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SUMMARY

Global financial environment

The uncertainty in financial markets that started off in the US mortgage market at the end of summer 2007 became a **global financial crisis** in autumn 2008. Several US and European financial institutions encountered difficulties as a result of write-downs on trading and credit portfolios. In order to ensure the functioning of financial intermediation in some countries governments decided to nationalise the struggling banks. Some financial institutions were able to continue operating with the support of other market participants. However, Lehman Brothers, one of the major US investment banks, had to end its activity in mid-September. The following sequence of events implied that the financial crisis would be deeper than initially thought.

Owing to the lack of confidence in financial markets, the solvency problems of a few major (incl. international) banks have largely affected **the liquidity of banks and the financing of the non-financial sector**. The lack of trust hit hard the interbank loan market that had been operating efficiently in major financial centres for decades. Furthermore, it became difficult to obtain collateralised financing from the markets and the cost of funding increased for banks. At the beginning of October, the yields of banks' debt securities grew by almost one percentage point. Markets' pessimism and risk awareness are reflected in the significant drop in stock prices. From the beginning of the year until mid-November European and US stock indices plummeted by 65% and 50%, respectively, to the levels recorded in 1995.

In order to alleviate the impacts of the financial crisis on the non-financial economy, various central banks decided to lower the monetary policy interest rates in autumn. Consequently, the euro area **interbank money market interest rates** also started dropping rapidly in mid-October. The six-month Euribor declined below 4% at the end of November, which is 1.5 percentage points lower than the peak reached in October. However, as the confidence in the interbank market has not improved, the Euribor quotations do not adequately reflect the easing of funding conditions for the banking system. This means that even though the pessimistic outlook of the European economy may significantly lower the monetary policy interest rates and money market interest rate quotations in the coming months, the cost of financing need not necessarily decrease that much.

At the onset of the financial crisis, new EU markets with traditional banking systems were considered less vulnerable to the problems hitting major financial centres. At present, funding has become more expensive for all banks that at least to some extent depend on wholesale funding. The current crisis has shown that countries where large and strong international banking groups prevail have been able to cope better with the crisis. Moreover, the home country's responsibility for the efficient and stable functioning of the banking sector often has a broader meaning, as it goes beyond national boundaries. For instance, Sweden's financial stability package for Swedish banking groups has provided additional support to the liquidity of their subsidiaries operating in Estonia.

Financial behaviour of companies and households and their risks

Estonia's economic growth started to slow in the middle of 2007, when the global financial crisis had not fully unfolded yet. As the implications of the crisis on Estonia's major trading partners in Europe might unfold more clearly than expected, it will probably also dampen hopes for a rapid recovery of growth in Estonia. According to the base scenario of the autumn 2008 forecast of Eesti Pank, real GDP growth will shrink by 2.1% in 2009 and grow by 3% in 2010. The negative risk scenario proposes -4.8% and 1.5%, respectively.

The profitability of the **corporate sector** has considerably decreased this year. The decline of profits has primarily been influenced by the significantly weaker sales income growth, which could not be offset on account of cutting expenses. Financial buffers are also shrinking, which may, under difficult economic conditions, start affecting the loan servicing capability of companies.

The growth of corporate debt has decelerated as a result of weakening investment demand. Growth in domestic debt has slowed the most in the real estate sector, but the changed economic environment has actually affected the loan behaviour of all sectors. Domestic borrowing has eased and companies have raised relatively more funds from abroad.

Household confidence reached a historical low at the end of the third quarter of 2008. Household credit growth has slowed significantly, which indicates lower confidence but also more conservative loan terms. In recent months banks have increased the interest margin on new housing loans as well as the minimum down payment. Although the interest burden of households is likely to decrease after the expected decline of the Euribor, the loan servicing capability of households might weaken along with the deterioration of the economy.

The risks of the real **estate market** remain high, as supply is clearly exceeding demand. In the coming years the supply of office space will grow by a third; vacancies are expected to increase primarily in the suburbs. Given the constrained funding environment, housing demand will decrease even further, which may also bring about a fall in housing prices. By the end of October, the price of two-room apartments in Tallinn had shrunk by 25% from record high levels and will probably continue declining.

Banking sector

Difficult times in global markets and the slowdown in credit growth have not caused any major institutional rearrangements in Estonia or changes in market shares. The four major banks belonging to cross-border banking groups still hold over 95% of the credit market. As of June 1, 2008 the former Sampo Pank is operating in Estonia as the Estonian branch of Danske Bank A/S. Consequently, the branches of foreign credit institutions now hold more than 25% of the Estonian credit market.

The weaker growth outlook has inhibited the growth of financing portfolios and undermined the **loan quality** of banks. At the end of October, loans overdue for more than 60 days constituted 2.2% of the loan portfolio. In recent months the share of such loans has stabilised, which may be explained by the fact that banks have engaged into closer cooperation with clients to prevent more loans from becoming overdue. Nevertheless, Eesti Pank expects overdue loans to reach 4–5% of the loan portfolio next year. Nearly half of the overdue loans are covered by provisions.

The **capitalisation** of banks is still high. The average capital adequacy ratio of the banking sector was 18.4% at the end of October. This is about twice higher than the 10% minimum required in Estonia. A **stress test** carried out by Eesti Pank on the basis of its autumn forecast confirms that, provided there are no major setbacks in banks' profitability, the whole banking sector as well as individual banks will be able to fulfil the capital adequacy requirement, even if the next few years will see loan losses.

As credit growth has slowed, banks need less additional resources. Meanwhile, clients' loyalty to credit institutions has suffered at the time of great uncertainty in the market and many customers have changed bank, which was especially the case in autumn. However, banking groups could more or less cope with the slight decrease in deposits by drawing additional funds from parent banks when necessary.

Given the uncertain behaviour of depositors, the 15% reserve requirement for buffering the **liquidity risk** has proved to be useful. As depositors have become more risk sensitive, the possibility that a number of customers would like to reduce their claims to credit institutions can not be fully excluded. Thus, it is important that market participants maintain enough liquid assets to be able to meet the demand of customers.

The liquidity of major banks operating in Estonia largely relies on the ability and will of their parent banks to provide funds. The cost of funds depends on the risk estimates of funding providers with regard to the entire group. In the rapidly changing economic environment it is possible that not all risks have been adequately assessed and might materialise in the case of some groups, entailing a change in the cost of funds for all group members.

The **profitability** of banks has remained high, even though the market situation has became less favourable. In recent periods profitability has been curbed by loan write-downs, unfavourable developments in financial markets and slowing credit growth. On the other hand, cut-down on expenses, sale of assets, one-off incomes from the reduction of the reserves accumulated earlier, and the decrease in contributions to the Guarantee Fund have all contributed to profitability.

Owing to the large share of net interest income in the income structure of local banks, future profitability will be influenced by the cost of new funds obtained. Higher estimates concerning the riskiness of the banking groups operating in Estonia may manifest themselves in higher funding cost. Considering slow credit growth, however, it is difficult to pass the rise in cost fully on to customers. Another factor boosting the cost of funding for banks is the increasing share of time deposits. Meanwhile, markets are awaiting the impact of governments' and central banks' measures to take effect, which should lower the cost of funding.

Future expectations regarding the economy, however, do not lead one to expect that banks' fee and commission incomes will decrease substantially in the near future, even if loan growth decelerates further. Presumably, banks will also be able to cut down on operating costs.

Other financial markets

The primary **bond market** has cooled in the last six months compared to the previous active period. By the end of September 2008, the total bond market capitalisation had dropped to 14 billion kroons, as the value of issues has declined, and comprised 5.2% of GDP. The **Tallinn Stock Exchange** continued the downward trend in the backdrop of the global financial turmoil. The stock market capitalisation on the Tallinn Stock Exchange had plummeted to 26 billion kroons by the end of October, being about 63% smaller than a year ago.

The world-wide crisis has also influenced the performance and assets of the Estonian **investment and pension funds**. It primarily affected the yield of equity funds, which had decreased to the historical low of nearly -37% at the end of September. Over the year, the value of investment fund assets has diminished by a quarter; 63% of that can be attributed to lower yields. Although the developments on the global financial markets have turned the annual yield of riskier pension funds negative, the value of funds has increased by an average of 13–25% since their establishment. The global crisis has had the strongest direct impact on the SEB Liquidity Fund, causing in a write-down of units held in that Fund. However, later SEB Pank incurred the losses instead of the unit holders.

The impact of crisis on **insurance companies** has been modest, but the continuing recession in the securities markets is undermining the profitability of insurance companies. The decline in profits in the life insurance market is above all related to the decreasing yield of investment. Although low investment profitability also affects the profitability of **non-life insurance companies**, the market is still making profit thanks to cost-efficiency and the decrease in the loss ratio.

Payment and settlement systems

There were no such incidents in the operation of the Estonian payment and settlement systems in the past six months that would have threatened the stability of Estonia's financial sector. The volume of transactions processed in the payment and settlement systems increased as a result of the global financial crisis. However, thanks to sufficient buffers the payment and settlement systems experienced no failures that would have triggered the systemic risk in the systems or the financial sector in general.

By now, all major Estonian credit institutions have joined the new payment and settlement system TARGET2-Eesti launched on May 19, 2008. This means that Estonian bank customers now have an alternative to settle express payments in euro. Compared to the previous similar scheme, the number of pan-European euro payments has surged significantly as more and more participants have joined the new system.

The implications of crisis on interbank payment and settlement systems were apparent from mid-September to mid-October. Namely, then the number of interbank transactions increased robustly, credit institutions used the central bank's forex window, and the demand for cash increased.

Assessment of financial stability and risks

The global financial environment deteriorated sharply in autumn 2008. Although restoring financial stability was made the most important economic policy goal by governments all over the world, uncertainty still prevails as to when the financial crisis will start to subside. It is also likely to affect the real economy to a considerable degree and cause financial distress for companies and households throughout Europe. The resulting second-round effects on the solvency of banks and the liquidity of the European banking system are difficult to estimate at present. However, regarding the next year, it remains one of the key risks increasing the uncertainty surrounding future developments in the external financial environment.

The sudden increase in the **liquidity risk** throughout the world this autumn shook the confidence of banks as well as customers. Trust in Estonian banks depends on confidence in their parent banks and other important members of the group. Belonging to strong Nordic banking groups has so far helped the major local banks to hedge the additional liquidity risks specific to Estonia.

Besides strong institutions, also the smooth operation of financial markets is essential to maintain the financing of banks. Considering the liquidity constraints in global financial markets, the Swedish central bank and government adopted several extraordinary measures in autumn to support the liquidity of the local banking system. The positive effect of these measures has spread across borders to the various units of the banking groups and has contributed remarkably to reaffirming confidence in Estonia's financial system.

The Estonian interbank payment and settlement system has been operating smoothly in the past half-year, without causing any additional tensions for market participants. The present high reserve requirement has helped to ensure sufficient settlement buffers for the larger transactions resulting from the global financial crisis.

Estimates to Estonia's macroeconomic developments have become more pessimistic in the past six months, which is why the **credit risk** is also more likely to materialise. As the incomes of companies and households may prove to be considerably smaller, they may experience bigger difficulties with the repayment of debt. The general macroeconomic outlook supports the estimate that the amount of loan losses may increase in the coming years.

So far, loan servicing problems have occurred mostly in the construction and real estate sectors. These sectors have experienced the biggest setbacks in demand and revenue at the current stage of economic decline. Borrowing has become even more complicated for potential loan customers, which is why the recovery of the real estate market might be delayed even if there will be moderate price adjustments. In case liquidity constraints persist, companies with high financial leverage will not be able to meet their debt liabilities. Sell-off pressures may cause a larger than expected decline in the value of loan collaterals, which may result in bigger loan losses for banks.

The indebtedness of the Estonian economy will decrease in the near future. As investment demand has weakened in the current economic cycle, loan demand and the need for external financing are expected to ease soon. Furthermore, banks have become more conservative in granting loans and are applying more adequate risk estimates; that is, higher loan interest margins. However, it is important that the behaviour of banks would not inhibit the financing of good investment projects in the future.

Given that the economic environment has changed rapidly, the profitability of banks has remained quite high, and so has capitalisation. Future profitability is affected by the continuing growth in loan write-downs, although the high rate of provisions for current overdue loans partly alleviates the potential effects of write-downs. The stress test of banks' loan portfolios conducted by Eesti Pank indicated that if banks' profitability will not decrease more than expected, it will suffice as a buffer to cover the estimated loan losses. The expected buffer, drawn on account of profit, will provide additional security to the relatively high level of capitalisation.

In conclusion, until this autumn the impact of the global financial crisis on the Estonian financial sector could be considered relatively modest. The impact has mainly manifested itself in slightly higher funding costs for banks and a price decline on the stock market. **In light of increased uncertainty and tensions in the world, the risks related to the functioning of the Estonian financial system have increased in the past few months.** This especially applies to the liquidity risk of banks because of the liquidity constraints on global financial markets.

As the adjustment of the Estonian economy has been harder than expected, the credit risk is also materialising to a somewhat greater extent than earlier forecasted. **Nevertheless, the liquidity and capitalisation of banks operating in Estonia has remained relatively high even in the volatile market situation, as they are part of strong Nordic banking groups.** The Estonian banking sector has also been supported by various measures adopted to guarantee financial stability, including the central bank's earlier decisions to set higher capital and liquidity requirements for banks. In the conditions of the current global financial crisis, it is necessary to maintain these buffers, should the external and Estonian economic environment or risk estimates regarding individual banks or banking groups deteriorate.

I FINANCIAL BEHAVIOUR OF COMPANIES AND HOUSEHOLDS AND THEIR RISKS

COMPANIES

Corporate business situation

Confidence

The **economic confidence indicator** calculated by the Estonian Institute of Economic Research has been dropping since the second half of 2007. In October 2008, it reached the level of the fourth quarter of 1998. The dynamics of that indicator reflects changes in the domestic and global economic outlook as well as the impacts of the deepening financial crisis. Confidence has suffered the most in the construction sector, but also in manufacturing and trade (see Figure 1).

In October, the pessimism of **manufacturers** reached its lowest level since 1997. As the export volume has remained relatively large, the pessimism primarily reflects estimates regarding the further decline of the growth rate. The estimates are primarily shaped by global market developments, but also the expectations for domestic demand have become more negative in the past six months (see Figure 2).

Corporate investment and economic indicators

According to Statistics Estonia, the **total profit growth** of companies has slowed in 2008. In the first half of 2008, total profit was nearly 16% below the figure for last year. The decrease has been mainly caused by developments in the domestic market: demand has shrunk, consumers have become more cautious, prices have increased and labour costs have risen. The profitability of hotels and restaurants, and construction and real estate companies has suffered the most. In the first half of 2008, total profit growth slowed substantially also in manufacturing. In the first quarter, manufacturing companies earned 2.3% more profit than a year earlier, whereas in the second quarter year-on-year profit growth stood at -17.9%.

Sales income growth suffered a serious setback in the first half of 2008, dropping from **24.1% to 3.5%**, year-on-year. Although the growth of total costs has also declined from 23.8% to 5.3%, incomes have not decreased as much. The growth of labour costs[1], however, has decelerated much less than that of other costs, which

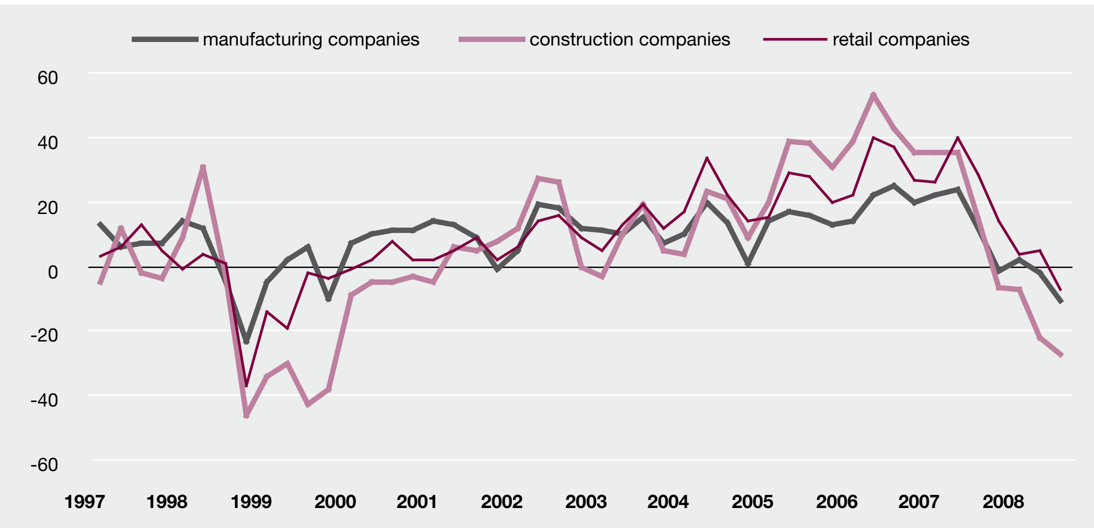

Figure 1. Confidence indicators of Estonian companies

Source: Estonian Institute of Economic Research

[1] Labour costs comprise approximately 13–14% of the total costs of companies.

