



EUROSÜSTEEM

FINANCING OF THE ECONOMY

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CONTENTS

SUMMARY	4
1. LOAN GROWTH IN THE EURO AREA AND IN ESTONIA'S NEIGHBOURS.....	6
Box 1: The differences in the cost of borrowing between countries.....	8
2. FINANCING OF COMPANIES	11
The impact of the economic environment and investment activity on corporate financing	11
Corporate liquid assets and equity	11
Corporate debt liabilities and leverage.....	13
Lending by banks operating in Estonia	15
Access to funding.....	16
Box 2: The corporate profit rate, saving rate and investment rate, and net borrowing	17
Box 3: Corporate debt liabilities abroad.....	20
Box 4: The non-bank financial sector loans and investment in the equity of companies in the real sector.....	23
3. FINANCING OF HOUSEHOLDS.....	25
Household income and savings.....	25
The borrowing behaviour of households.....	26
Box 5: Household savings.....	28
Box 6: The debt liabilities of Estonian households	31
4. FACTORS AFFECTING THE LOAN SUPPLY OF BANKS	34
The lending capacity of banks	34
Other factors affecting the loan supply	35
Box 7: The funding of investments to support a low-carbon economy	37

SUMMARY

Lending and borrowing activity in the euro area has increased among companies and households. Economic growth, favourable interest rates, falling unemployment and growing investment together increased the demand for credit from both companies and households in 2016. At the same time, the lending conditions of the banks were loosened and loans became more accessible. Although lending conditions and interest rates continue to vary quite a lot across different countries in the euro area, interest rates came down in almost all the countries and the differences narrowed. The corporate loan portfolio started to grow, but its annual growth rate was still close to zero, while the housing loan portfolio grew by 2%. The loan portfolio in Estonia's neighbours has generally grown faster than the European average.

The options for funding for Estonian companies remain good. This is aided by profits built up earlier, relatively good access to bank lending, and very low base interest rates. Large and foreign-owned companies in particular continue to have good access to funds from abroad. The options for funding have been widened by the development of the non-bank financial sector. The main risk to financing is the continuing decline in profits, which could reduce the willingness of banks, investors and business partners to fund companies. Lower profits for companies also mean that there will be fewer internal funds available to them for investment.

Estonian companies have little need of capital as they have invested little. This is keeping the growth in investment in loan capital and equity moderate. Long-term debt liabilities were 2% larger at the end of the third quarter of 2016 than a year earlier. There was a decline in short-term debt liabilities as inventories grew modestly and companies reduced their intra-group short-term liabilities. The Eesti Pank December forecast expects the growth in debt liabilities to be around 5%-6% a year on average in 2017–2019. Growth will mainly increase as investment recovers and the current large drop in short-term lending comes to an end.

In the structure of corporate debt liabilities there was an increase for a second consecutive year in the share of domestic bank loans and a reduction in the share of foreign debt. There was a rapid increase of around 8% over the year in the portfolio of loans and leases taken by companies from banks operating in Estonia. The amount taken in loans from abroad or issued as bonds abroad shrank by around 7% however, and their share of total debt liabilities shrank to 32%. This change reflects increased borrowing by companies in sectors like real estate that are mainly financed by domestic banks, and reduced borrowing by companies in sectors like energy that borrow abroad. Borrowing in Estonia has also been aided by good access to bank loans and the partial replacement of foreign debt liabilities with domestic ones. Borrowing from abroad also declined because companies reduced their short-term intra-group loan liabilities.

The purchasing power of households continued to improve in 2016. The capacity of households to consume and invest more increased as incomes rose while inflation stayed low. Incomes rose relatively more for those on lower incomes.

The rise in incomes also improved the ability of households to put money aside so that their savings increased. As a smaller share of the additional money was spent

than before, the savings rate rose and household deposits continued to rise rapidly, increasing by 7% in 2016. The growth in deposits once again came mainly from large deposits, but there was an increase in the number of households with deposits. One driver of the rapid growth in deposits and the even faster growth in large deposits in recent years has been the notable increase in dividend income.

The growth in borrowing by households accelerated in 2016 but was still a little slower than the growth in incomes. Rising wages, low unemployment and low interest rates on loans all encouraged increased demand for loans from households. Both housing and consumption loans from banks and loans from outside the banks increased in volume. The size of the average loan was the main source of the growth as the number of households with debt liabilities has remained at almost the same level as before. Loans have grown more or less in line with consumption and investment, which shows that borrowed money has not been used to fund a larger share of spending than before.

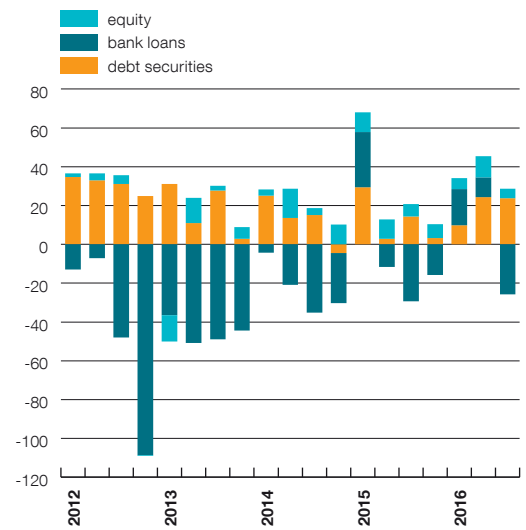
The rapid rise in wages has partly come at the expense of profits, but this cannot be sustained over the long term. It is important in this that households not use all their additional money and enhanced capacity for borrowing to increase consumption and loan liabilities. The lending conditions of banks to households have not been eased and somewhat restricted lending conditions are needed in the current climate. The Eesti Pank December forecast expects growth in household debt and in incomes to slow to around 5% in the years ahead.

The capacity for lending of the banks operating in Estonia remains good. This is aided again by high levels of capitalisation and profitability and by the favourable financing conditions of the banks. Despite the increased borrowing activity, household deposits and repayments of earlier loans are still enough to cover new lending. Competition between banks in the corporate loan market was again quite strong in 2016, especially for low-risk loans to large companies, and so the interest rate on such loans fell by more than that on loans to small companies. There is less competition in the housing loan market than in the corporate lending market.

1. LOAN GROWTH IN THE EURO AREA AND IN ESTONIA'S NEIGHBOURS

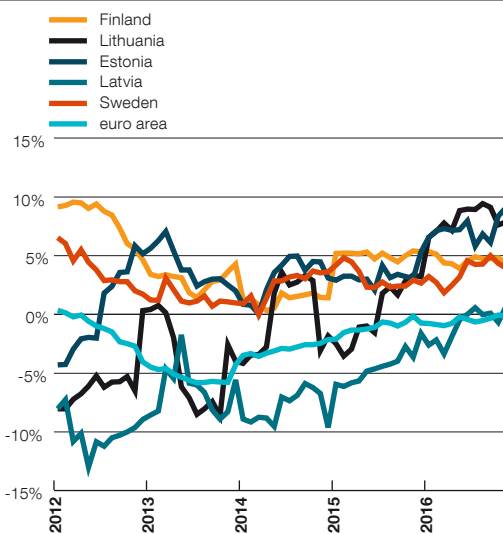
Moderate economic growth, low interest rates and increasing investment boosted demand from companies in the euro area for funding from external sources in 2016. Like in previous years, companies in the euro area got additional funds by issuing bonds and shares in the first three quarters of the year (see Figure 1.1). The corporate loan portfolio started to grow, but its annual growth rate was still close to zero at the end of November. Total corporate debt liabilities for the euro area as a whole were up 1.2% on a year earlier in the third quarter.

Figure 1.1. Change in outstanding amounts of non-financial corporate credit and net issuance of debt securities and equity in the euro area



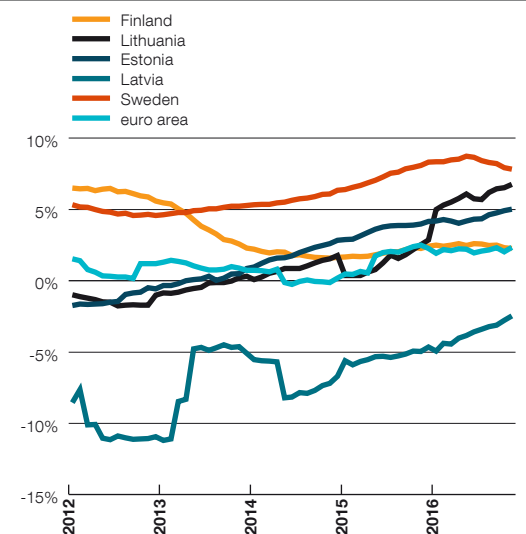
Sources: European Central Bank, Eesti Pank calculations

Figure 1.2. Annual growth in corporate credit



Sources: European Central Bank, Riksbank, Eesti Pank calculations

Figure 1.3. Annual growth in credit for house purchases



Sources: European Central Bank, Riksbank, Eesti Pank calculations

The loan portfolios in Estonia's neighbours have mainly grown faster than the euro area average (see Figure 1.2). The Swedish economy continues to grow strongly, and growth in the corporate loan portfolio picked up some speed in 2016 as companies increased investment. Credit growth remained relatively fast in Finland. Growth accelerated in the Lithuanian loan portfolio to its fastest rate since the crisis as GDP grew relatively strongly and confidence increased, while the decline seen in the Latvian portfolio since the crisis came to an end.

Lower unemployment and higher incomes gave some support to demand from households for housing loans in 2016. This was confirmed by the banks in the euro

area¹ and was reflected in growth in the loan portfolio. Annual growth in the housing loan portfolio still remained at the level of 2% seen in the previous year though (see Figure 1.3).

Falling unemployment and slightly more disposable income led annual growth in the loan portfolio in Finland to reach the same 2% as in the euro area overall. Take up of housing loans in Latvia remained modest however, despite lower unemployment, and the loan portfolio continued to decline in 2016, though more slowly. Improved confidence and lower unemployment in Lithuania gave a lift to borrowing for housing loans, and annual growth in the loan portfolio sped up in 2016. The rapid rise in real estate prices in Sweden and rising incomes have kept the

Figure 1.4. Net percentage of banks tightening or loosening credit standards in the euro area



Figure 1.5. Interest rates on new corporate loans

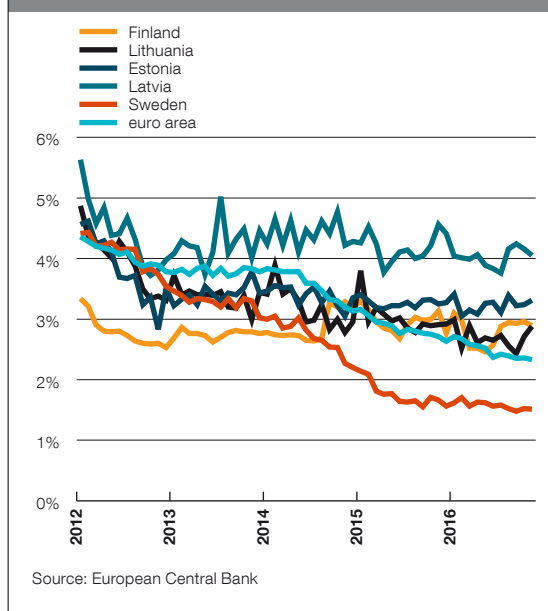
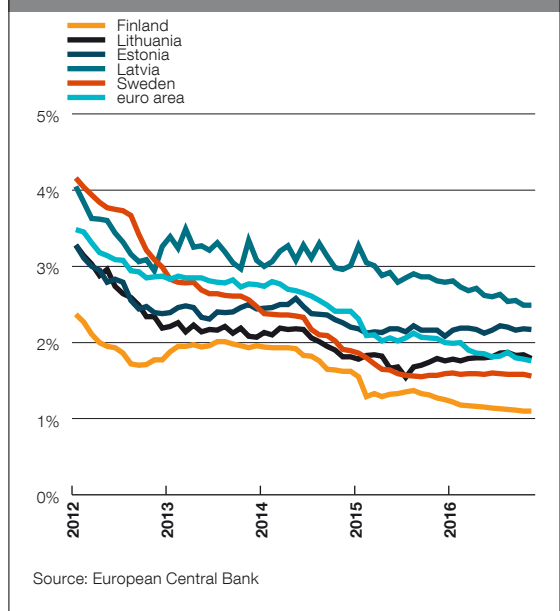


Figure 1.6. Interest rates on new housing loans



loan portfolio there growing at a faster rate than in other neighbouring countries, though that rate did slow a little in 2016.

The easing of the lending standards of the banks and lower interest rates are reflected in an improvement in the credit supply in the euro area. Like in the previous year, the banks reported in 2016 in the survey of lending in the euro area that they had eased their lending standards a little (see Figure 1.4). Non-financial companies also considered their access to funding to have improved. Companies in almost all the countries in the euro area considered that banks were more ready to lend in 2016, and only 9% of

1 The euro area bank lending survey. October 2016. ECB.

companies in the European Union found that access to funding was the main factor restricting business activities². The interest rates on newly issued loans continued to fall for the euro area as a whole in 2016. The movements in the interest rates in countries around Estonia have been more volatile than in the euro area, but on average interest rates have come down in all countries (see Figure 1.5).

Standards for housing loans also eased and interest rates fell. The banks said in the lending survey that they had eased the standards for loans to households a little in 2016. Interest rates on new housing loans continued to fall throughout the euro area in 2016 (see Figure 1.6). There were some differences in the countries around Estonia though, as interest rates continued to come down in Finland and Latvia, but they stopped doing so in Sweden and Lithuania.

2 Survey on the access to finance of enterprises. Analytical Report 2016. European Commission.

Box 1: The differences in the cost of borrowing between countries

The cost of borrowing varies to a great extent across the countries of the euro area. Broad monetary policy measures have brought interest rates down, and the variation in interest rates, which was increased by the financial crisis and again further by the 2010 debt crisis, has been diminishing steadily since 2013, though significant differences remain between countries (see Figures B1.1 and B1.2). In November 2016 the average cost of a corporate loan in Luxembourg was 1.4%, but the figure in Greece was around triple that. Price differences between countries for loans can also be observed in the essentially more homogeneous housing loan market, where the variation in the cost of borrowing reached a little over 2% in 2016. There is a range of factors that affect interest rates and so can explain the fractured

Figure B1.1. Average cost of borrowing for non-financial companies in the euro area

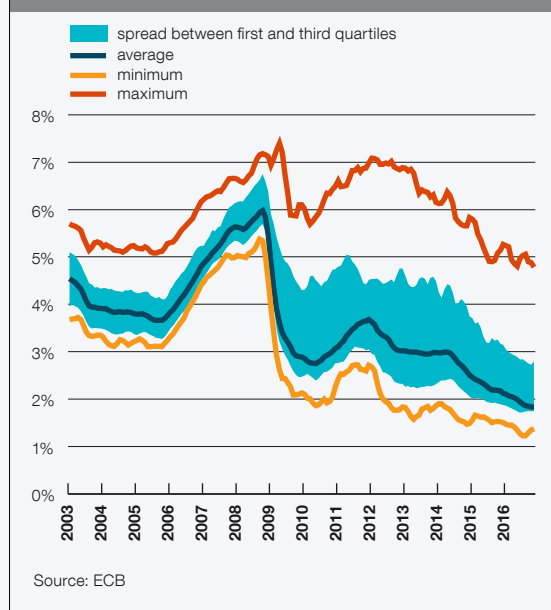
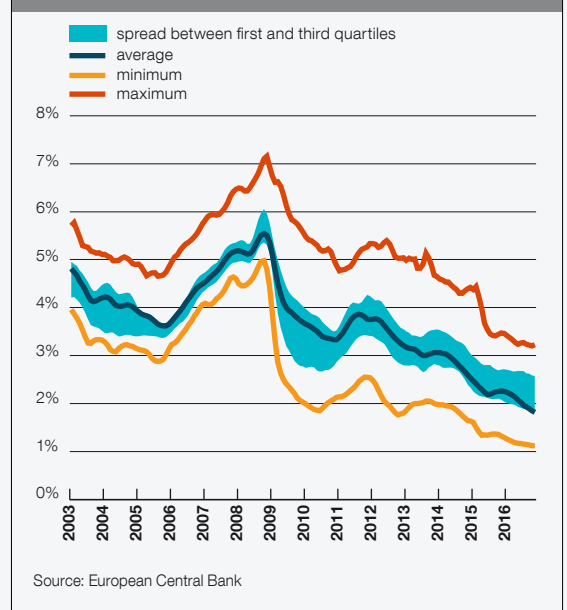


Figure B1.2. Average cost of borrowing for housing loans in the euro area



nature of the average cost of loans, and this makes it hard to compare interest rates and prices across countries. On top of the costs of funding and capital for the banks, and the credit risks associated with the loans and the business costs, the price of the average loan reflects the composition of the loans issued, the structure of the market, and the state of the competition in the market.

