I FINANCIAL BEHAVIOUR OF COMPANIES AND HOUSEHOLDS AND THEIR RISKS

COMPANIES

Business situation

Confidence

The confidence of companies declined further at the beginning of 2009 owing to the current global crisis. The decreasing **economic confidence indicator**, calculated by the Estonian Institute of Economic Research, reflects low demand and uncertainty about the future. The confidence of construction companies decreased the most – in the first quarter of 2009 to nearly two times lower levels than the previous minimum levels recorded ten years ago. The abrupt fall in demand in the second half of 2008 also lowered the confidence of manufacturing and trading companies (see Figure 1).

The pessimism of **manufacturers** deepened too over the past six months (see Figure 2). The export demand was still quite stable in the first half of 2008, but the second half witnessed a robust decline in exports. The decline in domestic and external demand has resulted in lay-offs and production capacity cuts. Based on the estimates of manufacturers, the utilisation of production capacity was 58% at the beginning of 2009. On one hand, the under-utilisation of production capacity for a longer period of time increases inefficiency. On the other hand, the large number of unemployed enables companies to increase their production capacity as soon as demand recovers.

Corporate investment and economic indicators

The decline in demand is reflected in dropping **sales figures.** The sales turnover for 2008 formed 98% of the 2007 turnover. The decline was especially pronounced in the third and fourth quarters when the sales turnover decreased more than 10% year-on-year (see Figure 3). Forestry suffered the most with the sales turnover falling 37% in the fourth quarter of 2008, year-on-year. Sales were lower also in wholesale and retail trade, hotels and restaurants, and manufacturing.

Weak demand also affected the **total profit** of companies, which declined 25% in 2008 from 2007. The decline was particularly strong in the fourth quarter when it accounted for only 49% of the year-ago profits. Besides weak demand, profits were curbed also by an increase in the cost of loan

Figure 1. Confidence indicators of Estonian companies

Source: Estonian Institute of Economic Research

Figure 2. Demand for the production of manufacturing companies and the confidence indicator

Source: Estonian Institute of Economic Research

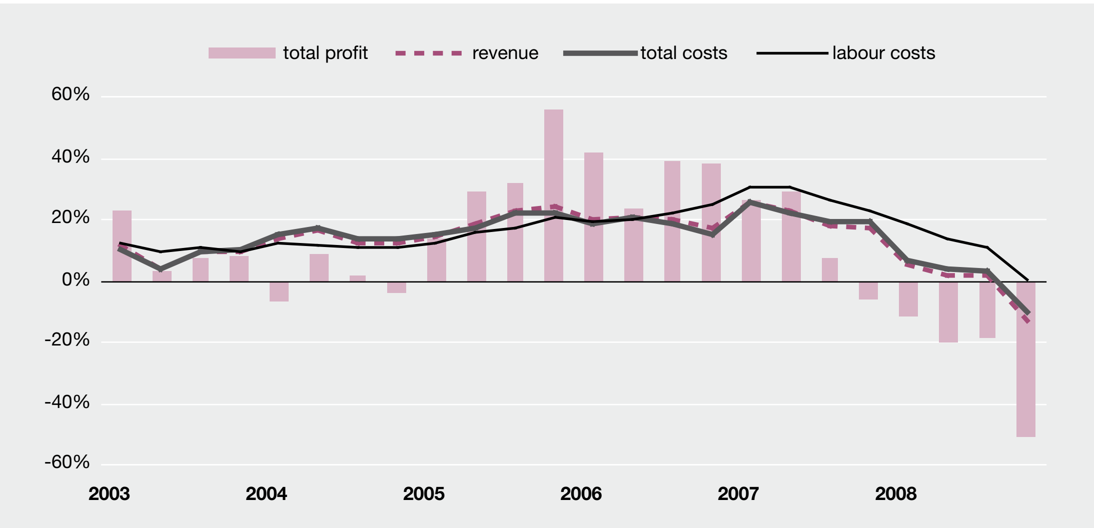

Figure 3. Annual growth of companies' economic indicators

Source: Statistics Estonia

resources and the fact that expenditure cuts could not keep pace with the decrease in incomes.

The steeper decline in profits compared to sales revenues points to a decrease in companies' profit margins. The **total profitability** of companies, i.e. the ratio of total profit to sales revenue, shrank to 4% in the fourth quarter of 2008 from 7% in the fourth quarter of 2007. Total profitability decreased significantly in manufacturing, trade and construction (see Figure 4). Although total profit growth was negative already in the fourth quarter of 2007, labour costs still continued to grow. This was caused by the expected inertia of labour costs, and growth halted only in the fourth quarter of 2008.