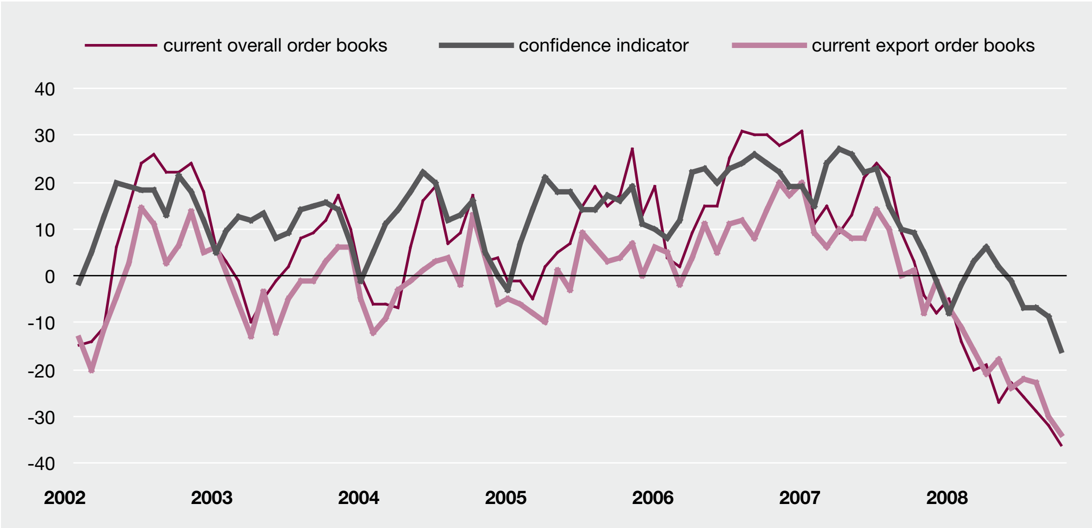

Figure 2. Demand for the production of manufacturing companies and the confidence indicator

Source: Estonian Institute of Economic Research

is why the share of labour costs in companies' total costs has risen.

Although wage growth has waned in the past six months, it still outpaces nominal economic growth. Consequently, the share of companies' labour costs in GDP has increased. The difference between the share of profits and the share of labour costs has achieved its highest level in 12 years, indicating that compensations of employees have been paid on account of profits (see Figure 3).

The **total profitability** of companies, i.e. the ratio of total profit to sales revenue, has shrunk in all sectors compared to the second quarter of 2007. The profitability of hotels and restaurants and real estate companies has suffered the most.

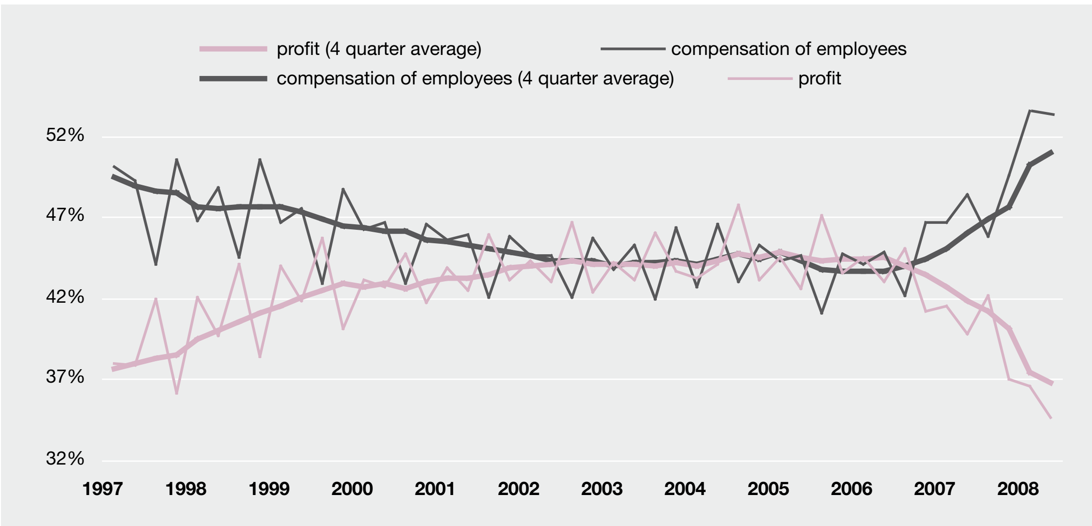

Figure 3. Compensation of employees and profit as a ratio of GDP

In the first half of 2008, corporate fixed investment exceeded last year's figures by only 3%. Investment was mainly channelled to the construction and renovation of buildings and facilities and to machinery and equipment. In the second quarter of 2008, the slowdown in investment growth turned into a decline. Investment in land decreased the most. Future real estate investment will most probably decline further, which is confirmed by the considerably stronger growth of stocks this year (see Figure 4).

New companies and bankruptcies

The turning point for establishing **new compa-**

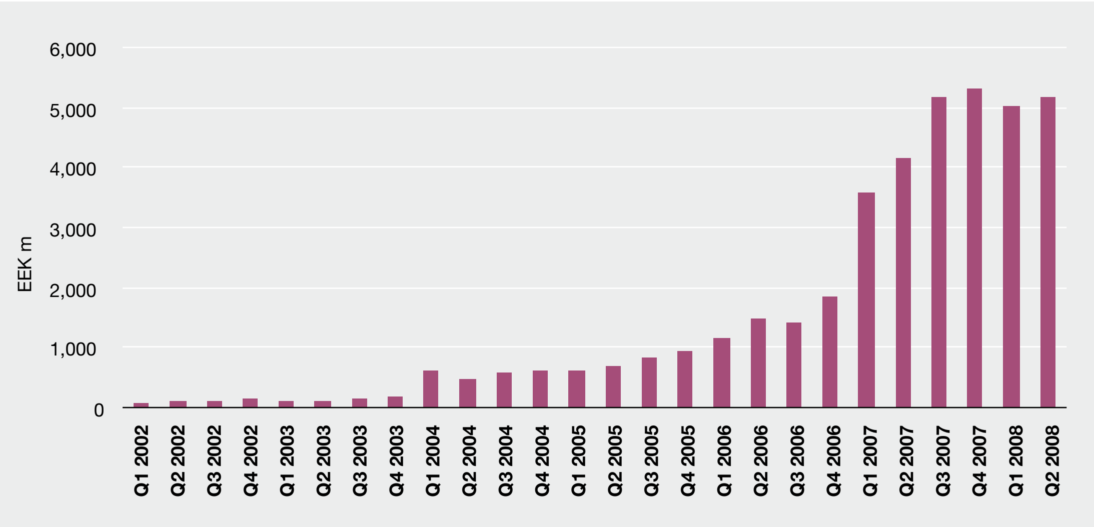

Figure 4. Stock of real estate companies (complete and incomplete projects)

Source: Statistics Estonia

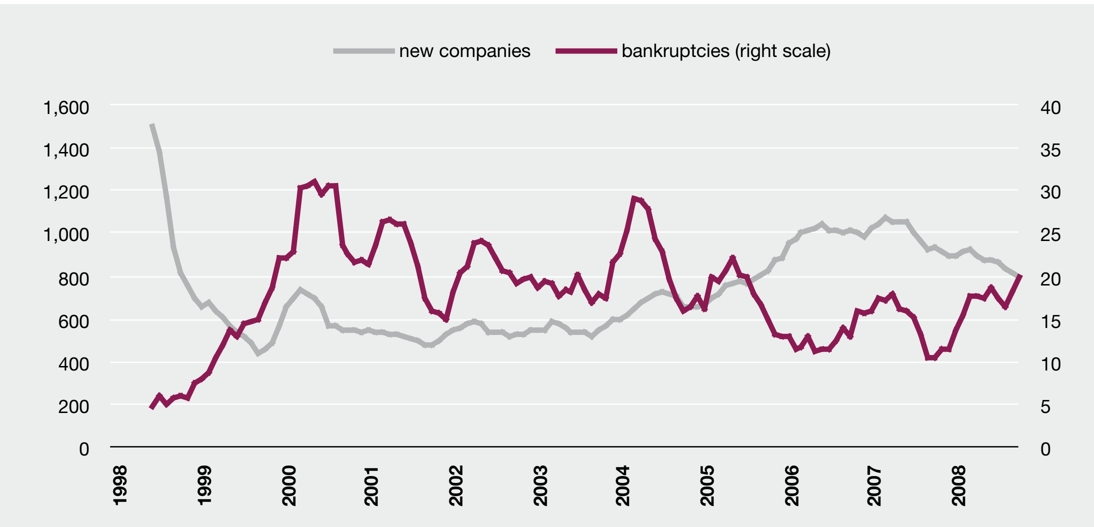

Figure 5. New and bankrupt companies on a monthly basis (6-month moving average)

Source: Estonian Enterprises Register

nies was the summer of 2007, when 160 less new companies were registered per month on average compared to earlier periods. This indicator has decreased also in 2008, but somewhat less (see Figure 5).

In August 2008, the number of **bankruptcy petitions** passed to courts rose sharply. In 2007 about 25 bankruptcy petitions were filed per month, whereas in the second half of 2008, 67 petitions were registered per month on average.

Although the number of **companies going bankrupt** has not yet risen that much, it has nevertheless grown compared to last year. Within the first ten months of 2008, 192 companies had gone bankrupt compared to the 149 registered a year earlier. Bankruptcies have mostly occurred in the trade and construction sectors.

Corporate financial position and saving

The negative **net financial position** of companies improved in the first half of 2008 and reached -103% of GDP at the end of the first half-year. This was mainly caused by two factors: the decline in the market value of the shares and other equity issued by companies and moderating growth in debt liabilities (see Figure 6).

Although the growth of corporate **financial assets** has outpaced that of financial liabilities, growth in assets still decelerated considerably in the first half of 2008. This was mainly brought about by the decreasing value of the shares and other equity of companies. The growth of corporate financial assets has substantially been stimulated by the increase in trade credit and advance payments, which might actually point to growing solvency problems in companies.

Companies' **deposits** in local banks have increased by only 1.7 billion kroons (3.6%) over the year. As companies prefer time deposits, the share of such deposits in total deposits has climbed from 28% a year ago to 35% at the end of September 2008 (see Figure 7). Growth in corporate savings has probably been inhibited by slower growth in profit and the need to finance investment and current expenses with savings rather than loans.

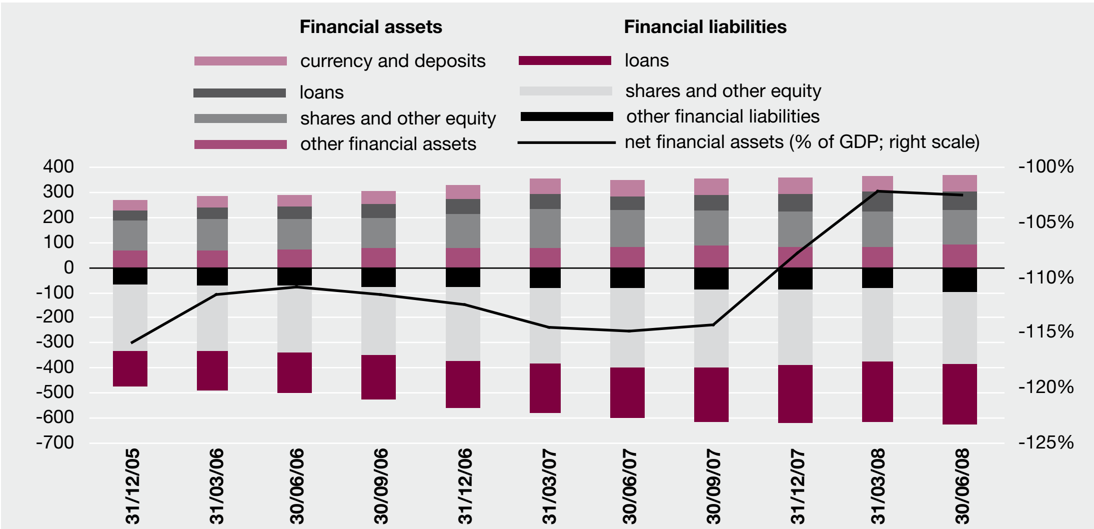

Figure 6. Corporate financial assets and liabilities and net financial assets

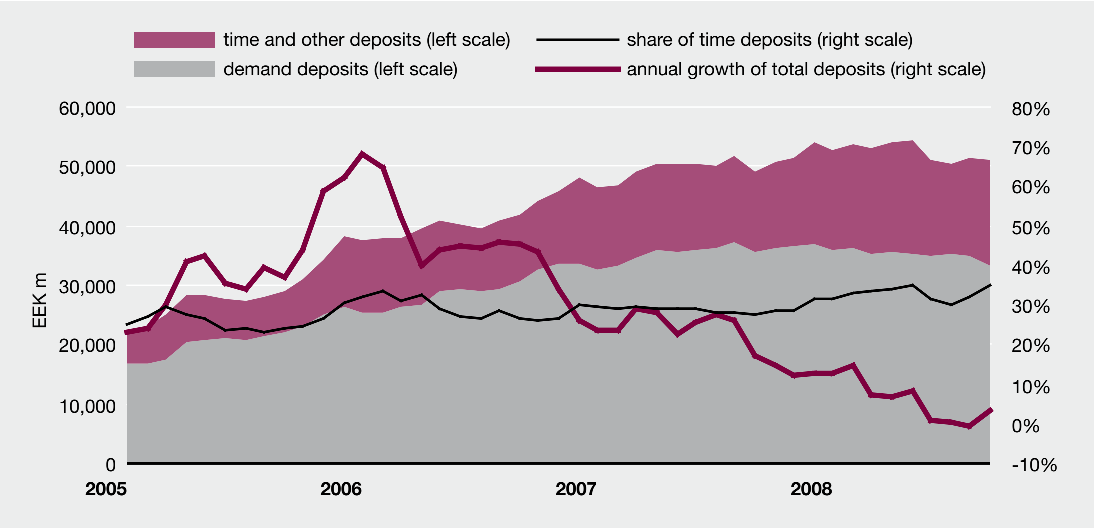

Figure 7. Volume and growth of corporate deposits and share of time deposits

Various financial ratios also point to tightening in the business sector. As deposits have grown rather modestly in 2008, the coverage of debt liabilities by deposits has decreased further. The ratio of liquid financial assets to debt liabilities has declined too. Changes in these financial ratios indicate a decrease in the financial buffers of companies.

Corporate debt

Net corporate **debt growth** slowed in the first half of 2008, owing to demand-side factors (lower investment and confidence) and banks' conservative credit policies. Annual debt growth reached 13% at the end of the first half of 2008 (28% a year ago). The indebtedness of Estonian companies declined in the first half of 2008 compared to end-2007, dropping by 0.4 percentage points to 74.4% of GDP. Foreign debt decreased to 20% of total corporate debt and posted the lowest rate in ten years (see Figure 8).