The operating environments for the banks are not the same in all countries. The structure of the banking sector and the degree of competition affect interest margins. Market power theory suggests that weaker competition leads to higher interest rates, and data from the euro area seem to confirm that to some extent, as the cost of borrowing is on average higher in countries with a more concentrated banking sector. The connection is not strong though (see Figures B1.3 and B1.4). In Estonia, where the figure for the Herfindahl index of concentration is one of the highest in the euro area, interest rates are higher than in many other countries in the euro area. In Finland though, where the banking market is equally concentrated, the prices of housing loans and corporate loans are among the lowest in Europe. This may indicate that market concentration is not necessarily the best indicator for describing competitive pressures but it also indicates that competition is not the only factor that affects interest margins. When comparing countries it should also be remembered that the relationship between competition and interest margins may not be causal.

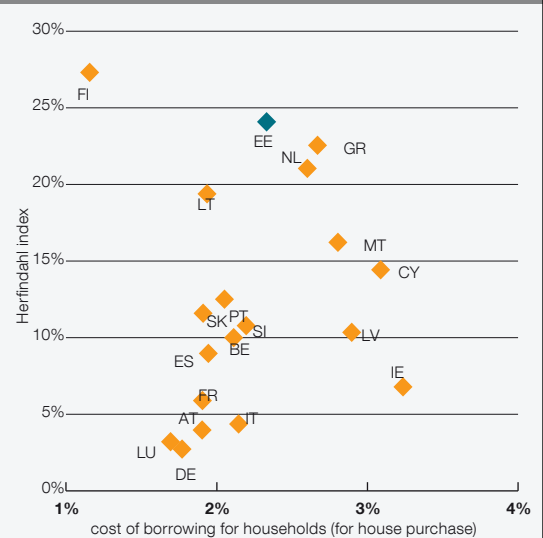
Differences in the perceived credit risk help explain to some extent the differences in interest margins in different countries. One factor affecting the size of the risk premiums is the state of the economy and the outlook for growth, and the financial strength of companies and households. The high risk premiums for some countries have their roots in the crisis period, after which the level of problem loans in the euro area banking sector rose sharply. At the same time, the high levels of problem loans together with the large debts of companies and households mean that risks of borrowers are generally greater in the countries affected most by the crisis than in many other European countries. An example of

Figure B1.3. Concentration of the banking sector and average cost of borrowing for non-financial companies in the euro area



Source: European Central Bank

Figure B1.4. Concentration of the banking sector and average cost of housing loans in the euro area



Source: European Central Bank

this is Ireland, where the margins on housing loans are among the highest in Europe and the default rate on mortgages is almost ten times that in many other European Union countries³, and so the risk premiums are also higher as a result. The perceived level of credit risk can also affect the uncertainty around the use of collateral, because if it takes longer to realise the value of collateral, the interest margins may be higher.

In setting the price for loans, the banks consider their general level of expenses. Banks that use internal rating methods for calculating capital requirements start off from two criteria, the probability of payment difficulties arising, and the loss caused by an inability to pay. The first of these generally depends on the bank's earlier experience with clients who have fallen into difficulties. This means that risk weights in the countries most affected by the crisis may be notably higher than previously. Interest rates can be affected not only by capital costs but also by operating costs. High margins at

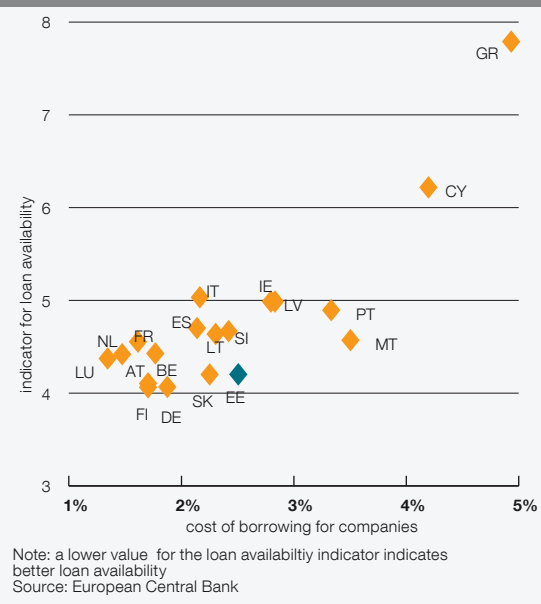
less cost-efficient banks may be due to their need to boost profitability. Profitability allows banks to build up sufficient buffers to cope with negative events in the economy.

The average price of a loan in the banking sector depends on the structure of the loans issued, and does not necessarily reflect the availability of loans. Differences in the size of corporate loans issued, the sectoral spread and the structure of maturities all play a role in setting the average price for loans.

Heterogeneity in the corporate sector can cause the interest margins on corporate loans to vary widely. Big companies that have a long credit history and more accessible information on their financial position are generally considered to be less risky borrowers than small companies. They are also able to get funds from alternative sources as well as bank loans, and this can put pressure on the loan margins offered to large companies, because the lender is competing not only with other banks, but also with the capital markets. So the average risk margin may be moved by factors that do not reflect the availability of loans so much as the composition of the loans issued, such as when a large share of new loans are low-risk loans.

The connection is not strong between the average price of loans and the perceived limits on the availability of funding for companies. Comparison of the average price of loans and the survey by the European Central Bank into access to funds for companies reveals that there is a positive connection between those indicators, but that it is not strong at all (see Figure B1.5). This means that comparing interest rates alone does not give grounds for drawing conclusions about the ability of companies and households to finance themselves with bank loans.

Figure B1.5. Relationship between the average cost of borrowing and loan availability



³ Taken from the data used in the stress test of the European Banking Authority 2016.

2. FINANCING OF COMPANIES

The impact of the economic environment and investment activity on corporate financing

The Estonian economy grew only a little in 2016. GDP in the first three quarters was 1.2% larger at constant prices than a year previously and 2.5% larger at current prices. Modest demand from trading partners limited exports and growth was also restrained by specific problems in some individual sectors, primarily the difficulties in oil shale production and the energy sector.

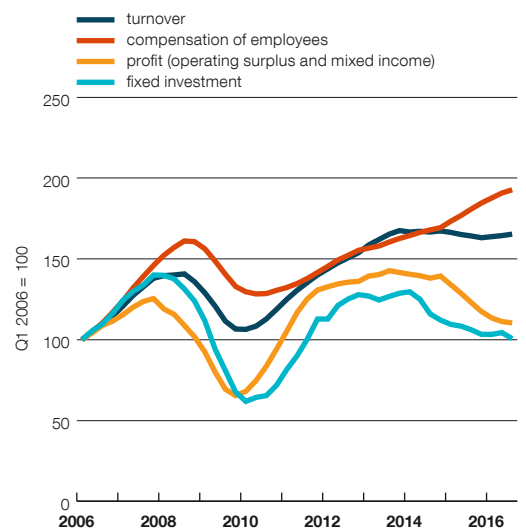
The profits of Estonian companies shrank in the first three quarters of 2016, but at a slower rate than before. Corporate sales revenues increased slightly over the year, but wage growth remained fast, and so corporate profit contracted by around 5% (see Figure 2.1). Profits shrank most at capital-intensive companies and in sectors with relatively high debt levels, like oil shale production, energy, and transport and storage, and in the third quarter in agriculture as well. There were some sectors though where profits grew by more than before.

The expectations of companies have become more optimistic, but investment activity remains weak and this limits the need of companies for external funding⁴. Although the expectations of companies improved throughout 2016, this did not lead to any increase in investment. Investment was actually down for the third consecutive year, though mainly because companies in the energy sector reduced investment. Companies in trade, real estate and transport and storage actually invested a little more in the first three quarters (see Figure 2.2).

Corporate liquid assets and equity

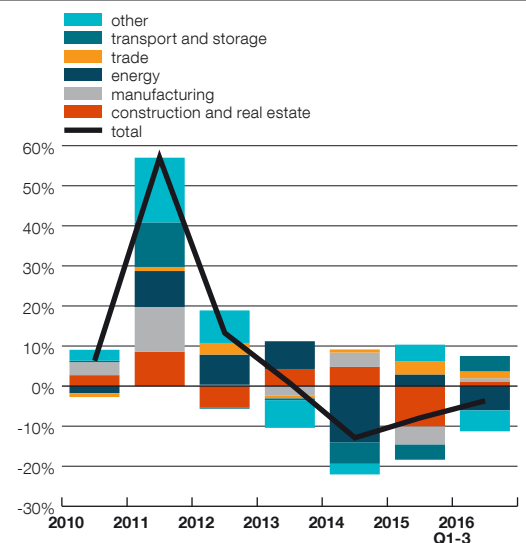
Indicators of corporate liquidity are the highest they have been in the past decade and the liquidity of Estonian companies is mainly very good. Low investment in fixed assets has allowed companies to use the funds freed up to increase their liquid assets despite the fall in profits. Liquid assets have been built up primarily as deposits. Growth in deposits slowed in 2016, but this was mainly because of a reduction in the deposits held abroad of some individual large companies (see Figure 2.3). Increases in the ability of companies to pay and in their liquid assets are again being supported by the

Figure 2.1. Corporate turnover, payroll, profit and investment, four quarter moving total



Source: Statistics Estonia

Figure 2.2. Yearly growth in corporate fixed investment at current prices



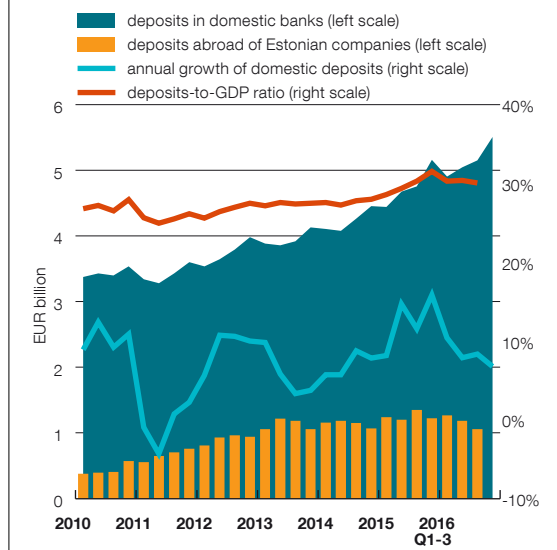
Source: Statistics Estonia

⁴ The impact of profit and investment on corporate financing is described in more detail in Box 2 on the corporate profit rate, saving rate and investment rate, and net borrowing.

very low base interest rates, which mean that companies are spending a lot less on interest payments⁵. Corporate liquidity indicators improved in 2016 because of the growth in liquid assets like deposits, cash and securities, and a reduction in short-term debt liabilities.

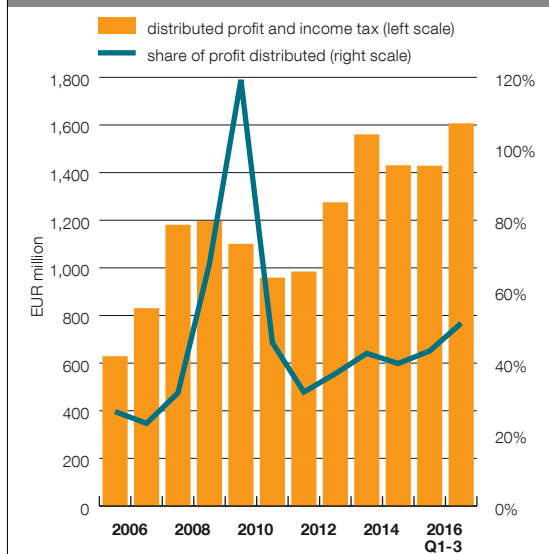
Companies have been paying out a steadily increasing amount of their profit as dividends (see Figure 2.4). The dividend payments of foreign-owned companies have increased more than those of resident companies. The corporate income tax system in Estonia generally encourages companies to hold the profits they earned earlier. Low levels of investment in fixed assets mean less is being spent on investment and so the time is right for paying out equity income. Companies have a

Figure 2.3. Corporate deposits



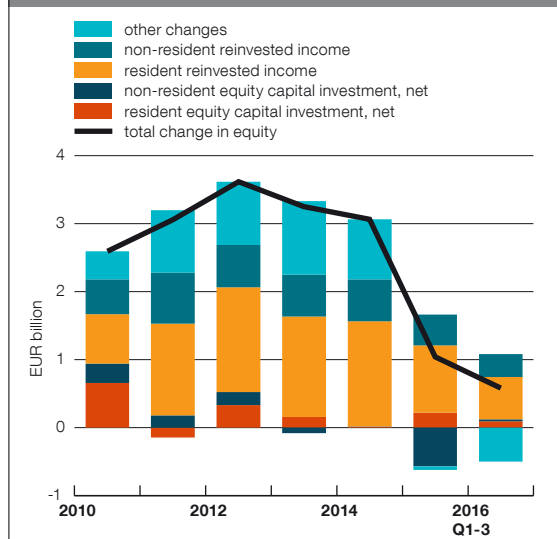
Sources: Eesti Pank, Statistics Estonia

Figure 2.4. Distributed profit



Source: Statistics Estonia

Figure 2.5. Growth in corporate equity



Sources: Statistics Estonia, Eesti Pank

high level of equity because of the profits built up earlier, and so there is no limit on dividend payouts.

The earlier rapid growth in equity has slowed as reinvested profit and equity capital investments have declined. Partly this is because smaller profits and increased dividend payouts have reduced reinvested earnings, and partly because new equity investments have been low (see Figure 2.5).

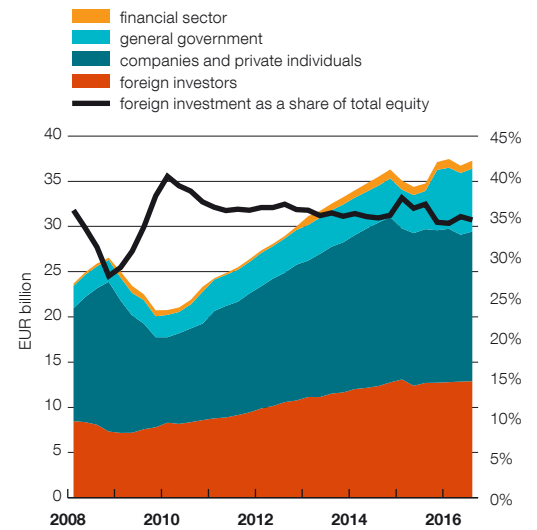
⁵ If the interest rate on all corporate loans were to be raised by the average level of the 6-month EURIBOR of the past ten years of 1.5%, the annual interest expenses would be some 200 million euros higher than at present.

Around 35% of the equity of Estonian companies is held by non-residents. Even though it shrank a little in 2016, this share is still close to the average of the past ten years. The majority of the Estonian business sector is owned by the domestic private sector. The share held by the general government increased over the past year because of the revaluing of the state forests and the consequent increase in the equity of the state-owned company (see Figure 2.6).

