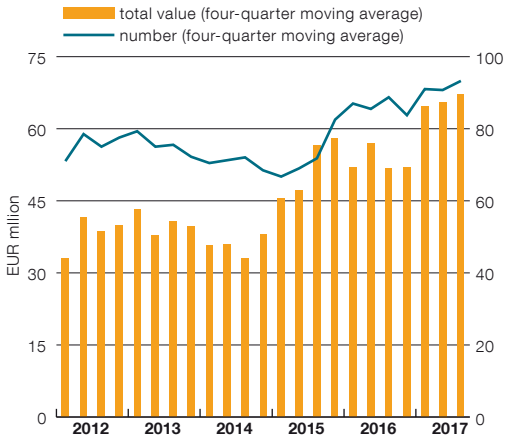
If wages continue to rise fast and loan interest rates remain low, there is a risk that numbers of transactions could rise and price rises in the real estate market could accelerate, which could in turn increase the loan burden of households and the associated risks. If incomes continue to rise, households may overestimate their ability to pay and take on more debt liabilities than they can manage. If households come to expect that real estate prices will continue to rise in the future, and they make investment decisions on this basis, the number of real estate transactions may rise even further. To limit the increase in systemic risks in the housing loan market, Eesti Pank has set limits for housing loans on the loan-to-value ratio (LTV), the debt service-to-income ratio (DSTI), and the maximum maturity of loans. Eesti Pank does not currently consider it necessary to tighten the requirements for housing loans, but if the risk of excessive growth appears in the real estate market and risky behaviour by lenders and borrowers starts to amplify the growth, Eesti Pank may yet tighten the requirements.

Figure 14. Ratio of the average price of a square metre in an apartment to average gross wages



Sources: Estonian Land Board, Statistics Estonia

Figure 15. Total value and number of transactions with land with buildings for commercial purpose



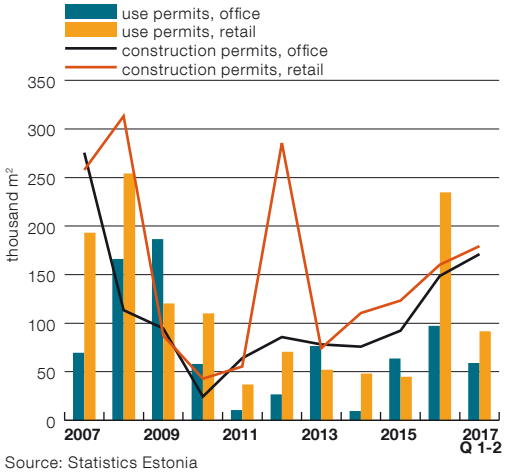
Source: Estonian Land Board

The commercial property market

The commercial property market remained active in the first three quarters of 2017. The total value of transactions with commercial buildings was 46% larger in the three quarters as a whole than in the same quarters of the previous year, and there were 16% more transactions (see Figure 15).

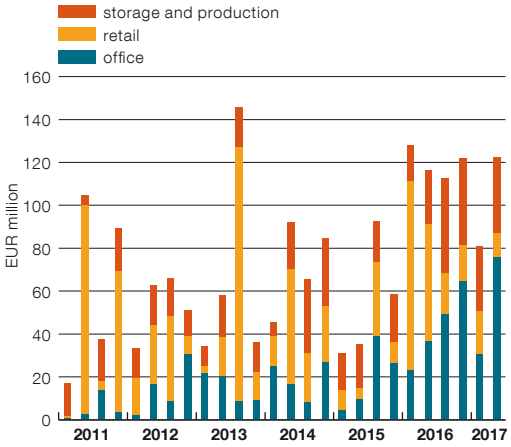
The addition of a large amount of office space in the past year has increased vacancies in office space a little. New office space was added in the second half of 2016 and in the first quarters of 2017 in much larger amounts than a year earlier. Rent prices did not change much however, though the downward pressure on prices for low quality and less favourably located office

Figure 16. New office and retail space



Source: Statistics Estonia

Figure 17. New bank loans to finance commercial property



Source: Eesti Pank

buildings increased slightly. The vacancy rate for class A office buildings in Tallinn was 5-6%[3], which is a little higher than in the second quarter of 2016 and higher than the rates in Riga and Vilnius. Although quite a lot of trading space has been added in recent years, the vacancy rate for trading space in Tallinn remains below 1%.

The number of construction permits indicates that active development work will continue in the market for office and trading space. More construction permits for commercial and office buildings were issued in the first half of 2017 than in several earlier years (see Figure 16).

Banks issued a little less in new loans to finance commercial real estate in the first half of 2017 than a year earlier. There was more financing for office, storage and production buildings, while less was lent for commercial buildings than a year previously (see Figure 17).

The risk remains in the commercial property market that there may not be sufficient demand for the increasing amount of commercial space available. As it is principally the supply of new high quality office and commercial buildings that is increasing, and as rental clients also prefer new and modern properties, there may be a drop in interest and a consequent drop in rental prices for office buildings that are of lesser quality and are less well located, and this could hurt the ability of their owners to service their loans. This risk is eased by the increase in economic activity, which is raising demand in the commercial property market.

3 Colliers International. Baltic States Real Estate Market Review Q2 2017.

Box 1. The features of the Estonian commercial real estate market

Investment in commercial real estate[4] and real estate development is capital intensive, and so a lot of the financing uses bank loans or other external capital. For this reason loans to finance commercial real estate generally account for a large part of the loan portfolios of the banks, and events in the commercial real estate market can significantly affect the smooth functioning of the financial sector. In Estonia, 37% of bank loans and leases to companies go to companies in the construction and real estate sector, a figure that comparisons made by the European Central

4 There is no one single agreed definition that can be used for classifying commercial property. It is generally considered to be property that is rented out to earn income and is not residential property. It could equally be argued that the concept should not include residential property that has been bought to rent out nor real estate development. The European systemic risk Board (ESRB) has proposed that commercial real estate be defined as any real estate earning income or a real estate development that is not social space, an asset owned by its end user, or residential property bought to be rented out.

Bank show to be among the highest in the euro area.

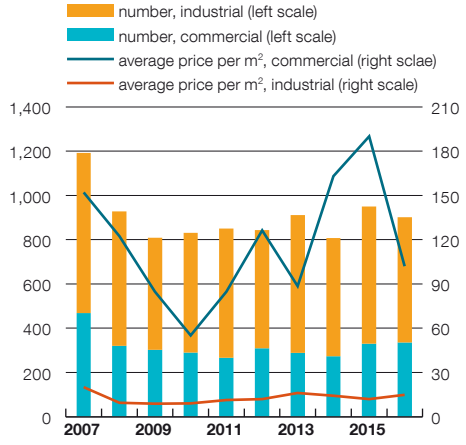
Housing loans are generally also a large part of the loan portfolios of banks, though the recent crises in different countries have shown that loans for commercial real estate are generally riskier than housing loans. Commercial real estate loans generally act more sensitively to the economic cycle, as investments in commercial real estate usually depend entirely on economic considerations, whereas other factors also matter in decisions about housing. Equally the supply of real estate reacts relatively slowly to changes in demand, as the planning and construction process takes time. The fluctuations in the commercial real estate market can be exaggerated by foreign investors, who are active in commercial real estate more than in the housing market. Their behaviour depends largely on developments in international markets and may be a significant source of transfer for risks.

The share of commercial real estate loans that become overdue when the economic cycle turns downwards is usually larger than the share of housing loans or of loans to companies operating in other sectors. During the last economic crisis the rate of bank loans to companies in the Estonian real estate and construction sector that were more than 60 days overdue peaked in 2010 at 14%, while the rate for housing loans stayed at 4-5% and the rate for loans to companies in other sectors climbed to a little over 6%.

The commercial real estate market is relatively more opaque than other markets, which probably increases its sensitivity to the economic cycle. This is due to the nature of commercial real estate, though in Estonia it is also because the local commercial real estate market is small. Transaction values in the commercial real estate market are generally large, but they are made with the same property only relatively rarely. Commercial real estate properties are generally quite individual and the value of the transaction depends not only on the nature of the property itself, but also on other conditions agreed in the sales contract. Contracts are mostly confidential and prices of transactions are not published. Furthermore, separate commercial companies are often established to develop and later manage the commercial property, and transactions with those companies do not reflect the real estate transactions but only securities transactions. This all makes it hard to produce time series for comparative analysis of the state of the market.

In 2013-2014 Statistics Estonia conducted a study to explore the possibility of constructing a price index for commercial real estate, and a review of Estonian commercial real estate was drawn up for this. The data were taken from a database of transactions at the Land Board and were complemented with data from the construction register. Commercial real estate was defined in the survey by the purpose of use of the cadastral units for commercial and production land with buildings (see Figure B1.1). It appeared from the transaction database of the Land Board that some 1000 sales transactions were made each year in Estonia with such properties in 2007-2014, and around three quarters of the transactions also specified what type of building the transaction was for. This

Figure B1.1. Number and average value of transactions with real estate for commercial and industrial purposes



Source: Land Board

meant there were 150-250 transactions each quarter that could be used for calculations. Of these, 60-70% were classified as other buildings. There were a couple of dozen transactions each quarter with office buildings, retail premises and production facilities. Dividing the commercial real estate transactions by region meant there were even fewer of them. The value of the transactions ranged from a few euros to several million[5].

The commercial real estate market and real estate development are important for the smooth functioning of the Estonian financial sector, but there is little information about the operation of this market because of the nature and small size of the market. However, ever more attention has been focused at the European level on the commercial real estate market in the assessment of risks to financial stability. The European Central Bank and the European Systemic Risk Board (ESRB) are developing a methodology for assessing the risks to commercial real estate. The ESRB issued a recommendation in 2016 to the national macroprudential authorities in the European Union on closing real estate data gaps covering a fairly representative dataset on the commercial real estate and construction market and commercial real estate loans, and on the prevailing lending conditions and investments in those markets[6]. Although Eesti Pank will start to receive more detailed data from the banks on their loans from September 2018 through Anacredit, which should improve the information on commercial real estate loans, there is still a shortage of data about the commercial real estate market itself.

5 The final conclusion of the research was that it is not possible to create a reliable price index for commercial real estate with such a small number of transactions, that moreover are for very different properties with large price differences.

6 An interim report on the implementation of the recommendations must be presented by 31 December 2018, and a final report by 31 December 2020.

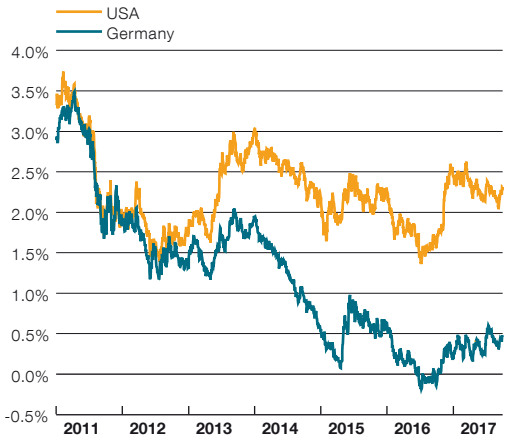
THE FINANCIAL ENVIRONMENT

International financial markets

International financial markets have been affected in the first three quarters of 2017 by faster economic growth and continuing accommodative monetary policy in the largest economic regions. Economic activity increased both in the USA and in Europe. The Federal Reserve raised interest rates further in March to start to reduce its balance sheet gradually. The expectations of market participants for how far and how fast interest rates will rise in the US remain modest. Expectations for economic figures in the euro area have generally increased though, and the euro has appreciated against the dollar. The European Central Bank has continued with its asset purchase programme and has stated its readiness to keep monetary policy accommodative.

Interest rates on bonds remained below their historical averages in international markets. In the second half of 2016, interest rates on sovereign bonds started to rise in the US, and later in some European countries too, as inflation rose, but in the first three quarters of 2017 the inflation outlook was lower than expected and so the interest rates on US Treasuries fell slightly again, while rates in Europe remained the same (see Figure 18). The risk premiums in the corporate bond market also remained very low.