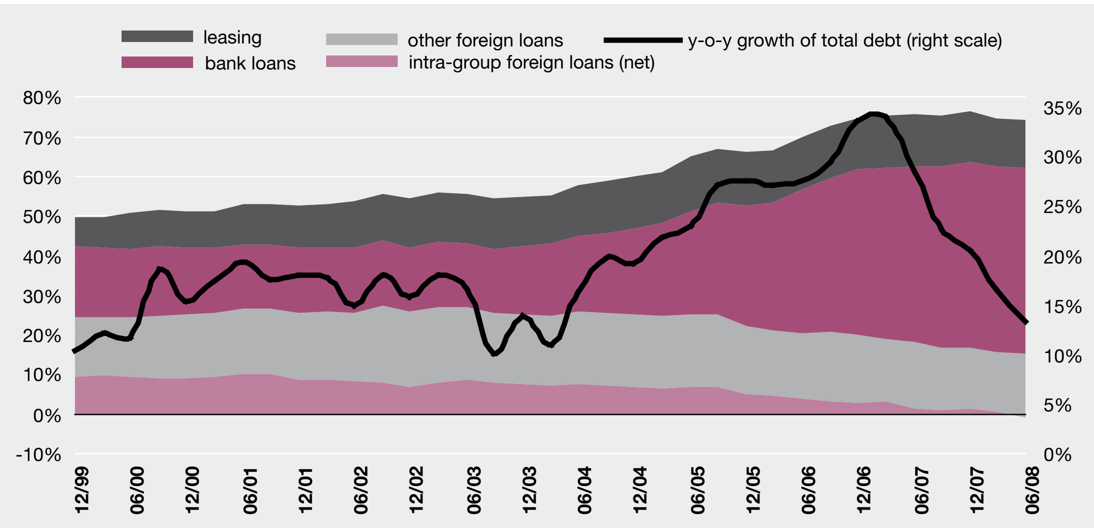

Figure 8. Corporate debt (% of GDP)

The gross level of **corporate debt** obtained in the first half of 2008 remained virtually unchanged compared to the first half of the year (see Figure 9). As regards economic sectors, real estate companies still obtained the most foreign funds, and even more than in the second half of 2007. The debt liabilities of the trade sector grew considerably less than in the previous six months. However, the structure of new loans has changed: a substantial share of the new liabilities raised in the first half of 2008 consisted of foreign loans. In the first half of 2007 foreign debt accounted for 12% of the debt accumulating since 1999, whereas the figure for the first half of 2008 was 40%.

The growth rate of **domestic corporate debt** decreased to 13.4% by the end of the third quarter of 2008, having dropped by 8 percentage points over the past six months. Growth in loans and leasing granted to real estate companies has been the most sluggish. In agriculture and manufacturing, on the other hand, the stock of loans and leasing has increased faster than average.

The **average interest rate on long-term corporate loans** increased slightly in October 2008 and reached 7% (see Figure 10). Banks' expectations concerning raising interest margins remained high throughout this year and materialised in the October figures. The average interest rate on long-term corporate loans has risen despite the slight fall of the Euribor and loan terms have become much stricter.

As the investment demand of companies will probably weaken in the coming years in comparison with earlier periods, the loan supply might meet the estimated market needs in line with tight liquidity constraints. Given the greater liquidity constraints of banks it cannot be ruled out that the companies' will be needing more funds for investment than banks are able to supply. According to Eesti Pank's economic forecast, which considers the impact of constrained external financing to be relatively neutral, the loan growth of companies will reach a bottom in 2009. Corporate loan demand is expected to start growing again in 2010.

To sum up, although the aggregate figure of the corporate financial position has improved in the past six months, several indicators point to weakening loan-servicing capability of companies. Furthermore, banks have considerably tightened loan terms. Thus, sectors that used to be the drivers of growth are now having difficulties with obtaining loans.

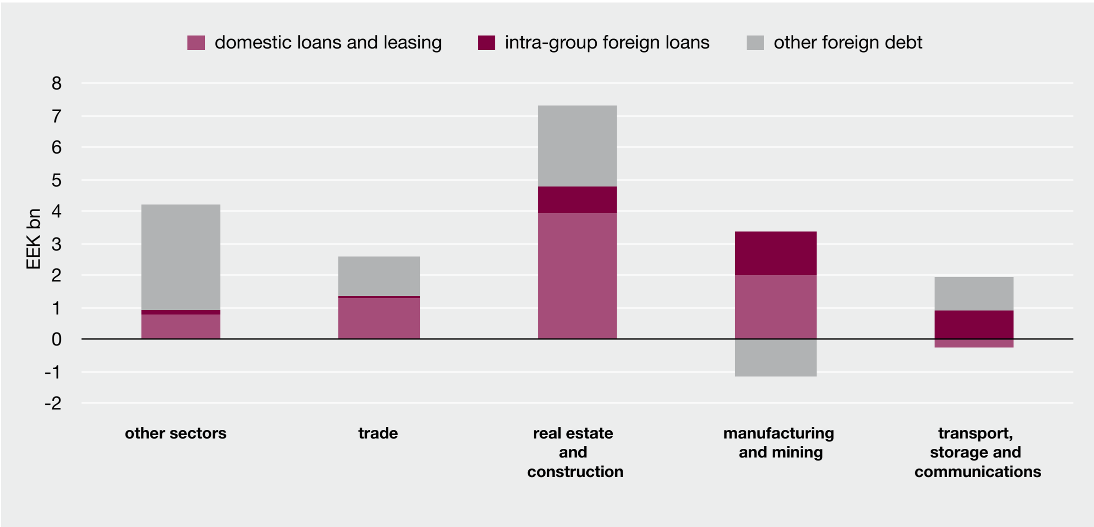

Figure 9. Corporate net borrowing in the first half of 2008

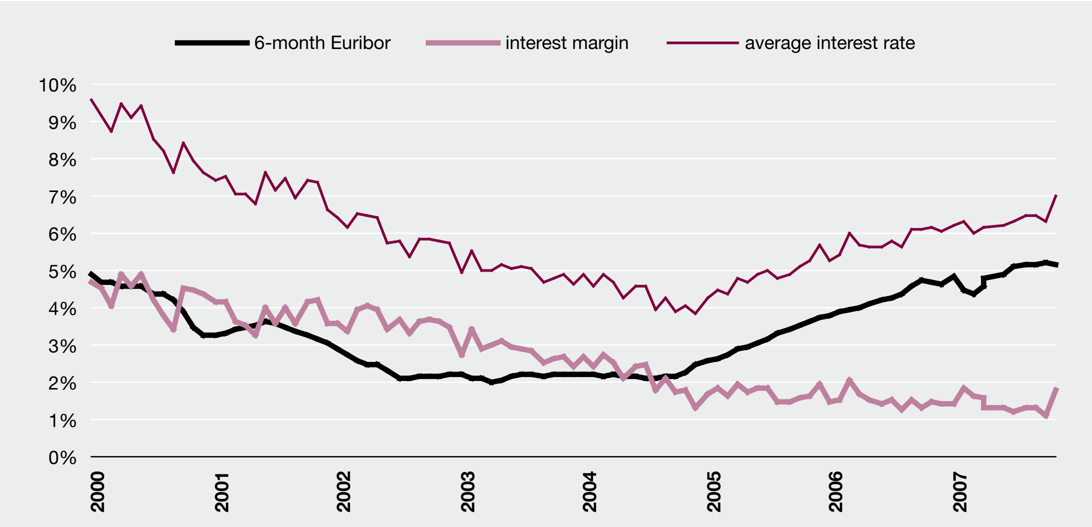

Figure 10. Average interest rate, 6-month Euribor and average interest margin on long-term corporate loans

HOUSEHOLDS

Economic situation of households

Confidence

Household confidence began to deteriorate in the second half of 2007 and reached a record low in October 2008. Consumers' expectations have become more pessimistic regarding future income growth, savings and the economic outlook. The fear of unemployment has increased the most. However, households believe high inflation to be temporary and inflation expectations for the next 12 months are lower (see Figure 11).

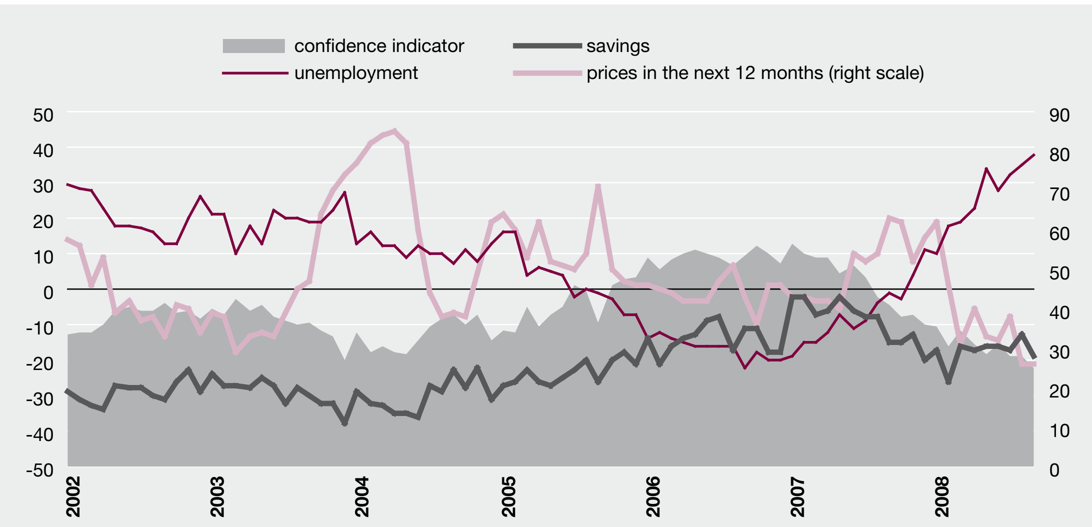

Figure 11. Consumer confidence indicators

Source: Estonian Institute of Economic Research

Labour market

The current decline of the Estonian economic cycle differs drastically from the earlier experience (e.g. the Russian crisis), which is why it is difficult to draw any parallels between the developments of labour market indicators.

At the time of the previous cyclical decline the **unemployment rate** responded relatively fast to macroeconomic developments (in three years, unemployment rose by 5 percentage points and reached 14.6% in the first quarter of 2000), but not this time. On the contrary, in the second quarter of 2008 unemployment achieved its record low in recent years (4.0%). In the near future, however, unemployment is expected to grow, though less than during the previous crisis.[2]

The change in the **employment rate** in the second quarter of 2008 is so far the only evidence of an adequate response of the labour market to the economic situation. Although in the first quarter the number of the employed kept growing, in the second quarter the figure was 2,000 smaller than the year before. In other words, growth in employment was replaced by a -0.3% decline (see Figure 12).

The adjustment of the labour market to the decreasing economic activity is most apparent in wage growth. Growth in **average gross monthly wages** started to decelerate rather quickly (see Figure 13). In the second quarter of 2008, average gross monthly wages amounted to 13,306 kroons (year-on-year growth 15.2%) with the growth rate falling to 12.2% in June. The slowdown of growth has been particularly pronounced in the private sector.

Real **wages** started to adjust in the fourth quarter of 2007. Real wage growth slowed to 7.6% in the first quarter of 2008 as a result of rapid inflation. In the second quarter the growth rate fell even further – to 3.4%[3] – although inflation only changed by 0.3%

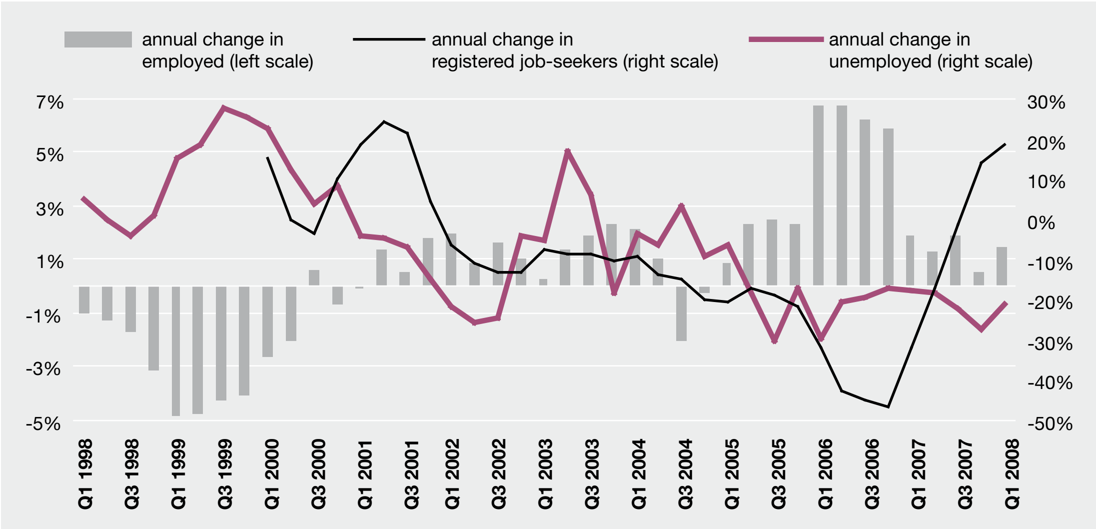

Figure 12. Annual change in the number of the employed, the unemployed and registered job-seekers

Source: Statistics Estonia

[2] As the experience of other countries has shown, the unemployment rate responds to the cooling of the economy with a 2 to 6 quarter lag.
[3] The last time real wage growth was so slow was in the fourth quarter of 2004.

Figure 13. Average annual wage growth

Source: Statistics Estonia

Financial position and saving

In 2008, the net financial position of households became negative for the first time, comprising -0.6% of GDP at the end of the first half-year (see Figure 14). The net financial position has worsened because of the decreasing value of the shares and other equity, and the considerably stronger growth of households' financial liabilities compared to financial assets. Meanwhile, the ratio of household debt to liquid financial assets[4] has slightly improved in the past six months. However, third-quarter developments point to a further deterioration of the net financial position (deposits did not increase in the third quarter, whereas the volume of credit grew by nearly 3 billion kroons).

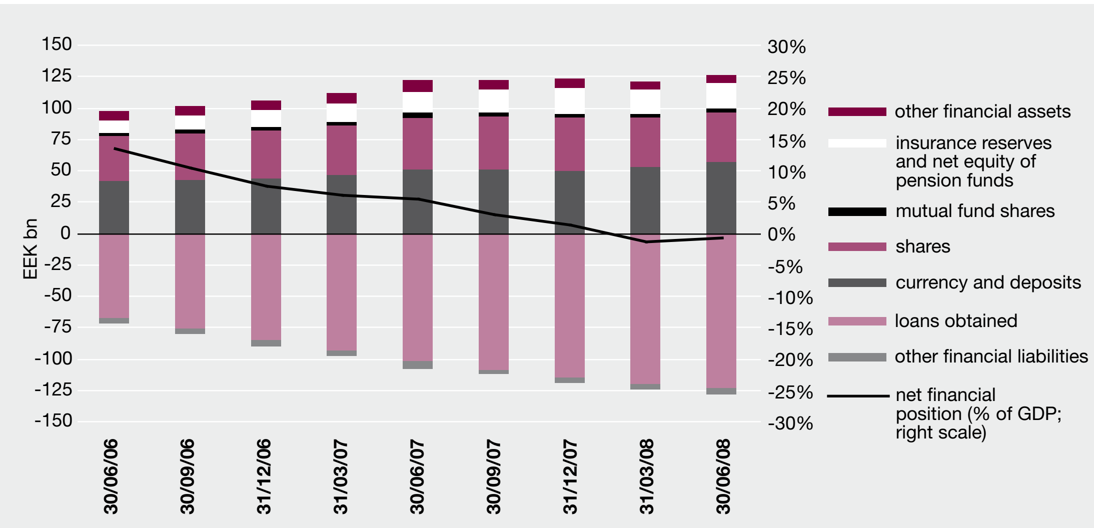

Figure 14. Household financial assets and liabilities

[4] Liquid financial assets are currency and deposits, securities (excl. shares and other equity), loans and units of contractual funds.

The growth rate of **domestic deposits** has remained at 12% throughout 2008 and the trends that began in the second half of 2007 have continued (see Figure 15). In particular, the annual growth of demand deposits has been negative since the fourth quarter of 2007 and their volume has shrunk over the last year. The annual growth of time deposits, on the other hand, has picked up; at the end of the third quarter of 2008 they comprised 55% of total household deposits. Time deposits have increased by 8 billion kroons over the year. The average interest on household kroon deposits has climbed by 1.3% to 5.2% year-on-year.