Corporate debt liabilities and leverage

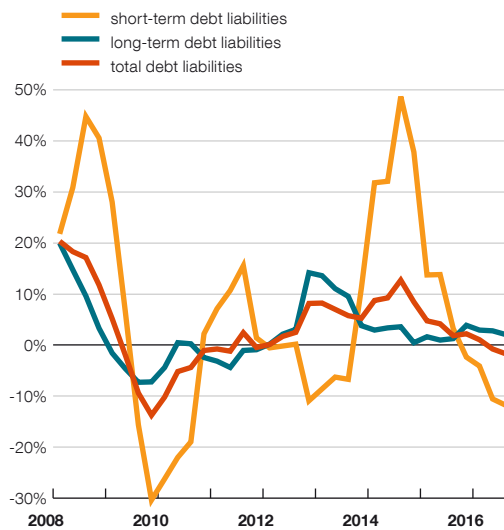
Corporate debt liabilities did not significantly change in the first three quarters of 2016. Weak

Figure 2.6. Corporate equity by investors



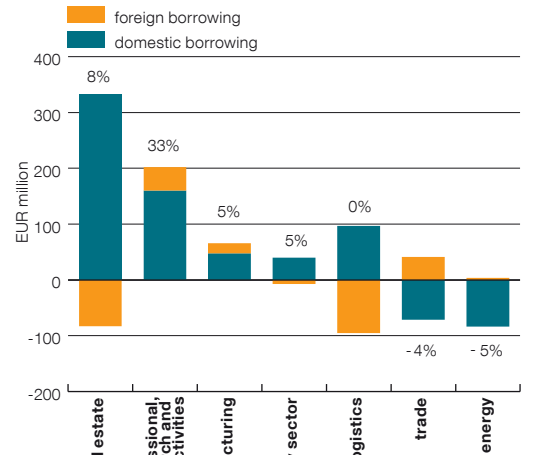
Source: Eesti Pank

Figure 2.7. Yearly growth of corporate debt liabilities



Source: Eesti Pank

Figure 2.8. Loan stock growth in 2016



Source: Eesti Pank

investment activity meant that corporate long-term debt liabilities grew only slowly. Long-term debt liabilities were 2% larger at the end of the third quarter of 2016 than a year earlier (see Figure 2.7). The growth was led by the real estate sector, which borrowed primarily from banks operating in Estonia. The debt of companies engaged in professional, scientific and technical activities also grew fast⁶. Lower investment by the energy sector reduced the debt liabilities there. The short-term domestic debt liabilities of trading companies increased a little, but their long-term debt shrank (see Figure 2.8).

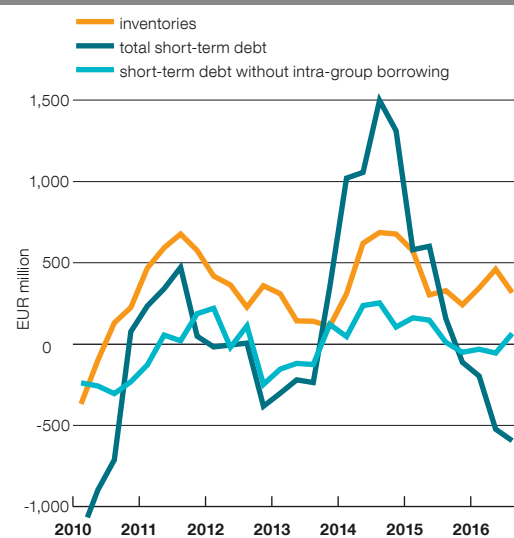
⁶ A large part of this growth is probably loans taken by company head offices that are then used to fund subsidiaries.

There was a decline in short-term debt liabilities as inventories grew only moderately and companies reduced their intra-group short-term liabilities. Corporate inventories did manage to increase, but not as fast. As companies' own liquid assets have increased, they have not needed to increase their short-term debt. Some foreign-owned companies manage their group cash flows through the unit in Estonia. Although this has only a very small direct connection to the financing of the Estonian economy and generally does not alter the net debt of those companies, it does make the growth of gross debt very volatile. Intra-group lending of this sort is mostly short-term in nature and this is mainly reflected in the wide volatility of short-term debt (see Figure 2.9).

In the structure of corporate debt liabilities there was an increase for a second consecutive year in the share of domestic bank loans and a reduction in the share of foreign debt⁷. There was rapid growth in loans and leases taken from the domestic banking sector, and their share of all debt liabilities had increased to around 48% by the end of the third quarter of 2016, while the share of foreign loans and bonds declined to 32%. The share of loans between non-financial companies in Estonia fell to 14% and that of the non-bank financial sector fell to 5%⁸. The share of other lenders remained below 1% (see Figure 2.10 and Table 2.1).

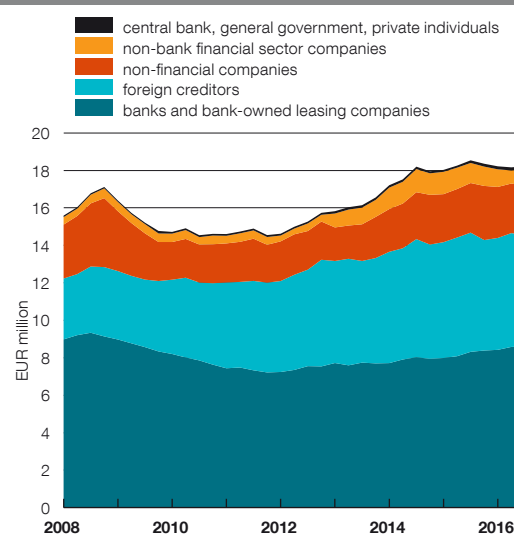
The balance of debt and equity on corporate balance sheets did not change particularly in 2016, so financial leverage remained low. The debt-to-equity ratio remained at around 49% at the end of the third quarter, which is its lowest level for 12 years, and this is also low by international standards. Although the debt-to-equity ratio has declined in the European Union, it is still around 70%. There are equally countries like Sweden and Lithuania where companies are leveraged at a similar

Figure 2.9. Yearly growth in corporate inventories and short-term borrowing



Sources: Statistics Estonia, Eesti Pank

Figure 2.10. Corporate debt liabilities by creditor



Source: Eesti Pank

Table 2.1. Structure of debt liabilities of Estonian companies by creditor

	2008	2009	2010	2011	2012	2013	2014	2015	Q3 2016
Banks and bank-owned leasing companies	53%	56%	52%	50%	48%	47%	44%	46%	48%
Foreign creditors	22%	25%	30%	33%	36%	34%	34%	32%	32%
Non-financial sector companies	22%	14%	14%	14%	13%	13%	15%	16%	14%
Non-bank financial sector companies	3%	3%	3%	3%	2%	5%	6%	6%	5%
Central bank, general government, private individuals	0%	1%	1%	1%	1%	1%	1%	1%	1%

Source: Eesti Pank

⁷ The reasons for this change are described in more detail in Box 3 on corporate debt liabilities abroad.

⁸ Lending by the non-bank financial sector is discussed in more detail in Box 4 on the non-bank financial sector loans and investment in the equity of companies in the real sector.

low level to that in Estonia (see Figure 2.11). Although the low leverage of companies could theoretically be due to lending limits, the reasons leverage is low in Estonia are mainly the low level of demand for credit and the reinvestment of earlier large profits. Having a high level of equity makes a company better able to access external capital in the future if needed.

The growth in the debt of Estonian companies accelerated a little. The Eesti Pank December forecast expects that corporate debt liabilities will grow by around 5%–6% a year on average in 2017–2019. The rate of growth will rise because of the recovery in investment and the fading out of the current large negative contribution of intra-group short-term lending. The rates of growth of foreign and domestic debt are becoming more similar, but domestic debt continues to grow a little faster.

Lending by banks operating in Estonia

The domestic loan market was notable in 2016 for the rapid growth in long-term loans issued to companies. The volume of new long-term loans was around 14% more than in the previous year, but the volume of new short-term loans was 1% smaller in 2016 (see Figure 2.12).

New long-term loans supported faster growth in the corporate loan portfolio too, and this reached 8%. Credit growth was relatively broadly based and energy and information and communications were the only major economic sectors where the loan portfolio shrank. A large boost to the growth in the portfolio came once again from the real estate sector.

Loans to the real estate sector have gone towards development of commercial real estate. The banks operating in Estonia continue to play only a small role in funding the development of residential projects. Real estate companies are primarily using loans to finance office buildings, and also for storage and production facilities and retail space (see Figure 2.13). The domestic banks are still careful about lending for development of residential property, and the volume of loans issued for that purpose remains around one tenth of the amount granted for development of commercial property⁹.

Figure 2.11. Corporate debt-to-equity ratio

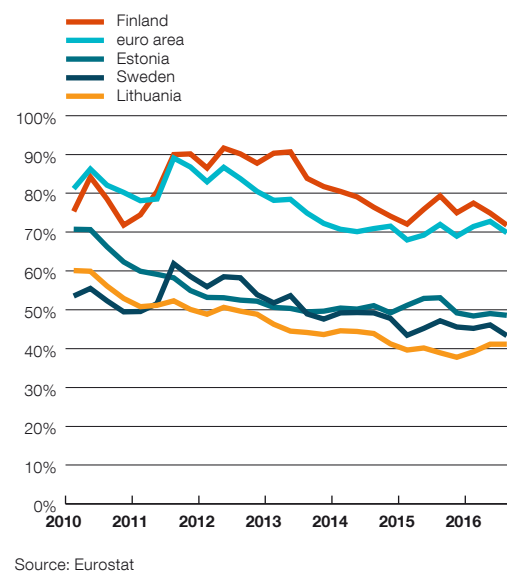
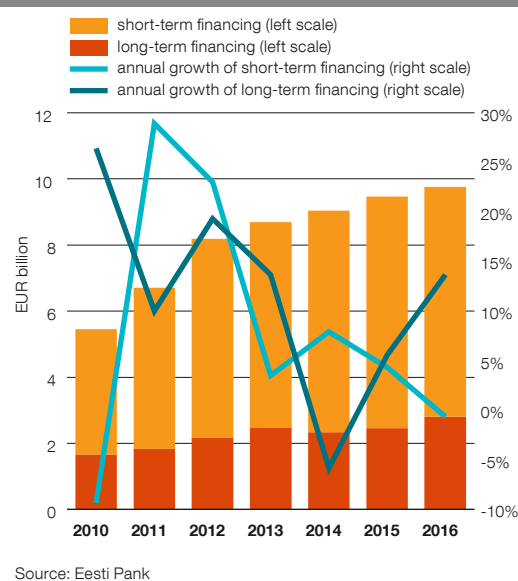


Figure 2.12. Turnover of long and short-term financing



⁹ The funding of real estate companies is described in more detail in the box on the financing of real estate companies in the 2016 edition of Financing of the Economy.

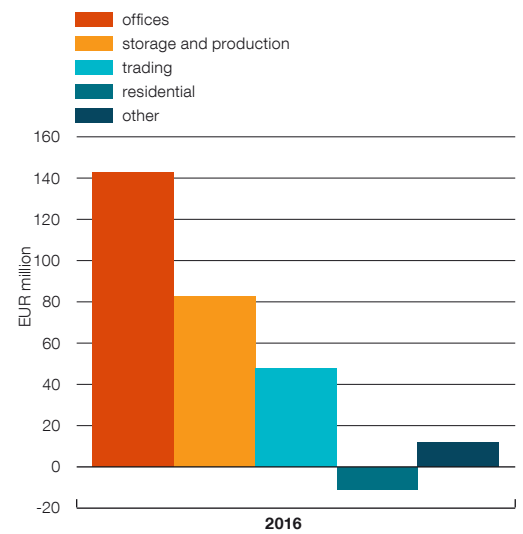
The amount borrowed by other sectors for investment in real estate development has not increased.

Although real estate loans continue to account for a large share at around one third of the loan portfolios of other economic sectors, the volume of such loans has not increased in recent years, unlike during the real estate boom. It is particularly leases that have increased in those sectors, and loans for expanding business operations (see Figure 2.14).

Access to funding

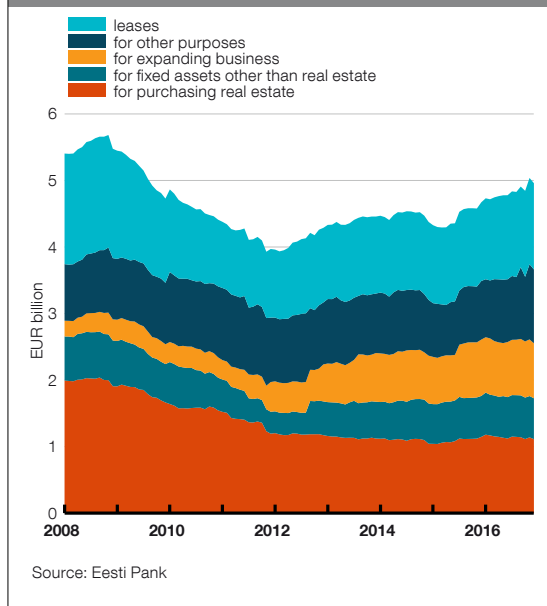
Access to external financing¹⁰ and bank lending remains good. In the previous couple of years the opinion of businesses about access to external funds and

Figure 2.13. Growth in the loan stock of real estate companies in 2016 by project space funded



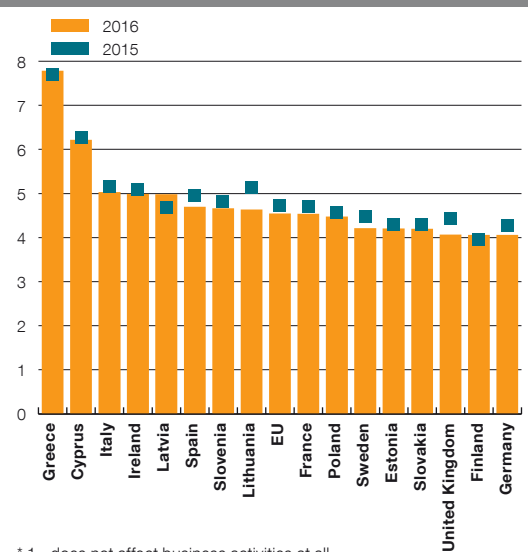
Source: Eesti Pank

Figure 2.14. Stock of long-term loans and leases of companies other than real estate companies



Source: Eesti Pank

Figure 2.15. Assessment by SMEs of access to external sources of funds*



* 1 - does not affect business activities at all,
10 - affects business activities a great deal
Sources: European Central Bank, SAFE

the willingness of banks to lend had improved, but in 2016 the opinion remained about the same as in 2015. The ability of Estonian companies to access funding from outside the company remains better than the average for the European Union (see Figure 2.15). Access to bank loans remained at the same level in 2016 as the year before, but access to leases and non-bank lending improved.

Better access to funding is again supported by the high levels of equity companies have, their improved credit histories and the good capitalisation and low

¹⁰ Bank loans, loans from outside the banking sector, leases, trade credit, equity investments, bonds and similar, or all financial assets taken from outside of the company.

cost of funds of the banks. The credibility of Estonian companies appears to have improved in the eyes of business partners, and trade credit is more and more available. Companies say that their access to financing from outside the company has been made complicated for a couple of years by the deterioration in the economy and the related deterioration in their own outlook for growth (see Figure 2.16). Estonian companies also cite the lack of a guarantee or collateral as a problem more than the average in the European Union.