Figure 18. Interest rates on ten-year government bonds of the USA and Germany



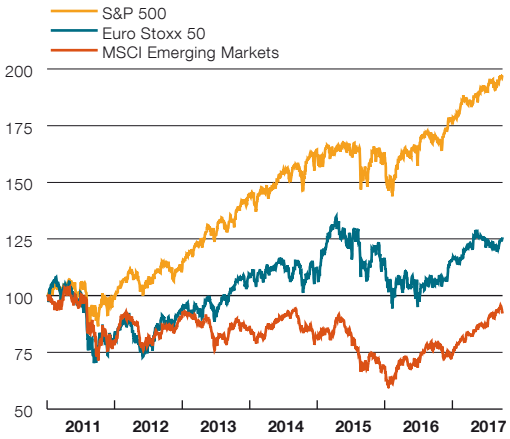
* last observation 06.10.2017
Source: Bloomberg

Global stock indexes have moved in quite different directions in the second and third quarters of 2017. Share prices in global markets mainly rose in the first quarter of 2017 as economic figures were strong, but from May there was a decline in the largest share indexes in Europe (see Figure 19). One reason for this may be the appreciation of the euro against the dollar and the expected impact of this on exports from the euro area. The S&P 500 in the US continued to post new price records.

The European Central Bank (ECB) and the European Systemic Risk Board (ESRB) consider that the risks to the functioning of the financial sector in the region remain high. The Composite Indicator of Systemic Stress (CISS) calculated by the European Central Bank for the financial system in Europe has been at a low level in recent months (see Figure 20). However, there are still several risks to the operation of the financial sector in Europe, the two main ones being the rise in risk premiums on bonds in international financial markets, and the relatively weak financial position of banks and insurers and pension funds.

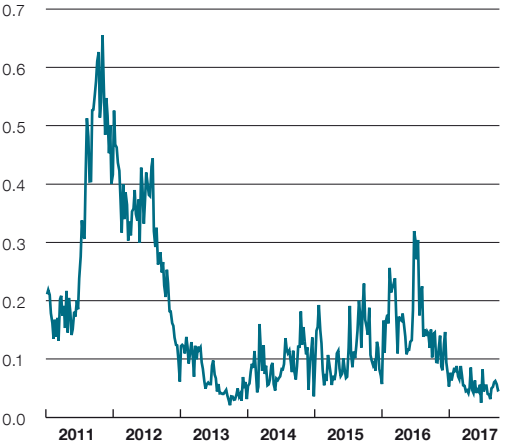
The rise in risk premiums on bonds in international financial markets may lead to losses for banks and other financial institutions. Interest rates have been low for so long that the prices of assets have risen high on international stock and bond markets and are estimated to be overpriced in some places, while risk premiums have fallen to very low levels. Furthermore, volatility has been very low in asset prices in almost all classes of assets, especially for shares in the US and US Treasuries (see Figure 21). Market participants expect that volatility will remain low moving forwards. Although this is mainly a reflection of market expectations of stability in economic figures, it also indicates that financial markets assume that monetary policy will stay accommodative and will see only a very slight and gradual tightening. If the markets' assessments of expected economic figures, fiscal policy decisions or monetary policy should change however, this may lead to a sharp rise in risk premiums and to larger losses for investors, including financial institutions.

Figure 19. Main stock indexes (1 January 2011 = 100)



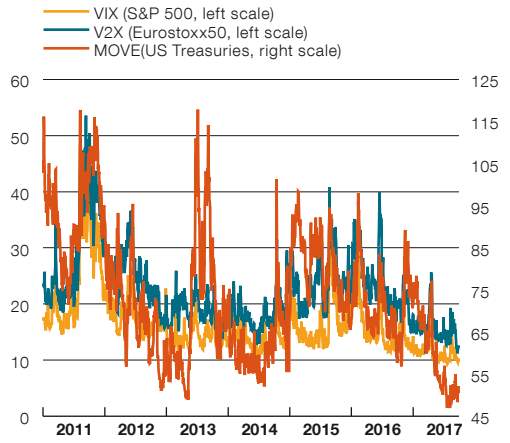
* last observation 06.10.2017
Source: Bloomberg

Figure 20. Composite Indicator of Systemic Stress (CISS) of the euro area



* last observation 06.10.2017
Source: European Central Bank

Figure 21. Volatility indexes of main stock and bond markets



* last observation 06.10.2017
Source: Bloomberg

The banking sector in the European Union remains vulnerable, though the financial position of the banks has improved a little. Although economic growth picked up in the euro area and the ability of the banks to earn income was thus increased, the profitability of the banks remains low. Their cost efficiency is low and low interest rates make it hard to earn income. Banks in some countries have a large stock of problem assets, which is being reduced very slowly. The differences between countries in the profitability of the banks have been reduced however, and profitability has started to improve slowly even in countries with large amounts of problem loans. The capitalisation of the banking sector increased, and the level of core equity tier 1 capital at the biggest banks in the European Union was 14% in the first quarter of 2017. However, capitalisation increased in the sector as a whole mainly through assets being reduced, although in some countries the own funds of banks also increased. As the rise in profitability was partly due to unrealised gains from rises in prices of financial assets, the risk noted earlier could lead to a decline in profits and capitalisation.

The European institutions consider that one potential risk for the financial sector is the large debt burden of the general government and private sector in several European Union countries, while the rapidly increasing risks of investment funds could be transmitted to the rest of the financial sector. Although the economy improved in the euro area as a whole, the situation varies widely between countries. Should there be a sharp rise in the risk premiums on bonds, it could make refinancing debt notably more expensive and increase the probability of the general government or the private sector of some country having difficulty servicing its debts. Investment funds have increased the share of long-term bonds in their investments, while reducing their liquidity buffers. If asset prices were to fall sharply, requests to buy back fund units would probably increase steeply and funds would have to put a large amount of bonds on the market, pushing prices down further.

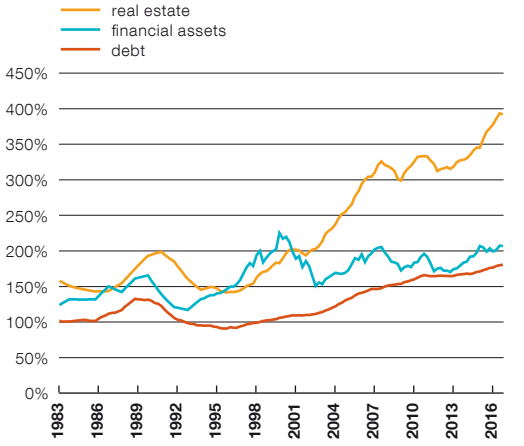
The Nordic banking sector

Over 90% of the Estonian banking sector is owned by banking groups operating in the Nordic and Baltic countries. Estonia's main trading partners are in the same region, and so the Estonian economy and the supply of credit in Estonia are affected by developments in the neighbouring countries.

The financial position of the largest banking groups operating in Estonia has held stable for the past half year, but the large indebtedness of households, the large role played by financial markets in the financing structure of the banks, and the risks arising from the cross-exposures between the banks mean that vulnerabilities remain there.

Both real estate prices and household debt have continued to increase in the home markets of the main banks operating in Estonia (see Figure 22). Demand for credit is supported by interest rates remaining low, as GDP growth and falling unemployment increase the confidence of borrowers. Household mortgage loans in Sweden have again grown by some 6% a year. The rise in real estate prices has continued, although at a somewhat lower pace in the most recent months than before (see Figure 23). Price rises are also encouraged by expecta-

Figure 22. Assets and liabilities of Swedish households as a ratio to disposable income



Sources: Statistics Sweden, Finansinspektionen

tions, as surveys show that a majority of respondents expect real estate prices will continue to rise in the near future as well[7].

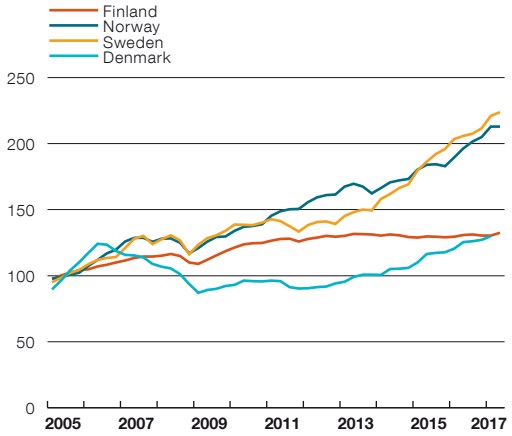
The Swedish financial supervision authority tightened its requirements on housing loans in 2016 to reduce the risks from household indebtedness[8]. In May this year the authorities announced that they would propose to the government a further restriction that new borrowers taking loans of 4.5 times their pre-tax income or more should pay off an additional 1% of their loan each year. The planned measures may restrain the increase in vulnerability, but as the requirements will apply only to new loans their main impact on private debt may be felt only over the long term.

The ratio of own funds to total assets for the largest groups remains close to the European average. The own funds of the four largest groups operating in Estonia are approximately 4-5% of total assets. The ratio of own funds to risk-weighted assets remains above the European averages with the help of the additional requirements of the supervisory authorities[9] and the profits of the banks (see Figures 24 and 25). Swedbank had core equity tier one (CET1) capital of 24% at the end of the first half of 2017, SEB had 18%, and Nordea group 19%. Total own funds were 24% of risk assets at Nordea group, 25% at SEB group, and 32% at Swedbank group.

Nordea, the largest financial group in the Nordic countries, announced at the start of September 2017 that it would move the parent company of the group from Sweden to Finland. The subsidiaries of the Nordea group were reorganised at the start of this year into branches of the parent company. The change in the location of the parent company of the group means that the European Central Bank will start to have supervisory responsibility over the group. Estonia is indirectly affected by the change, as the branch of the Nordea group that was operating in Estonia was merged in the second half of 2017 with the Estonian subsidiary of DNB Nord group. Operations continue for the merged enterprise under the business name Luminor Bank AS.

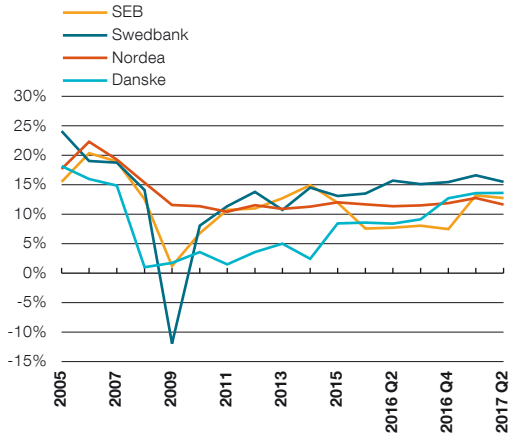
About half of the funding of the largest banking groups in Sweden is market-based, making them more exposed to shocks in the financial markets. Almost half of this market-

Figure 23. Price indexes of residential real estate in Nordic countries



Sources: statistical agencies, Valueguard, Real Estate Norway, Eesti Pank calculations

Figure 24. Return on Equity (ROE) of large Nordic banking groups



Source: Bloomberg

7 http://www.fi.se/contentassets/b053efe7213a4843941042aa8f7340ca/stabrap17_1_engny4.pdf

8 Swedish borrowers whose loan principal exceeds 70% of the value of the collateral have to pay at least 2% of the principal back each year on top of interest payments, while clients whose loan is 50-70% of the value of the collateral must pay at least 1%.

9 Banking groups consolidated in Sweden have to hold a further 5% of CET1 own funds above the base requirements to cover against systemic risks. Additional own funds worth 2% of the value of exposures located in Sweden and Norway must also be held against cyclical risks (2% is applicable in Norway from 2018, and 1.5% prior to that) and in Sweden and in Norway the minimum risk weight of 25% for mortgage loans applies. In Finland, an average risk weight of 15% must be applied to housing loans from 2018. The risk assessment requirements for companies have also been tightened. Bank specific requirements are applicable for individual banks on top of the general requirements.

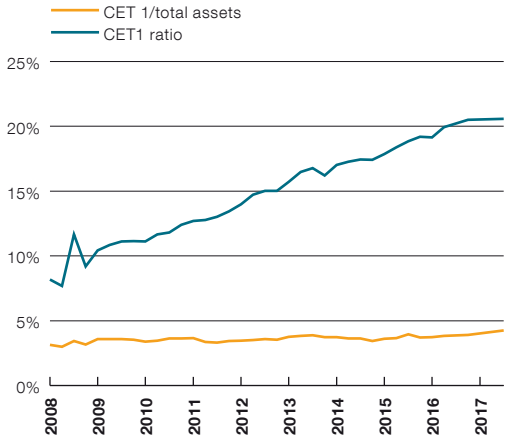
based financing is in the form of covered bonds backed by real estate loans, which means that funding conditions can be affected by the situation in the real estate market. The funding risk to the groups is increased by the cross-exposures between them through their holdings of each other's securities.