Household debt and loan-servicing capability

Level and growth of debt

In September 2008, the **annual growth** of household loans and leasing slowed to 15.5% (see Figure 16). The growth rates have substan-

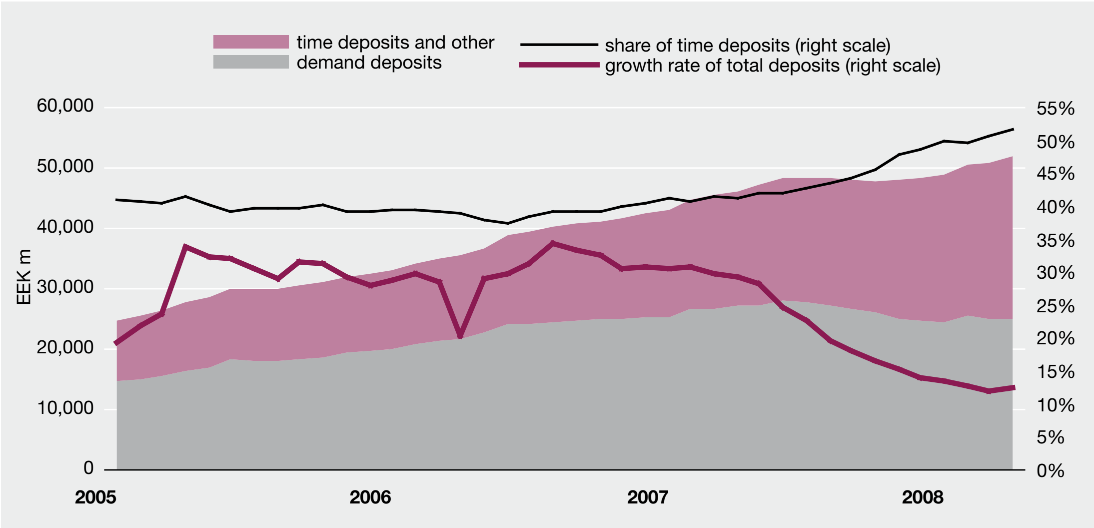

Figure 15. Household deposits in domestic banks and deposit growth

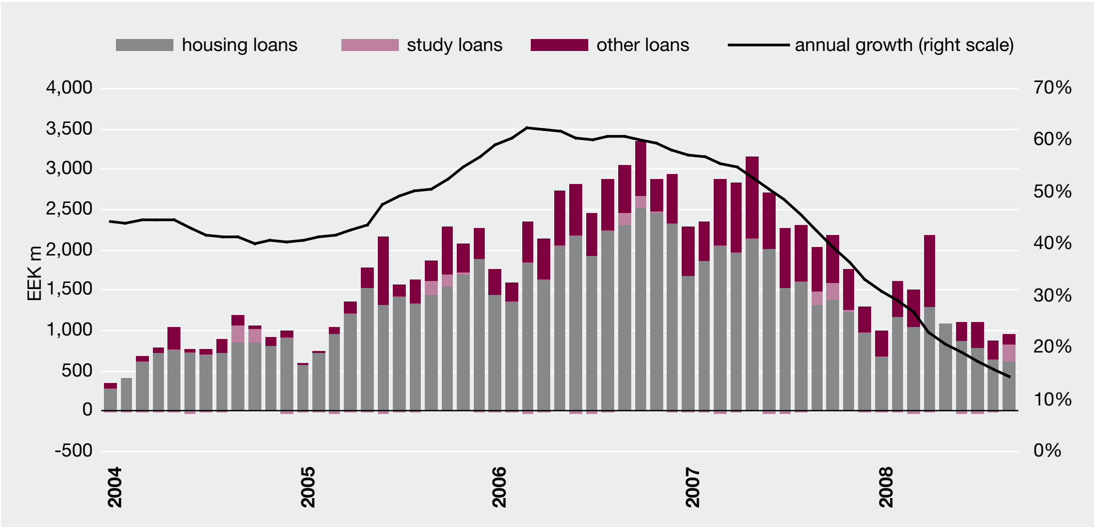

Figure 16. Monthly change and annual growth in household loans

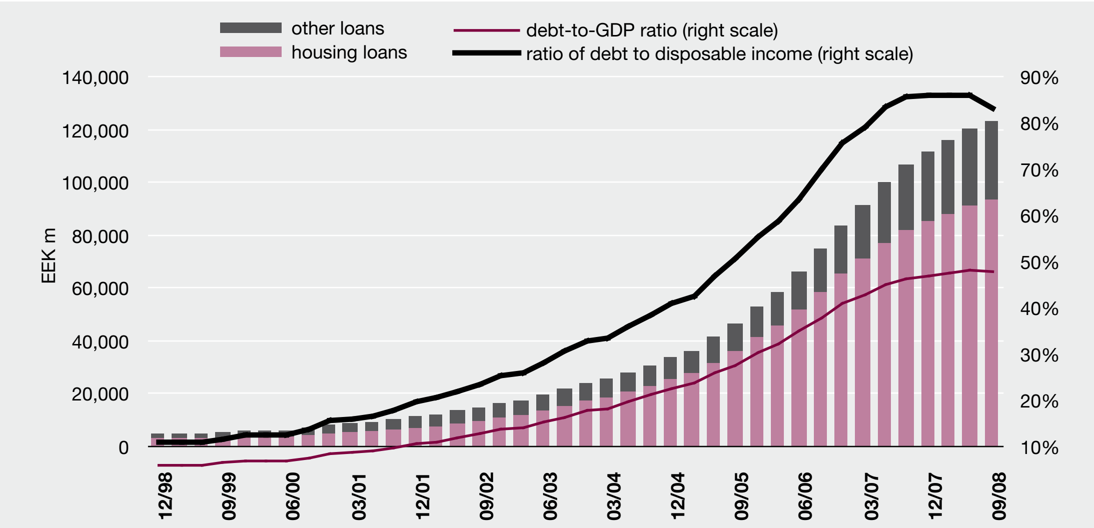

Figure 17. Household debt and indebtedness

tially declined compared to last year's figures (42.6% in October 2007). As household debt growth has subsided, **indebtedness** has risen only marginally in the last quarters. At the end of September 2008, it reached 48% of GDP and 83% of disposable income (see Figure 17).

Housing loans

The housing market has cooled down further to the moderate levels recorded before the robust growth period. Increasing economic tensions and stricter financing conditions are curbing the demand for housing, thus also putting downward pressure on housing prices. According to the Land Board, the median prices of apartments in Tallinn had dropped by 25% by October 2008 from the peaks of April 2007. In order to reach the more affordable pre-boom levels, prices should fall further. Nearly a half less housing loans and leasing were granted in the first nine months of 2008 compared to the same period in 2007. Year-on-year growth was 14.4% in September 2008.

According to TNS Emor's survey on the financial behaviour of households, 22% of (131,000) families have taken a loan to renovate, purchase or build real estate (about 20% or 116,000 in 2007). Housing loan customers primarily include households with higher incomes who are likely to cope with loan servicing also at the time of decline.

The autumn forecast of Eesti Pank expects a considerable drop in real estate transactions in the near future. This is due to the more cautious behaviour of households and more conservative loan conditions.

The **average interest rate on housing loans** has increased to 6.2% as a result of a rise in the key interest rate in the second half of 2008 (see Figure 18). The last time the interest rate on housing loans was so high was at the beginning of 2003. In October, the average interest margin of major Estonian commercial banks, calculated as a ratio to the key interest rate (6-month Euribor), grew considerably. In addition to raising the margin banks have increased the down payment rate to 30%.

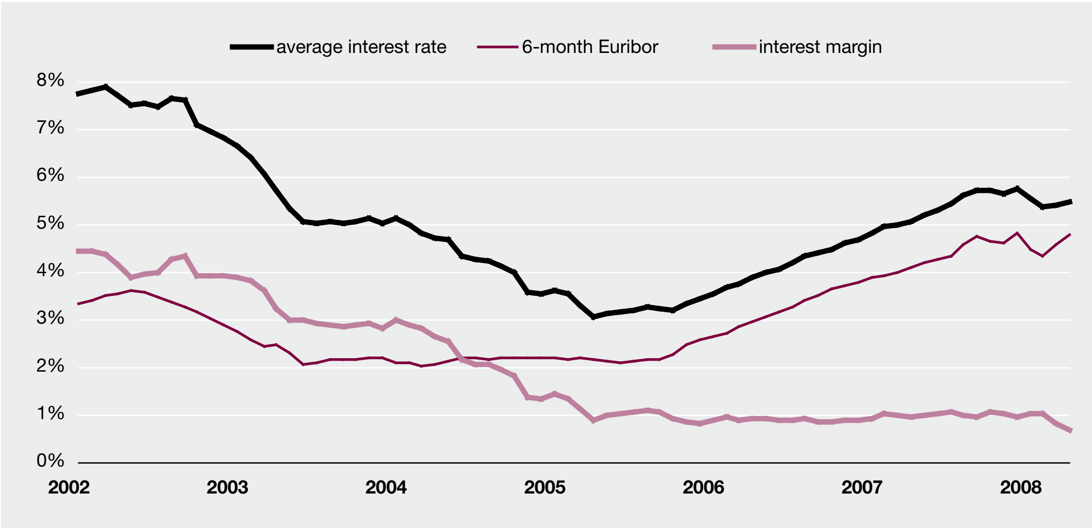

Figure 18. Average weighted interest rate, 6-month Euribor and interest margin of housing loans

Consumer credit

As the general optimism in the economy has evaded, households are weighing consumer credit decisions more carefully. The **year-on-year growth** in the stock of non-housing loans and leasing has declined from 24% in March 2008 to 15% in September (see Figure 19).

The stock of new loans issued in the last six months comprises only 41% of the stock added in the same period last year. The growth rate of other household loans (incl. credit card loans) has fell faster than average, while the growth of car leasing has decelerated somewhat less. At the end of September 2008, the stock of consumer credit (incl. car leasing and study loans) totalled 29.3 billion kroons. It has not increased as a ratio to GDP compared to March 2008 and still accounts for 11% of GDP.

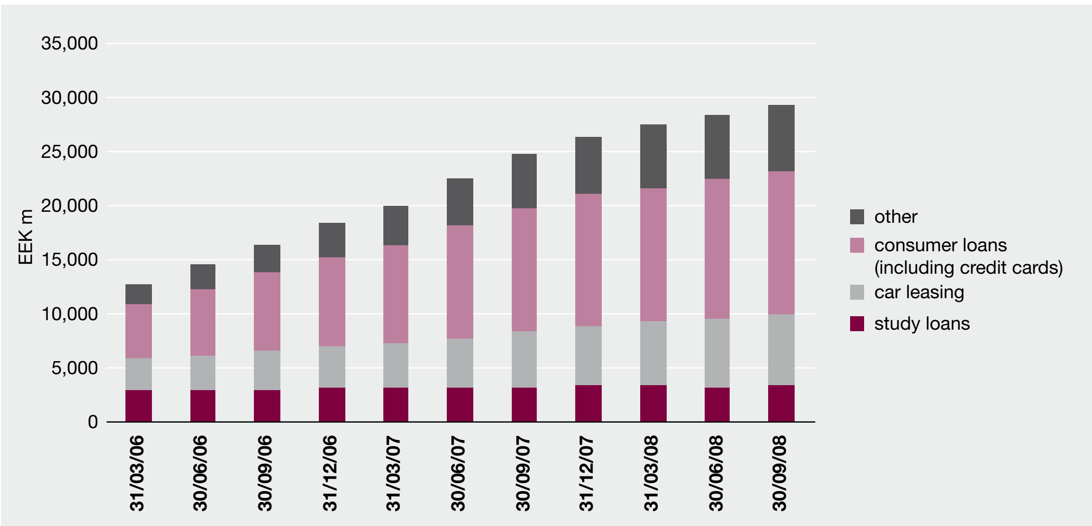

Figure 19. Stock of non-housing household loans and leasing

Based on TNS Emor's 2008 survey on financial behaviour, the number of households planning to take a loan has not changed over the year. However, there is a growing need for smaller loan amounts and shorter maturities. Households mainly want to borrow in order to pay for current expenses, and also the number of potential credit card customers has risen.

Loan-servicing capability and risks

Household interest burden (the ratio of interest expenditure to disposable income) stood at 5.6% at the end of September 2008 (see Figure 20). Expenditure grew after an increase in the key interest rate in 2008. The interest burden is likely to remain at the current level also in the coming periods, as household credit growth is slowing, the key interest rate is expected to decline and growth in household disposable income has moderated.

The interest burden has risen quite robustly even given the modest credit growth. The reason lies in the small share of loans with **fixed interest rates** in the total loan portfolio (see Figure 21). About 9% of the housing loans obtained in the second and third quarters of 2008 had a fixed interest rate. Compared to last year the period of interest rate fixation has shortened. As the key interest rate is expected to drop in the coming periods, the share of housing loans with fixed interest rates may also shrink.

Household indebtedness (interest payments plus loan payments) as a ratio to household disposable income increased to 4.7% by the end of the third quarter of 2008. However, the growth of the loan burden has not picked up significantly over the last months. Thus, if the interest rate growth comes to a halt, the housing loan burden may decrease as a ratio to household disposable income in the coming periods.

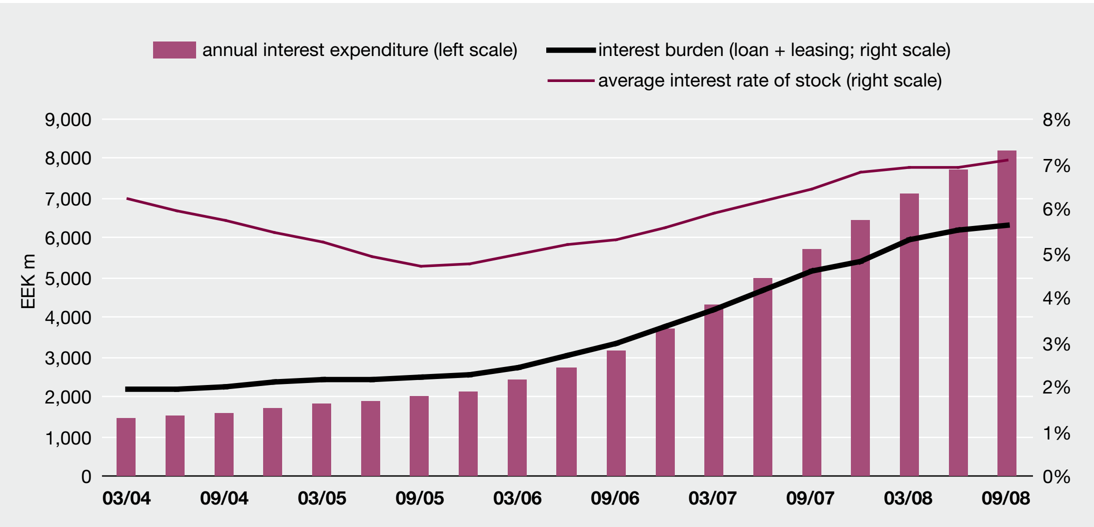

Figure 20. Annual interest expenditure and interest burden of households

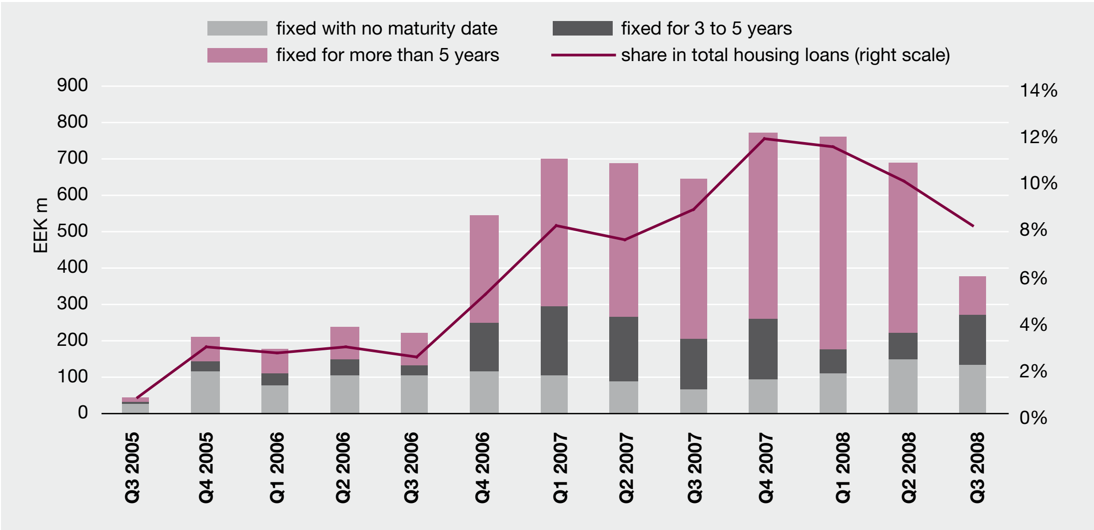

Figure 21. Volume and share of new housing loans with fixed interest rate

II BANKING SECTOR STABILITY AND RISKS

Strategic development of the banking sector

The influence of economic adjustment in the last half-year is reflected in the changes in the **structure of domestic financial deepening**. Along with a slowdown in credit growth, banks' financial assets had increased to 127% of GDP by the end of the third quarter of 2008. At the same time, the share of stock market capitalisation and investment fund assets has consistently decreased (see Figure 1).