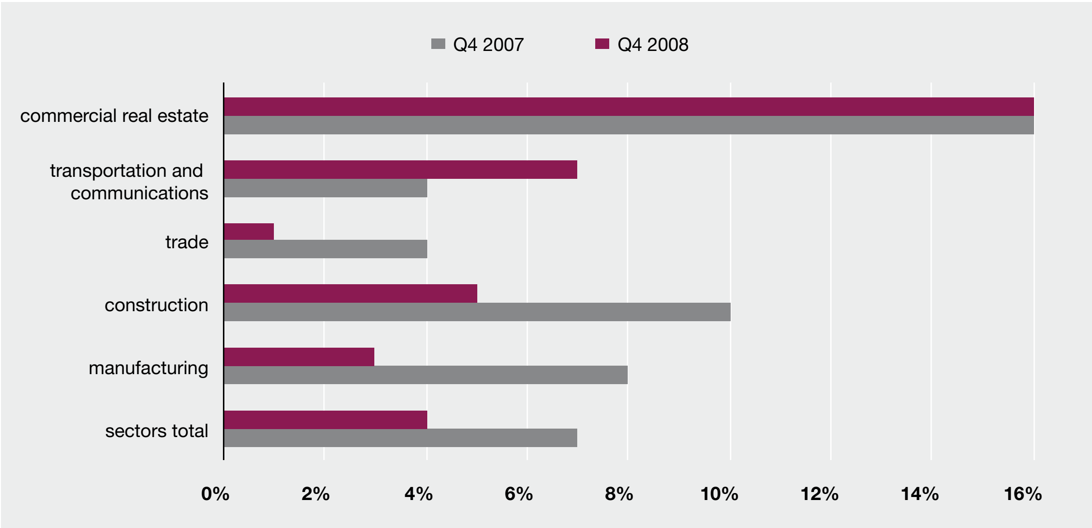

Figure 4. Total profitability

Source: Statistics Estonia

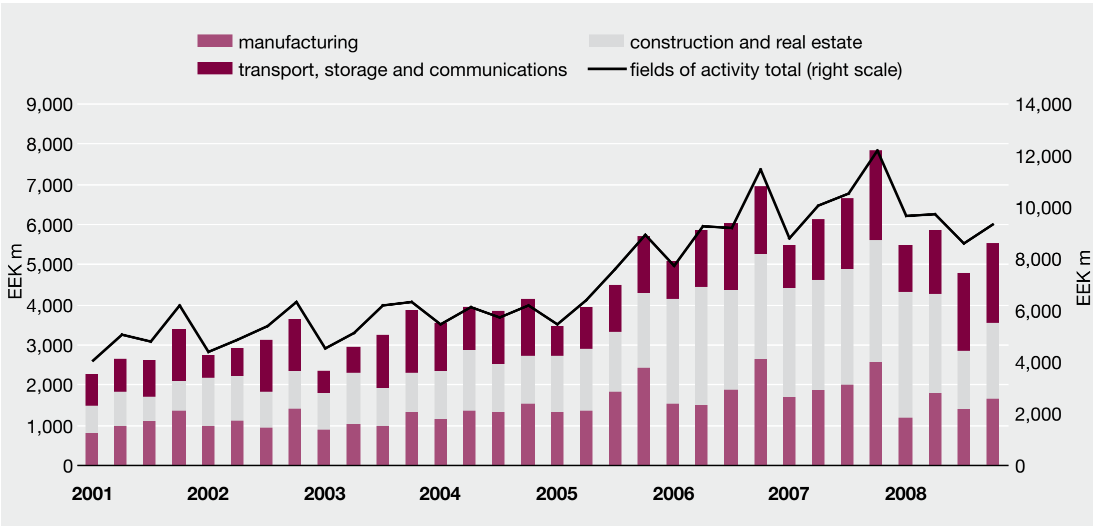

Figure 5. Corporate fixed investment

Source: Statistics Estonia

Along with a decrease in profitability, also **investment activity** slowed in the past six months (see Figure 5). Fixed investment in 2008 constituted 90% of the 2007 figures. The slowdown in investment was more marked in manufacturing and construction, falling to 73% and 79% of the investment in 2007, respectively. In the second half of 2008 investment decreased especially strongly in construction, reaching only 57% of the levels recorded in the second half of 2007. Investment in the construction sector was primarily related to the completion of unfinished objects rather than launching new projects. Compared to 2008, investment remained stable only in the field of transport and communications.

New companies and bankruptcies

The establishment of **new companies** is on a downward trend because of the difficult economic situation. About 800 companies were founded on average per month over the past six months, which is approximately as much as in 2005. After the outburst of financial crisis in October, the number of new companies registered per month decreased to 700. In March, registration went up slightly with 1,100 new companies founded.

The number of **bankruptcy petitions** started to increase markedly in August 2008 and has been growing ever since (see Figure 6).

In October 2008, the number of bankruptcy petitions reached as much as 100, and in the first

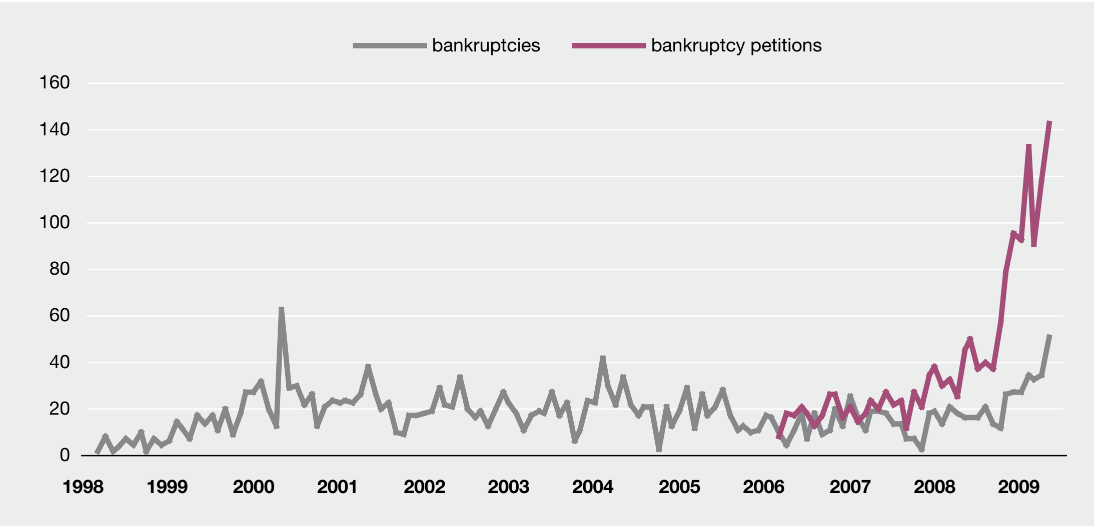

Figure 6. Bankrupt companies and bankruptcy petitions submitted to courts on a monthly basis

Sources: Estonian Enterprises Register, Courts Information System

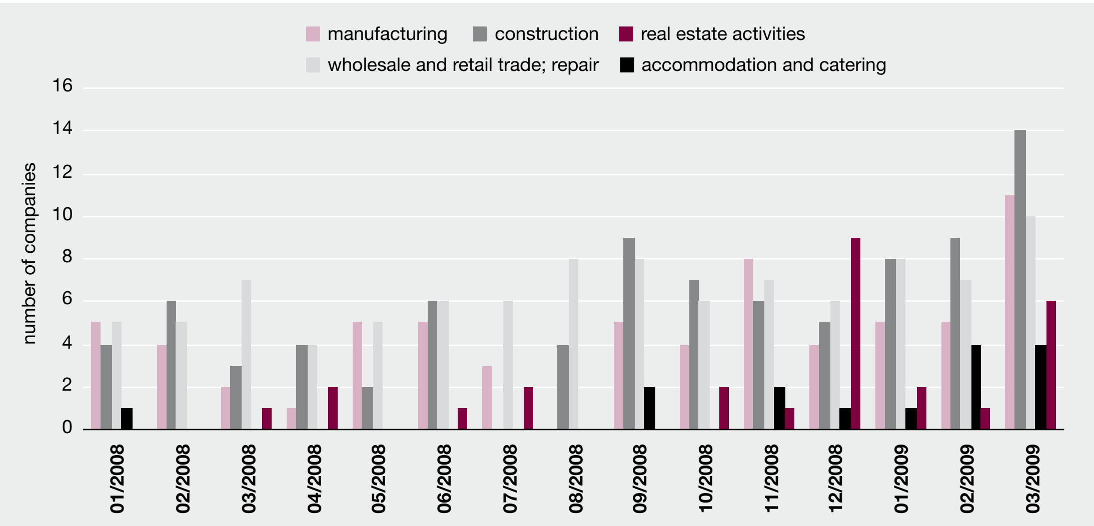

Figure 7. Bankruptcies by sectors

Source: Estonian Enterprises Register

four months of 2009 an average of 124 petitions were submitted per month.

The number of **companies going bankrupt** has also started to grow slowly but steadily. The first quarter of 2008 witnessed 52 bankruptcies, whereas the first quarter of 2009 saw already 119 bankrupt companies (51 in March). Mainly construction and trading companies went bankrupt but also manufacturing and real estate companies (see Figure 7). As the number of bankruptcy petitions has been going up rapidly, more bankruptcies are to be expected in the near future.

Financial position and saving

The negative **net financial position** of companies improved in the second half of 2008 and decreased to –101% of GDP at the end of the year (see Figure 8). The improvement has been driven by a stronger decline in financial liabilities compared to financial assets. On the liabilities side, the shares and other equity issued by companies and other financial liabilities decreased the most. The biggest changes on the assets side also concerned shares and other equity as well as other financial assets.

Companies' **deposits** in local banks are decreasing, which means that companies have started to reduce their financial buffers. Annual deposit growth has been negative since November 2008, reaching –5% in April 2009. Companies increasingly prefer time deposits; their share grew from 34% in April 2008 to 43% in April 2009 (see Figure 9). The decline in savings can partly be explained by financing the activities of companies with savings rather than loans and also by lower profit-making ability.