The cost of market-based funding for the Swedish parent banks has remained relatively low. The market interest rates on covered bonds with maturity of one year have been negative for almost two years now, and this rate has not changed significantly in the past 12 months (see Figure 26). The interest rate on longer-term covered bonds has fluctuated in the past two years in contrast, though at the start of September 2017 it was close to the same level as two years ago. The rise in market interest rates in the meantime was largely connected to the general rise in interest rates on long-term bonds in Sweden. The risk premium for the bonds of the banking groups over government bonds was not substantially different from the average level of 2015.

The liquidity of the Swedish banking groups may be threatened by mismatches between their short-term assets and liabilities in different currencies. A large part of the liquid assets of the banks is in euros and dollars, and liquidity has been managed successfully in other currencies through swap contracts. However, the swap market may not necessarily function so well if there is a market shock, and so banks could face a problem with liquidity management. The Swedish central bank has also pointed this out.

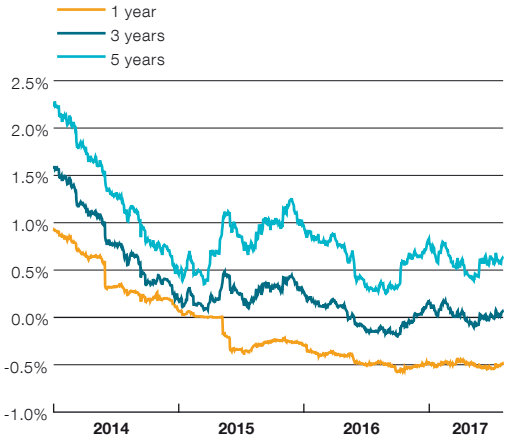
The liquidity of the banking groups has remained good so far, primarily for the euro and the dollar. The liquidity coverage ratios of the banks exceeded 100%, both in total terms and for the euro and the dollar separately (see Figure 27). For the Swedish krona though, the liquidity coverage ratio was still on average below 100%.

Figure 25. Capitalisation of the biggest Swedish banks



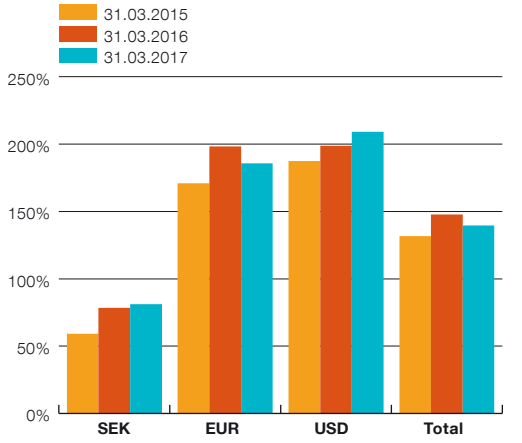
Source: Riksbank

Figure 26. Average covered bond yields of Swedish bank groups*



*Swedbank, SEB, Nordea
Sources: Bloomberg, Eesti Pank calculations

Figure 27. Liquidity coverage ratio of the major Swedish banks in different currencies



Source: Riksbank

BANKS

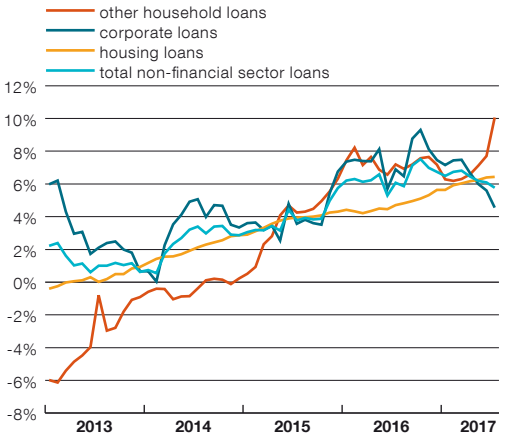
The loan portfolio of the banks operating in Estonia has continued to grow at a relatively fast rate. Annual growth in the stock of loans and leases to companies and households reached 5.8% in August. At the same time that households are borrowing more and more, the rate of yearly growth in corporate loans has fallen. In consequence, almost 60% of the increase in the loan portfolios of the banks operating in Estonia in August came from faster growth in loans to households.

Increased borrowing by households is natural given the current state of the economy. The improved confidence, rising wages and low interest rates that are behind the growth in the economy have increased the desire and the ability of households to borrow. This led the yearly growth in the stock of loans and leases to households to accelerate to close to 7% in August.

Demand from households for housing loans and other loans remains strong. A year ago the rate of growth of housing loans was below 5%, but in August 2017 it was up to 6.4% (see Figure 28). The main contribution to the growth in housing loans has come from the faster addition of new loan clients, though the average amount borrowed has also increased. Alongside the growth in housing loans, the growth in other household loans has also accelerated. This has again been driven mainly by car leases, which were estimated to be up 15% over the year in August by volume. Other consumption loans were up 8% over the year[10].

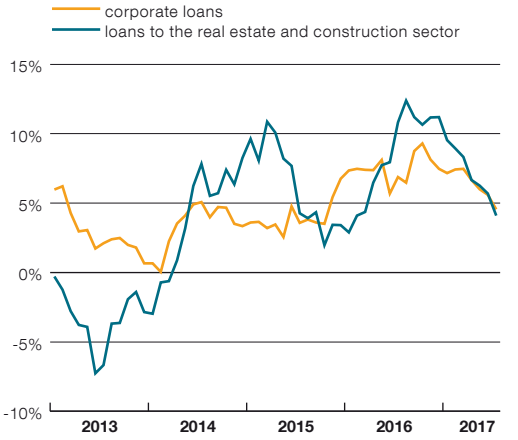
Faster loan growth could increase the risks to the capacity of households to service their loans. Loans to households have so far grown at a similar rate to incomes. Even though the banks have granted loans to households more and more, the ability of households to service their loans has not generally deteriorated. If the growth in loans to households were to exceed the growth in incomes in future, the risk would increase of households not being able to repay their loans. This could then harm the quality of the loan portfolios of the banks.

Figure 28. Annual growth rates of banking sector loans and leases to businesses and households



Source: Eesti Pank

Figure 29. Annual growth rates of banking sector loans to the real estate and construction sector



Source: Eesti Pank

Lending to companies has slowed even in the real estate and construction sector (see Figure 29). As the growth in loans to the real estate and construction sector slowed from 11% at the start of the year to 4% in August 2017, so the yearly growth in the whole of the corporate loan portfolio has slowed. The corporate loan portfolio was 4.5% larger in August than it was a year ago. The portfolio only shrank in some individual sectors, as the stock of loans to industrial and infrastructure companies was smaller in August than a year previously (see Figure 30). There was an increase in lending to other sectors.

The banks have avoided concentrating their loan portfolio even further in individual

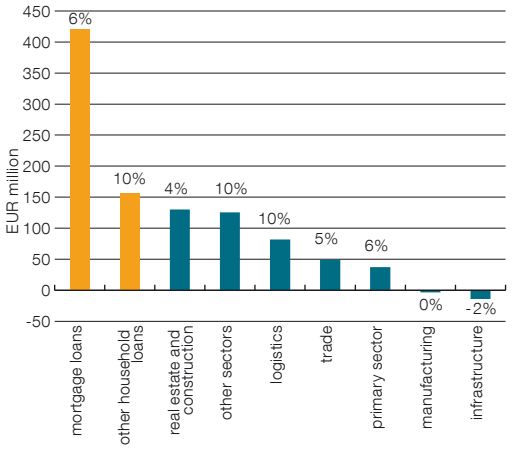
10 The growth in other consumption loans was affected by the addition of the branch of TF Bank AB to the list of credit institutions, though even without this the growth would have been quite strong at 5.3%.

sectors, but it remains highly concentrated even so. Low interest rates and a recovery in the economy have given a boost to the real estate sector. Demand for real estate loans remains high, but the banks have maintained a fairly conservative attitude, as the share of loans to the real estate and construction sector in the corporate loan portfolio has not changed from a year earlier. These loans still make up 35% of the portfolio though, leaving banks exposed to risks in the real estate market. Bank financing has only been used to a small extent for housing development projects. Much more of the credit risk of the banks is associated with the commercial real estate market as over 30% of corporate loans have been given to finance commercial real estate. With supply increasing however, there is a risk with projects based on flows of rental income that the market will not have sufficient demand for the total increased supply. This may push rent prices down and the vacancy rate up, reducing the ability of real estate companies to service their loans.

In a favourable economic environment the quality of loans remains good. Low interest rates, increased corporate profits and rising household incomes have had a positive effect on the ability to service loans. It is natural with the economy growing that the share of overdue loans in the portfolio has fallen. In August 2017 such loans made up around 1% of the total portfolio, which is 0.3 percentage point less than a year earlier (see Figure 31). Loan quality has improved most in trade and industry (see Figure 32). This reflects not only a decline in overdue loans, but also the effect of write-offs (see Figure 33). The general capacity of the banks to cope with possible loan losses is good, given the current loan quality. In August 2017, 84% of overdue loans were covered by provisions.

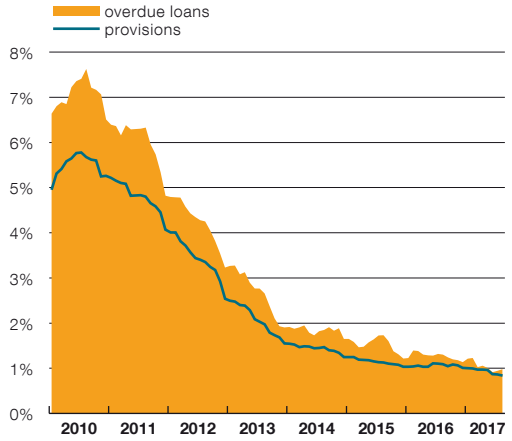
Loans are still mainly funded using domestic deposits, which have continued to grow strongly. The rate of annual growth in deposits reached 8% in August 2017 as 1.1 million euros were added over the year. Non-resident deposits declined over the year in contrast, and their share in the sources of finance for the banks has fallen below 10%. The strong growth in domestic deposits means that there was no deterioration in the loans-to-deposits ratio despite the fairly

Figure 30. Annual growth in loans and leases as at 31.08.2017



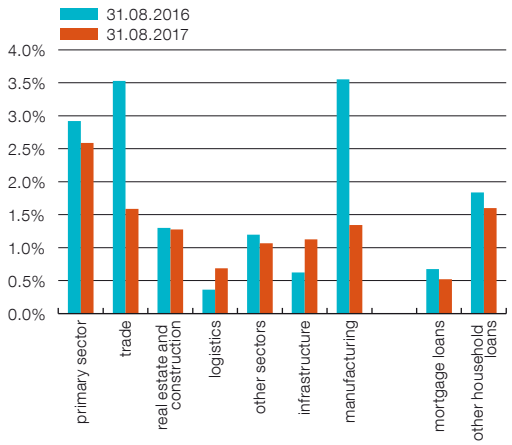
Source: Eesti Pank

Figure 31. Share of overdue loans and provisions in the loan stock



Source: Eesti Pank

Figure 32. Share of overdue loans



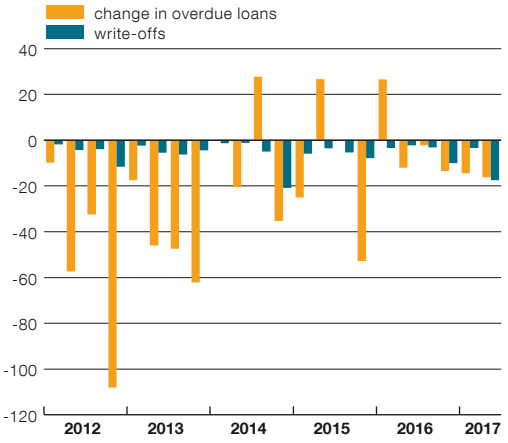
Source: Eesti Pank

intensive expansion of the loan portfolio, and it has remained close to 1.1 (see Figure 34). The financing plans of the largest banks operating in Estonia expect loan growth to continue in the years ahead, though no acceleration in it is forecast. It is planned that loan growth will be funded from growth in domestic deposits and from increased use of funds from parent banks. As the expected loan growth exceeds the increase in deposits to some degree, the loans-to-deposits ratio deteriorates slightly in the financing plans. In this the forecast for the sources of funds largely reflects the differences in the financing models of the banks, as some banks see loans from the parent as the main source of funding, while for others it is domestic deposits.