Six companies licensed as credit institutions, nine branches of foreign credit institutions and over 200 cross-border banking service providers were operating on the Estonian market at the end of the third quarter of 2008.

As of June 1, 2008 the former Sampo Pank is operating in Estonia as Danske Bank A/S Estonia Branch. Consequently, the branches of foreign credit institutions now hold more than 25% of the Estonian credit market. At the beginning of November, 51% of the shares of Parex Banka, which has also been operating in Estonia as a branch since 2005, were acquired by the state of Latvia.

The slower growth of loan portfolios does not show in the market shares yet. Four major groups still hold over 95% of the credit market.

Government measures for ensuring financial stability

On October 9, 2008 the government decided to guarantee the deposits held with credit institutions registered in Estonia and in Estonian branches of foreign credit institutions to the extent of 100% of their accounts, up to a maximum of 50,000 euros (782,330 kroons) per depositor.[1]

In order to safeguard financial stability and avoid potential negative impacts, the government has decided to improve the state's opportunities to give banks guarantees or loans for coping with liquidity or solvency problems, should it be necessary. Preparation of the total package of measures lies with the Ministry of Finance.

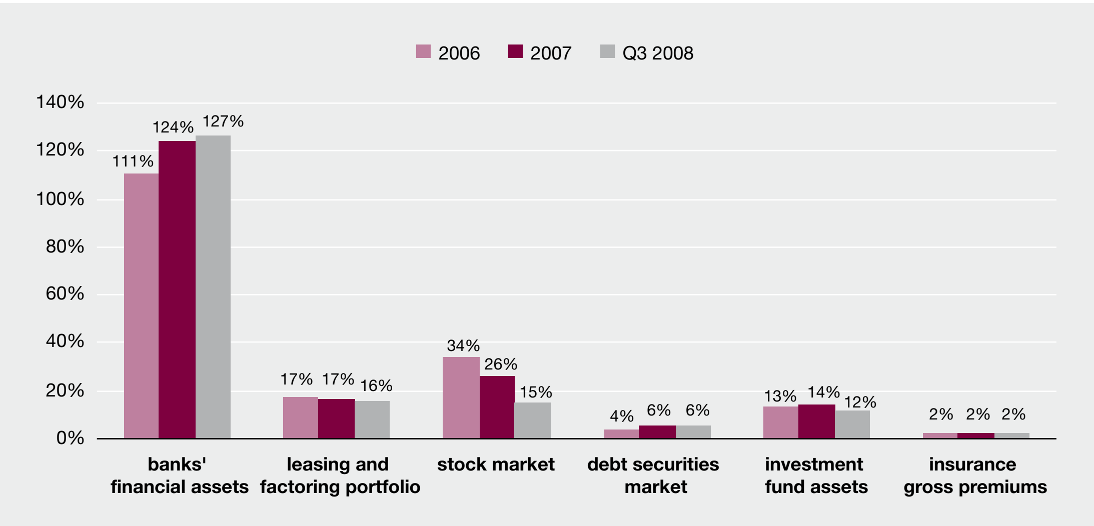

Figure 1. Structure of financial intermediation

[1] The parliament approved the amendment to the Guarantee Fund Act on November 14, 2008.

Development of larger banking groups
Over the years, the major participants in the Estonian banking market have become more and more dependent on the funds of parent banks (or other parts of the group). The cost of funds depends on fund providers' **assessments of the risk level of the whole group**.

Although in communications, and thus probably also in risk assessments, market participants have paid a lot of attention to the possible increase in credit risk in the Baltic States, in the last quarters, the profitability of Nordic banking groups operating in Estonia has been more influenced by rapid and extensive changes in global financial markets. As regards credit risk, there has been a need to make provisions for positions in other credit institutions, which have so far received perhaps less attention in risk assessments.

The **cost of funds** so far obtained (see background information *Funding of parent banks*) reflects the estimates of fund providers for the risk level of the groups. However, given the groups' risk profiles and pessimistic macroeconomic forecasts, it is possible that not all the risks have been assessed correctly in the changing environment. Therefore, the risk level of some groups might be overestimated. Yet it cannot be excluded that some of the risks so far incorrectly assessed will materialise, which will bring along changes in the cost of funding for the whole group.

FUNDING OF PARENT BANKS

In addition to own funds, banks finance their activities through deposits and wholesale funding. Additional support has been provided by governments and central banks.

Deposits

The share of deposits in the liabilities of Nordic banks (as a ratio to total assets) has not changed significantly in the last quarters. Nordea Group has the largest share of deposits, which means that this group is less dependent on wholesale funding than others.

Wholesale funding

Risk assessments
The cost of funds acquired from financial markets depends on general price levels and institution-specific risk premium. The latter can raise the cost of funding considerably. The availability of additional funds may also pose short-term problems.

The share prices of banks have been dropping also in the second half of 2008. The changes in the share prices of Nordic banks have mostly been in line with the general share price trends of European banks (see Figure 2). Still, there are a few differences in how the larger Nordic groups have been valued (see Figure 3). As regards major Swedish banks, in recent periods higher risk premiums on credit default swaps have been asked for Swedbank and SEB Pank.

Rating agencies have also increased their risk assessments in light of the current economic downturn (see Table 1). At the beginning of October, both Standard & Poor's and Moody's lowered Swedbank's ratings and Fitch changed the outlook from stable to negative. It is more expensive for banks with lower ratings to obtain new funds from markets.

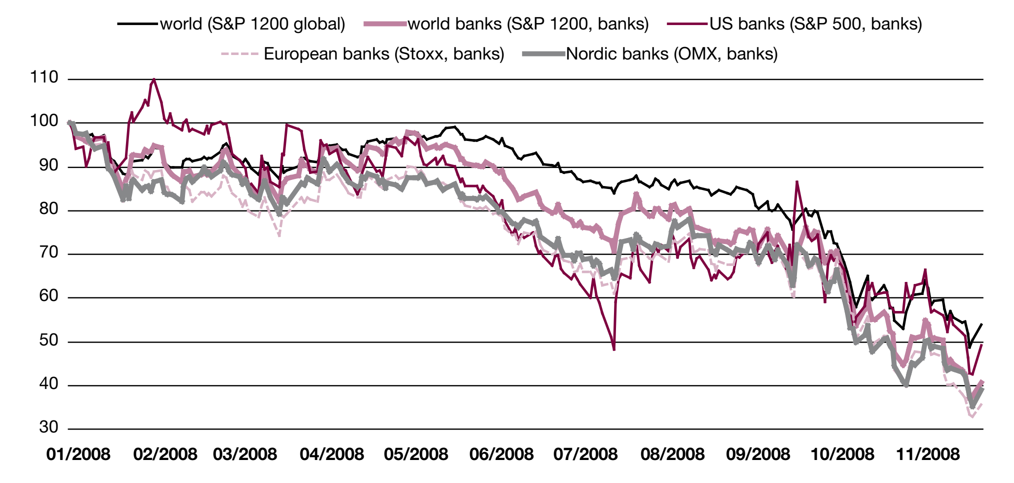

Figure 2. Stock indices of the US, European, Nordic and world banks compared to world stock index (points; 2/1/2008 = 100)

Source: EcoWin

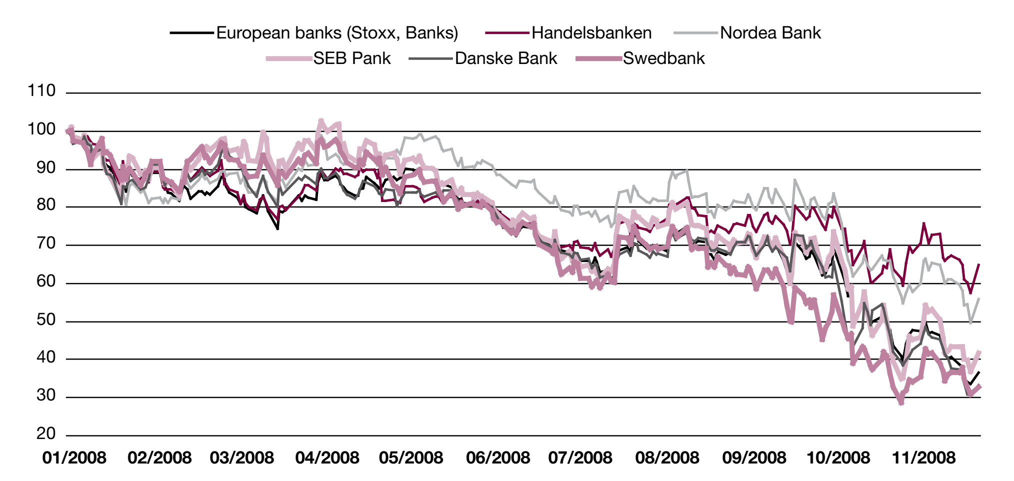

Figure 3. Share price dynamics of Nordic banks (points; 2/1/2008 = 100)

Source: EcoWin

Table 1. Ratings of Nordic banks

	Standard &Poor's		Moody's			Fitch	
	Long-term	Outlook	Long-term	Outlook	Financial strength	Long-term	Outlook
Nordea Bank	AA-	Stable	Aa1	Stable	B	AA-	Stable
Danske Bank	AA-	Neg	Aa1	Watch	B	AA-	Stable
Svenska Handelsbanken	AA-	Stable	Aa1	Stable	B	AA-	Stable
DnB NOR	AA-	Stable	Aa1	Stable	B-	A+	Stable
SEB Pank	A+	Neg	Aa2	Stable	B-	A+	Stable
Swedbank	A	Neg	Aa3	Neg	C+	A+	Neg

Source: rating agencies

Raising funds from bond markets has become much more costly. Risk aversion among investors has increased and they prefer safer instruments. Yields on bank bonds have grown quite substantially compared to the beginning of September and spreads with government bonds have significantly increased. Similar trends can be noted in the interbank loan market. In October, the spreads between government bond interest rates and interbank interest rates grew considerably (see Figure 4). The difference between the interbank rate and the expected repo rate[2] has increased as well (see Figure 5). True, in November risk prices slightly decreased.

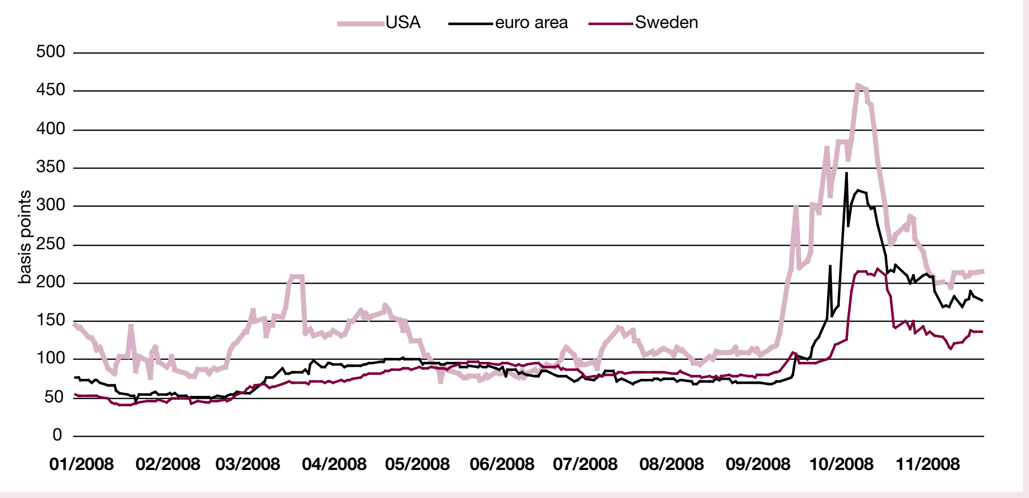

Figure 4. Spread between corresponding interbank rate and 3-month treasury bill rate

Source: EcoWin

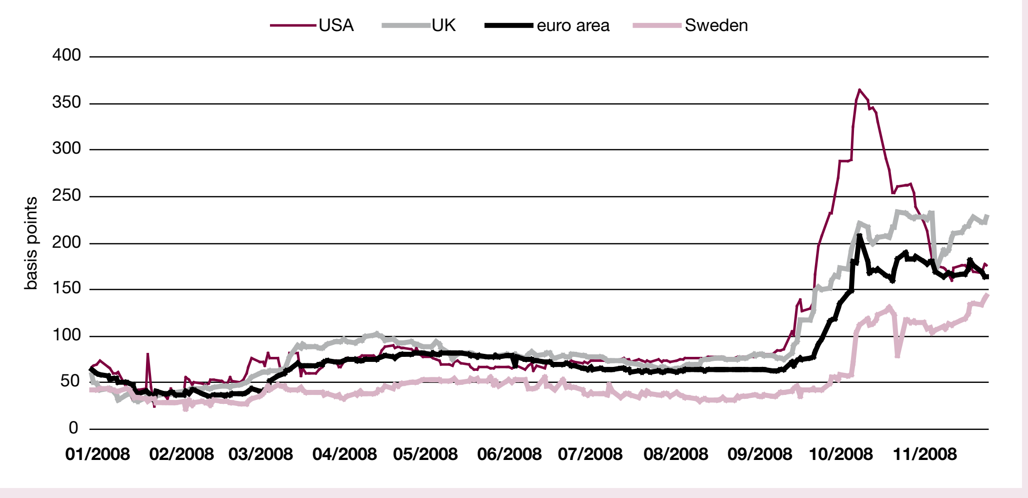

Figure 5. Spread between 3-month interbank rate and expected repo rate

Source: Bloomberg

[2] The expected repo rate is the rate on the 3-month overnight interest swap.

Measures of governments and central banks

Similar to several other countries, Nordic governments and central banks have taken steps to alleviate further negative effects of the complicated market situation.

Sweden

Government measures:

- Government's guarantee scheme to support banks' medium-term (3 months to 5 years) funding needs (for a fee) to the extent of 1500 billion Swedish kronas. The scheme is to last at first until April 30, 2009 with the possibility of extending it until the end of 2009.
- Establishment of the Stabilisation Fund to help financial institutions with solvency problems. The government will initially contribute 15 billion Swedish kronas to the Fund (together with the Deposit Guarantee Fund 33 billion Swedish kronas).
- The guarantee on bank deposits has been raised to 500,000 Swedish kronas.

Central bank measures:

- Extensive repo auctions with longer than usual maturities have been organised.
- Since the beginning of September, Swedish banks can borrow US dollars in the total amount of 22 billion dollars.
- The collateral requirements for intraday credit in the RIX settlement system has been eased. For instance, Riksbank fully accepts covered bonds issued by banks themselves. Previously, the central bank accepted these bonds only to the extent of 25%.
- In October, the repo rate was lowered twice: on October 9 by 50 basis points to 4.25% and on October 23 by another 0.5 percentage points to 3.75%.
- Since November 10, the central bank holds auctions for collateralised three-month krona-loans almost every two weeks. This contributes to better liquidity management by banks.
- In order to improve the availability of funds for the non-financial sector, at the end of October it was decided to accept the commercial papers of large companies with sufficient rating as collateral at repo auctions.