Based on financial ratios, the situation appears to have improved: the **coverage of debt liabilities by deposits** and the **ratio of liquid financial assets to debt liabilities** have indeed improved, but this has primarily resulted from a decrease in indebtedness.

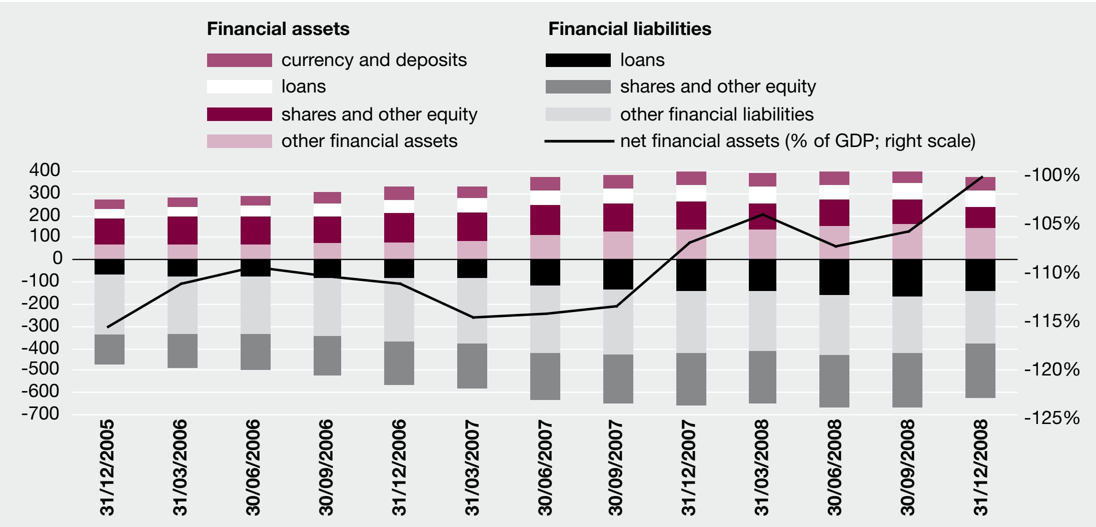

Figure 8. Corporate financial assets and liabilities and net financial assets

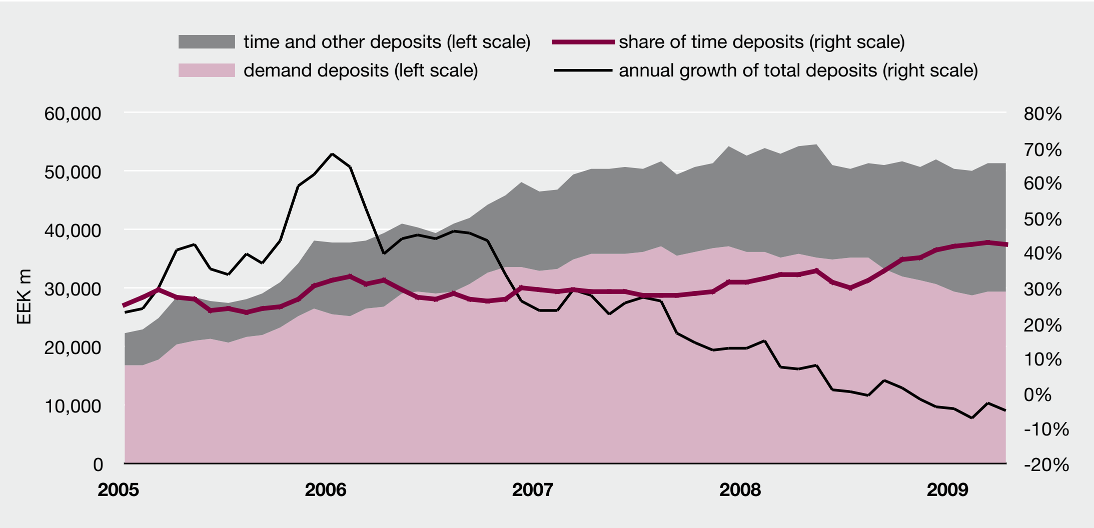

Figure 9. Volume and growth of corporate deposits and share of time deposits

Corporate debt

The **growth rate of companies' debt** has been constantly declining in the background of uncertain economic times. The annual growth rate of total corporate debt was 8% at the end of 2008 (25% at end-2007).[1] Foreign debt increased by 2 percentage points to 36% of total corporate debt.

Total debt grew by 2.7 billion kroons in the second half of 2008, with domestic debt decreasing by 0.6 billion kroons and foreign debt increasing by 3.8 billion kroons (see Figure 10). The debt of trading and manufacturing companies decreased by 2.8 and 0.9 billion kroons, respectively (see Figure 11). Strongest credit growth occurred in the real estate, construction and business services sectors, where 3.4 billion kroons of loans (mostly

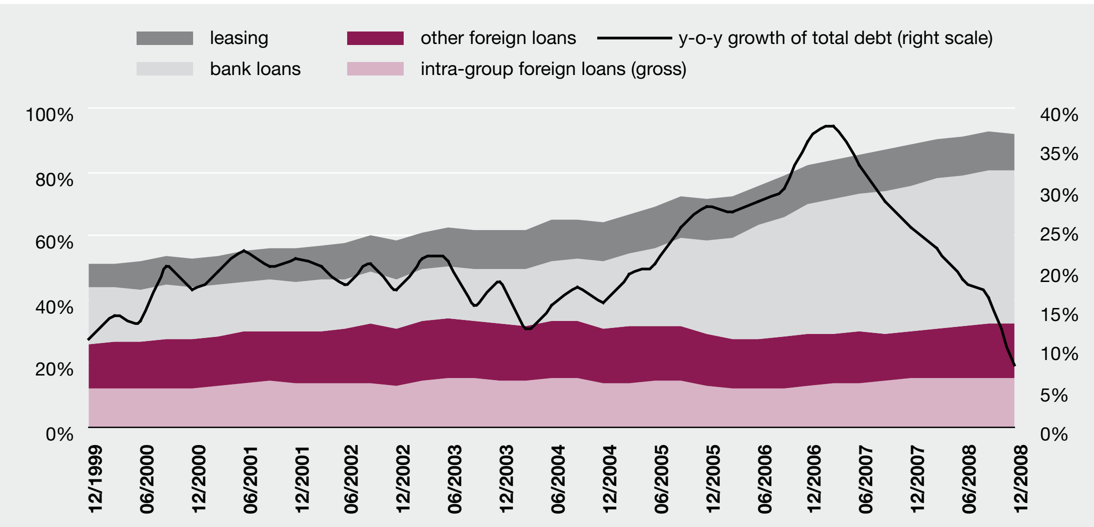

Figure 10. Corporate debt (% of GDP)

[1] Including intra-group claims to foreign affiliates, annual growth in total debt stood at 4% at the end of the year.

foreign capital) were added in the second half of 2008. External funds granted to the real estate sector totalled 1.8 billion kroons and funds to the business services sector amounted to 1 billion kroons. As local banks have tightened their loan conditions, companies now tend to obtain funds via parent companies. Foreign capital accounted for 57% of the new loans issued in 2008, which is considerably more than the 28% in 2007.