The degree of dependency on funds from the parent bank varies widely between the banks. Liabilities to banks were down 2.8% in August from the start of the year, but they remained at 21% of the debt liabilities of the banks. The banks operating in Estonia are also connected to their parent banks through liquidity management. There was no major change in the difference between funds from parent banks and the claims on them (see Figure 35) and this was slightly negative in August as a share of total assets at -13%. This means that the units of the Nordic banking groups operating in Estonia had received more funds from their parent banks than they had placed with them.

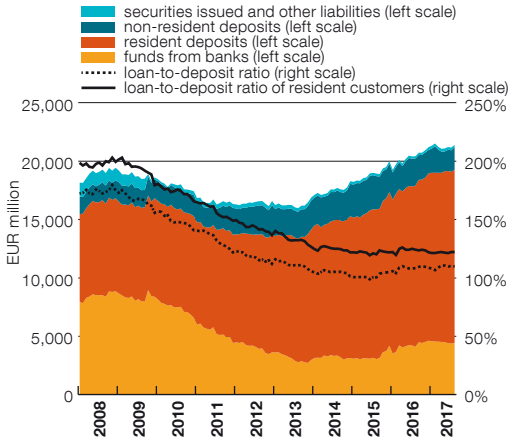
The liquidity buffers in the banking sector are quite large, but they are strongly connected to group-level liquidity management. The liquid assets of the banks operating in Estonia totalled 5.7 billion euros in August 2017 (see Figure 36). The increase in deposits held at the central bank boosted these by 289 million euros, or 6.6%, in August 2017. This increase was primarily due to one bank depositing more at the central bank than previously as it increased the range of its business activities. The differences in the interest rates on the deposit facilities at the European Central Bank and the Riksbank meant that claims on the parent bank continued to be replaced by liquid assets held at the central bank in 2017. Liquid assets held at the central bank have increased as a share of liquidity buffers since a year earlier by seven percentage points to 56%.

Figure 33. Change in overdue loans and write-offs



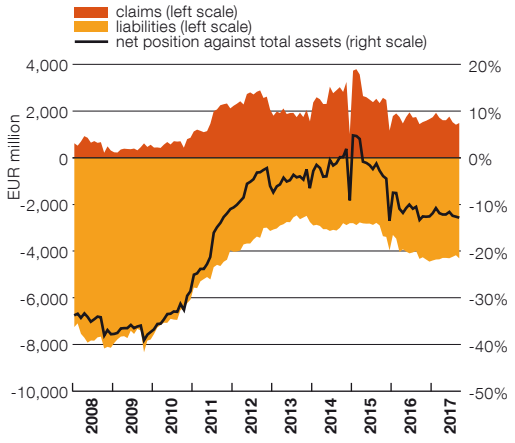
Source: Eesti Pank

Figure 34. Structure of funding and the loan-to-deposit ratio



Source: Eesti Pank

Figure 35. Claims, liabilites and net position to parent banks



Source: Eesti Pank

The share of liquid assets in total assets did not change over the year though, remaining at 23%.

The profitability of the banks was a little lower in 2017 than a year before, but was still relatively high. The net profit of the banking sector as a ratio to assets was 1.4% at the end of the second quarter of 2017, which is 0.1% less than in 2016. The profitability of the banks has been affected greatly in previous years by the dividends received from subsidiaries and the cost of income tax paid. Without these, profitability would have been at about the same level in the past three years (see Figure 37).

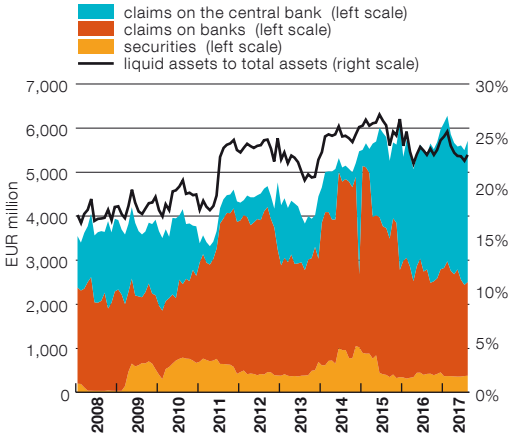
Income was boosted by a rise in net interest income. The net interest income of the banks was up almost 8% over the year because of growth in the loan portfolio and a rise in the average interest margin earned on the loan portfolio. Total net fee income was down slightly in the first half of 2017.

There was no major change in the level of costs in the first months of 2017 from a year earlier. Administration costs were down 0.4% in total over the year in the first half of 2017, as personnel costs rose 5.1% and other administration costs were reduced by 10%. The profit of the banks was affected by the recovery of write-downs of loans, which increased the profit of the banks by 3.5 million euros.

The profitability of the banking sector is very likely to remain stable in future. It will be maintained by growth in the loan portfolio and an increase in loan margins. Upwards pressure on the expenses of the banks will also continue.

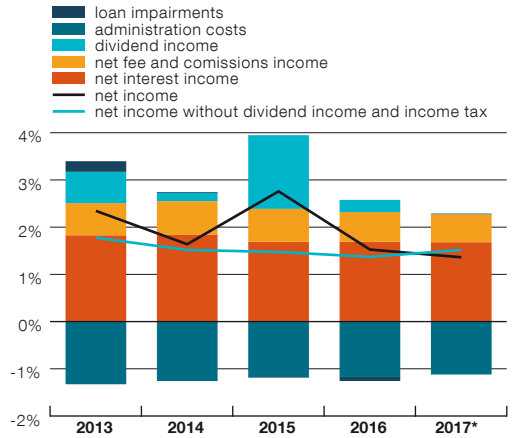
The capitalisation of the banks operating in Estonia remains good. All the banks surpassed the minimum requirements for assets. The ratio of total own funds to risk assets averaged 35% at the end of the first half of 2017 (see Figure 38), and the lowest figure was 19%. An overwhelming majority of 98% of own funds continued to be in the form of CET1, and the lowest figure for CET1 of any of the banks was 14% in June.

Figure 36. Liquid assets of banks and their share in total assets



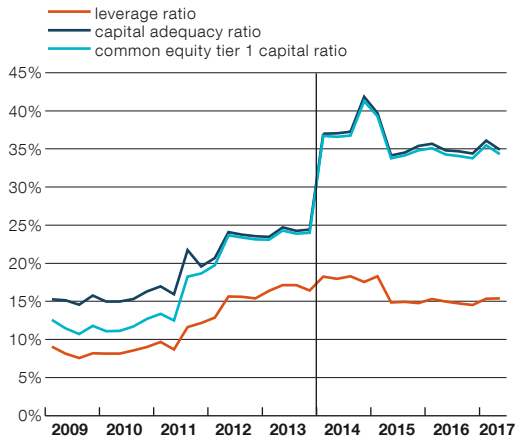
Source: Eesti Pank

Figure 37. Profitability of the banking sector in relation to total assets



*June 2017
Source: Eesti Pank

Figure 38. Capital and leverage ratios



Source: Eesti Pank

Since 1 August 2016, all banks in Estonia have to hold CET1 capital of at least 8% of risk assets. The two largest banks in the market, Swedbank and SEB, are subject to a further requirement for the consolidated group in Estonia of two percentage points because of their systemic importance. In 2017 Eesti Pank decided to introduce an additional systemic importance requirement of 0.5% of total risk exposure for AS LHV Pank. The requirement will apply from 1 January 2018. The banks have to hold total own funds of between 11.5% and 13.5% (see the section on macroprudential policy).

The own funds of the banks were larger than at the end of the previous June. The capitalisation figures come from a reduction in assets. The bigger banks have continued to pay out some of the profit earned during the year as dividends[11], but as their own funds have increased by more than risk assets despite the payouts, their capitalisation has continued to increase. Looking forwards, changes in tax policy may persuade the banks to pay out a larger share of the profits they earn as dividends (see Box 3 on the taxation of banks).

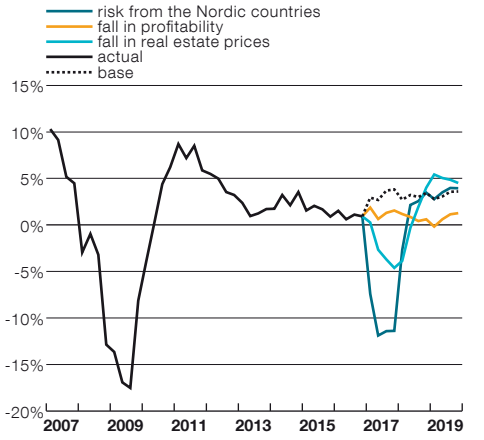
The level of own funds of the banks is also high as a ratio to total assets (see Figure 38). The CET1 own funds of the banks is on average more than 15% of unweighted assets. A reduction in loan losses has allowed banks that use internal models for risk analysis to reduce their risk assessments, but the ratio of unweighted assets to capital is still high by international standards for those banks at 16%. At the end of 2017 the lowest figure for any of the banks was 7%.

11 In 2016 Swedbank paid dividends of 114 million euros and in 2017 it paid 113 million, or around 59% of the profit earned in the previous year. The dividends paid by SEB increased from 20 million euros to 30 million, or around 43% of the profit for the year.

Box 2: The forecast for overdue loans in the banking sector in different risk scenarios

This box analyses how the three risks to financial stability affect the quality of the loan portfolios of the banks operating in Estonia. It does this using the Eesti Pank macro model and the model of credit risk in the banking sector. The basis for the baseline scenario in the macro model is the June economic forecast by Eesti Pank, which expects GDP will grow by 3.5% in 2017 and by around 3% in the next two years (see Figure B2.1). The portfolio of bank loans is forecast to grow by an average of around 6%, which is about the same rate as nominal GDP. Data released since the June forecast indicate that growth in 2017 may be even faster than predicted.

Figure B2.1. Real GDP assumptions in the base and risk scenarios



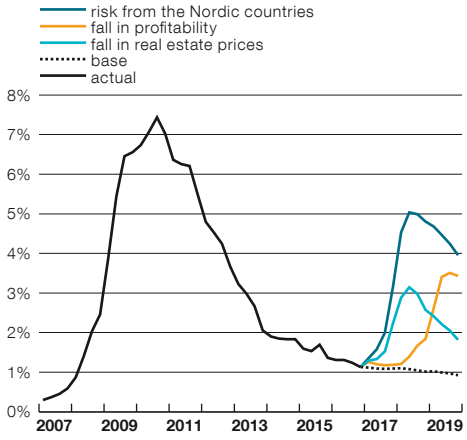
Source: Eesti Pank

Risk 1: Financial markets assess the risk to the Nordic economies and banking groups as higher than previously. There are two main channels through which this risk passes into Estonia.

The first is weaker foreign demand. The Nordic countries are Estonia's biggest trading partners, and problems in the Nordic countries would not only reduce the exporting opportunities for Estonian companies through those markets, but would probably do the same in Latvia and Lithuania because of the close trade links between the Nordic and Baltic countries. Some 60% of all Estonian exports go to the Nordic and Baltic countries. In this risk scenario it is

assumed that some one third of the forecast demand in those countries would disappear so that foreign demand would be about 20% lower than in the baseline scenario throughout the forecast horizon.

Figure B2.2. Ratio of overdue loans in the base and risk scenarios



Source: Eesti Pank

The second channel is a reduced credit supply and more expensive loans. Funds received from parent banks account for a significant share of around one fifth of the financing of banks operating in Estonia. If the parent banks were to face problems they would probably reduce the funding of the banks in Estonia, which would tighten the supply of credit in Estonia. Moreover, the supply of credit would probably also be reduced by the increased credit risk of Estonian companies and households. It is assumed in the risk scenario that the credit turnover of households and companies is one third lower in the first year than in the baseline scenario.

The consequence is that weaker external demand leads to a fall in export earnings. Reduced economic activity and higher unemployment also lower the incomes of households. The reduced supply of credit leads to a fall in investment, and through that economic activity and incomes decline further. The decline in the economy and in incomes leads to problems with loan repayments and growth in non-performing loans. In this scenario, non-performing loans increase to around 5% of the loan portfolio (see Figure B2.2). The additional write-downs of loans would add up to around 105% of the profits of the banks.

Risk 2: The risks that have built up lead prices to fall in the real estate market and borrowing to decline.

The risk scenario assumes that housing prices fall by around 30%. General uncertainty and a fall in the value of collateral reduce the loan turnover of both households and companies by a further 20%.