Denmark

Government measures:

- An act was adopted to facilitate funding for Danish banks. In the framework of this Act, an institution was created to which the banks participating in the scheme would contribute up to 35 billion Danish krones (2% of GDP) in total. These funds can be used to provide support for banks, should it be necessary. This institution also guarantees all deposits in and unsecured loans to participating banks (including interbank lending). The scheme is initially scheduled to last for two years.

Central bank measures:

- In cooperation with the European Central Bank, a EUR12 billion swap line has been established. In addition, together with the US Federal Reserve, opportunities to borrow US dollars have been extended.
- The range of acceptable collaterals has been expanded.
- In October, the repo rate was raised two times to support the exchange rate of the Danish krone: on October 7 by 40 basis points to 5.0% and on October 24 by another 50 basis points to 5.5%. However, on November 7, the rate was lowered by 0.5 percentage points to 5.0%.

Quality of assets

The **growth rate** of financing portfolios decelerated also in the second and third quarters of 2008. In September 2007 financing portfolios had increased by 36% year-on-year, whereas in September 2008 by only 15%. The loan stock added in the first three quarters of 2008 accounted for nearly 50% of the loan stock added in the same period in 2007 (see Figure 6). The structure of the financing portfolio has been relatively stable over the years and the share of the loan stocks of different sectors in the total loan portfolio have not changed much (see Figure 7).

The structure of non-financial sector loan **collaterals** has not changed much either. Loans without collateral accounted for 4.8% of the total corporate loan portfolio in September 2007,

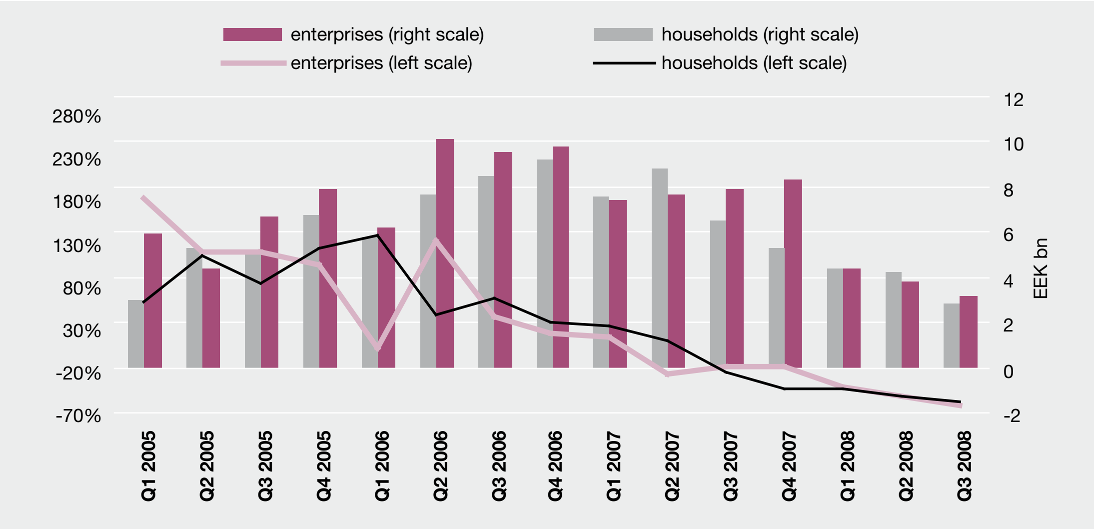

Figure 6. Loan stock added in a quarter and year-on-year changes

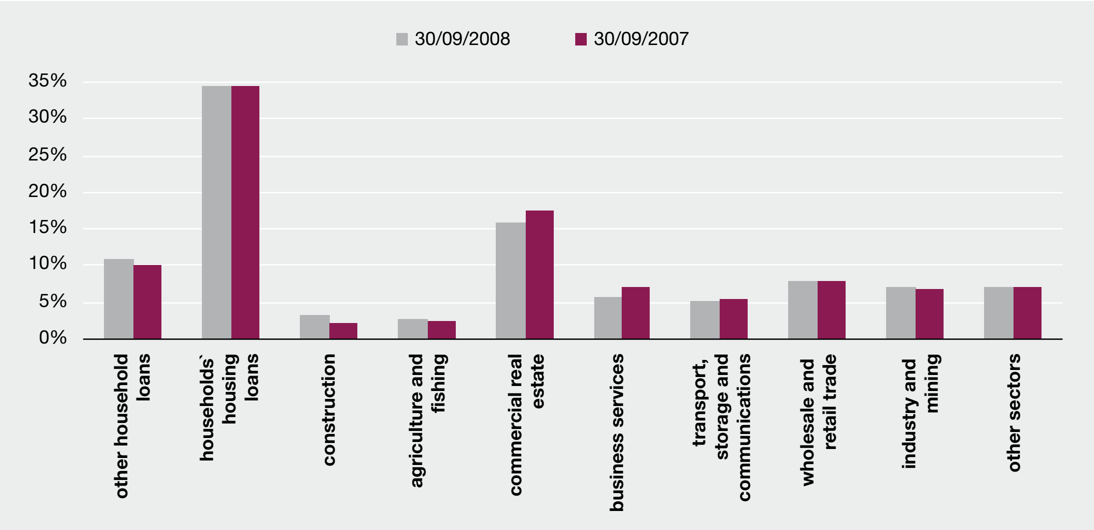

Figure 7. Structure of loan and leasing portfolio

whereas in September 2008 this indicator was 5.8%. Consumer credit indicators were 39.3% and 40.2%, respectively. On an aggregate basis, the share of loans with securities collateral has decreased by 1 percentage point year-on-year (see Figure 8).

The amount and share of **overdue loans** in the total loan portfolio has grown significantly over the past year due to the tightened economic environment and higher loan interest rates (see Figure 9). The share of loans overdue for more than 60 days constituted 0.9% of the loan portfolio in September 2007, whereas by September 2008 this indicator had increased to 2.2%. The share of overdue loans somewhat stabilised in August and September. This can be explained by the fact that banks have started to seek more active cooperation with customers in order to prevent more loans from becoming overdue.

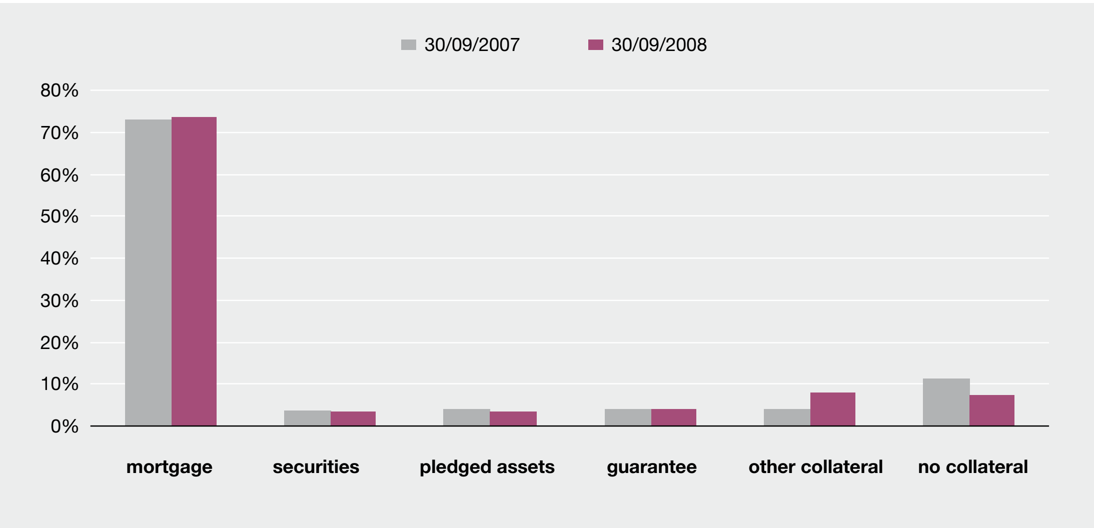

Figure 8. Loan collaterals by type

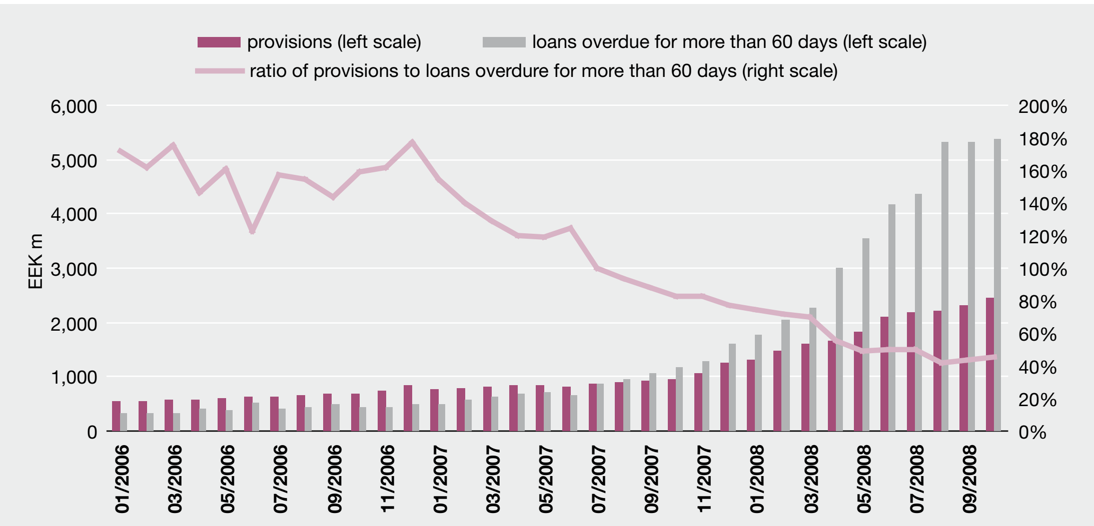

Figure 9. Overdue loans and provisions

In terms of volume, 56% of the loans overdue for more than 60 days belong to companies; however, the share of such loans is the largest among **consumer credit**. This indicator has increased nearly twice compared to last year; that is, to 5.2% of the consumer loan stock. Nearly 55% of overdue consumer loans have been issued by one small bank and the figure is considerably smaller for other credit institutions (see Figure 10).

As far as **housing loans** are concerned, the share of loans overdue for more than 60 days is much lower but has also witnessed a considerable increase this year. In September 2007, 0.4% of housing loans were overdue, whereas this year the indicator stood at 1.5%. The value of overdue loans has increased by nearly 1 billion kroons compared to the previous year.

Corporate loan servicing capability has deteriorated due to the tightened economic environment and developments in the real estate market. Loans overdue for more than 60 days accounted for 2.4% of the **corporate loan portfolio** at the end of September. The amount of corporate overdue loans has increased by nearly 2.7 billion kroons year-on-year. Commercial real estate and construction sectors have the most overdue loans both in terms of share and amount (3.7% and 4.0% of the loan portfolio, respectively). The overdue loans of these two sectors account for two thirds of the total loan stock of corporate loans overdue for more than 60 days. Loans issued to the construction and commercial real estate sectors cover 19% of the stock of loan and leases granted to the non-financial sector (see Figure 11).

The number of objects on sale is still high on the housing market. However, the demand for housing will most probably decrease, which is why price pressures on housing will presumably persist and a growing number of real estate companies may expect difficulties. A large amount of new office premises that will be completed in the near future will probably increase the vacancy rate of office spaces in suburbs. This may lead to a price decline in the office rental market and aggravate the situation for real estate developers.

The ratio of **provisions** to the stock of loans overdue for more than 60 days has been constantly decreasing over the last year. The

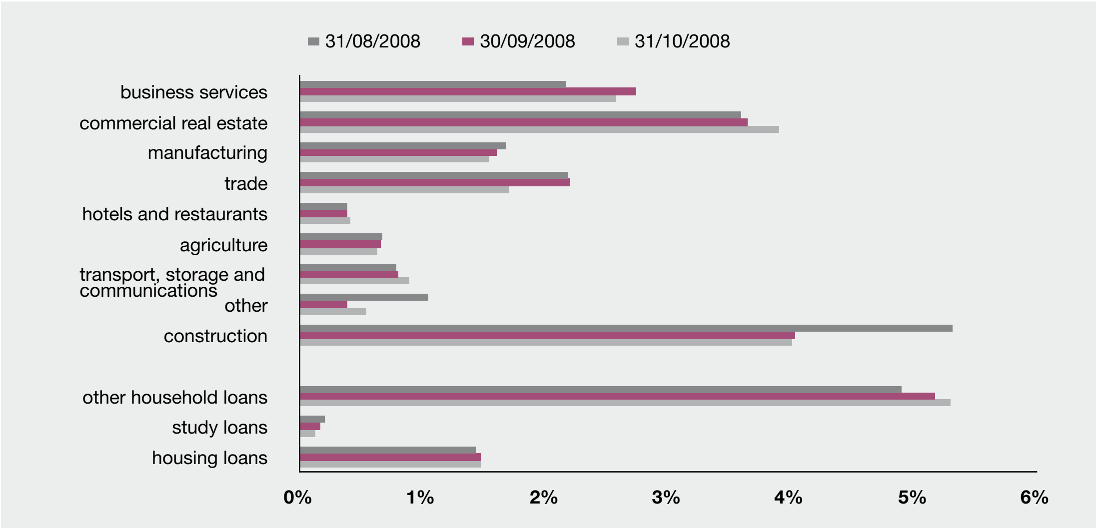

Figure 10. Share of loans overdue for more than 60 days in the respective loan portfolio

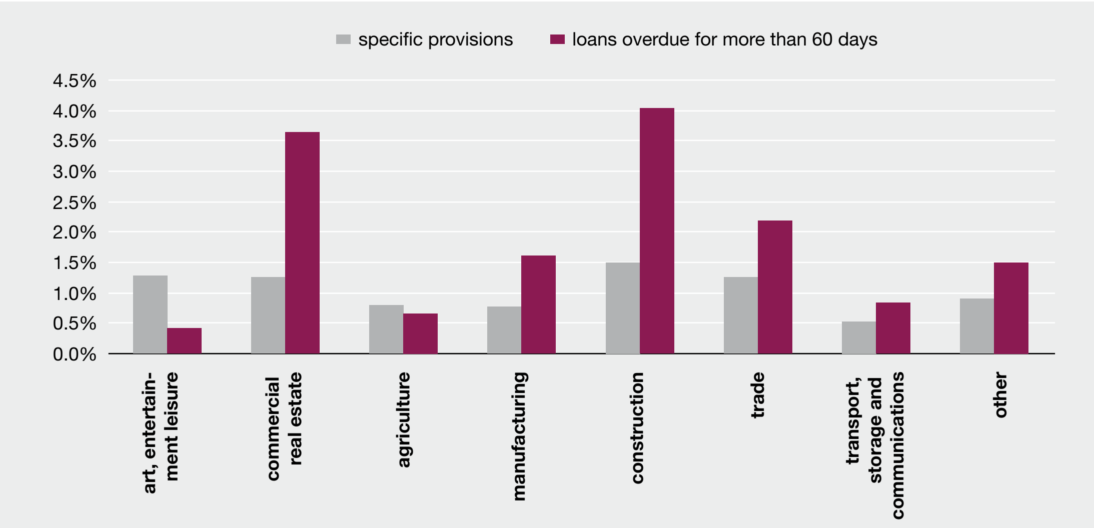

Figure 11. Share of specific provisions and loans overdue for more than 60 days in the respective loan portfolio (30/9/2008)

provisions made accounted for 88% of overdue loans in September 2007, compared to 44% in September 2008. The stock of provisions made by banks totalled 2.3 billion kroons at the end of September 2008, 75% of which were specific provisions (see Figures 12 and 13).In the first three quarters of 2008, banks have written off only 364 million kroons of loans, while 29 million kroons of claims previously removed from the balance sheet have been received.

The stock of provisions constituted 1.4% of the consolidated loan portfolio in September 2008; that is about twice as in the same period last year. The share of loans overdue for more than 60 days has also considerably increased: from 0.4% to 1.9% of the consolidated loan portfolio. The stock of provisions accounted for 76.3% of the loans overdue for more than 60 days.