The most favourable assessment of the domestic bank lending environment is given by companies in industry and trade. The opinion of transport companies has also improved, while construction and real estate companies remain more sceptical. The access of real estate companies to bank lending improved notably in 2014, but it deteriorated again in the third quarter of 2015 (see Figure 2.17). The amount of unsold residential property and commercial property increased and the group of developers widened. Until the start of 2015 and before new buildings started to go up, banks considered that most property was covered by rent contracts, but this is no longer the case. For these reasons, banks have become more wary about financing real estate companies¹¹. The increased amount of real estate development has been mirrored by faster growth in real estate loans and more demand for them. As some banks do not want to increase the share of real estate loans in their portfolio, the opinion of real estate companies will probably become more negative.

Estonian companies expect that access to all the main sources of external funds will improve in future, and the main risk remains that the economic climate and the outlook for growth for companies could deteriorate. This could reduce the appetite of banks, investors and business partners to fund companies.

¹¹ More detail is given on this in the box on the financing of real estate companies in the 2016 edition of Financing of the Economy.

Figure 2.16. Factors affecting SMEs' access to finance

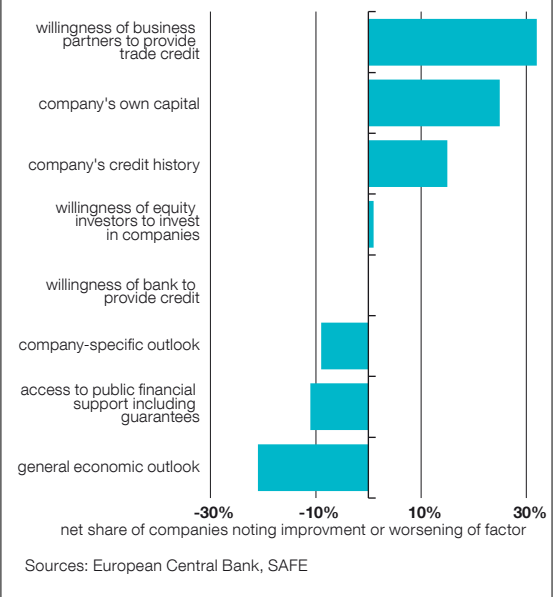
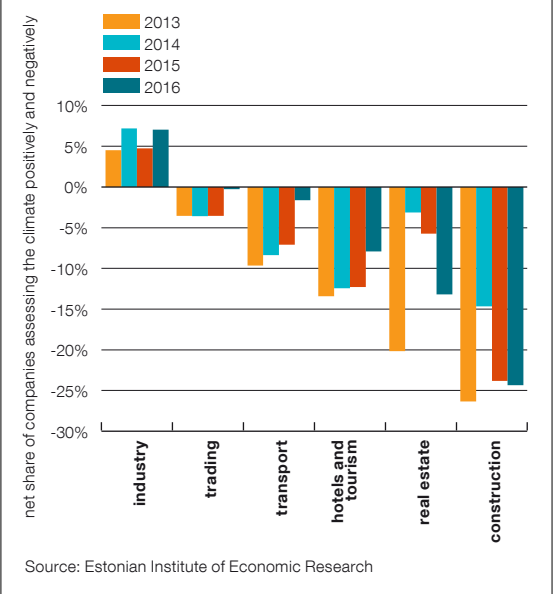


Figure 2.17. Assessment by companies of the credit climate



Box 2: The corporate profit rate, saving rate and investment rate, and net borrowing

The profit rate for Estonian companies, which is the ratio of profit to output, has fallen to close to its lowest level of the past fifteen years. Wage growth has outstripped turnover growth, and so companies are having to use a larger share of their output for paying wages with. The ratio of profit to output has fallen partly because labour intensive branches of the economy have been doing relatively well

in recent years and their share of total output has increased. In earlier years the profit rate of Estonian companies exceeded the European Union average by a relatively substantial margin, but in 2015 and 2016 the rate dropped to close to the European Union average (see Figure B2.1)¹².

Companies have been paying out a steadily increasing amount of their profit as dividends.

The corporate income tax system in Estonia generally encourages companies to hold the profits they earned earlier. Low levels of investment in fixed assets mean less is being spent on investment and so the time is right for paying out equity income. The profits built up earlier mean corporate equity has grown by a relatively large amount, making dividend payouts possible. Earlier, Estonian companies paid out a smaller share of income as dividends than the European Union average, but in the past couple of years the dividend payouts in Estonia have been about the same as that average level.

The savings rate for Estonian companies, which is the ratio of savings to output, has fallen to the European average level. Company savings, or reinvested income, is the part of corporate profit that is left over after the distribution of profit and the payment of taxes and any other transfers¹³. As the profit rate and the share of income distributed have approached the European Union average, so has the savings rate.

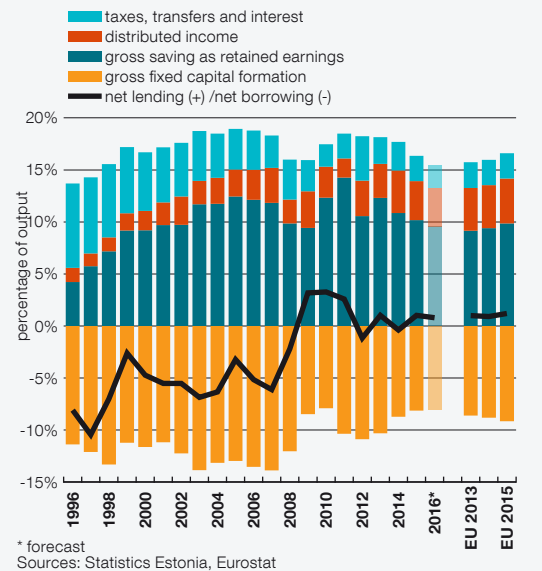
The corporate investment rate, which is the ratio of investment to output, has been notably lower since the economic crisis than before it, and in recent years it has fallen even further.

After independence was regained, the structure of the economy changed, and modern infrastructure had to be built practically from scratch. This required a great deal of investment. Investment increased rapidly in real estate in the boom years and the investment rate remained high. In the years after the crisis corporate investment recovered, partly through funding from the European Union, though it never returned to the heights it had hit. In 2015 and 2016 the investment rate of Estonian companies was a little below the average for the European Union.

It has come down partly because the prices of capital goods have moved differently to other prices.

The large role of imports in capital goods meant that their prices rapidly reached the same level as in the rest of the world once Estonia regained independence. Later the development of technology meant that prices for capital goods rose more slowly than other prices. In consequence, investment as a share of GDP and corporate output has fallen less when measured at constant prices than at current

Figure B2.1. Profit, saving, investment and net lending of Estonian companies



¹² If the value added of the corporate sector is used instead of output in relation to profit, and also to saving and investment, the conclusions remain the same. If GDP is used instead of production though, the figures for Estonia are a little better than those for the European Union. This is because non-financial companies account for a larger share of GDP in Estonia than they do in the European Union on average.

¹³ The system of national accounts discludes the reinvested income of foreign-owned companies from savings, but for the sake of readability and comparability with the European Union, this has not been done in Figure B2.1.

Figure B2.2. Corporate fixed investment

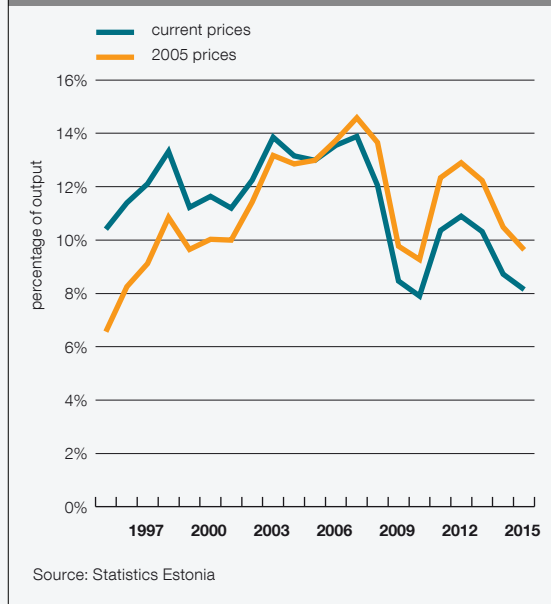
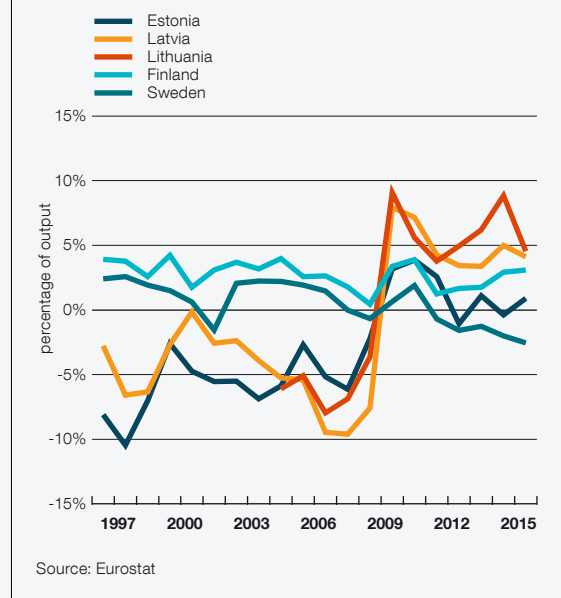


Figure B2.3. Corporate net lending (+) / net borrowing (-)



prices. This means that companies have put a smaller share of their income into investment in recent years than they did ten or fifteen ago, though at constant prices the share being put into investment has not shrunk so much (see Figure B2.2).

Since the economic crisis, the savings of Estonian companies have exceeded their investments, and so those companies have been net lenders¹⁴. Although corporate profits and so also the saving rate have dropped substantially in recent years, the fall in investment has been even steeper. Estonian companies have earlier been net borrowers even during the years of recession, so net lending is due more to the investment cycle than to the economic cycle more generally.

The change of companies into net lenders has happened in many European countries and particularly so in several of those that joined the European Union at the same time as Estonia. Net lending by the Estonian business sector is at a level similar to the European Union average, but is a little lower than in the other Baltic states. This is because companies in Latvia and Lithuania have higher profit and savings rates than Estonian companies do. Profit and savings rates were relatively high in Finland in the 1990s and 2000s but have fallen in the past decade, though companies there are still net lenders as the investment rate has declined at the same time. The savings rate in Sweden is also down, but the investment rate has remained high, and so Swedish companies are net borrowers (see Figure B2.3).

A further approach to the average living standards of the European Union should not necessarily suggest that the Estonian business sector will become a net borrower, though faster growth probably does require a higher investment rate. It is generally assumed that companies are more usually net borrowers, and in many European Union and OECD countries that was the case in the

¹⁴ Net lending/borrowing describes the financial balance of the business sector and is derived from the difference between savings and total capital as investment and assets. If saving exceeds investment, the business sector is a net lender to other sectors, if the opposite case applies it is a net borrower.

second half of the last century¹⁵. In the past couple of decades however, there have been several cases of European Union countries having faster growth than the average while companies were still net lenders¹⁶. This was mainly where the investment rate was above average, but companies became net lenders because the profit and savings rates were high at the same time.

15 The Corporate Saving Glut in the Aftermath of the Global Financial Crisis. IMF.

16 Such as Finland, Sweden, the United Kingdom and the Netherlands.

Box 3: Corporate debt liabilities abroad

The foreign debt liabilities of Estonian companies have declined slightly, but they still play a large role in corporate financing. Around one third of the debt liabilities of Estonian companies, or 6 billion euros, are in the form of loans from abroad or bonds issued there. Intra-group loans account for 43% of the foreign debt liabilities, 20% are debt liabilities, and 37% are other foreign debt liabilities, mainly bank loans (see Figure B3.1).

Foreign debt liabilities as a share of all Estonian corporate debt liabilities are around the average level of the European Union. The share of foreign debt liabilities depends on the number of foreign-owned companies and on the development of the domestic financial sector and bond market. Taken separately the intra-group loans, foreign bank loans and foreign-held bonds of Estonian companies as shares of total corporate debt are close to the European Union averages (see Figure B3.2).

The biggest borrowers from abroad are companies in energy and transport and storage. Those sectors are dominated by companies that are very large by Estonian standards and that have

Figure B3.1. Corporate foreign debt

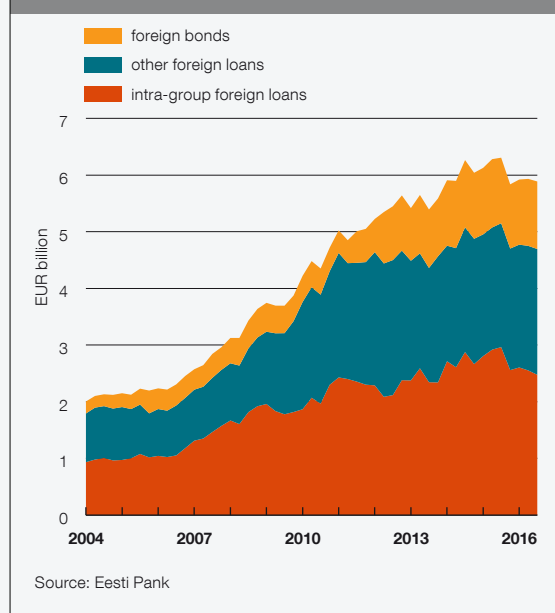


Figure B3.2. Corporate foreign debt

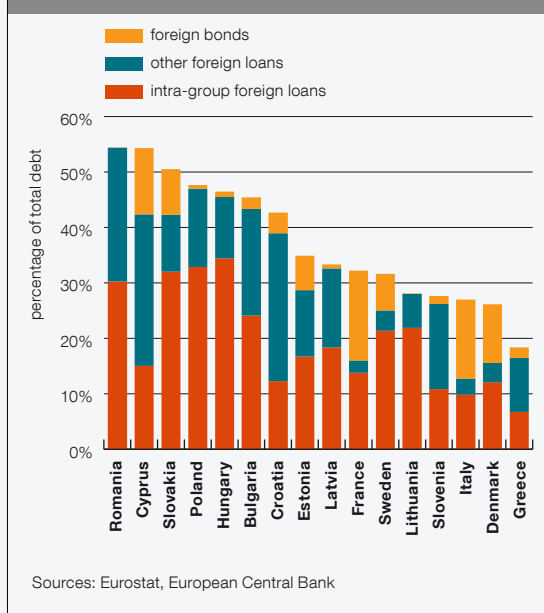


Figure B3.3. Corporate foreign debt

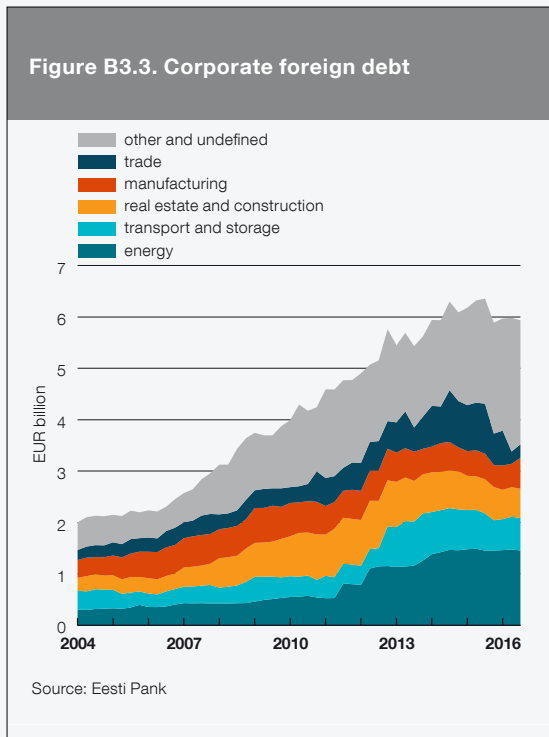
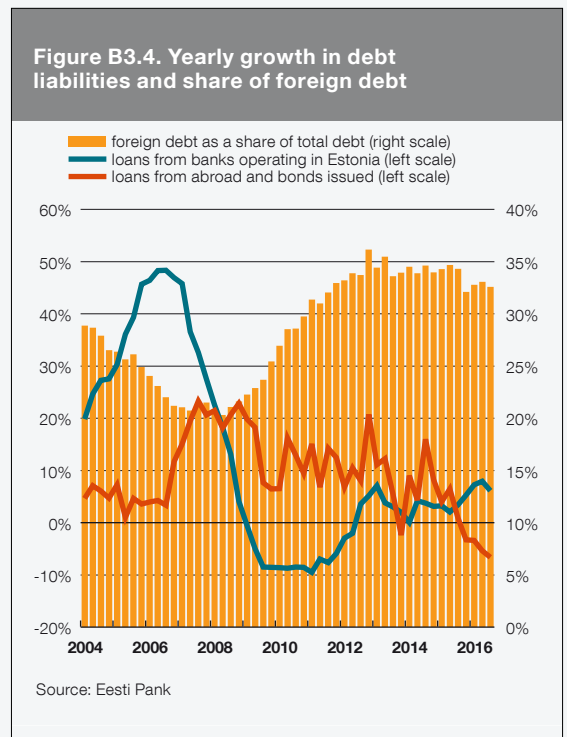


Figure B3.4. Yearly growth in debt liabilities and share of foreign debt



preferred to fund their large investments using primarily bonds issued abroad and bank loans taken from abroad. Real estate companies borrow relatively little from abroad. Loans to real estate companies account for around one third of the loan portfolios of banks operating in Estonia, but only around one tenth of the foreign debt liabilities is made up of the debt of real estate companies (see Figure B3.3).