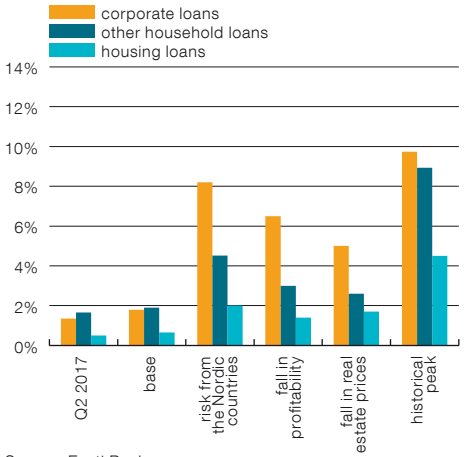
The consequence is that falling real estate prices and declining borrowing pull investment and consumption back, after which economic activity shrinks and unemployment rises. Because of this, both companies and households are less able to pay their loans and the quality of the loan portfolio deteriorates. In this scenario, non-performing loans increase to around 3.2% of the loan portfolio. The additional write-downs of loans would add up to around 60% of the profits of the banks.

Risk 3: Weak economic growth and labour costs rising faster than sales revenues reduce the profitability of Estonian companies.

The risk scenario assumes that economic growth remains below 1%. In addition, corporate profit (operating surplus plus mixed income) falls by 20%, so the ratio of profits to GDP is some eight percentage points lower than in the baseline scenario. Weaker profits mean that corporate investment also falls.

The consequence is that lower profitability weakens the ability of companies to pay their loans and thus worsens the quality of the loan portfolio of the banks. Weaker profits also reduce investment, meaning that economic activity declines and unemployment rises, and this affects the ability of both companies and households to pay their loans, and worsens the quality of the loan portfolio even further. In this scenario, non-performing loans increase to up to 3.5% of the loan portfolio. The growth in non-performing loans is notably slower than in the other risk scenarios. The ability of companies to service their loans reacts to falling profitability with a lag and unemployment increases with a lag, affecting the growth in the non-performing loans of households. As economic growth does not recover rapidly, unlike in the other scenarios (see Figure B2.1), there is no rapid reduction in the stock of bad loans. The additional write-downs of loans would add up to around 75% of the profits of the banks.

Figure B2.3. Maximum share of overdue loans



Source: Eesti Pank

Larger banks are less vulnerable to the risk scenarios and the share of non-performing loans reaches 2.7-4.2% for them, depending on the size of the shock. Smaller banks are more susceptible to the risk scenario and the share of overdue loans rises to 10–17% for them. Small banks are more susceptible partly because corporate and other household loans make up a larger share of their loan portfolios, and the types of loans they have are also more sensitive to shocks than housing loans are (see Figure B2.3).

Box 3: Taxation of banks

After the global financial crisis, the question of taxing the financial sector was raised in many countries and international organisations as governments had spent a lot on the financial sector during the crisis, especially to support the banks. During the recession in Estonia in 2008-2010 the banks suffered losses from non-performing loans, but the undistributed profits that they had built up in earlier years gave the banks sufficient funds to cover that. **For this reason the Estonian government did not have to use any tax money to support the financial sector.**

Discussions about taxation of the financial sector have turned around two possible forms of taxation. The first is a financial transactions tax which taxes financial transactions such as sales and purchases of shares or other securities. This form of taxation has a further aim, which is to reduce the number of such transactions and so restrain rapid growth in asset prices[12]. The introduction of such a tax has been planned in the European Union under the leadership of Germany and France, and Estonia was also part of the working group designing a tax for financial transactions. The Estonian government decided to leave the working group at the end of 2015 however, and since that time the initiative of the European Union has faded away.

12 Taxing Financial Transactions: Issue and Evidence, Thorton Matheson IMF, 2011.

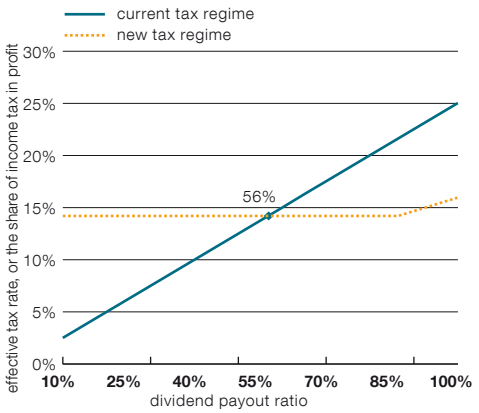
The second form of tax is a financial activity tax, where the assets, profits or wages of financial companies are taxed. As it is hard to tax financial services with VAT, this has not been done and taxation of the assets or profit of financial companies could be an alternative to this to some extent. A financial activity tax could also come in the form of the various fees and payments that financial sector institutions have to pay to supervisory bodies to cover their costs or as contributions to collateral schemes. The banks in Estonia paid four million euros to the Financial Supervision Authority in 2016 for example and one million euros to the European Central Bank to cover the costs of single banking supervision. A further six million euros was paid into the deposit guarantee scheme, and five million euros into the resolution fund.

Although separate taxes on banks like those in Estonia have been introduced in some countries in Europe, such as Poland, or have been planned, such as in Sweden, the bank tax in the European Union as a whole was introduced in the Bank Recovery and Resolution Directive (BRRD), under which member states had to create their own crisis resolution funds. **Funding these through taxes on the banks built up supplies of funds that could be used to cover the cost of any possible banking crisis. In terms of financial stability it is important that payments made by the banks be directed into a crisis resolution fund or into financing an already existing deposit guarantee fund sufficiently.**

In contrast to the practice in other countries and the goals of financial sector taxation, the Riigikogu decided to introduce a separate income tax system for the banks, under which banks and branches of foreign banks in Estonia pay advance income tax of 14% of the profits earned in the previous quarter. The law allows, however, for taxable profit to be offset against losses from previous periods, which should help the capitalisation of the banks to recover following a crisis. Companies in other sectors are still subject to the previous regulation, under which income tax is paid when profits are distributed. The new law also allows all companies to pay a lower rate of income tax of 14% on the part of distributed profit that the company has paid as its average dividends over the past three years.

The introduction of advance income tax for credit institutions will lower the share of income tax in the profit of credit institutions that have regularly paid out more in dividends. This will encourage the banks to pay dividends regularly and persuade those banks that have not earlier paid out dividends to do so. It can be seen from Figure B3.1 that whereas the share of income tax in profits earlier depended on the rate at which dividends were paid out, under the new tax rules this will no longer be the case and the banks that pay fewer dividends will have a relatively larger share of income tax in profits. The equilibrium rate for paying out dividends is approximately 56%, as at this rate the average share of income tax in profits over four years under the new rules will be the same as under the old rules. **A danger to financial stability could be that under the new tax system banks start to pay more in dividends than previously. This could damage the capitalisation of new banks that need to increase their capital at a time of**

Figure B3.1. The share of income tax in profit



Assuming that distributable profit is smaller than or equal to the average distributed profit of the preceding three calendar years.
Source: Eesti Pank

growth. In the past nine years the banking sector in Estonia has paid out an average of around 52%[13] of its profit earned as dividends. This means that banks may increase their dividend payouts in future in order to keep the tax burden at a similar level to what it was before.

A reduction in the share of income tax in the profit of banks that regularly pay dividends may encourage banks to pay out undistributed profit and so equally reduce their capitalisation and their resilience to shocks. Banks that have so far not paid out their undistributed profit, as they have been encouraged by the tax system to date, may under the new law start to pay dividends out from profit that has not been distributed so far. It is calculated that over four years the share of income tax in profit would fall from 25% to 22.8% as undistributed profit is paid out, and it would fall further as this period is extended.

The introduction of advanced income tax for credit institutions only may encourage movement between the loan portfolio and the lease portfolio. Under the new law only credit institutions are liable for advance income tax. This means though that banks which have their lease portfolio in a separate lease company pay less in advance income tax, meaning the playing field is not level in the financial sector and that some loans may be moved into independent lease companies.

In the interests of financial stability, payments by banks should discipline the banks and discourage them from taking on excessive risk, and at the same time should allow the state to build up sufficient funds to cover the costs of resolving any possible banking crisis in the future. **The separate income tax rules applied to banks in the Estonian form do not meet these goals, and they could also lead to new risks to financial stability.** One possible such risk is a reduction in the resilience of the banks as capitalisation is reduced to optimise tax payments. Another possible risk is that the share of financial intermediation occurring outside of the banking sector may increase.

13 Imputed from the balance sheet.

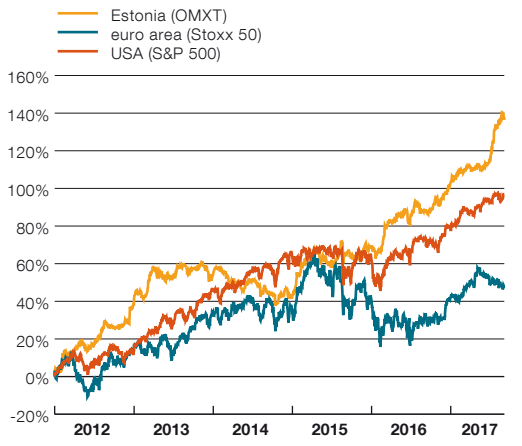
OTHER FINANCIAL INTERMEDIARIES

Securities markets

The Estonian securities market is relatively small in size and in its activity level, and it has only a limited impact on financial stability in Estonia. The capitalisation of the stock exchange stood at 2.5 billion euros at the end of July 2017, and that of the bond market was 664 million euros, a total of 3.2 billion euros or 14% of GDP. Over the year, the capitalisation of the securities market increased by 16%, mostly because of rises in share prices.

The OMXT index rose strongly over the 12 months (see Figure 39). The rise over the year in the OMXT index was almost 27% at the end of August, while share prices in the euro area as a whole rose much less. Prices rose for almost all of the shares in the OMXT index

Figure 39. OMXT and other indexes, change from the beginning of 2012



Sources: Bloomberg, Eesti Pank calculations

The turnover in the stock market was quiet in the 12 months. The average monthly turnover for the previous 12 months was 12 million euros in August, and it was down some 16% on the same period a year earlier.

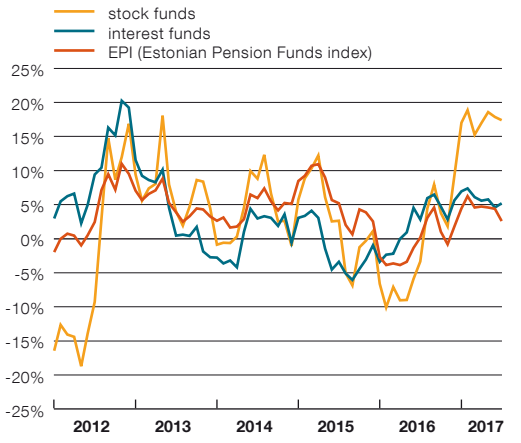
The volume of new bonds issued increased this year. The average amount issued in new bonds in a month in the previous 12 months stood at 18 million euros in July 2017, which was around three times as much as a year previously. The primary bond market was mainly driven by companies in real estate and credit supply. In contrast the number of new issues of bonds was not significantly different over the 12 months from a year earlier. On average three new bonds were issued in each of the 12 months.

Investment and pension funds

A large part of the assets of Estonian investment and pension funds are placed abroad, meaning that the returns of the funds are largely affected by developments in securities markets outside Estonia. Rising prices in securities markets passed into the returns of investment and pension funds. They were particularly strongly affected by equity funds, where developing markets play a larger role than they do in pension funds. The average annual return on units of equity funds was 17% at the end of July 2017. The value of units in interest funds was up 5.2% on average over the 12 months and the EPI index, which shows the general return of pension funds, was up almost 3% (see Figure 40).

The assets of both pension funds and real estate funds saw strong growth in the year. At the end of July 2017, pension funds had assets of 3.6 billion euros and investment funds had 0.9 billion euros of assets. The assets of pension funds had increased over the year by 18%, mainly on the back of contributions paid in, while the assets of equity funds grew by around 34% over the year, and those of real estate funds by 25%. The assets of equity funds grew thanks to rising securities prices and the inflow of funds, while the growth in real estate funds was due to an increase in the inflow of finance.

Figure 40. 12-month changes in net asset value of funds and the EPI index



Sources: Eesti Pank, Pensionikeskus

Insurance companies

Growth in the insurance sector accelerated even further in the beginning of 2017. In the first half of the year 9.5% more insurance premiums were received than a year earlier. After the economic crisis the insurance market dropped sharply, but it has increased significantly of late at an average rate of 7% per year. As a result insurers are currently taking in 50% more in insurance premiums than six years ago when the market was at its lowest point. However, the market remains notably smaller than in more developed countries[14], meaning that the insurance market can be expected to grow rapidly as the economy continues to develop.