Growth in **domestic debt** halted in March 2009 and turned negative (–1.5%) at the end of April 2009. The total volume of corporate loans started to decline in October 2008, first and foremost in the real estate and construction sectors. By the end of April 2009, the stock of loans had shrunk in almost all sectors. Compared to April 2008, the loan stock had decreased in trade, construction, agriculture and business services, whereas the loan stock of other sectors had still grown in annual terms.

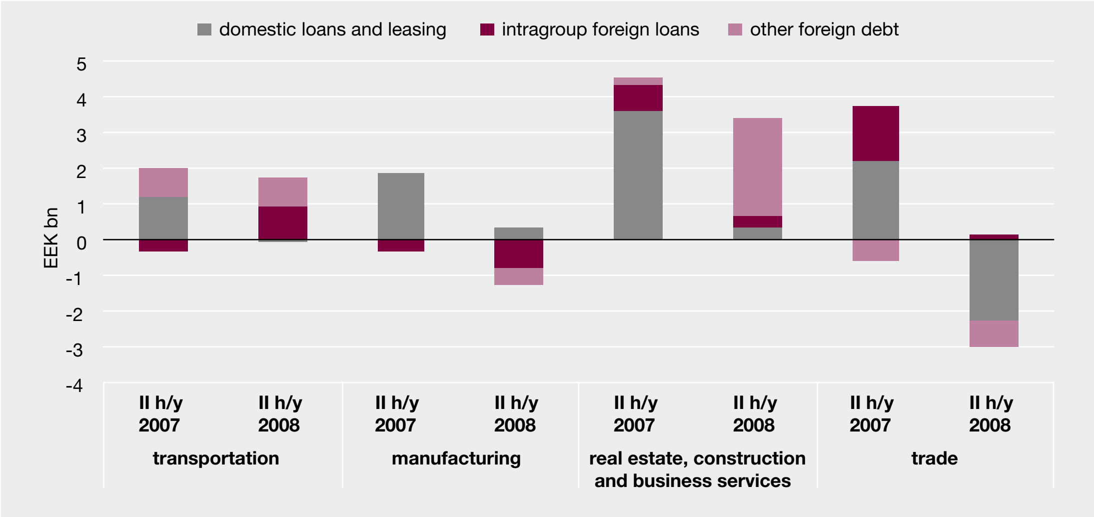

Figure 11. Changes in total corporate debt

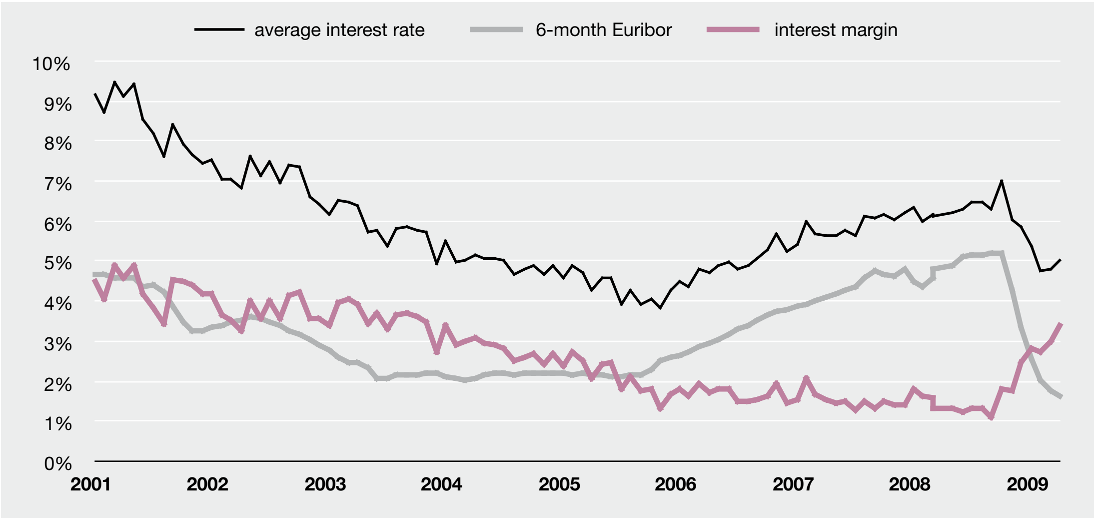

Figure 12. Average interest rate, 6-month Euribor and average interest margin on long-term corporate loans

The **average interest rate on long-term corporate loans** has changed considerably since autumn. The average interest rate fell from the record high 7% in October to 5% in April. The fall stemmed from the rapid decline of the 6-month Euribor by 3.6 percentage points to 1.6% in April. Loan margins have gone up at the same time, reaching as much as 3.4% in April (see Figure 12). Although the decrease in the key interest rate has reduced companies' loan costs, the loan conditions remain stricter for new borrowers.

HOUSEHOLDS

Economic situation

Confidence

Household **confidence** continued to decline and reached a new record low in March. The fear of losing job persists and many households are also pessimistic as far as their ability to save is concerned. Inflation expectations have come down significantly: since December 2008 households have been expecting a fall in prices rather than a rise (see Figure 13). This is the first time in the history of the newly independent Estonia that the expected inflation rate is negative. Confidence in a price fall, fear of losing job and the resulting need to save more force the consumers to postpone purchases, which has an impact on private consumption.

Labour market

The strong decline in economic activity has changed the labour market considerably. In the first half of 2008, the **number of the unemployed** even fell, whereas the second half witnessed robust growth in unemployment. Lay-offs gained momentum in the second quarter and reached a peak in the fourth quarter, when the number of the unemployed had increased nearly 90% year-on-year. Unemployment is expected to grow throughout 2009. In the first quarter of 2009, the number of the unemployed had increased 182% year-on-year (see Figure 14).

The unemployment rate was the lowest of the past years still in the first half of 2008. However, in the second half the rate started to grow. In the coming