The share of foreign loans and their role in funding Estonian companies have been relatively changeable in the past fifteen years. At the beginning of the 2000s around one third of all debt liabilities were foreign debt liabilities. The explosive development during the boom years of the lending activity of the banks operating in Estonia reduced that share to 20% by the start of 2008, but their portfolios started to contract after the economic crisis while foreign debt liabilities increased, so that the share grew and peaked at the end of 2012 at 36%. Then the direction of growth changed again, and domestic debt liabilities have recently been growing faster than foreign ones (see Figure B3.4).

Increases in foreign debt liabilities, like in other sources of corporate financing, are generally a sign of investment activity and of the state of companies and the economy more broadly. In this way the current reduction in foreign debt reflects the low level of investment activity.

This still leaves the question of why foreign debt liabilities increased and domestic bank loans contracted during and after the crisis, and why the opposite is now the case.

- It is principally large or foreign-owned companies that are able to borrow abroad as well as domestically. During the years of the crisis, the banks operating in Estonia reduced their loan supply and tightened their lending conditions, so access to local credit deteriorated and borrowing became more expensive than in other countries (see Figure B3.5). In consequence, several companies funded themselves from banks operating abroad or with loans from parent companies. Competition in the Estonian corporate loan market has increased in the past five years, and access to loans has improved, so large amounts can now again be borrowed locally.

Figure B3.5. Interest rates on corporate loans

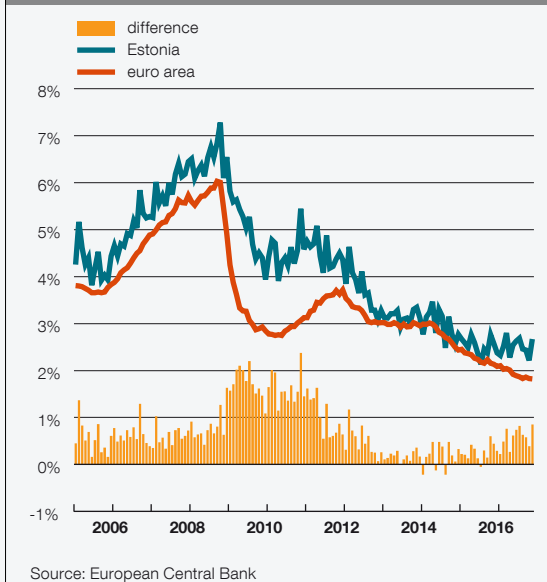
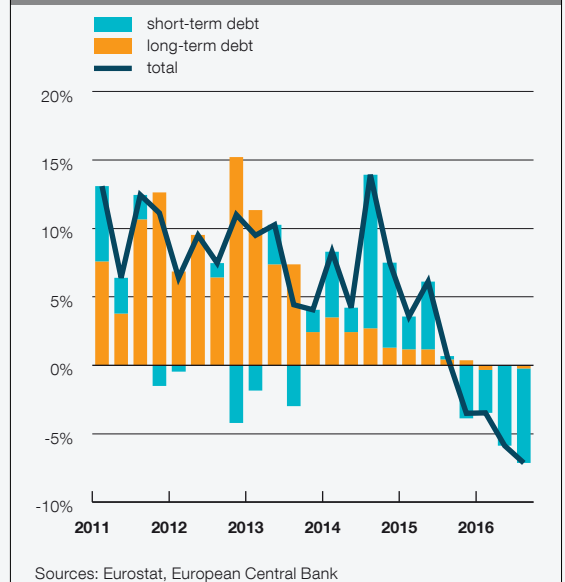


Figure B3.6. Share of foreign debt in yearly debt growth



- There was a major increase in investment in the energy and transport and storage sectors in 2011–2013 and it is those sectors in particular that borrow a lot abroad. In the past couple of years, investment and borrowing in those sectors has declined again. Real estate companies meanwhile, which mainly borrow domestically, have increased their borrowing in the past two years (see Figure 2.8).
- Until 2013 the level of new foreign direct investment in Estonia was high, but it has since fallen. As intra-group lending was one source of foreign investment, it has also grown more slowly.
- In the past couple of years the growth in domestic bank lending has been accelerated and that in foreign lending has been slowed by an increase in the frequency of management buy-outs of companies. Such transactions are often funded with domestic bank loans¹⁷.
- The dynamics of foreign debt have also been driven significantly in recent years by the management of the intra-group cash flows of foreign-owned companies. Such companies use their Estonian units as a conduit for funds for other units. Although this does not alter the net debt of those companies, it does make the growth of gross debt very volatile. Intra-group lending of this sort is mostly short-term in nature and so it does not affect long-term debt liabilities (see Figure B3.6). Such intra-group lending occurs primarily at retail companies (see Figure B3.3).

In future foreign debt liabilities will probably grow again as some of these factors are essentially temporary and as investment recovers it is probable that more will be borrowed from abroad than currently. However, given the increase in domestic saving and the development of the financial sector, the growth in foreign debt liabilities will probably be slower in the long view than the growth in borrowing from Estonia, meaning that foreign debt as a share of total debt and of corporate funding will decline. Further support for this is that countries with higher incomes generally have a smaller share of foreign debt liabilities than countries with lower incomes.

¹⁷ This partly reflects a reduction in corporate equity held abroad and its sale to residents (see Figure 2.5).

Box 4: The non-bank financial sector loans and investment in the equity of companies in the real sector.

The role of the non-bank financial sector in corporate financing is small. The stock of loans issued to companies by this sector was worth 890 million euros in the third quarter of 2016, or 5% of total corporate debt (see Figure B4.1). The largest part of this, 670 million euros or 4% of all corporate debt, was the loans and bonds issued by other financial intermediaries¹⁸. The rest was shared between financial auxiliaries¹⁹, savings and loan associations, and investment and pension funds.

Loans by other financial intermediaries²⁰ are mainly loans to other companies by companies operating as holding companies and to a lesser extent firms investing in securities and loans by non-bank lenders. Data for the first three quarters of 2016 show that well over half of the position was controlled by holding companies. Less common among the loans of other financial intermediaries are the claims of companies investing in securities, most of them passive, and those of other lenders. Consequently the volume of loans from other financial intermediaries is affected most from quarter to quarter by changes in the positions of holding companies, and to a smaller extent also by changes at other lenders.

Figure B4.1. Debt liabilities of companies to non-bank financial intermediaries

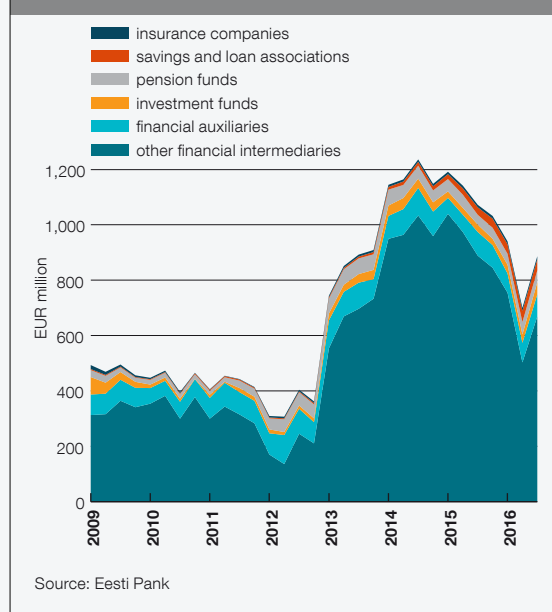
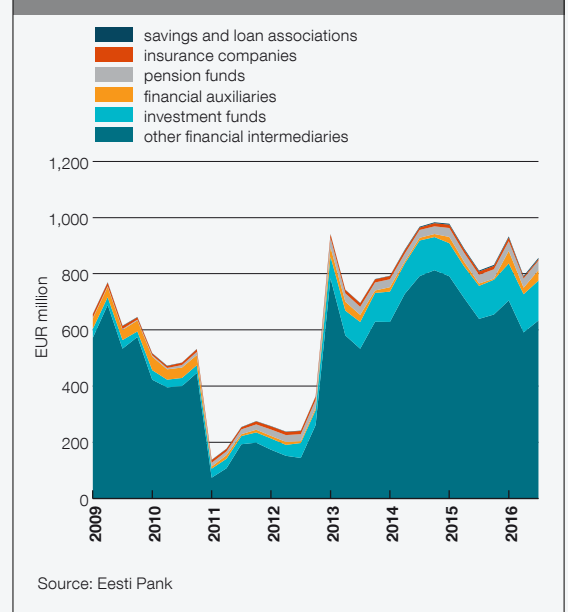


Figure B4.2. Equity of companies by non-bank financial intermediaries



¹⁸ The large growth in the loans of other financial intermediaries in 2013 was the result of Statistics Estonia adding passive companies to the list of financial sector entities. Such companies had previously been considered as non-financial sector companies in the financial account.

¹⁹ Financial auxiliaries are entities that provide services that accompany or are closely related to financial services, but do not contain elements of financial services. This can include brokerage services, financial advice, administration of financial markets by exchanges, insurance agents and broker services, and fund management services.

²⁰ Under other financial intermediation in the financial account are the EMTAK codes 642 for activities of holding companies, 643 for investment in bonds, securities and other financial derivatives, and 649 for provision of other financial services.

Investment by the non-bank financial sector in the equity of real sector companies is also small. The non-bank financial sector invested 860 million euros in equity in the third quarter of 2016, which was 2.3% of total corporate equity (see Figure B4.2). The majority of this came from other financial intermediaries, which had equity claims on companies of 635 million euros, or 1.7% of total corporate equity. The investment by other financial intermediaries came almost entirely from holding companies. The rest was shared between investment and pension funds, financial auxiliaries, insurers and savings and loan associations.

Various companies and funds mediate equity investments by mediating investment in unlisted companies and venture capital investment. Data from the Estonian Private Equity and Venture Capital Association (EstVCA) show its members mediated investments in unlisted companies and venture capital investments worth 464 million euros at the end of 2015, or 1.3% of corporate equity at that time. However, some companies also operate in other countries, mainly the other Baltic states, and some are registered elsewhere, so the actual amount is probably smaller. Investments in Estonia are mostly recorded following the type of business entity under equity claims of financial auxiliaries or investment funds.

The state has also invested to support the development of unlisted companies and venture capital. The state has invested in venture capital through SmartCap, which operates under KredEx, and through the participation of KredEx in the Baltic Innovation Fund (BIF). The net value of Early Fund II, managed by SmartCap, was 24.9 million euros at the end of June 2016. The BIF is a fund of funds created by the Estonian, Latvian and Lithuanian governments and the European Investment Fund (EIF) to invest in companies in the Baltic states with strong growth potential. The investments by the subsidiary funds of the BIF were announced by KredEx to be worth 265 million euros at the start of September 2016, of which 52 million came from the EIF and 26 million each from KredEx and the state agencies of the other Baltic states. The remaining 135 million euros came from the private sector, with pension funds supplying about three quarters.

The state also plans to invest 60 million euros of venture capital through EstFund fund of funds together with the EIF in the years ahead as part of the European Capital Markets Union, with 48 million euros coming from KredEx and 12 million from the EIF. It is planned that at least 30–40 million euros more should be added to this by the private sector.

Companies can also get funding from various crowdfunding platforms. Crowdfunding can provide capital in the form of loans or equity, though most commonly as loans, and both households and companies can invest. Although the use of capital from crowdfunding has grown rapidly, the total volume of it is still very small. Data from the crowdfunding sites themselves estimate the total size of the crowdfunding portfolio at less than 25 million euros, which is less than 0.2% of total corporate debt liabilities.

Crowdfunding is mainly used for real estate development, and to a lesser extent for purchasing production equipment. It is generally used by smaller companies that have failed to get a bank loan for whatever reason, or that need to get funding fast. There are also crowdfunding platforms that provide funding for billing, allowing companies to free up liquid funds for a fee. Interest rates are generally between 8 and 15% and maturities are short at up to two years. The data on the crowdfunding websites show the loan quality to be very good, which is probably because of the pre-selection of projects by the platforms and because crowdfunding has only been around for such a short time.

3. FINANCING OF HOUSEHOLDS

Household income and savings

Household incomes rose in 2016 as wages continued to rise fast, at a rate of 7% over the year in the third quarter (see Figure 3.1). Data from the Tax and Customs Board show wages rising fastest in the lowest part of the wage distribution, where the declared monthly wage is less than 500 euros. Pensions and social benefits also rose.

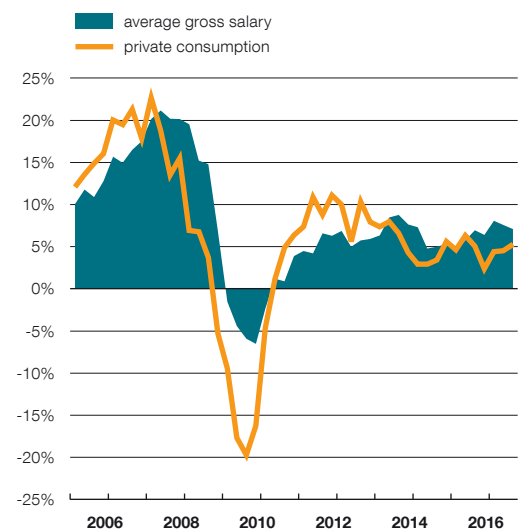
The rise in incomes also improved the ability of households to put money aside. Wage rises have helped raise the number of households that have money left over after covering essential spending. The survey of the financial behaviour of Estonian households by Kantar Emor²¹ put 66% of households in that category.

The opinion of households on what their economic circumstances will be in the future has also improved in both the consumer confidence indicators produced by the Estonian Institute of Economic Research and the Kantar Emor survey. Younger people aged 18–34 had a more positive opinion about their financial situation, as did families whose income per family member was at least 500 euros.

Estonian households mainly hold their savings as deposits, which grew by a steady 7% in 2016. The fastest growth was in large deposits, while the total volume of deposits of less than 4500 euros has not changed significantly since 2015 (see Figure 3.2). Faster wage growth among the lower paid has not been accompanied by equally fast growth in smaller deposits because the lower paid direct a larger share of their additional income into consumption. The strong growth in deposits, especially large deposits, has also been encouraged by increased dividend income (see Figure 3.3).