Growth in the sector has largely been driven by non-life insurance. Growth was more than 10% in the first half of the year (see Figure 41). Sales results have improved at all the major insurers. Insurance premiums have increased for all types of insurance as well, with notably fast growth of 15% in motor third-party liability insurance premiums. The profits of the sector have been stable and have tended more towards growth. Competition remains fairly tight however. This is demonstrated by the structure of the market, where seven insurance companies hold a sizeable market share. Tight competition is also indicated by relatively high ratios for losses[15] and expenses[16]. The structure of the investment port-

14 See The Structure of the Estonian Financial Sector. June 2017.

15 Insurance claims paid out / premiums received

16 Operating costs / premiums received

folio of non-life insurers has remained stable in recent years (see Figure 42). Corporate bonds dominate within the portfolio, accounting for 76% of investment. Investments have so far earned well and have supported the profitability of the companies.

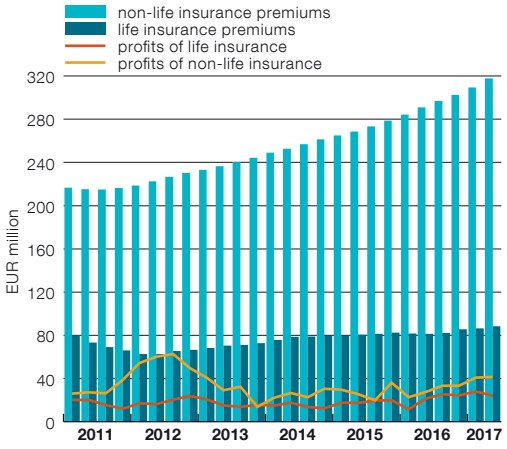
The growth figures for life insurance were earlier low, but growth has picked up notably in recent quarters. The sector grew by 6.6% in the first half of the year (see Figure 41). The growth was driven by a significant increase in term and whole life assurance and in unit-linked life insurance. The profitability of life insurance has remained stable and this has been helped by income from investment. In recent years the share of bond investments in the sector has increased, and half of all investment has gone into sovereign bonds, and one third into corporate bonds (see Figure 42).

The main risk to the insurance sector has long been the persistent low yield environment. In this context it is harder for insurers to get a return on investment that would match the targets of their business model. If the income earned by reinvesting assets is lower than expected, the return on long-term contracts is lowered. To improve the expected return, companies can invest in riskier assets but this increases the risks to the stability of insurance companies and the sector. That said, no such event is currently noticeable in the investment activity of the insurance companies. Furthermore, broader risks to financial stability are limited by the small size of the sector.

PAYMENT AND SETTLEMENT SYSTEMS

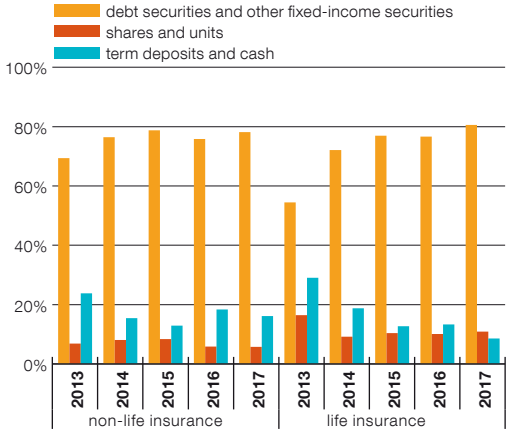
Eesti Pank is involved in oversight of payment and settlement systems to minimise the risks they pose to financial stability and the circulation of cash. Eesti Pank oversees the real-time gross settlement system TARGET2-Eesti, the securities settlement system and the card payment system. It is also a participant in the oversight for the pan-European settlement system for retail payments STEP2 and the securities settlement platform TARGET2-Securities.

Figure 41. Premiums and profits of insurance companies, four quarters



Sources: Statistics Estonia, websites of insurance companies

Figure 42. Investments of insurance companies



Source: Financial Supervision Authority

The Eesti Pank gross transfers system TARGET2-Eesti worked well in the first half of 2017, with no major incidents, and an availability rate of 100%. TARGET2 is exposed to risks that come from other systems, and incidents in the settlement platform TARGET2-Securities launched in 2015 have several times led the settlement day of the payment system to be ended later than usual, though these incidents have not affected payments made in the Estonian subsystem.

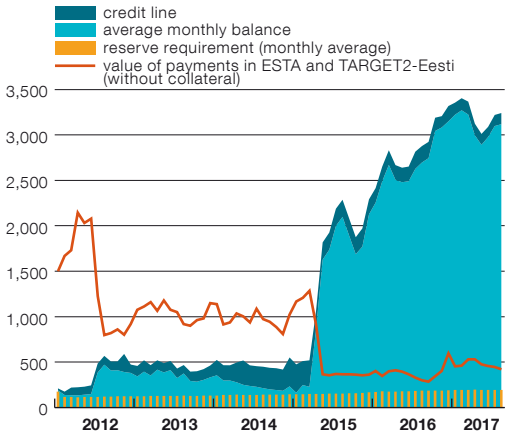
The banks again had sufficient liquidity buffers for settlements to be made smoothly. The banks did not need overnight credit, and the intra-day lending facility, which is a credit line opened against

pooled collateral, was not used. The commercial banks hold substantially more in funds at the central bank than is required (see Figure 43).

The securities settlement system Depend managed by the Estonian Central Securities Depository operated in 2017 until it was closed without a single incident (see Figure 44). A new undertaking that was years in the planning and development was launched in September. On 18 September 2017 the depositories of the three Baltic states were joined together in a single pan-Baltic central securities depository named the Nasdaq CSD Societas Europaea, new security settlement systems were introduced in Estonia, Latvia and Lithuania, and the depository that was created joined the pan-European securities settlement platform TARGET2-Securities. These three large projects, which were critically dependent on each other and on external factors, were carried through successfully without any of the risks to them materialising. Joining the depositories will let them operate more efficiently and on better competitive terms. Nasdaq CSD manages the three securities settlement systems using the same technology and rules, but as the securities settlement system of each country operates under the laws of that country then legally speaking they are separate systems. The shared technology of the Baltic securities settlement systems was architected in Estonia from the Estonian securities settlement system Depend, which has functioned successfully for years.

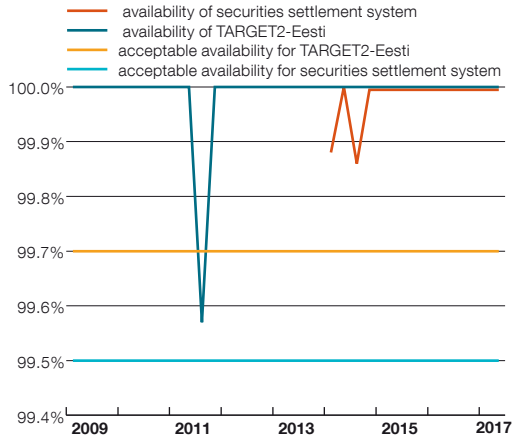
Before the new securities settlement system was introduced, the central banks of Estonia, Latvia and Lithuania assessed the risks of the new system[17]. The result of the risk assessment was that Nasdaq CSD was recommended to take measures to minimise the operating risks, the risks arising from the insolvency of system members, and the risks from the merging of financial market infrastructures. Some minor shortcomings were discovered in compliance with minimisation of the legal, business and custody risks. The central banks made 41 recommendations, and Nasdaq CSD complied with the majority of them when it applied for its operating licence after the assessment, and a deadline of

Figure 43. Value of interbank payments, reserve requirements and balances held at the central bank



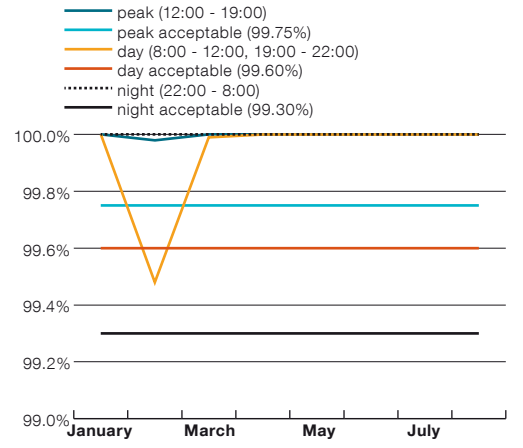
Source: Eesti Pank

Figure 44. Availability of interbank payment systems



Source: Eesti Pank

Figure 45. Availability of the card payment system 2017



Source: Eesti Pank

17 Depositories in the Eurosystem and the CPMI-IOSCO securities settlement system that they manage are subject to recommendations on financial market infrastructure that the overseer uses in its assessments.

September 2018, when operations will have been running for one full year, was agreed for compliance with the other recommendations.

Some operating risks to the card payment system managed by Nets Estonia were realised, and during the half year there was one critically important incident, which reduced the indicator for the level of service and interrupted card payments for a total of one hour and three minutes (see Figure 45). The incident on 2 February was caused by a technical error in the system. The error in the database meant that card transactions in payment terminals and ATMs could not successfully be authorised. Nets Estonia has taken preventative measures so that such an incident would not happen again in the future.

MACROPRUDENTIAL POLICY

CURRENT MACROPRUDENTIAL MEASURES

The macroprudential measures that apply for credit institutions operating in Estonia are the capital buffer requirements and the requirements for housing loans (see Table 1). The current measures are mainly preventative in nature and are intended to strengthen the resilience of credit institutions to negative events that could occur in the financial sector and to limit any possible increase in the risks. Eesti Pank assesses how appropriate the measures are in each case to a regularly planned schedule, with the countercyclical capital buffer requirement assessed once a quarter, the systemically important institution buffer requirement assessed once a year, and the systemic risk buffer requirement assessed once every two years. If there are significant changes in the risk assessment, the requirements may be adjusted more frequently.

The rate of the countercyclical capital buffer is currently set at zero. As the indebtedness of Estonian companies and households has not increased in recent years, and it is not forecast to do so consistently over the next two years, Eesti Pank does not currently see any need to raise the buffer rate. However, the lending growth might accelerate if the growth in the economy and in incomes picks up further, and this could make it necessary to require the banks to hold additional capital buffers to cover any possible loan losses that may be caused by the credit cycle (see the section on assessment of the need for the countercyclical capital buffer).

On top of the buffer requirements set by Eesti Pank for credit risk exposures located in Estonia, the banks also need to meet the countercyclical capital buffer requirements that apply in foreign countries where they hold credit risk exposures. Six countries in the European Economic Area had set buffer rates above zero as at 30 September 2017, and outside the European area a higher rate applies in Hong Kong (see Table 2). Exposures in Estonia accounted for the vast majority of the total credit risk exposures of the banks licensed in Estonia at 94% at the end of 2016, with 5% of exposures in other European Economic Area countries and less than 1% in other countries. The credit risk exposures of Estonian banks in the seven countries that have a buffer rate above

Table 1. The macroprudential measures of Eesti Pank

Instrument	Rate	From
Systemic risk buffer	1%	1 August 2016
Other systemically important institutions buffer		
Swedbank AS, AS SEB Pank	2%	1 August 2016
AS LHV Pank*	0.5%	1 January 2018
Countercyclical capital buffer	0%	1 January 2016
Housing loan requirements**		
loan-to-value (LTV) limit	85%***	1 March 2015
debt service-to-income (DSTI) limit	50%	
maximum loan maturity	30 years	

* Decision of the Executive Board of Eesti Pank of 30 October 2017 on the list of systemically important credit institutions and their buffer rates
** The 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

Table 2. Countries with a countercyclical capital buffer rate above 0%

Country	current rate	from (month/year)	rate applicable in future	from (month/year)
Sweden	2.00%	03/2017		
Norway	1.50%	06/2016	2.00%	12/2017
Iceland	1.00%	03/2017	1.25%	11/2017
Slovakia	0.50%	08/2017	1.25%	08/2018
Czech Republic	0.50%	01/2017	1.00%	07/2018
United Kingdom	0.00%	03/2015	0.50%	06/2018
Hong Kong	1.25%	01/2017	1.875%	01/2018

Sources: ESRB, BIS

Table 3. Capital and buffer requirements in Estonia as at 30.09.2017

		Systemically important credit institutions (Swedbank AS, AS SEB Pank)	Other banks
Macroprudential buffers	countercyclical capital buffer (Estonian exposures)	0%	0%
	systemic risk buffer (Estonian exposures)	1%	1%
	other systemically important institutions buffer	2%	-
Capital conservation buffer		2.5%	2.5%
Minimum own funds requirement		8%	8%
Total capital and buffer requirements		**13.5%**	**11.5%**
of which, Common Equity Tier 1 (CET 1) requirement		**10.0%**	**8.0%**

zero totalled 38 million euros, or 0.5% of the total exposures.