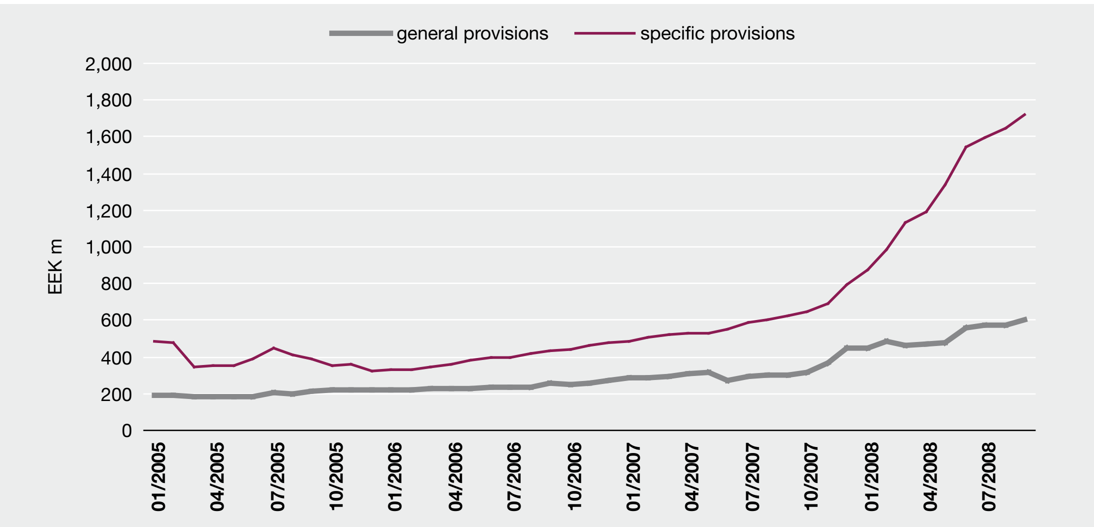

Figure 12. General and specific provisions

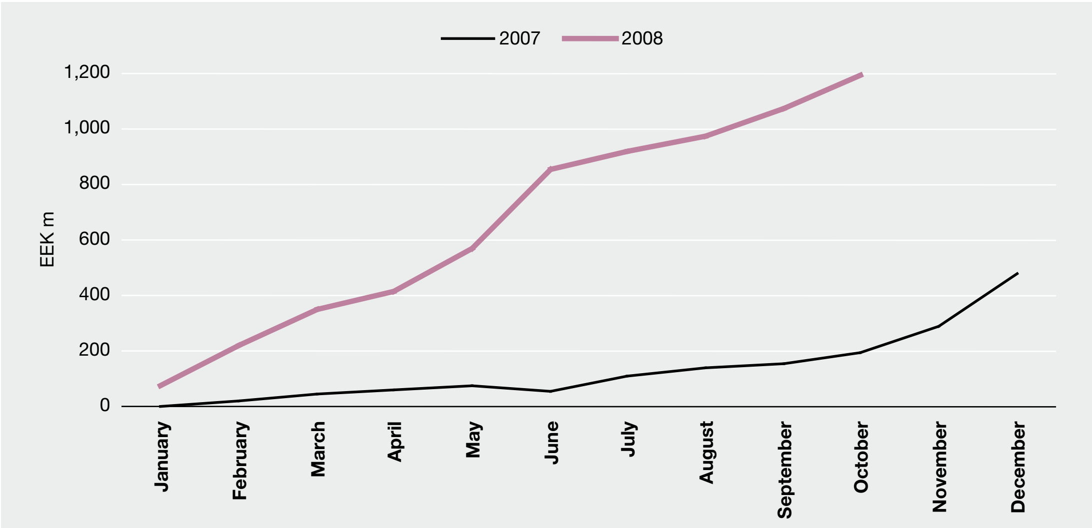

Figure 13. Cumulative loan losses (change in provisions)

STRESS TEST OF THE BANKING SECTOR

The stress test of the banking sector is based on the autumn forecast of Eesti Pank. The test relies on the risk scenario of the forecast and the risk scenario with the additional assumption that the profitability of the banking sector recorded before the loan losses decreases 50%.

The risk scenario of the forecast expects a weaker external demand for Estonia, resulting from the global economic recession. The annual GDP growth is estimated at -2.7% in 2008, -4.7% in 2009 and 1.5% in 2010. It is also taken into account that the confidence crisis in the financial system may substantially affect the movement of savings between countries and regions as well as in the entire global economy. Consequently, Estonia may encounter difficulties with raising external funds, which would considerably impede our economic development. Nominal credit growth is expected to be 0.2% in 2009 and 2.0% in 2010 (see Figure 14). The risk scenario of the forecast was also used for the second development scenario in the stress test, including the assumption that the profitability of the banks remains 50% lower (see also Figure 15).

In order to estimate the potential loan losses incurred by banks, the model of overdue loans has been applied. The model assessed in autumn 2008 is as follows:

$$n_t = \underset{0.000}{0.014} + \underset{0.033}{0.345}\,\hat{i}_{t-2}\hat{c}_{t-2} - \underset{0.014}{0.069}\,\hat{y}_{t-4} + \underset{0.018}{0.265}\,\hat{u}_t + \underset{0.020}{0.188}\,\hat{\pi}_{t-4}$$

Independent variables include the interaction of the interest rate and the loan volume, $\hat{i}\hat{c}$, annual real GDP growth, the unemployment rate, and annual consumer price inflation. The interaction between the interest rate and the loan volume ($\hat{i}\hat{c}$) means that a rise in the interest rate will pose a greater threat to loan repayment in case of higher indebtedness. Real GDP growth (y) is related to household real disposable income, which reflects

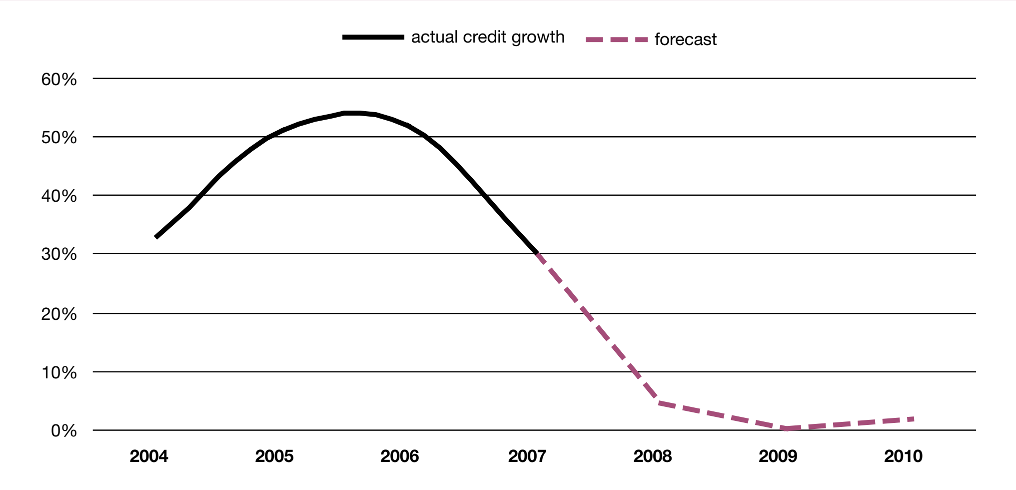

Figure 14. Actual and expected credit growth

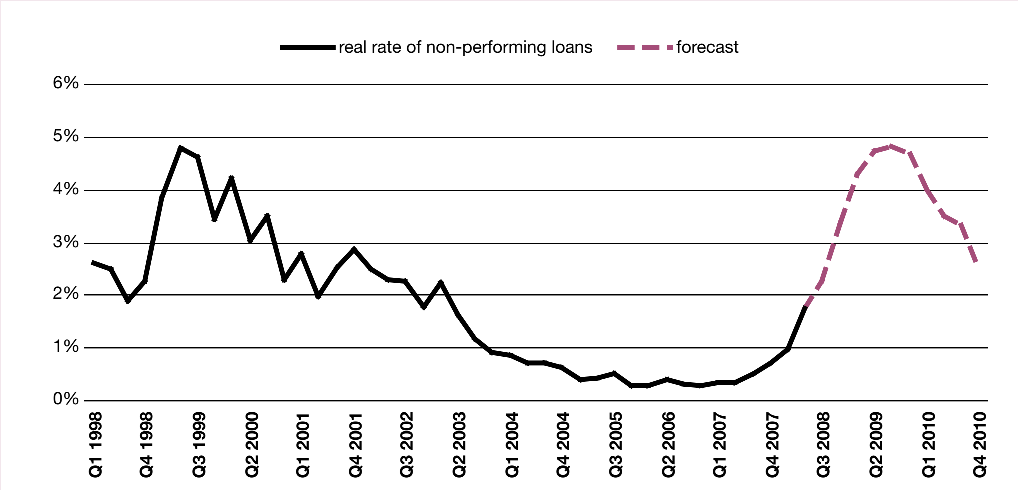

Figure 15. Expected ratio of non-performing loans

the loan servicing capability of households. In addition to the abovementioned variables, the equation also includes the unemployment rate (u) and annual consumer price inflation (π). The assessment period is from the first quarter of 1998 until the second quarter of 2008.

The stress test of the banking sector involved testing the influence of macroeconomic developments on the banks' ability to meet the capital adequacy requirement. Besides the data used for model-based stress tests, the following assumptions have been taken into account:

1) The average loss rate of the banking market is 42%;[3]
2) Risk-weighted assets are increasing at the

[3] The loss rate shows the percentage of the bank's loss from a claim in the case of a customer's insolvency. The loss rate has been calculated based on the data of earlier periods.

same pace as the loan portfolio;

3) In the first scenario of the stress test (the risk scenario of the economic forecast) the profitability of banks recorded before loan losses will remain at previous levels; in the risk scenario with an additional assumption the profitability will decrease 50%;
4) Equity capital increases by the profit earned during the year.

The results of the stress tests performed on the basis of these assumptions show that neither the total banking sector nor the individual banks will have problems with meeting the capital adequacy requirement in the case of the economic developments outlined in the forecast scenarios (see Figure 16). This will be the case, even though according to the risk scenario with the additional assumption banks' loan losses for 2009 will exceed the pre-loss profits for the current year (see Figure 17).

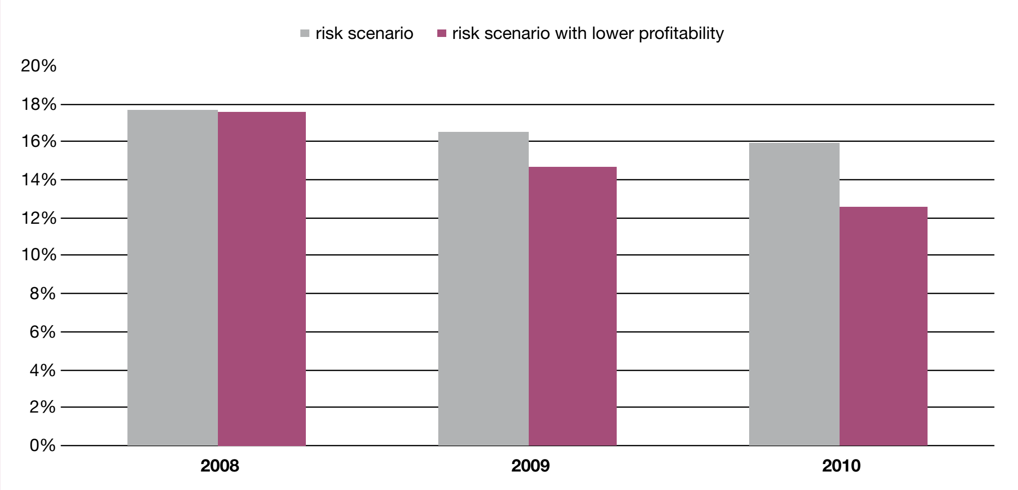

Figure 16. Capital adequacy ratios according to different scenarios

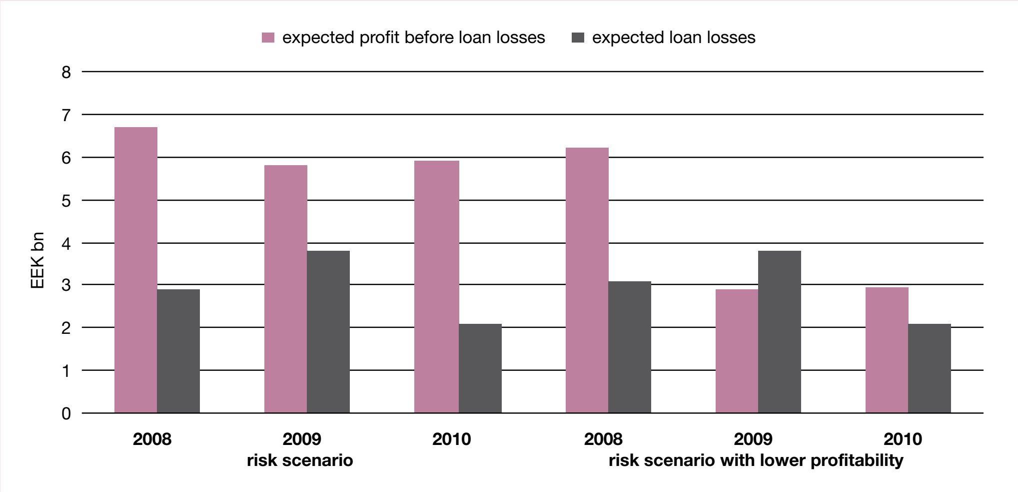

Figure 17. Expected profit before loan losses and expected loan losses

Capital adequacy

SEB Pank obtained authorisation from the Financial Supervision Authority to apply the new Internal Ratings Based approach (IRB) for calculating the capital requirement for credit risk and the Advanced Measurement Approach (AMA) for calculating the capital requirement for operational risk as of July 1, 2008.

The Internal Ratings Based Approach for assessing credit risk enables market participants to use internal risk assessment methods of a market participant (i.e. rating systems and credit risk models) for calculating the capital requirement. The purpose of using these methods is to increase risk sensitivity and measurement adequacy of the capital required for credit risk.

The introduction of IRB requires authorisation from the Financial Supervision Authority. Granting of the authorisation depends on meeting the minimum requirements provided by legislation, including the reliability of internal risk assessment methods and the daily implementation of good practice in credit risk management.

In the case of operational risk assessment based on the Advanced Measurement Approach, market participants calculate the capital requirement on the basis of the internal assessment model for operational risk (statistical model). The introduction of this approach also requires authorisation from the Financial Supervision Authority. Granting of the authorisation depends on meeting the minimum requirements provided by legislation, including again the reliability of internal risk assessment methods and the daily implementation of good practice in operational risk management.

If a credit institution introduces IRB for calculating the capital requirement for credit risk, or AMA for calculating the capital requirement for operational risk, the volume of risk-weighted assets may sharply decrease. Therefore, restrictions have been set for the transition period in respect of the decline in risk-weighted assets. This means that when the volume of risk-weighted assets calculated according to the new methods will be lower than 90% in 2008 and lower than 80% in 2009 compared to risk-weighted assets calculated on the basis of earlier methods, 90% and 80% of the volume of risk-weighted assets calculated on the basis of earlier methods must be used in those years respectively when calculating banks' own funds.

Changes in banks' own funds and risk-weighted assets are presented in the following table.

Table 2. Capital adequacy (EEK bn)

	Mar 2008	June 2008	July 2008	Aug 2008	Sept 2008
Tier I own funds	26.8	24.2	24.2	24.3	24.3
Tier II own funds	11.8	10.7	10.7	10.7	10.7
Deductions	1.6	0.2	0.7	0.5	0.3
Own funds in capital adequacy calculation	37.0	34.6	34.2	34.5	34.7
Credit risk	203.0	178.2	161.9	157.9	152.1
Other risks	5.5	3.3	3.7	6.1	5.8
Operational risk	9.3	8.5	7.0	7.0	7.1
Risk-weighted items	218.1	190.1	187.7	191.1	189.4
Banking sector average capital adequacy	16.97%	18.22%	18.22%	18.04%	18.34%
Lowest capital adequacy indicator	12.26%	14.18%	14.07%	14.34%	14.94%

The share of credit risk-weighted assets in total risk-weighted assets has decreased to 80% due to the implementation of the new framework. The share of operational risk-weighted assets has declined to 4%. Starting from July, the changes in banks' consolidated data on credit and operational risk-weighted assets (see Table 2) can largely be explained by the fact that SEB Pank has introduced new approaches for calculating capital requirements.