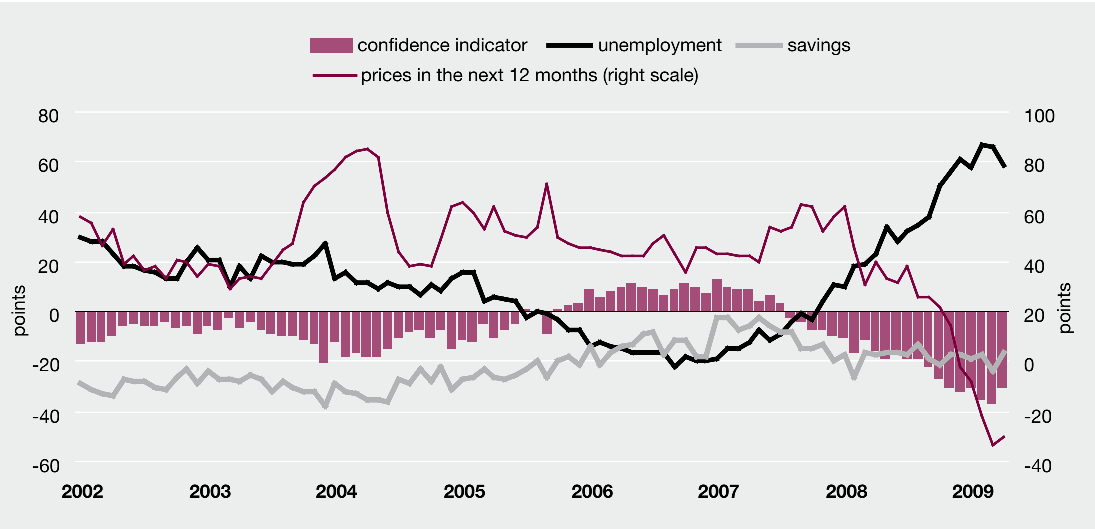

Figure 13. Consumer confidence indicators

Source: Estonian Institute of Economic Research

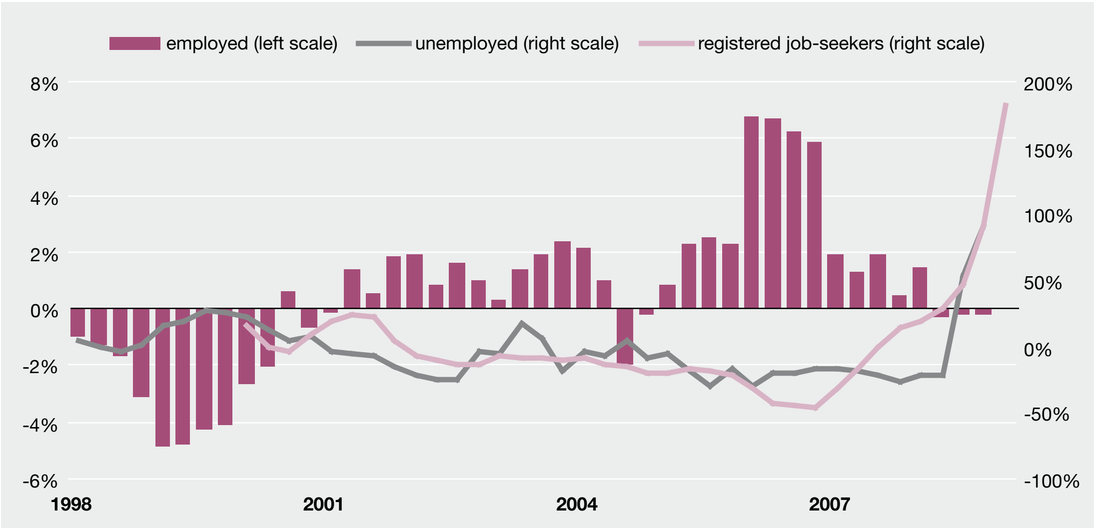

Figure 14. Annual change in the number of the employed, the unemployed and registered job-seekers

Source: Statistics Estonia

years, unemployment is expected to be at least three times higher than at the beginning of 2008. Based on the spring 2009 forecast of Eesti Pank, the unemployment rate will rise to approximately 13% this year and is likely to remain high also in 2010.

Labour market developments are reflected also in the decreasing **employment rate**.

Year-on-year, the number of the employed fell by 1,600 in the third quarter and by 1,200 in the fourth quarter of 2008. A major drop will be ahead this year, when employment will decline by 5.2% as expected in the baseline scenario of the spring forecast.

Wage growth slowed considerably in the fourth quarter of 2008 compared to previous years.

Figure 15. Average annual wage growth

Source: Statistics Estonia

Average gross wages increased nearly 15% in the third quarter, year-on-year, whereas in the fourth quarter growth slowed to 7% (see Figure 15). The inflation rate was still high at the end of 2008, amplifying the impact of slowing gross wage growth on real wages. **Real wage** growth slowed to 1.3% in the fourth quarter of 2008, which is the lowest level of the past years. Growing unemployment in turn increases wage pressures. Both the average gross wages and real wages are expected to decrease this year.

Financial position and saving

The **net financial position** of households was negative in the second half of 2008 and stood at –3.6% of GDP at the end of the year. Household financial assets decreased 3% in 2008, whereas financial liabilities increased 10% (see Figure 16). Owing to the developments in financial markets, only deposits grew (11%) in 2008 while all the other financial assets of households declined. As a ratio of total financial assets, deposits grew from 44% to 51% year-on-year (see Figure 17).

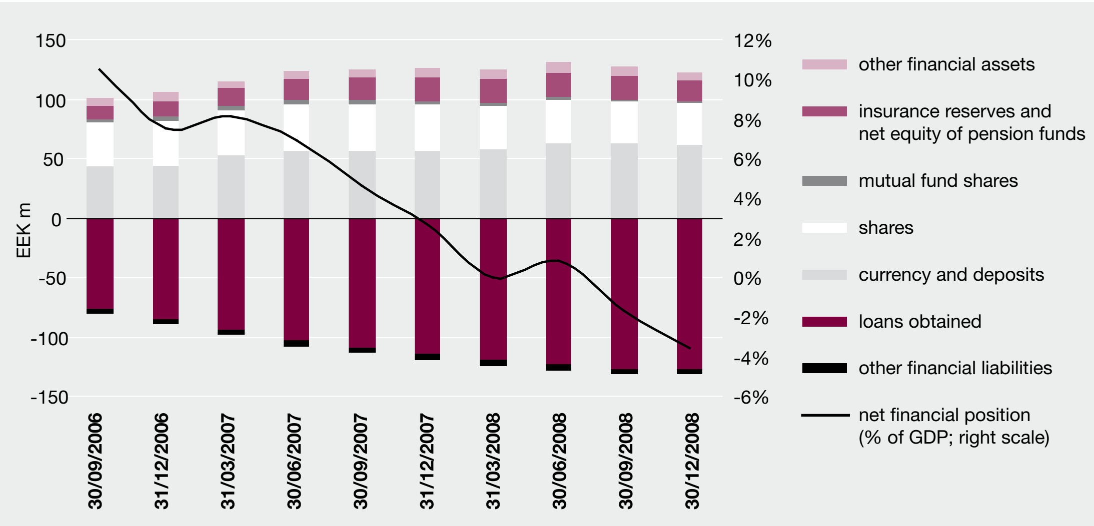

Figure 16. Household financial assets and liabilities

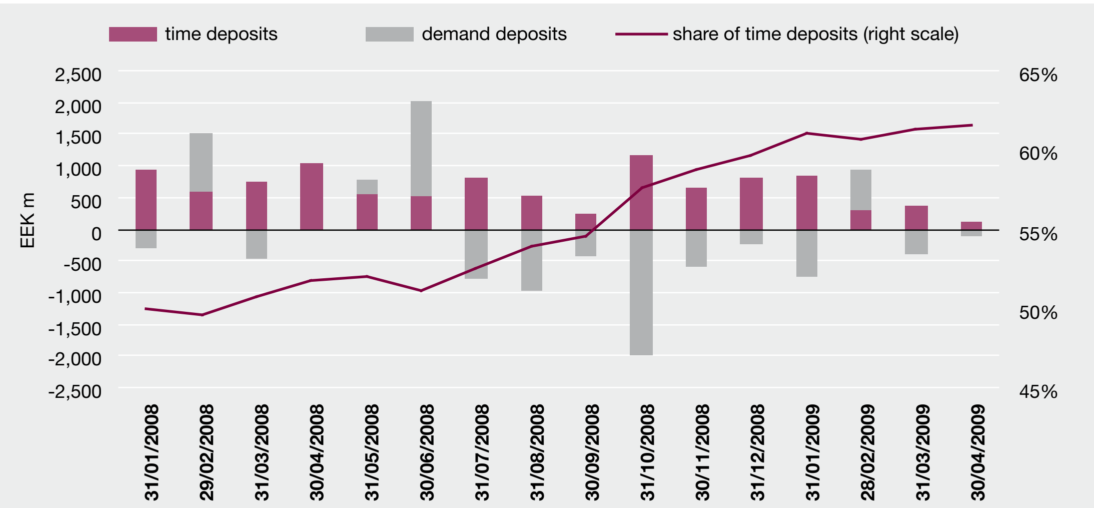

Figure 17. Monthly change and breakdown of household deposits

The breakdown of household financial liabilities, on the other hand, has not changed over the year: short- and long-term loans comprise 97% of total financial liabilities, having increased 11% in 2008 just like the deposits.