Eesti Pank has introduced a 1% systemic risk buffer against the vulnerability arising from the structure of the Estonian economy. The buffer requirement applies to all banks and only to exposures located in Estonia. A large number of the member states of the European Union have decided to reciprocate the Estonian systemic risk buffer requirement, which means that an equivalent requirement applies to branches and cross-border exposures originating from those countries[18]. The appropriateness of the systemic risk buffer rate will next be assessed by Eesti Pank in 2018.

The systemically important credit institutions operating in Estonia are Swedbank AS and AS SEB Pank. AS LHV Pank is being added to that list as its market share has steadily increased in recent years. As a systemically important bank, AS LHV Pank will be subject to an additional buffer requirement from 1 January 2018, which will be set at 0.5% of its total risk exposures to reflect the systemic importance of the bank. The buffer rate of 2% continues to apply for Swedbank AS and AS SEB Pank (see the section Identifying the systemically important credit institutions in Estonia and setting the buffer requirements).

Overall the banks have to hold additional own funds of 1-3% of risk assets for macroprudential purposes. Adding the current minimum capital requirements of the European Union to the buffer requirements introduced in Estonia means that banks in Estonia have to have own funds of at least 11.5% of risk assets, of which eight percentage points must be common equity tier one capital (see Table 3). The requirements for systemically important banks are higher by the amount of the additional buffer requirements. All capital buffer requirements are introduced in Estonia without a transition period.

To limit the increase in systemic risks in the housing loan market, Eesti Pank has set limits for housing loans on the loan-to-value ratio (LTV), the debt service-to-income ratio (DSTI), and the maximum maturity of loans. Eesti Pank regularly assesses the developments in housing loans, the real estate market, and the lending conditions of the banks, and if necessary can change the limits. As analysis in spring 2017 confirmed that there has been no substantial increase in the risks to the housing loan market since the requirements were introduced, and lending conditions have not been loosened, Eesti Pank did not consider it necessary to tighten the housing loan requirements[19].

Identifying the systemically important credit institutions in Estonia and setting the buffer requirements

European Union member states assess the importance of credit institutions for the financial system each year, and update the list of systemically important credit institutions. Banks are considered systemically important if it is important for the financial system and the real economy that they function without interruption. In Estonia the credit institutions that are systemically important for the financial system here are defined by Eesti Pank as O-SIIs, or

18 See Reciprocation of the Estonian systemic risk buffer requirement by other European Union countries in Financial Stability Review 1/2017.

19 See Eesti Pank requirements for housing loans and compliance with them in Financial Stability Review 1/2017.

Other Systemically Important Institutions. Eesti Pank decides on the buffer rate for O-SIIs, and can set it at up to 2% of total risk exposure. The additional buffer is intended to make the operation of systemically important market participants and the system as a whole more secure, and to reduce the moral hazard that arises for large credit institutions that are seen as being too big to fail. Eesti Pank assesses how appropriate the buffer rates are, given the functioning of the Estonian banking system, and adjusts them if necessary, at least once a year.

Systemically important institutions in Estonia are identified following the methodology in the guidelines of the European Banking Association (EBA)[20], which has been adapted by Eesti Pank to reflect specific features of the local financial system. The methodology had to be adapted to account for features of the funding structure that arise from the large share of foreign banks in the Estonian banking sector. The funding of the banks operating in Estonia is based largely on deposits and funds received from parent banks. As the larger banks can access market-based financing through their parents, the total value of bonds issued by banks operating in Estonia is very small, and at the end of 2016 it was only 44 million euros or 0.02% of the assets of the banking sector. In consequence the systemic importance of those few banks that have issued bonds, even only to a small extent, was overestimated in the EBA methodology. This makes it reasonable to use an adapted methodology in identifying O-SIIs, where the distorting component is left out of the results for the overall score of systemic importance. At the same time, the adapted methodology gives greater weight to assets and liabilities in the financial system than the EBA methodology does. Given that a large share of the banks is under foreign ownership, intra-group loans and deposits reflect the connection of the local banking sector to other financial institutions and so provide channels through which financial shocks could be transmitted from one institution to another.

Data from the end of 2016 show the systemically important credit institutions in Estonia to be Swedbank AS, AS SEB Pank and AS LHV Pank. These three banks exceeded the threshold for defining systemic importance set in the methodology at 350 basis points[21] (see Table 4). Since the assessment a year ago, AS LHV Pank has been added to the list of systemically important credit institutions, as its market share, the importance of the services it provides for the financial system and the volume of its transactions with other financial institutions have all increased over the year. All the credit institutions defined as systemically important in Estonia must hold additional capital buffers.

Table 4. Scores of the banks operating in Estonia (basis points)

Institution	Overall score		Criteria				
						Interconnectedness	
	Base*	Adjusted**	Size	Importance (including substitutability/ financial system infrastructure)	Complexity/ cross-border activity	Base*	Adjusted**
Swedbank AS	3006	3080	3941	4399	2810	873	1168
AS SEB Pank	2229	2434	2328	2322	2624	1640	2460
AS LHV Pank	949	409	377	438	201	2780	620
AS DNB Pank	247	272	335	226	224	203	305
BIGBANK AS	202	205	159	149	480	22	33
Versobank AS	222	134	81	162	214	432	78
Tallinna Äripanga AS	103	117	87	81	136	109	164
AS Eesti Krediidipank	97	103	117	122	101	48	72
AS Inbank	145	23	34	29	19	499	10

* The automatic score is calculated using the EBA methodology
** The adjusted score takes account of the specific features of the Estonian financial system and excludes one indicator (debt securities outstanding) from the calculation of the score.

20 Guidelines issued on 16 December 2014 by the EBA on the criteria to determine the conditions of application of Article 131(3) of Directive 2013/36/EU (CRD) in relation to the assessment of other systemically important institutions (O-SIIs).

21 To simplify, 350 basis points is on average equivalent to market share of 3.5% of the assets and various activities of the banking sector.

When setting the buffer rate for systemically important banks, Eesti Pank starts from the principle that the O-SII buffer rate should be higher the more systemically important a credit institution is. In developing its methodology for calibrating the O-SII buffer, Eesti Pank considered various points, including the score given in the assessment of the systemic importance of credit institutions, the O-SII buffer rates applied to other banks in the Nordic and Baltic region, and analysis of data collected on the Estonian banking sector[22]. Eesti Pank generally applies an O-SII buffer rate of at least 0.5% to the credit institutions that pass the minimum threshold of 350 basis points in the assessment of systemic importance. The maximum rate of 2% is applied to those credit institutions that get an overall score of at least 1200 basis points. If the overall score for systemic importance is between 350 and 1200 basis points, the benchmark rate is found linearly, and the result rounded to the nearest 0.5 percentage point. From the overall score for systemic importance, Swedbank AS and AS SEB Pank are subject to an O-SII buffer at the maximum rate of 2% and AS LHV Pank at a rate of 0.5%.

The next assessment of systemically important credit institutions will take place in 2018. Eesti Pank will analyse the developments in the banking sector and if there are major structural changes it will adjust the list of O-SIIs. The changes in the structure of the banking sector are also taken into account in adjusting the buffer rates and assessing the need for additional O-SII buffers. The data available at the time the O-SIIs were defined in 2017 did not allow the assessment results this year to reflect the structural changes in the Estonian banking sector caused by the creation of Luminor Bank AS. When the Estonian branch of Nordea Bank AB merged with AS DNB Pank under the business name Luminor Bank AS, the market share of the branches was reduced and a bank with an Estonian licence started operating in the local banking market. This change will be taken into account in the next assessment of O-SIIs and the buffer rates that apply to them.

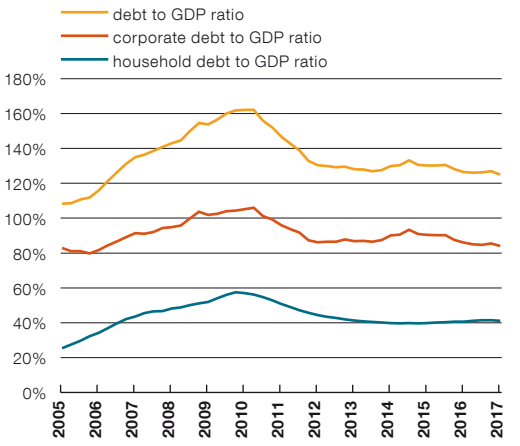
ASSESSMENT OF THE NEED FOR A COUNTERCYCLICAL CAPITAL BUFFER

A countercyclical capital buffer has to be created for the banks at a time when the financial cycle is on the upswing and the systemic risk from rapid loan growth is increasing. Banks can use the additional capital buffers they have built up during the growth phase of the financial cycle to cover losses that may arise when the cycle turns down and to continue supplying credit to the real economy. The larger the systemic risk accumulation in the credit market and the greater the imbalance that it creates, the larger the capital buffer should be.

Growth in credit volumes could be a danger to the stability of the financial system if it is faster than growth in the economy, meaning that indebtedness increases. A moderate increase in indebtedness could reflect the normal process of financial deepening, where borrowing is used to create greater value added that can be used in the future for servicing the loans. However, rapid credit growth could cause the economy to overheat and the banks to suffer loan losses in future. For this reason the development of debt and the factors affecting it need to be assessed and forecast when the capital buffer requirement is set.

There was a reduction in the indebtedness of the real economy in Estonia in the first

Figure 46. Real sector indebtedness



Sources: Statistics Estonia, Eesti Pank

22 For more details, see Systemic risk buffer and other systemically important institutions buffer. Analysis of the setting of the buffer requirements in Estonia, April 2016.

quarter of 2017. The credit-to-GDP ratio fell to 126% at the end of the quarter, which is its lowest level of the past five years (see Figure 46).

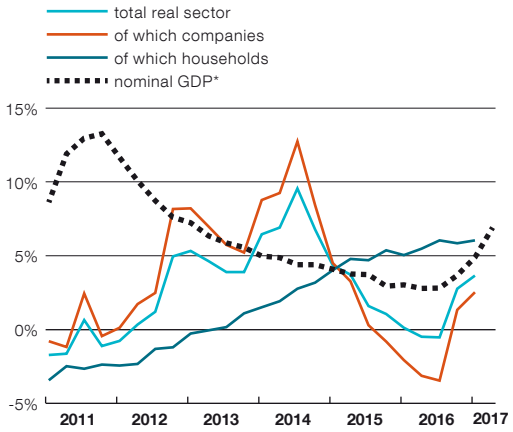
The reduction in indebtedness was mainly due to modest growth in the debt liabilities of companies. Nominal GDP growth also picked up (see Figure 47), and this slowed the increase in the credit-to-GDP ratio of households. The notable increase in the rate of GDP growth continued in the second quarter, so the increase in bank lending suggests that the indebtedness of the real sector probably did not increase in the second quarter either.

The Eesti Pank June forecast expects that the total debt of the non-financial sector will remain at its current level as a ratio to GDP in the years ahead, and the credit-to-GDP ratio will remain negative. The debt of the non-financial sector will grow faster in the coming years as the economy and investment grow, but the rate of growth will not exceed the forecast growth of 5-6% in nominal GDP in the years ahead (see Figure 48).

The standardised credit-to-GDP gap calculated using the methodology of the Basel Committee on Banking Supervision[23] was -13 percentage points at the end of the first quarter of 2017 and the additional gap[24], which is also used by Eesti Pank, was –22 percentage points at the end of the second quarter of 2017 (see Figure 49), so the buffer guide was 0%. The gap will remain negative in the years of the forecast, 2017-2019.