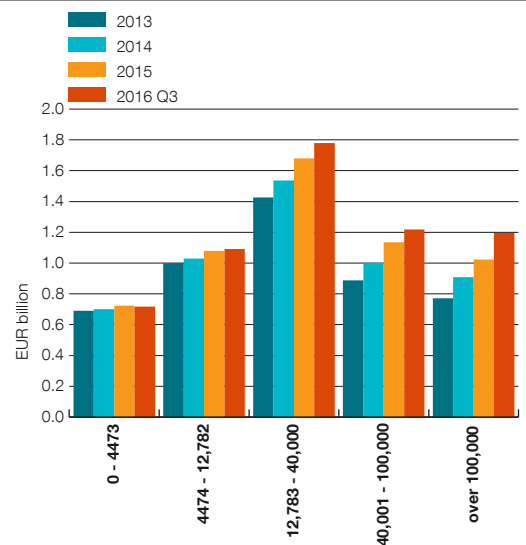
The survey by Kantar Emor shows that the share of households with savings has increased, and it reached two thirds in 2016. The same survey makes clear that the growth in savings has also been boosted by the steady increase in the share of households that consider saving to be important, a share that reached 88% in 2016²².

Figure 3.1. Household income and consumption annual growth



Source: Statistics Estonia

Figure 3.2. Volume of household deposits by deposit size



Source: Eesti Pank

21 <http://www.eestipank.ee/en/press/research-shows-ability-cope-financially-and-capacity-monthly-saving-estonian-families-has-improved-16112016>

22 The saving habits of Estonian households are described in more detail in Box 5 on household savings.

The borrowing behaviour of households

The yearly growth in household debt liabilities picked up to around 7% as housing loans, car leases and other consumption loans all increased (see Figure 3.4). A further contribution came in 2016 from the inclusion of data from non-bank lenders and financial intermediaries in the statistics. Without this, the growth in the loan liabilities of households would have been 5.5% in the third quarter of 2016, which is lower than wage growth. The Kantar Emor survey found that the share of families with loan liabilities was at the 41% level of recent years in 2016²³.

Growth in the stock of housing loans accelerated to 5% in 2016. The value of housing loans issued was 10% more than in 2015. The growth in the volume of loans was particularly driven by rising prices for residential property and transactions with new and more expensive property, which raised the value of the average loan. The number of new loan contracts has risen modestly. The share of borrowed money in real estate transactions has not increased significantly, and it remains close to its usual post-crisis level (see Figure 3.5). The Kantar Emor survey found more people in 2016 than previously who had their loan application rejected or who managed to borrow less than they wanted. There was also a slight increase in the number who would like to get a housing loan next year.

Car leases are the second largest source of household loan liabilities after housing loans, and the stock of them increased by 17% in 2016. The rapid growth has arisen because the fleet of cars in Estonia is about half as old again as the European average and as options for financing improved, so more new cars were bought. The take-up of leases has also been supported by low interest rates²⁴.

The total value of consumption loans, which covers credit card loans and other consumption loans as well as car leases, increased by 7% in 2016. As this was faster than the growth in total household consumption, the role of consumption loans in financing consumption increased a little, having previously fallen for a long time after the crisis (see Figure 3.5). Data from the Emor survey show an increased tendency to take credit directly from shops, as instalment credit taken in this way increased by 58% while instalment credit taken from banks was down by 21%. Some shops are offering instalment credit in partnership with the banks though.

²³ The loan liabilities of Estonian households are described in more detail in Box 6 on household debt liabilities.

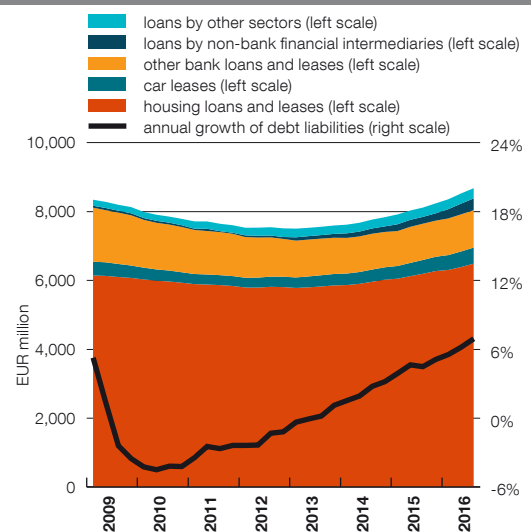
²⁴ The rapid growth in car leases is discussed in more detail in the Eesti Pank Financial Stability Review 2/2016.

Figure 3.3. Dividend income and deposit growth



Sources: Statistics Estonia, Eesti Pank

Figure 3.4 Debt liabilities of households

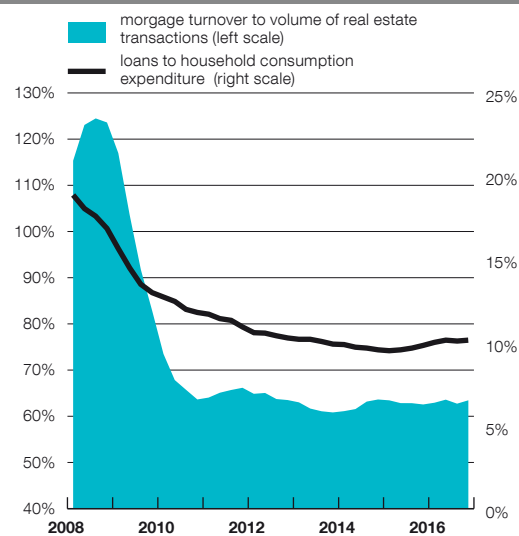


Source: Eesti Pank

The role of the non-bank financial sector in household borrowing is small. Non-bank financial intermediaries had lent a little over 340 million euros to households by the end of the third quarter, accounting for 4% of all loans to households (see Figure 3.6). The majority of those loans came from other financial intermediaries, which supplied 3.7% of all household loans, while 0.2% of loans came from savings and loan associations and 0.02% from financial auxiliaries.

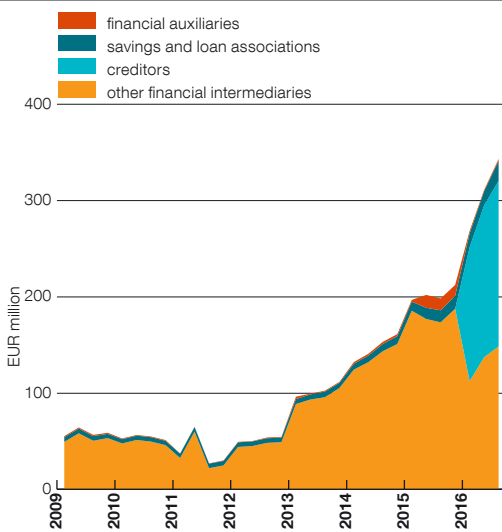
Loans to households by savings and loan associations and other financial intermediaries have grown rapidly since 2013. The volume of loans from savings and loan associations to households has grown by more than 50% a year for the past two years, and in the third quarter of 2016 it stood at 21 million euros. That amount is still very small though in comparison to the amount lent

Figure 3.5. Share of loans in household consumption expenditure and in the volume of real estate transactions



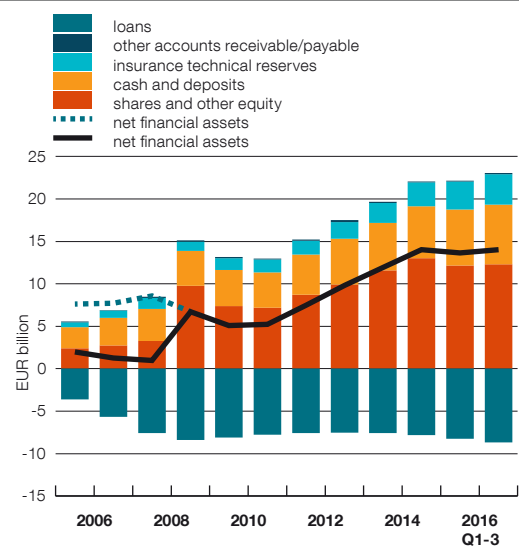
Sources: Statistics Estonia, Eesti Pank

Figure 3.6. Debt liabilities of households by non-bank financial intermediaries



Source: Eesti Pank.

Figure 3.7. Household financial assets and liabilities



Source: Eesti Pank

by banks or by other financial intermediaries. The rate of growth of loans from other financial intermediaries cannot be estimated as the addition of data on consumer creditors means the data for 2016 are not comparable with those of earlier periods. The volume of loans granted by other financial intermediaries grew by 24% in 2015.

The volume of loans issued by consumer creditors²⁵ stood at 170 million euros at the end of the third quarter, or half of the loans that households have taken from non-bank financial intermediaries. The licensed creditors added to other finan-

²⁵ Data on the creditors added to other financial intermediaries are available separately from the first quarter of 2016.

cial intermediaries include lease companies that are not owned by the banks, merchants that allow customers to pay in instalments, and providers of instant loans or pay day loans, which have high interest rates and short repayment deadlines. A little over half of loans by volume are other monetary credit, mainly instant loans, while more than one quarter are instalment credit and around 15% are real estate loans.

Overall there was no significant change in the balance of the financial assets and liabilities of households or in the debt burden in 2016. The net financial assets of households remained at the level of the previous year as both financial assets and loan liabilities increased by similar amounts (see Figure 3.7). Household debt as a ratio to disposable income has held steady at between 73% and 74% since 2014. The household debt burden will not increase substantially in the near future either. The Eesti Pank December forecast expects growth in household debt and in incomes to slow a little and to be around 5% in the years ahead. Excessively fast growth in debt will be restrained by the relatively conservative lending policies of the banks. The biggest threat to the financing of households is that a sharp correction could be forced in the labour market by wage growth outstripping productivity growth, and this could reduce the incomes of households.

Box 5: Household savings

The type of financial assets that Estonian households have

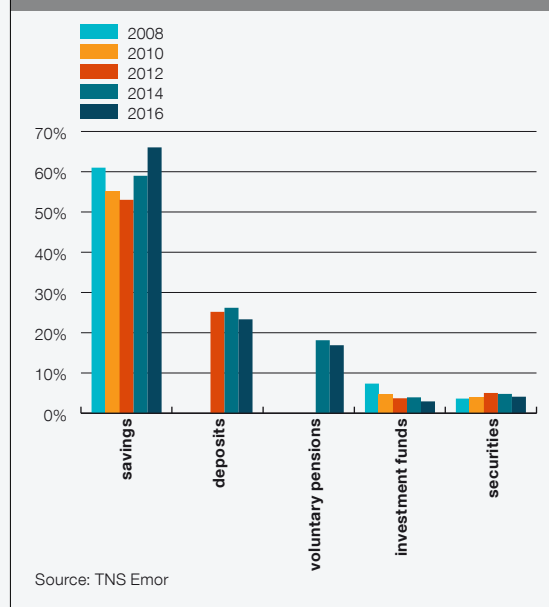
Around two thirds of Estonian households had savings in 2016²⁶ in cash or in a bank. The share of households with savings has increased consistently since 2012. Money intended for saving is held more and more on a sight account or as cash, as the popularity of term deposits has been diminished by low interest rates and only small amounts are invested in securities and funds (see Figure B5.1).

The savings of Estonian households are relatively bank-centred in comparison to those of other euro area countries. Other forms of saving are encountered less often in Estonia than elsewhere in the euro area. Households in Estonia are only ahead of the rest of the euro area in the share that lends to other households. This share is also larger than in the other central and eastern European countries with similar income levels (see Figure B5.2).

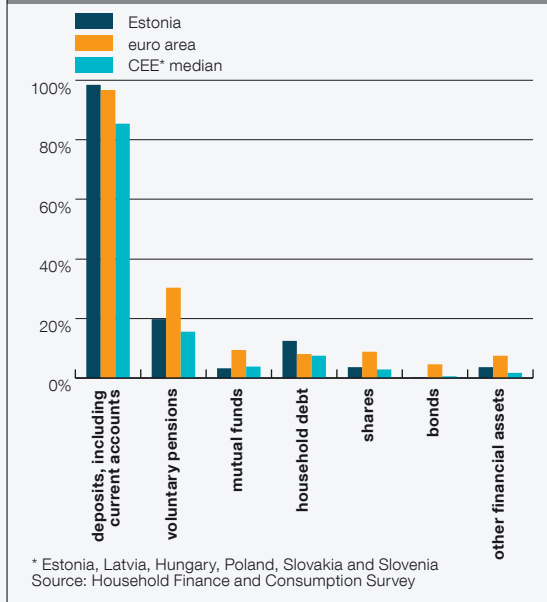
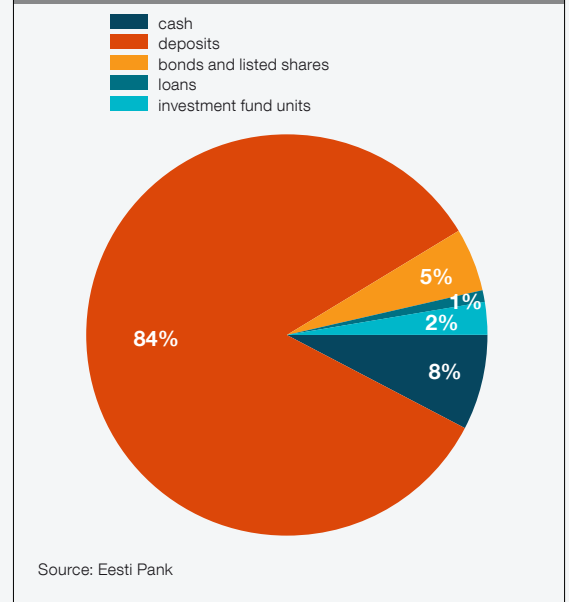
Bank deposits dominate in financial assets

in Estonia, and they accounted for 84% of total financial assets at the end of the third quarter of 2016

Figure B5.1. Share of households with savings



26 Does not include money used for everyday consumption.

Figure B5.2. Share of households with different financial assets**Figure B5.3. Distribution of household financial assets in Estonia (September 2016)**

(see Figure B5.3). Such deposits make up only around 64% of the financial assets of the euro area as a whole²⁷. Bank deposits also dominate more in Estonia than they do in other central and eastern European countries. Deposits are such a large share in Estonia not because there is a large volume of them, but because the volume of other financial assets is small. The ratio of household deposits to GDP in Estonia is one of the lowest in the euro area.

The factors determining the size of financial assets

To assess what the size of household financial assets depends on, regression analysis was carried out on the data from the Estonian household finance and consumption survey (see Table B5.1)²⁸.

Table B5.1. Regression results for household savings

	Household savings (log)	Standard deviation
Income (log)	0.426***	(0.074)
Value of real assets (log)	0.315***	(0.057)
Divorced, separated or widowed	-0.348**	(0.142)
With higher education	0.875***	(0.142)
Age of respondent	0.034***	(0.006)
Born in Estonia	0.432*	(0.236)
Number of observations	1550	

Note. Statistical significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.
Source: Household Finance and Consumption Survey

²⁷ This does not include insurance contributions, pension fund units or equity in unlisted companies for Estonia nor for the euro area.

²⁸ For more on the survey see <http://www.eestipank.ee/en/household-finance-and-consumption-survey> on the Eesti Pank website.