The first quarter developments of deposits and debt point to a slight improvement of the net financial position of households. Household deposits increased by 1 billion kroons in the first quarter of 2009, whereas household loans decreased by around 1.6 billion kroons.

The growth rate of **domestic deposits** fell to 8% by the end of the first quarter. The lack of good investment opportunities and the relatively high (kroon) deposit interest rates[2] have facilitated growth in time deposits. At the end of the first quarter of 2009, time deposits comprised 61% of total household deposits and their annual growth was 47%. Demand and overnight deposits have decreased 15% over the year.

Debt and loan repayment ability

Annual growth in household loans and leases slowed to 5.2% in March 2009 from 26.8% in March 2008. Monthly growth in debt has been negative since December 2008. However, the decreasing debt has not reduced the **indebtedness** of households, as the GDP and disposable income for 2008 and the coming years will decrease more than the debt. At the end of March 2009, household indebtedness stood at 51% of GDP and 85% of disposable income.

Housing loans

The transaction activity in the housing market has subsided considerably. The stock of household housing loans started to decline in December 2008, which means that the volume of repayments exceeded the volume of new housing loans granted to households. The housing loan portfolio has been decreasing by approximately 175 million kroons a month on average (see Figure 18). The aggregate portfolio of housing loans totalled 93 billion kroons at the end of the first quarter of 2009.

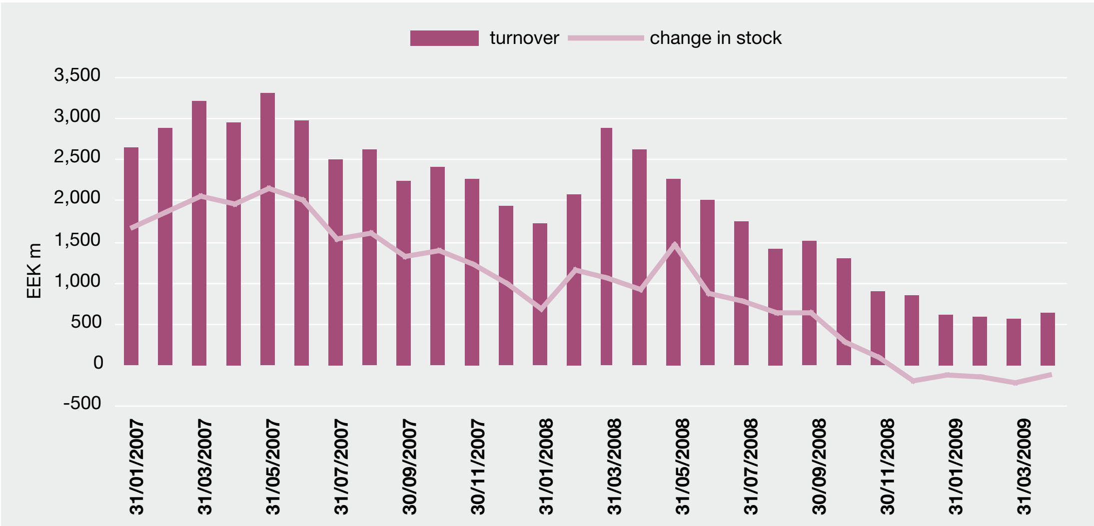

Figure 18. Monthly turnover and change of housing loan stock

[2] The average interest on household kroon deposits has climbed by 0.8% to 5.4% year-on-year.

According to the baseline scenario of the Eesti Pank spring forecast, the real estate market will be much more modest both in 2009 and 2010, compared to previous years. Although the affordability of real estate has reached the pre-boom levels, households postpone real estate purchases in the hope of an even bigger price fall.

The **average interest rate** on household housing loans had decreased to 4.2% in March, owing to the decline in the key interest rate in the fourth quarter of 2008. The last time the interest rate on housing loans was so low was in June 2006.

Consumer credit

In the background of households' low confidence and changes in the labour market, the **year-on-year growth** in the stock of non-housing loans and leases has decreased from 37% in March 2008 to 4% in March 2009 (see Figure 19). The stock of new loans added in 2008 comprises only 14% of the stock added in 2007. Total consumer credit amounted to 28.5 billion kroons at the end of March.

Growth in consumer credit slowed significantly in October and November 2008, when monthly growth in the stock of non-housing loans and car leases turned negative. On average, since November 2008 the loan and leasing portfolio has been decreasing by 200 million kroons a month. The development of consumer credit is largely affected also by the amortisation of earlier loans, which is quite extensive because of the short term of loans. As the uncertainty around the economy persists, the stock of consumer credit will decrease 12% in 2009 and post negative results also in 2010, as expected in the baseline scenario of the Eesti Pank spring forecast.

Loan repayment ability and risks

The loan repayment ability of households largely depends on the terms and conditions of their loan contracts. The fall in interest rates gives an advantage to those households whose loan interest rates are subject to change after a certain period of time. Given the uncertainty surrounding Estonia's economy, households who took their loan in euros are in a better position as their interest rate depends on the Euribor and not the Talibor.[3]

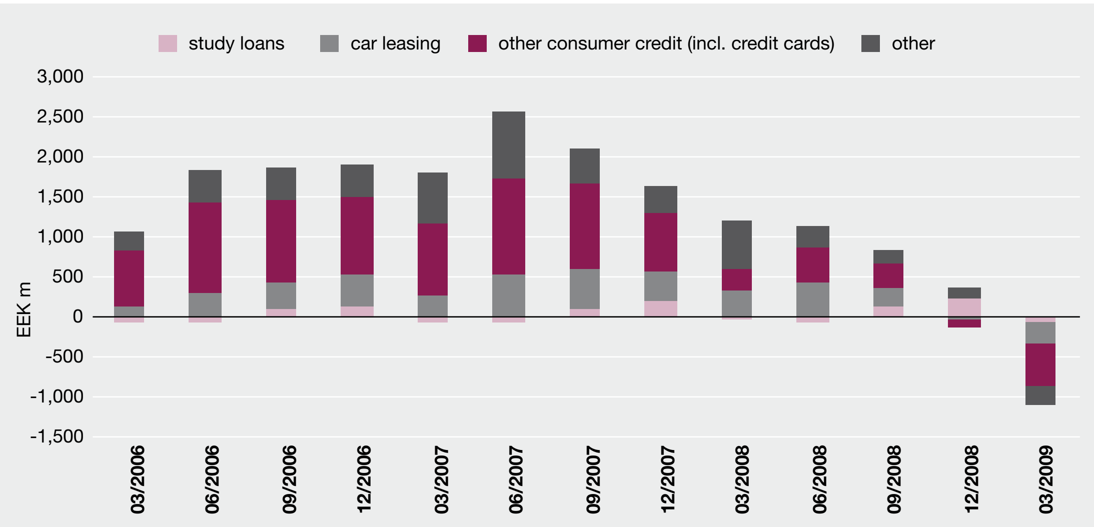

Figure 19. Quarterly change of non-housing household loans and leases

[3] In March 2009, housing loans in kroons constituted 2.2% of total housing loans.