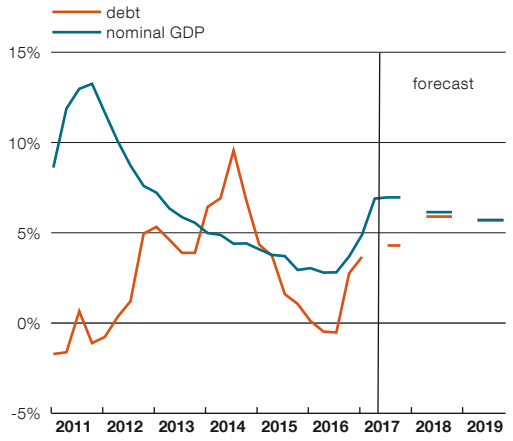
The growth in corporate debt, which was 2.5% over the year in the first quarter, has been slowed by the low level of investment. The structure of debt liabilities has been affected in recent years by the different investment needs of different sectors, and the preferences of companies for sources of funds. There has been significant growth in recent years in borrowing from banks operating in Estonia but this has slowed a little this year, as the yearly growth in the stock of loans and leases slowed by the end of the second quarter to 6% from 8% a year ago, and growth remained moderate in the

Figure 47. Annual growth of real sector debt and nominal GDP



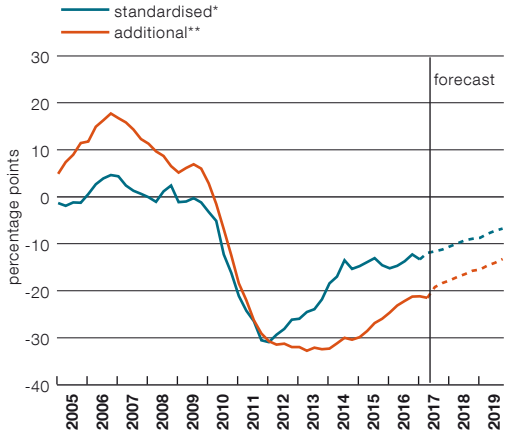
*four-quarter moving average GDP annual growth
Sources: Eesti Pank, Statistics Estonia

Figure 48. Forecast for annual growth of real sector debt and nominal GDP



Sources: Eesti Pank, Statistics Estonia

Figure 49. Credit-to-GDP gap



* from total debt data. ** from domestic bank loans and leases data
Sources: Statistics Estonia, Eesti Pank

23 In calculating the standardised credit-to-GDP ratio, Eesti Pank uses the quarterly statistics of the financial account from the system of national accounts for finding the debt level. This covers loans to the real sector and bonds issued both within Estonia and abroad. This is an unconsolidated indicator.

24 The additional credit-to-GDP ratio is calculated using a narrow aggregate of credit that covers domestic loans and leases issued by banks operating in Estonia.

third quarter. The volume of corporate debt liabilities abroad has been fairly unchanged over the past two years, but looking forward it is likely to increase as the decline in the very volatile short-term debt liabilities is ending, but long-term debt liabilities continue to grow. The decline in funding through holding companies has stabilised since the end of 2016 (see Figure 50).

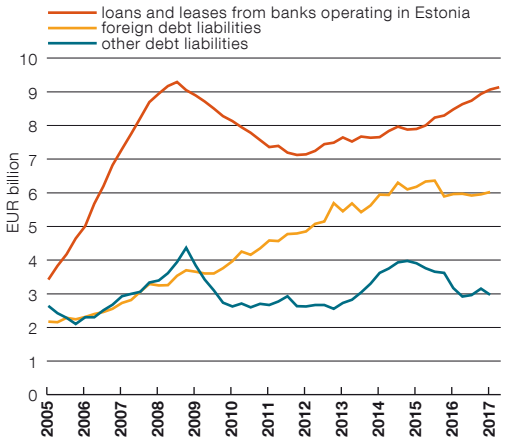
Despite the different dynamics of the different sources of funds, the forecast increase in overall economic activity and investment gives grounds to suppose that total corporate debt will start to increase faster in future. The Eesti Pank June forecast expects that investment growth will accelerate this year and this will increase borrowing by companies.

Household borrowing has remained strong. The yearly growth in debt liabilities picked up to more than 6% by the end of the first quarter of 2017 as housing loans, car leases and other consumption loans all increased, and this rapid growth continued in the second quarter (see Figure 51). Growth in borrowing by households has so far been supported by rising wages, low unemployment and favourable interest rates on loans. The increasing demand for labour that has accompanied the growth in the economy means that wage pressures will continue, but inflation will slow the growth in real wages. This may mean that faster growth in borrowing could increase the risks around the ability of borrowers to pay their loans.

The annual growth in the stock of housing loans accelerated to 6% by the end of the second quarter of 2017. The yearly growth in new housing loans has been fast this year due to the low comparison base, but it slowed in the third quarter and was below the average for the past three years, with the average yearly growth over three months at 13% in August.

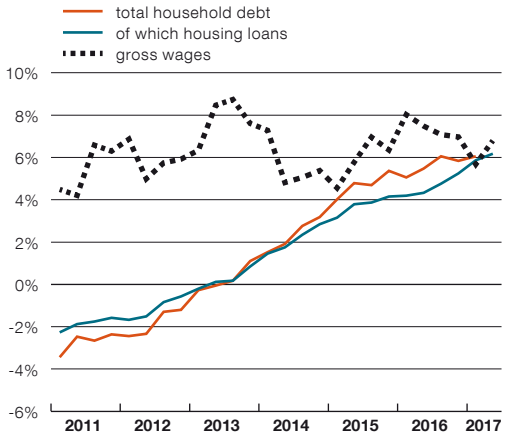
The growth in housing loans has been affected quite significantly this year by the rise in the number of contracts. At the same time the rise in real estate prices, which affects the size of the average loan, slowed in the second quarter of 2017 to 4% (see Figure 52). Although there has been a slight increase this year in the use of

Figure 50. Corporate debt



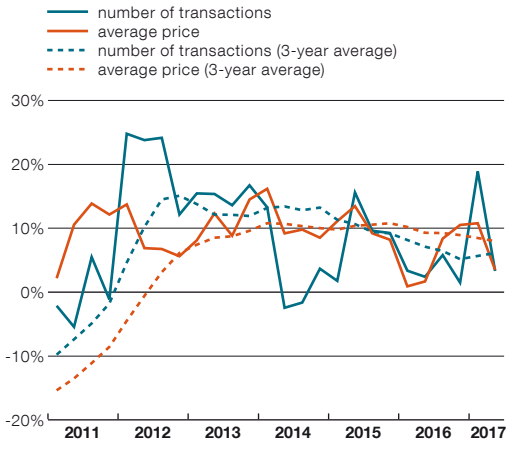
Source: Eesti Pank

Figure 51. Annual growth of household debt and the average gross wage



Sources: Eesti Pank, Statistics Estonia

Figure 52. Annual growth of housing prices and number of transactions



Source: Estonian Land Board

borrowed money to fund real estate transactions, households are still using more of their own funds for buying residential property than was the case during the last business cycle.

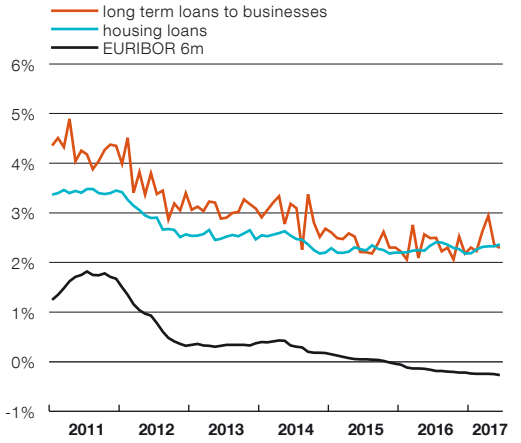
The lending standards of the banks and their lending conditions have not been loosened. Increased demand for credit has allowed banks to increase their loan margins on housing loans slightly. This meant that the average interest rate on housing loans rose in the second quarter to 2.4%, which is around 0.2 percentage point more than at the start of the year (see Figure 53). The other conditions for housing loans, which are the loan-to-value ratio, the debt service-to-income ratio and maturity, have not become looser however. Competition between the bigger banks has meant the average margin on long-term corporate loans has fallen slightly in recent years, and has been similar to the margin on housing loans.

The supply of loans from the banks is supported by strong growth in deposits, and the banks have not increased their leverage. Deposits from the domestic real sector have grown very rapidly in recent years, and the rate of growth was above 11% in August. The ratio of resident loans to deposits has not significantly changed in the past three years and has been at 122%, meaning the increase in the loan supply has not put pressure on the banks to increase the share of market-based funding. The capitalisation of banks remains strong, and this has supported profitability.

I**n summary, Eesti Pank does not currently consider it necessary to raise the counter-cyclical capital buffer rate above 0%.** The main argument for this is that the indebtedness of the non-financial sector as shown by the credit-to-GDP ratio has not increased in the past three years and is predicted by the Eesti Pank June forecast to remain at around the same level for the next two years. Debt liabilities will grow faster in the coming years as the economy grows, but the rate of growth will not exceed that of nominal GDP consistently or significantly. Furthermore, the banks have not loosened their lending standards and conditions and have not increased their leverage.

However, households have started to borrow more as wages have risen rapidly and confidence has increased, and this could lead loan burdens to increase faster than forecast and so increase the related risks. Corporate indebtedness could also start to grow strongly again if investment increases. In consequence the current development of the loan market does not give any grounds for raising the capital buffer rate, but Eesti Pank constantly monitors the factors that could indicate a possible build-up of risks and can, if necessary, raise the countercyclical capital buffer rate above 0%.

Figure 53. Weighted average interest rates on housing loans and long term corporate loans



Source: Eesti Pank.

APPENDIX 1. INVESTMENT IN INDEX FUNDS AND FINANCIAL STABILITY

Investment in index funds[25] has become ever more popular among investors in the past decade. The assets of index funds as a share of all funds have increased in the world's largest fund market, the USA, from 10% in 2006 to 27% in 2016[26]. They have become more popular as investors have been dissatisfied with the returns on actively managed funds and have looked for better yields elsewhere. Moreover, the management fees for index funds are by their very nature relatively low. Data from the Investment Company Institute put the median cost rate of share index funds at 0.35% in 2016, while the cost rate for other share funds was more than three times this.

Despite the advantages of index funds, there are concentration and liquidity risks that arise from their passive investment strategy. As a large part of indexes is based on capitalisation, the securities of companies with large capitalisation play a larger role in index funds than do those of other companies. This means though that the securities of larger issuers affect both the return and the risks more than do those of others, and unlike actively managed funds, index funds are not able to manage this risk by changing the shares of their assets. A second risk that also arises from the limited choice of assets of the index funds is liquidity risk. This arises because the market liquidities of the securities in the index are different, meaning that unlike actively managed funds, index funds cannot manage their own liquidity risk actively. For this reason a large-scale outflow of investors' funds could cause difficulties for the index funds in realising less liquid assets.

Some of the risks to index funds could be systemic in nature and so could pose a threat to financial stability. As the investment strategy of index funds is to invest in all the companies in the index, the demand and supply of securities from all issuers become simultaneous with the moment when investors put money in the index fund or take it out. This means though that the price of any individual security in the index does not necessarily reflect the value of that security to the issuing company any more, and this could lead to price bubbles being inflated in securities markets and equally to a fall in prices. Furthermore, an increase in the popularity of index funds increases the homogeneity of investments, and this makes the behaviour of investors more similar. A consequence of this could be that investors start to realise their fund units simultaneously during a crisis and this could amplify any fall in prices in securities markets.

Fund managers in the Estonian pension fund market have brought several pension funds into the market that invest in index funds, but they are still not very popular among pension savers and play a marginal role in the Estonian financial sector. At the end of June 2017 fewer than 1% of pension savers had invested in index pension funds, and the value of indexed funds was less than 1% of the total value of pension savings funds. The shares were so small primarily because such pension funds have only been in the market for a short time. Secondly savers with mandatory pension funds in Estonia are generally not at all active in changing their funds, and thirdly the low management fees mean that fund managers have not pushed such pension funds to savers particularly aggressively.

The systemic risks of index funds affect the assets of pension saving funds in Estonia directly to a limited extent. As the assets of Estonian pension savings funds are relatively

25 Index funds are passively managed investment funds in which the structure of assets and the return follow a specific index.

26 Data from the Investment Company Institute.

small in global terms, Estonian funds are risk takers rather than a source of risk in terms of the systemic risks of index funds. As a whole, the long-term investment horizon of pension savings funds helps to reduce systemic risk. However, the realisation of systemic risk could affect the value of the individual pension assets of the pension saver right at the end of the savings period. For this reason it is important with pension funds that invest in indexes, as with other pension funds, that the pension saver should be attentive to these risks and should reduce them by reinvesting pension assets in funds with less risk towards the end of the savings period.