Figure B5.4. Median value of household financial assets in euros across income quintiles in Estonia

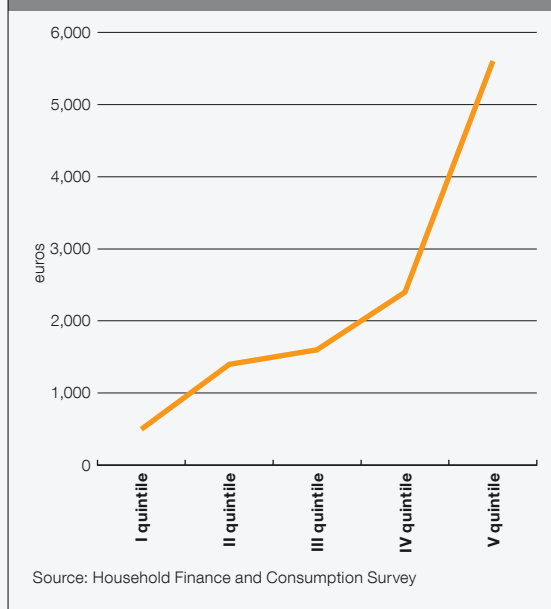
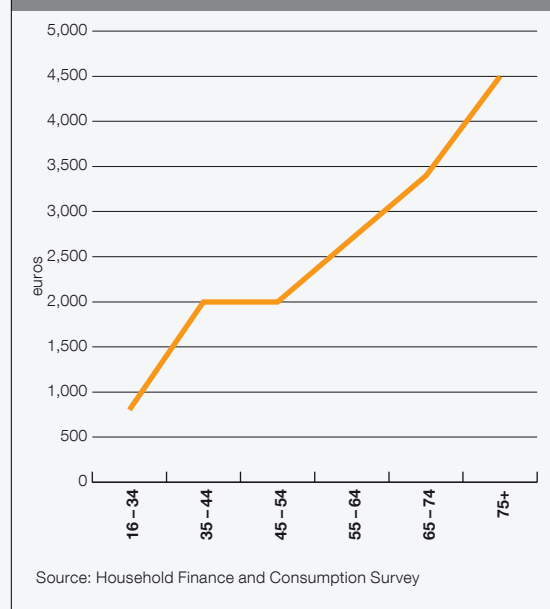


Figure B5.5. Median value of household financial assets in euros across age groups in Estonia



The size of household financial assets²⁹ depends primarily on the income of the household. The model used for the assessment indicates that an increase in income of 10% leads to an increase in savings of 4%. Breaking households down by income into quintiles revealed that the households in the lowest quintile by income had financial assets with an average value of around 500 euros. The financial assets of the households with the highest incomes were more than 11 times that value at around 5500 euros (see Figure B3.4). The value of the financial assets of the groups in the euro area with the highest and lowest incomes differed by a factor of more than 20.

Households with more financial assets generally also have more real assets such as real estate and cars. The model estimated found that an increase of 10% in the value of real assets equated to an increase of 3% in the value of financial assets.

As the age of the respondent to the survey rose, so generally did the value of the financial assets (see Figure B5.5). A rise of one year in the age of the respondent increased the volume of financial assets by 3% on average.

People who have completed higher education are notably more inclined to save than the less educated. Respondents who had completed higher education had financial assets that were 88% larger on average.

The gender of the respondent and the number of people in the household had no statistically significant relationship to household savings. Whether the respondent was at the time of asking unemployed, self-employed or unwaged did not significantly affect the size of household savings either.

29 Financial assets cover bank deposits, bonds, listed shares, and units in investment funds and voluntary pension funds.

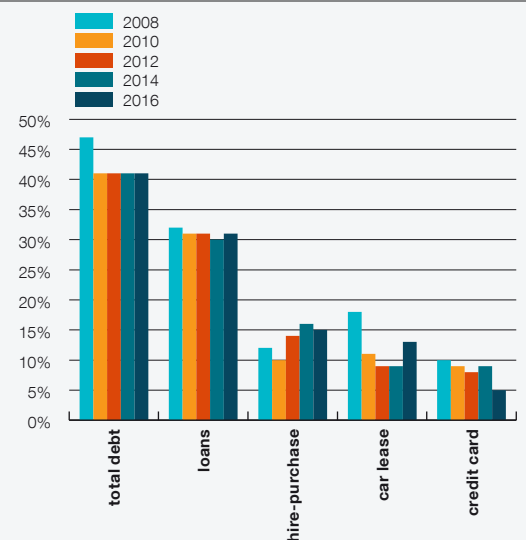
Box 6: The debt liabilities of Estonian households

The type of loan liabilities that Estonian households have

Among Estonian households, 41% have loan liabilities, instalment loans or leases, and this share has been stable since 2010. The largest share of households has loan liabilities, followed by instalment loans and car leases. The number of households with credit card debts and instalment card loans has declined in recent years, and in 2016 5% of households had that form of credit (see Figure B6.1).

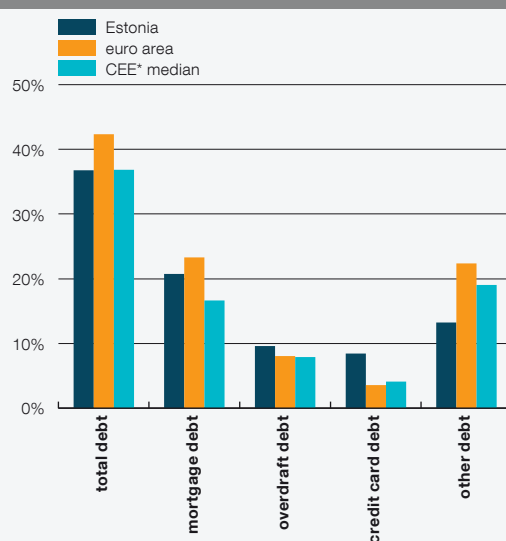
Fewer households in Estonia have loan liabilities than the equivalent in the rest of the euro area. The share of households with financial liabilities in other central and eastern European countries with similar income levels is generally about the same as in Estonia. The only types of loan liability where Estonian households are ahead of the rest of the euro area are overdrafts and credit card borrowing. There are more households with real estate loans in Estonia than in other central and eastern European countries, and more with overdrafts and credit card debts (see Figure B6.2).

Figure B6.1. Share of households with loans



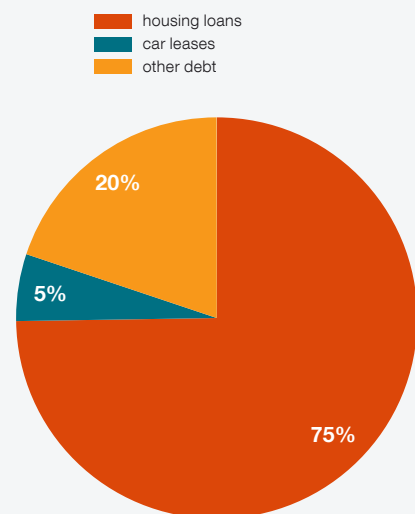
Source: TNS Emor

Figure B6.2. Share of households with debt



* Estonia, Latvia, Hungary, Poland, Slovakia and Slovenia
Sources: European Central Bank, Eesti Pank

Figure B6.3. Distribution of household debt in Estonia (September 2016)



Source: Eesti Pank

Housing loans dominate among loan liabilities in Estonia, accounting for some 75% of all the loan liabilities of households. Around 5% of liabilities are leases, and 20% are other loan liabilities (see Figure B6.3). The shares of housing loans and leases are larger in Estonia than in the rest of the euro area or in other central and eastern European countries.

The types of household that have housing loans in Estonia

To assess what housing loans and their size depend on, regression analysis was carried out on the data from the Estonian household finance and consumption survey (see Table B6.1)³⁰. The distribution of housing loans was also compared with that in other euro area countries using the results of similar surveys.

Table B6.1. Regression results for housing loans to households

	Housing loans, probit	Standard deviation	Housing loan payments (log)	Standard distribution
Income	0.00002***	(-2.95e-06)		
Income (log)			0.109***	(0.037)
Savings (log)			0.035**	(0.016)
Consumer loan	0.166**	(0.083)		
With higher education	0.167**	(0.080)	0.210***	(0.063)
Respondent is a company			0.394***	(0.145)
Age of respondent	-0.015***	(0.002)		
Size of household	0.147***	(0.029)	0.061**	(0.027)
Number of observations	1567		493	

Note. Statistical significance: ***p<0.01, **p<0.05, *p<0.1.
Source: Household Finance and Consumption Survey

The probability of a household having a housing loan in Estonia is raised primarily by a rise in household income and assets, as getting a loan from a bank requires information on income³¹. The share of households with a housing loan in the lowest quintile for income was around 5%, while around 50% of households in the quintile with the highest incomes had a housing loan. The share of households in Estonia with a housing loan is only higher than elsewhere in the euro area for the group with the highest income, while it is lower for the other income groups (see Figure B6.4).

The probability of the household having a housing loan decreases as the age of the respondent rises. This tendency can be found throughout the euro area, but it is more marked in Estonia. Housing loans are so clearly concentrated in the younger generations in Estonia because the process of privatisation occurred in Estonia at the beginning of the 1990s, and it allowed households that are now in the older generations to become home-owners without getting a loan. After that and until the year 2000, there was practically no market for housing loans in Estonia (see Figure B6.5).

Respondents who have completed higher education are more likely to have a housing loan than people with less education are. Large households are equally more likely to have a housing loan

³⁰ For more on the survey see <http://www.eestipank.ee/en/household-finance-and-consumption-survey> on the Eesti Pank website.

³¹ Increasing income also increases the share of households in Estonia with other loan liabilities, but more slowly than with real estate loans as people with higher income need fewer borrowed funds to finance their consumption and the volume of other loans is mainly smaller than that of housing loans and the relatively poorer part of the population can also access them.

Figure B6.4. Share of households with a mortgage across income quintiles

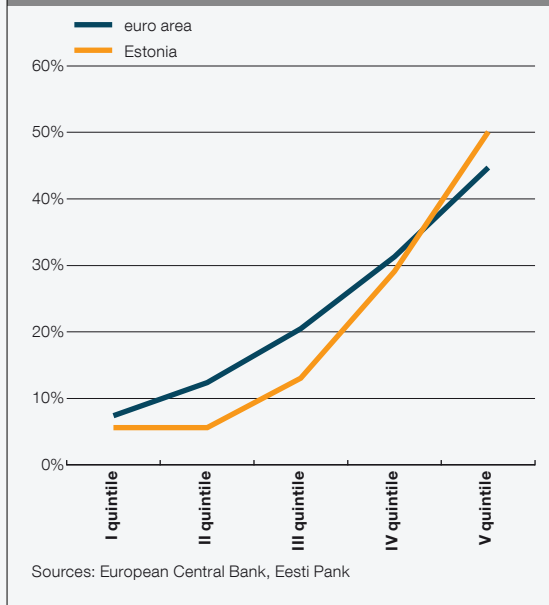
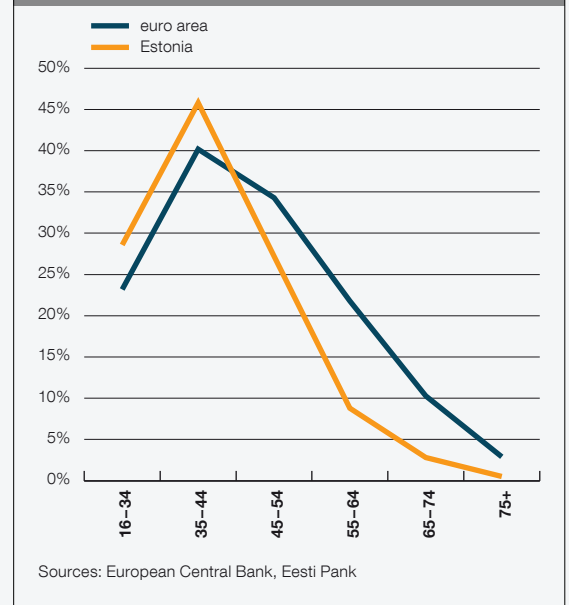


Figure B6.5. Share of households with a mortgage by age group



than small ones. Households that have a consumption loan are more likely to have a housing loan than households that do not have a consumption loan. This is probably because those who are already active in the credit market tend to use multiple loan products.

The loan payments of households are larger the higher their incomes are and the more they hold in financial assets. The model estimated found that an increase of 10% in income equated to an average increase of 1% in the housing loan payment, while an increase of 10% in financial assets equated to an average increase of 0.4% in loan payments.

Self-employed respondents and those who had completed higher education also mainly had larger loan payments. Large households are likely to live in larger houses, and their loan payments were on average 6% larger for each additional household member.

4. FACTORS AFFECTING THE LOAN SUPPLY OF BANKS

The lending capacity of banks

The financing of the banking sector in Estonia is largely supported by the rapid growth in domestic deposits. The annual rate of growth of the deposits of Estonian companies and households reached 8% in 2016. At the same time, the volume of non-resident deposits in the Estonian banking sector continued to decline. It was down 21% over the year, or around 500 million euros, which meant that the growth in the total deposits in the banking sector was more modest at 3.7% than growth in resident deposits. The share of deposits of the domestic non-financial sector in the financing of the banks remained close to 60% throughout 2016 though (see Figure 4.1). As the funding from parent banks increased by a notable 12% over the year, its share in the debt liabilities of the banking sector increased a little to 21% at the end of the year. In response to the attractive lending conditions offered by the European Central Bank, one bank operating in Estonia participated for the first time at the end of 2016 in the targeted longer-term refinancing operation (TLTRO). That bank borrowed 50 million euros, and the price of that loan will depend on the amount it subsequently issues in loans.

Domestic cash flows from real sector deposits and loan repayments were more or less the same size in 2016 as the amount issued in loans. Growth by comparable amounts in incoming cash flows and loan turnover (see Figure 4.2) meant that the loan-to-deposit ratio, which is calculated using only the loans and deposits of the Estonian non-financial sector, did not change over the year and remained at close to 1.2. The reduction in non-resident deposits meant that the broader loan-to-deposit ratio increased a little, and it reached 1.1 in December (see Figure 4.3).

The capitalisation of banks operating in Estonia remains strong and places no limit on lending. Like it did a year ago, the capital adequacy indicator of the banks stood above 34% in the third quarter of 2016. As the banks meet the minimum capital requirements with a sufficient excess, their readiness to cope with unexpected losses is good and their capital position is not pushing them to cut back on lending. The loan supply may start to be limited by the structure of the loan portfolio though. As the corporate loan portfolio became even more concentrated in 2016 as more loans were issued to companies in real estate and construction, the internal bank rules on concentration may make them reduce lending to those sectors.