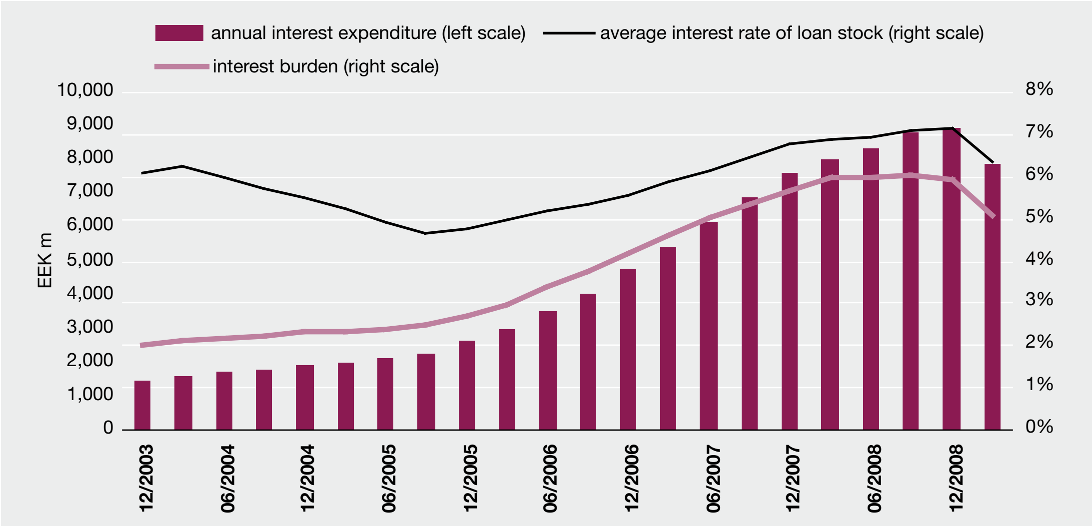

Figure 20. Interest burden of households

Household **interest burden** (the ratio of interest expenditure to disposable income) increased until end-2008 and stood at 5.9% of disposable income at the end of December (see Figure 20). In the first quarter of 2009, the interest burden started to decrease rapidly and reached 5.1% in March. The decline in interest costs was primarily affected by the significant drop in the key interest rate since October 2008. As the majority of the loans of Estonian households are in euros and have a floating interest rate, the interest burden will diminish in the coming periods owing to the low key interest rate (Euribor) and negative loan growth (see also Figures 21-22). At the same time, the disposable income of households will decrease, which will slightly offset the expected positive impact of the above factors on the shrinking interest burden.

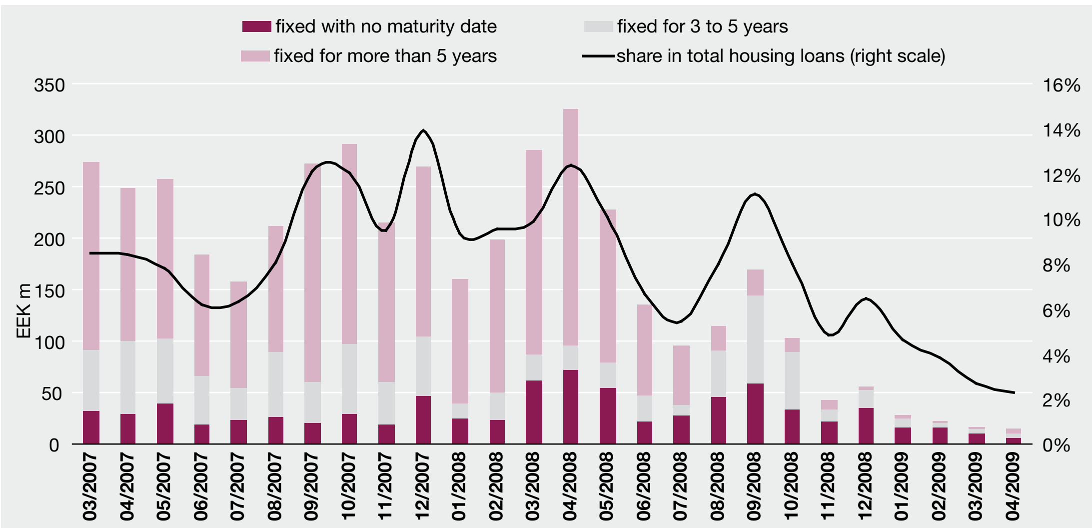

Figure 21. New housing loans with fixed interest rate

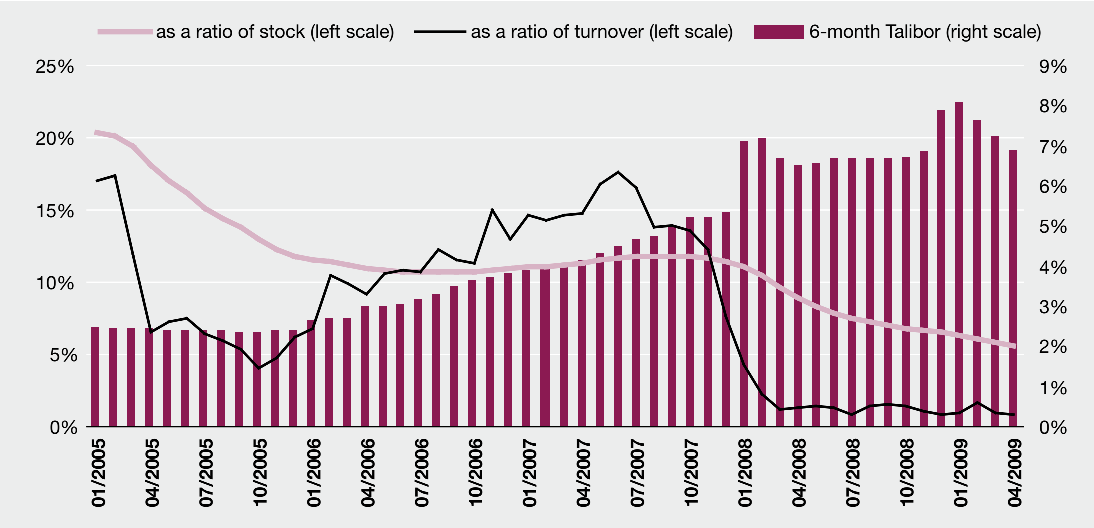

Figure 22. EEK housing loans as a ratio of total turnover and stock of housing loans

The low interest rates of the euro area will manifest themselves in the loan interests of Estonian households with a six-month lag; therefore, the positive impact of the interest rate drop had not yet fully revealed by the end of the first quarter.

Considering different development scenarios, the total decrease in households' interest costs might amount to approximately 3 billion kroons in 2009.

WHAT IS A CREDIT CRUNCH?

One of the key questions in light of the global recession is the impact of banks' lending activities on the length and depth of the recession. Earlier experiences with economic busts has shown that deep and long-term recessions are usually accompanied by a considerable decline in the loan stock.[1] *A slowdown in credit growth partly reflects a decline in economic activity, but there are several transmission channels through which a sudden credit slowdown or a decrease in loan stock might deepen the recession. In order to describe lower lending activity of banks and tightening of loan conditions, the term 'credit crunch' is often used. The following tries to explain the meaning and underlying reasons of credit crunch as well as its impact on the economy.*

What is a credit crunch?