Figure 4.1. Structure of the debt liabilities of banks

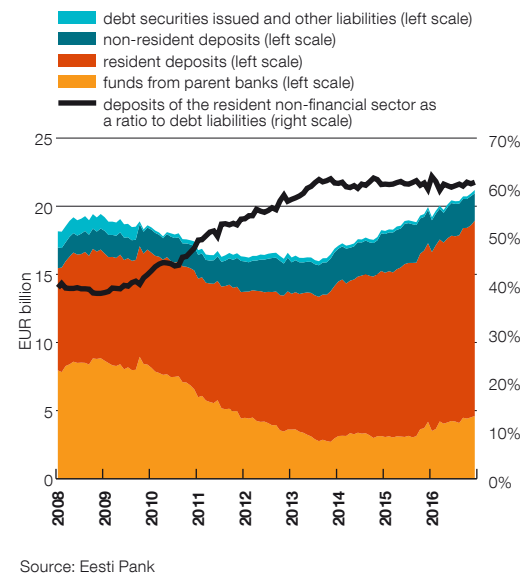
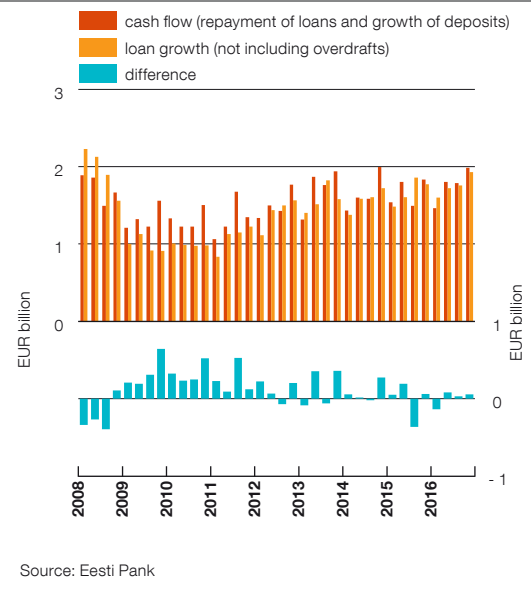


Figure 4.2. Domestic cash flows of banks



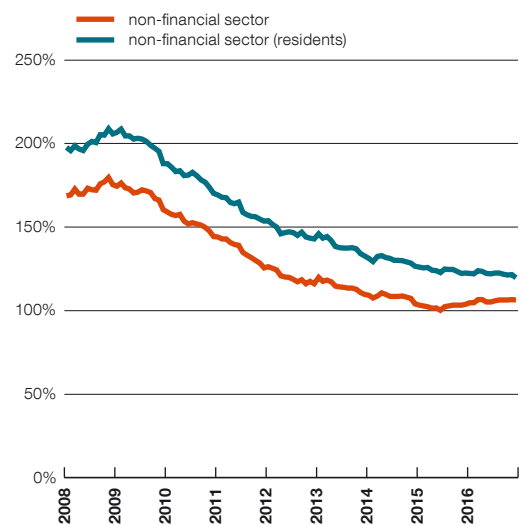
The current level of problem loans does not threaten the capital position of the banks or in general give any grounds for increased risk aversion. The loan supply of the banks is affected to an extent by how ready they are to take risks. A deterioration in the quality of the loan portfolio, which could indicate an increase in credit risk, generally makes the banks more risk averse. This in turn can lead to lending conditions being tightened and the loan supply being reduced. The share of overdue loans or restructured loans in the Estonian banking sector continued to decline gradually throughout the year. At the end of the year such loans made up 2.3% of the portfolio, which is 0.3 percentage point less than a year earlier. Despite the general improvement in the quality of the loan portfolio, the volume of problem loans increased in some sectors. The biggest increase in problem loans over the year was seen in the primary and manufacturing sectors. The deterioration in the quality of the loan portfolio in the manufacturing sector was due to problems with certain individual clients, but in the primary sector it was due to difficulties throughout the sector. So although banks may lend conservatively to companies in some sectors, the overall quality of the loan portfolio gives no grounds for limiting the loan supply. Even were the current credit risks to materialise, the banks would be able to maintain the loan supply as around 90% of the overdue loans are covered by provisions.

On top of the good quality of loans, support for the profitability of the banks operating in Estonia comes from the relatively high loan margins and the reduced costs of funding. Even though interest rates are low, the banks have been able to increase their net interest income. In 2016 it increased by 6.6% because the loan portfolio grew, the share of loans in the portfolio with high margins increased, and the cost of funds came down. There was no change over the year in the average spread between the interest rates on claims and liabilities. Net interest income remained at the same level as last year as a ratio to total assets at 1.7% (see Figure 4.4). As there is not much room for the cost of funds to fall further, the ability to maintain current profitability or to increase it will depend on future demand for loans and the ability of the banks to keep their interest margins high. If loans continue to be issued with interest margins similar to what they are now, the outlook for the profitability of the banks operating in Estonia is stable.

Other factors affecting the loan supply

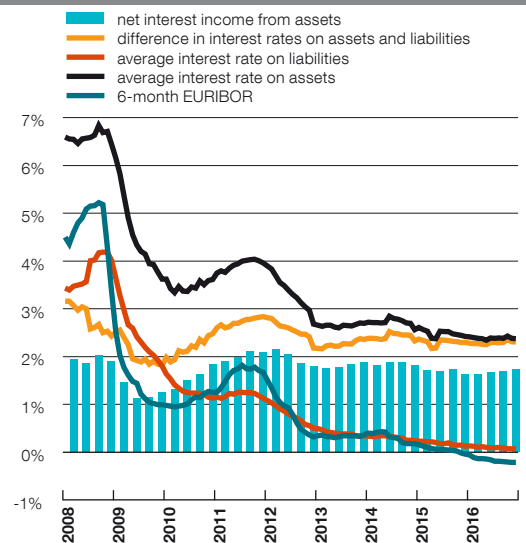
The average interest margin on long-term loans issued to companies did not change significantly over the year. It was 2.3% in 2016 and although the margins for

Figure 4.3. Loan-to-deposit ratio



Source: Eesti Pank

Figure 4.4. Net interest income of banks

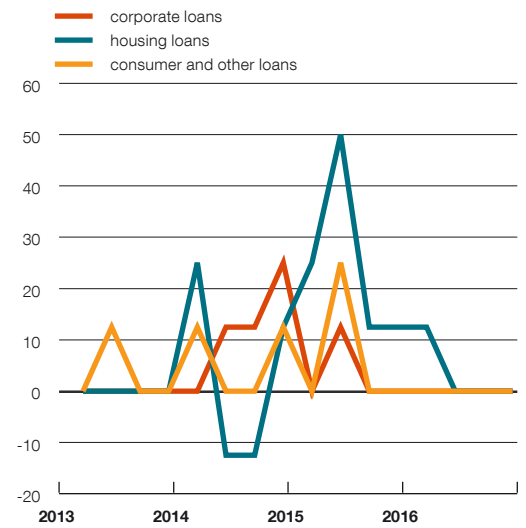


Source: Eesti Pank

corporate loans declined at a slowing rate, the pressure on margins was maintained because competition was quite tight. The quarterly survey of bank lending activity found that banks have not gone down the route of loosening lending standards and there was no real change in lending standards in 2016 (see Figure 4.5). The competition for clients was fought mainly with loan margins (see Figure 4.6).

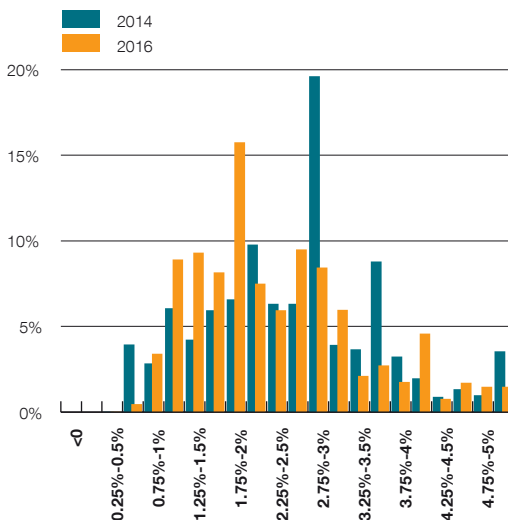
There was more competition for low-risk loans issued to large companies. This is shown by the survey of bank lending activity and by the banking statistics. The interest rates on loans to large companies have come down more than those on loans to smaller companies (see Figure 4.7). This means competition pressure

Figure 4.5. Diffusion index of changes in credit standards



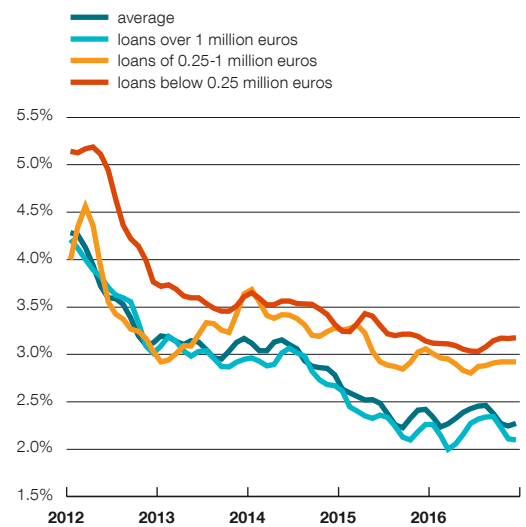
Source: Eesti Pank

Figure 4.6. Distribution of the interest margins on long-term corporate loans



Source: Eesti Pank

Figure 4.7. Average interest margins on long-term corporate loans



Source: Eesti Pank

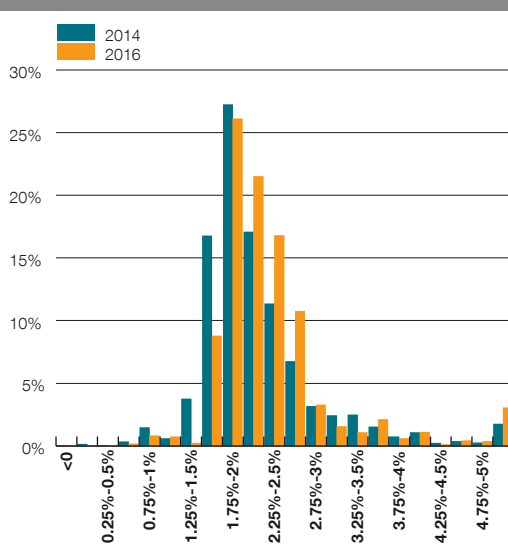
has affected the pricing of loans to small and medium-sized enterprises less, as the price of these loans depends more on the individual characteristics and the risk level of the borrower.

The average interest margin on housing loans remained about the same in 2016 as in the previous year. There were only small changes in the distribution of interest margins on housing loans over the year, and the distribution curve for such margins continued to shift slightly towards higher margins in 2016. The largest segment of loans was those issued with margins between 1.75% and 2% (see Figure 4.8). The number of loans

issued with lower margins than this is considerably less than in 2014, and as a larger share of loans were issued at interest rates higher than the most common range, the average interest margin was 2.3% (see Figure 4.9).

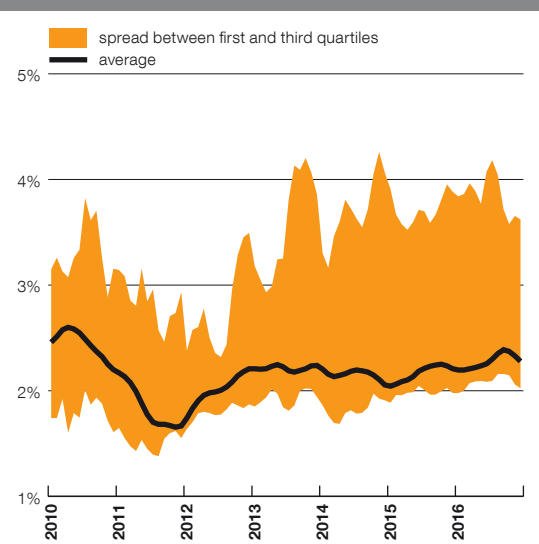
There is less competition in the housing loan market than in the corporate lending market. Although the market shares of the banks changed a little during the year, partly reflecting an increase in the number of banks that were actively promoting housing loans and partly a change in the risk preferences of the banks, they showed no inclination to start a price war in order to increase their market share. They rather preferred to keep margins high to maintain interest income given the low interest rates. The survey of lending activity by the banks found that they noticed an increase in demand for housing, but having tightened in 2015, lending conditions did not change significantly.

Figure 4.8. Distribution of the interest margins on housing loans



Source: Eesti Pank

Figure 4.9. Average interest margins on housing loans



Source: Eesti Pank

Box 7. The funding of investments to support a low-carbon economy

Creating a low-carbon economy is one of the most important challenges ahead in funding the economy. Major investment will be needed for this in the decades ahead. A lot of this will be replacement investment, as low-carbon projects can be funded in place of projects already planned. However, some additional funding will be required if climate targets are to be met.

There are two main challenges in funding efforts to mitigate climate change and adapt to its impact, and these are how money can be directed to low-carbon projects, and how the additional investment needed can be financed.

The key documents on mitigating climate change and adapting to its impact

There has been an increase around the world in recent years in the willingness to tackle questions of climate change. The Paris agreement on climate change signed at the end of 2015 came into force at the end of last year. At the subsequent climate conference in Marrakesh, 196 governments confirmed the implementation of the Paris agreement. The Paris agreement aimed to slow global warming and it is the first binding agreement covering a reduction in the greenhouse gas emissions around almost the entire world. To achieve this, governments will need to reduce greenhouse gas emissions by a lot more than they have promised so far³².

Estonia ratified the Paris agreement on climate change on 26 October 2016. By doing so, Estonia accepted the obligation to reduce its emissions of greenhouse gases. One condition of the Paris agreement is that governments must ensure sufficient funding for the economy to transfer to a low-carbon basis. To meet its climate change goals, the Estonian government approved two key documents in December 2016. These concern the main bases of climate policy up to 2050, and the development programme for adapting to climate change up to 2030. These documents set clear targets for reducing greenhouse gas emissions, and for adapting to the consequences of climate change. One target is to reduce greenhouse gas emissions from their current levels by more than 60% by 2050.

Funding the transition to a low-carbon economy

Two types of project related to climate change need to be financed. First projects are needed that are aimed at reducing greenhouse gas emissions. Second, climate change has already caused problems in various areas of the world, and so projects to mitigate the effect of climate change are needed.

There has been some increase globally in recent years in real investment in creating an economy with lower carbon emissions. This covers investments of various types in the natural carbon cycle, including investment in renewable energy, energy saving, environmentally sustainable transport and technology, and reforestation.

For Estonia to meet the goals that have been set so far for climate change requires quite large investment in various sectors. A large part of the total funding requirement is for replacing previously planned projects with lower-carbon projects. These are generally more expensive, so the total need for financing will be larger than it has been. Some new investment will also be needed for climate change goals to be met.

Some 90% of Estonia's emissions of greenhouse gases in 2012 came from the energy and transport sectors³³. This means that the best way to achieve the targets for climate change is to increase the share of energy that comes from renewable sources and to raise energy efficiency. However, sustainable investment is also needed in other areas, including industry, waste processing, agriculture and land use and forestry.

³² The Emissions Gap Report 2016. United Nations Environment Programme.

³³ ["The possibilities for Estonia to reach a competitive low carbon economy by 2050"](#). Centre for Applied Social Sciences of the University of Tartu.

Both the public and private sectors need to contribute to dealing with climate change. The state can push producers to invest in environmentally sustainable technology, and individual people can make sustainable choices. For this to happen, more effective regulation and subsidy schemes are needed. Funding for the investment needed will come to some extent from the state budget, with support mainly from the banking sector and institutional investors. Good cooperation between the public and private sectors is also important.

A key question in the Estonian context is funding for small projects. As such projects are often quite specifically tailored, low-cost financing with competitive terms is hard to find for them, and as they have a long payback period, they need to borrow over a long time. Developing the financial instruments that are suitable for funding small projects may affect the structure of financing in the economy.

Several ways of making the financing of climate projects more efficient have been proposed internationally. The large-scale involvement of institutional investors is very important for sufficient funds to be raised. Specific solutions like green bonds and green investment banks have also been proposed. The European Fund for Strategic Investments (EFSI) has been launched in the European Union to contribute to climate change projects.

- **Institutional investors.** Governments and the banking sector cannot finance climate projects sufficiently. This means that pension funds and insurers among others have a large role to play. Obstacles in the market and other barriers should be reduced so that such investors can be involved to a large extent. The range of suitable investment funds and investment instruments should be expanded. Equally, the skills for better assessing the risk and return of investment should be improved.
- **Green bonds.** Such instruments will allow funds from the bond market to be directed towards financing the transition to a low-carbon economy. Green bonds are different from traditional bonds in that the funds they raise are earmarked exclusively for financing or refinancing green projects. The popularity of green bonds has shot up in recent years, and around 65 billion euros-worth of green bonds were issued around the world in 2016. Even so, they still account for a very small share of the total bond market, at under 0.5% of the total value.
- **Green investment banks.** These are institutions capitalised from the public sector that aim to help fund low-carbon infrastructure within a country. This uses a limited amount of public sector capital and raises additional private capital, some of it from institutional investors.
- **The European Fund for Strategic Investments.** The fund is an important joint financing platform for the public and private sectors. One of the main aims of its investments is to develop renewable energy and the efficient use of resources. It is planned that 500 billion euros will be invested in the European Union by 2020, with at least 40% of this going to climate change projects.