The term 'credit crunch' was coined in the United States in summer 1966 in reference to a credit market situation where there was a sudden decrease in the availability of credit and a tightening of lending standards.[2] Later, the term has been used quite loosely in business writings and in the media to describe a situation where loan interest rates have risen and credit conditions for borrowers have tightened.

The academic community has treated this term in different ways. Some authors and institutions have used it in a broader sense, referring to a decrease in credit supply; other have narrowed the meaning to describe credit rationing.[3]

Bernanke and Lown[4] have used 'credit crunch' in the broader sense of the term, defining it as *a significant leftward shift in the supply curve of bank loans, holding constant both the real interest rate and the quality of potential borrowers.* The International Monetary Fund has defined it rather similarly, as a *severe bank credit squeeze driven by a significant decline in the banking system's supply of credit*.[5] The definitions provided by Cantor and Wenninger[6] are similar to the above ones. According to them, credit rationing is one option to reduce credit supply and refers to a situation where banks base their decision to grant a loan not on the interest rate but on other lending criteria. Such criteria include the quality of the loan collateral or the level of self-financing, for instance.

Owens and Shreft have given a narrower definition for 'credit crunch', identifying it as a sharp increase in non-price credit rationing.[7] However, they do not classify a decrease in credit supply and the resulting increase in the interest rate, while other credit standards remain unchanged, as a credit crunch. The European Central Bank has given a relatively similar definition.[8]

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[1] Claessens, S., M. A. Kose and M. E. Terrones (2008). What Happens During Recessions, Crunches and Busts?, *IMF Working Paper*, 274.
[2] The term was first used by Sidney Homer and Henry Kaufman, economist at Salomon Brothers, to differentiate between the credit problems in 1966 from the episodes in the 1950s, which they did not regard that serious. The earlier terms used for such situations were 'credit squeeze' and 'credit pinch'
[3] The different types of credit rationing have been examined by Cantor and Wenninger (see Footnote 6).
[4] Bernanke, B. and C. Lown (1991). The Credit Crunch, *Brookings Papers on Economic Activity: 2*, Brookings Institution, pp 205–247.
[5] International Monetary Fund (2008). World Economic Outlook, April.
[6] Cantor, R. and J. Wenninger (1993). Perspective on the Credit Slowdown, *Federal Reserve Bank of New York Quarterly Review*, Spring, pp 3–36.
[7] Owens, R and S. Schreft (1995). Identifying Credit Crunches, *Contemporary Economic Policy*, 13, April, pp 63–76.

To sum up, the term 'credit crunch' denotes a general decrease in credit supply by banks a more specific case of a decrease in credit supply – a non-price credit rationing.

The underlying reasons for a credit crunch

A sudden decrease in credit supply may be triggered by various factors. One of the most common reasons is **problems with banks' own funds**, which usually reveal themselves in the period of recession. During a recession, it is natural that the number of borrowers unable to repay the debt increases. As a result, banks might face loan losses and lose some of their capital base. Since banks must comply with the capital adequacy requirement, they have two options in this situation: either to restrain lending or increase the equity capital. As obtaining additional resources might be complicated in the period of recession, banks rather reduce credit supply. Banks' credit supply can be reduced also if the expected loan losses do not pose problems with meeting the capital adequacy requirement but banks want to retain more equity capital.

Besides possible difficulties with obtaining equity capital, a credit crunch may be triggered **by difficulties with obtaining funds in the form of deposits and debt securities or loans**. The likelihood of the latter is quite high during a recession. In that case, banks are forced to limit the amount of loans issued.

A credit crunch may also be caused by some activities of a **government, central bank or a financial supervision authority**. In case state authorities set direct limits on credit growth or urge banks to reduce lending, a decrease in credit supply is quite natural. Moreover, a sudden and considerable rise in the minimum reserve requirement for banks inhibits the issuance of new loans.

Banks' lending depends on their **estimates to the borrowers' risk levels**. The larger the possibility of a future drop in the value of the collateral or a decrease in the customers' loan repayment ability, the more likely banks are to cut down on credit supply.

The impact of credit crunch on the economy

A credit crunch **inhibits private consumption and investment** as customers of the same risk level either have to pay a higher interest rate or comply with some other strict loan terms (such as the self-financing rate, the loan maturity or the quality of the collateral) to receive a loan. Consequently, private consumption and investment decrease.

A significant decline in credit supply **reduces, ceteris paribus, the value of the collateral (mostly real estate)**. Loan terms also depend on the rate of self-financing, which is why a decline in the value of loan collaterals increases the risk level of borrowers and thus decreases credit supply. This, in turn, results in a drop in the investment and private consumption of these customers. Furthermore, a fall in the price of assets (real estate and stock prices) restrains private consumption directly through the wealth effect.

A credit crunch might lead to a situation where companies that used to finance their activities with short-term loans cannot extend the loans and might experience difficulties

[8] European Central Bank (2003). A bank lending survey of the euro area, *Monthly Bulletin*, April.

with loan repayments. Consequently, **banks might face greater loan losses**, which might boost the credit crunch because loan losses decrease the capital adequacy of banks. There might be a vicious circle of the credit crunch leading to higher loan losses, which will, in turn, decrease the credit supply, and so on.

The transmission channels of a credit crunch

The impact of a robust credit crunch depends, inter alia, on the relative loan burden of companies and households as well as the relative importance of the banking sector in corporate and household financing. Credit supply plays an important role also in case the economy succumbs to a debt-deflationary spiral.

The impact of a credit crunch is the bigger the higher is the loan burden of companies and households. As said above, a credit crunch affects the economy through (1) a rise in the real interest rate; (2) a decrease in loan refinancing opportunities; (3) a tightening of credit conditions stemming from a decline in the loan collateral's value, and (4) a drop in private consumption as a result of a fall in asset prices. The loan burden of companies and households is directly related to the first three occasions. Since a bigger debt burden also entails higher interest costs, a rise in the real interest rate has a greater impact on private consumption and investment. The higher the relative debt burden of companies, the lower is the share of equity capital and the bigger the impact of a fall in collateral value on the level of equity capital; a lower equity-to-loan ratio, however, usually entails a rise in the interest rate on new loans. The higher the relative debt burden of companies, the bigger the impact of lower loan refinancing opportunities on the economic activities of companies, ceteris paribus.

A decrease in credit supply largely depends on the share of banks in corporate and household financing. The bigger the role of banks, the greater is the impact of a credit crunch. Usually, a credit crunch concerns small and medium enterprises for whom bank lending is often the only opportunity to obtain foreign capital and who therefore suffer the most from the decrease in credit supply.

In case the economy falls into a debt-deflationary spiral, a credit crunch may have greater influence. This happens when a fall in prices increases the real value of debt and debt owners, i.e. companies and households, try to repay the debt by selling their assets. Extensive sale of assets might lead to a drop in the value of assets and thus aggravate the general fall in the prices of goods and services. If the general price fall is bigger than the decrease in nominal debt, the debtors' wish to reduce the debt burden might, instead, entail a rise in the real value of debt. Getting out of that spiral is considerably easier if the investors with no or relatively low debt burden are able to obtain bank credit to purchase the low-price assets on sale.