At the end of September, the **average capital adequacy** of the banking sector was 18.34%. This is nearly twice as high as the 10% minimum required in Estonia (see Figure 18).

This means that banks are able use nearly a half of own funds to cover loan losses without obtaining additional own funds and without violating the capital adequacy requirement (see also background information *Stress test of the banking sector*). Continuously strong capitalisation and sufficient liquidity of banks form an important basis for ensuring financial stability.

Liquidity

Funding

The changed market situation has considerably slowed credit growth in the past six months. As regards the total of the banking sector, the loan-to-deposit ratio has not changed much though (see Figure 19). Although aggregate figures have mostly remained at earlier levels, the indicators still vary among individual banks.

The uncertain market situation has reduced the loyalty of customers to chosen credit institutions, which could especially be noted in autumn. The change of banks was probably influenced by customers' risk estimates for the groups but also by the upper limit of guaranteed deposits[4] and the offered risk premium (interest rate).

In order to boost the confidence of bank customers and reduce the differences arising from legislation, the Estonian government decided to increase as of October 9 the upper limit of guaranteed deposits from 313,000 to 782,330 kroons and from 90% to 100% within this limit.

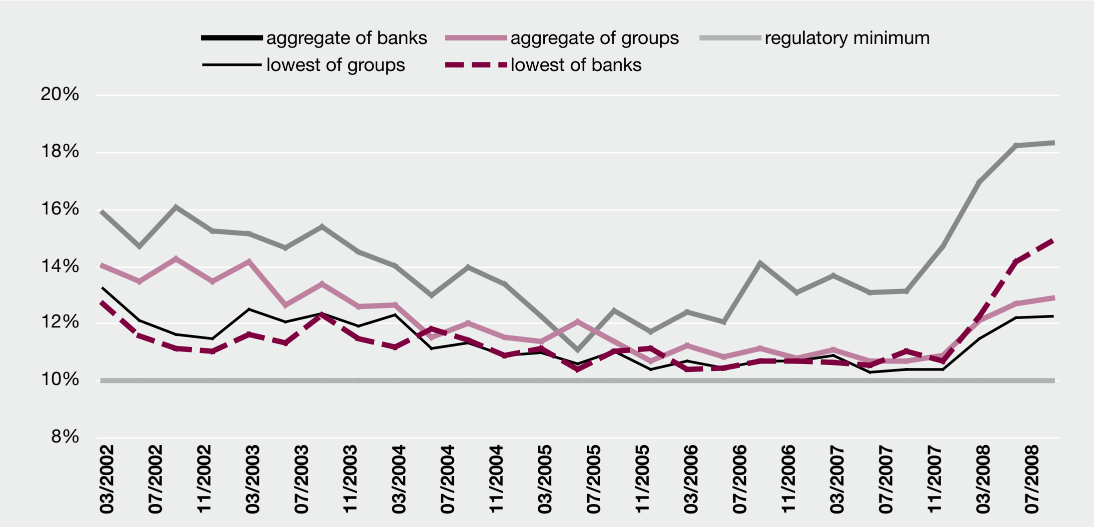

Figure 18. Capital adequacy ratios of banks and banking groups

[4] Since the banking groups operating in Estonia belong to different deposit guarantee schemes in different countries, the upper limits of guaranteed deposits vary.

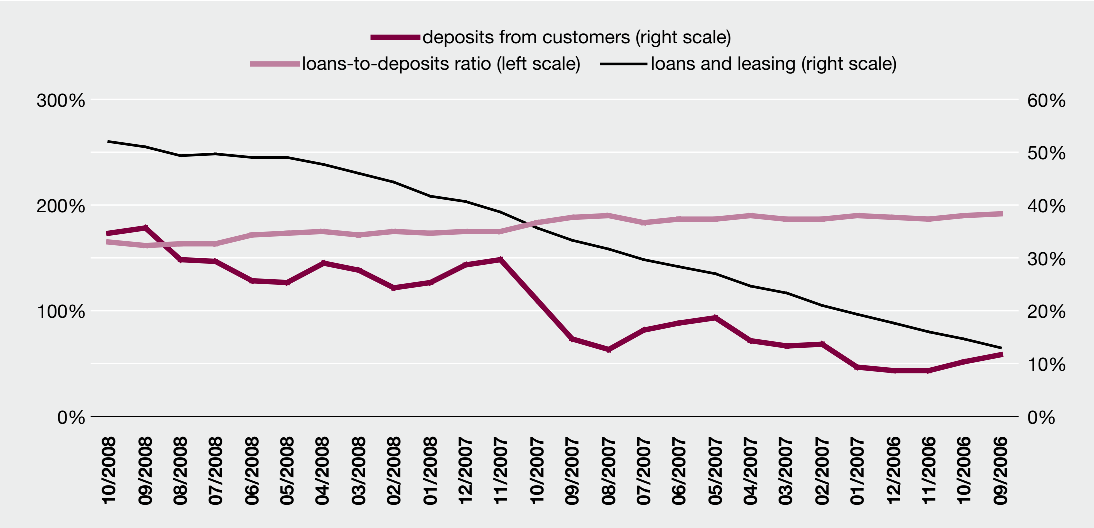

Figure 19. Loan-to-deposit ratio and year-on-year loan, leasing and deposit growth

Local banking groups have been able to cope with the slight decrease in deposits in the difficult market situation. Additional funds have been provided by parent banks when necessary.

The structure of banks' liabilities over recent periods has generally remained in line with earlier trends. Since customers increasingly prefer safer saving instruments and interest rates have been mostly rising in the last quarters, the share of time deposits has increased further (see Figure 20).

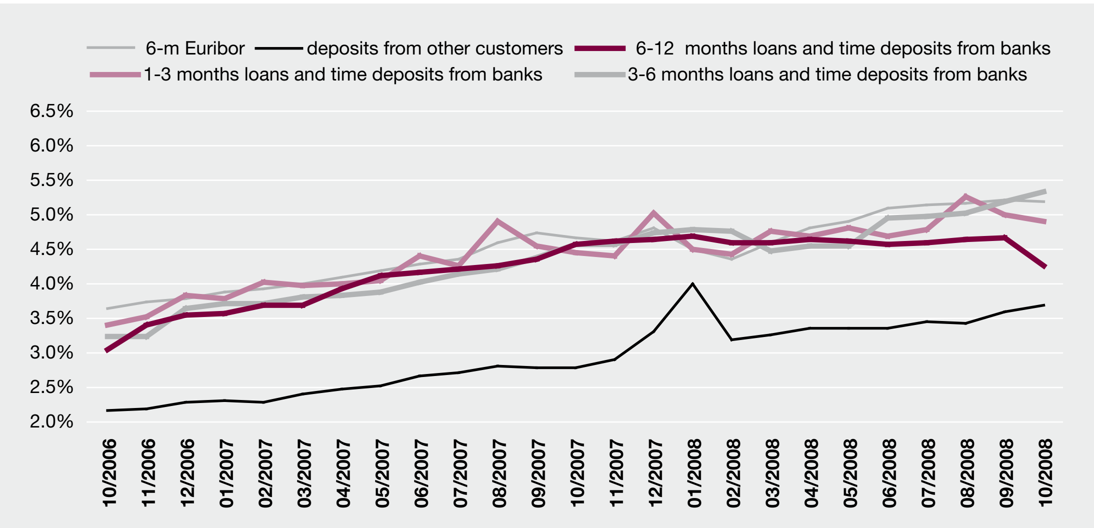

Figure 20. Average interest on banks' liabilities at end of month and 6-month Euribor

The rise in the share of time deposits has increased funding costs for banks. At the same time, parent banks have continued the funding of local subsidiaries at approximately the same risk price (see also Figure 21 and Section *Profitability*).

With the depositors' behaviour being more hectic than before, liquidity risk has been buffered with the help of the reserve requirement applied in Estonia, which was increased to 15% on September 1, 2006 (see also Figure 22). As depositors have become more risk sensitive, compared to spring it is currently more likely that some customers might want to reduce their claims to one or several credit institutions at some point. **Thus, it is also more important that market participants hold enough liquid funds to be able to meet the demands of customers.**

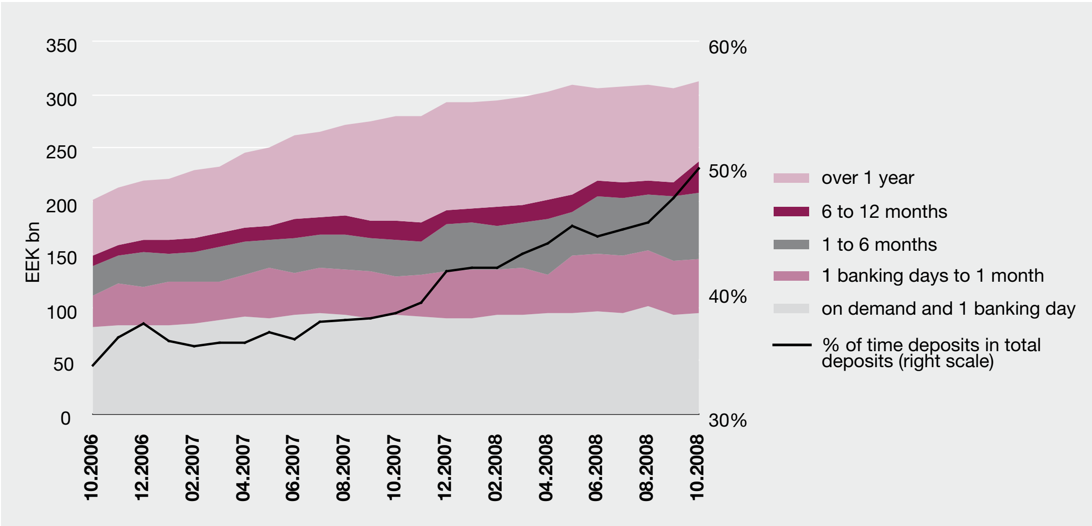

Figure 21. Banks' liabilities by remaining maturity and the share of time deposits in total deposits

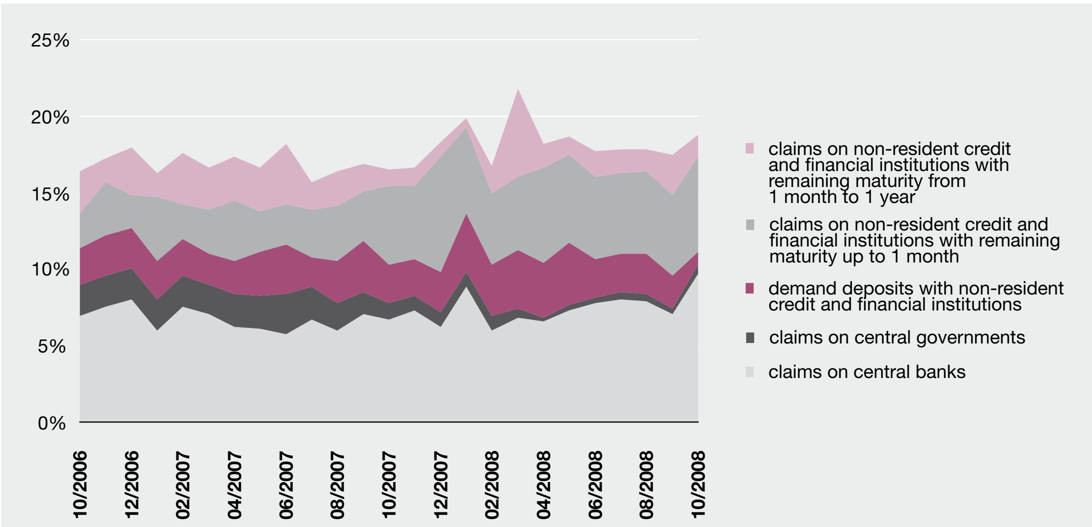

Figure 22. Banks' assets of higher liquidity (% of total assets)

Taking into consideration the volume of liquid assets possibly needed, **bigger participants in the Estonian banking market largely depend on the ability and will of their parent banks to provide funds to their subsidiaries**.

Profitability

In recent periods, the profitability of banks has been curbed by loan write-downs, unfavourable developments in financial markets and slowing credit growth. On the other hand, cut-down on expenses, sale of assets, one-off incomes from the reduction of the reserves accumulated earlier, and the decrease of contributions to the Guarantee Fund have contributed to profitability.

The **third-quarter net profit of banks amounted to 1.2 billion kroons**, which is nearly 25% lower than the second-quarter net profit, but this was mainly due to the extraordinary income in the second quarter. Compared to the first quarter of 2008, the third-quarter profit had grown by more than a third (see also Figure 19 and Table 3).

The total profit of banking groups also includes profits earned by subsidiaries in foreign markets (see Table 4). The **third-quarter net profit of banking groups in the amount of 2.1 billion kroons** was 14% lower than in the second quarter but exceeded the first-quarter result by nearly 10%. Banks' aggregate return on equity for the last four quarters is over 17%. Banking groups' aggregate return on equity of banking groups for the last four quarters has remained over 22% despite the challenging market situation.

In recent quarters, the profitability of banks has been supported also by several **one-off factors**. For instance, in the case of one market participant the bonus reserve was reduced in the second quarter and recorded as one-off revenue of 308 billion kroons. The earnings of the second quarter also include the sale of AS Pankade Kaardikeskus. Since the third quarter, profits have been influenced by the **lower rate of contributions to the Guarantee Fund**. While so far the credit institutions under the Estonian deposit guarantee scheme had to

Table 3. Profitability of banks

	31/03/ 2007	30/06/ 2007	30/09/ 2007	31/12/ 2007	31/03/ 2008	30/06/ 2008	30/09/ 2008
Average return on assets in the past four quarters	1.8%	2.8%	2.7%	2.6%	2.4%	1.7%	1.6%
Return on assets in a quarter x4	2.0%	5.1%	1.7%	1.8%	1.1%	2.0%	1.4%
Average return on equity in the past four quarters	21.3%	32.5%	31.2%	30.2%	27.0%	18.4%	17.2%
Return on equity in a quarter x4	16.9%	50.4%	18.0%	21.1%	13.2%	20.7%	14.5%
Net profit in the past four quarters (EEK bn)	4.1	6.7	7.1	7.4	7.1	5.2	5.1
Net profit of the quarter (EEK bn)	1.2	3.5	1.3	1.4	0.9	1.6	1.2
Net write-downs of assets in a quarter (EEK bn)	-0.1	0.0	-0.1	-0.3	-0.4	-0.5	-0.3

Table 4. Profitability of banking groups

	31/03/ 2007	30/06/ 2007	30/09/ 2007	31/12/ 2007	31/03/ 2008	30/06/ 2008	30/09/ 2008
Average return on assets in the past four quarters	2.2%	2.3%	2.3%	2.3%	2.1%	2.0%	1.9%
Return on assets in a quarter x4	2.2%	2.4%	2.2%	2.3%	1.6%	1.9%	1.7%
Average return on equity in the past four quarters	27.4%	29.7%	29.5%	29.3%	26.9%	25.0%	22.6%
Return on equity in a quarter x4	28.6%	31.0%	28.6%	29.2%	19.7%	22.6%	19.2%
Net profit in the past four quarters (EEK bn)*	7.5	8.7	9.3	9.9	9.7	9.6	9.2
Net profit of the quarter (EEK bn)*	2.2	2.5	2.5	2.7	1.9	2.4	2.1
Net write-downs of assets in a quarter (EEK bn) *	-0.2	-0.2	-0.3	-0.4	-0.7	-0.8	-0.7

* Excluding data of Danske Group.

pay annual contributions in the amount of 0.5% of the stock of guaranteed deposits, starting from the third quarter, the rate is 0.0032%.

The decrease of contributions to the Guarantee Fund increased banks' third-quarter net profit by nearly 100 million kroons (almost 8%). As much as two thirds of the third-quarter net interest income growth can be attributed to the decreased contributions (see also Figures 21 and 22).

Still, net interest income on average assets increased in the third quarter even when excluding the influence of the decreased contributions to the Guarantee Fund. The growth has been supported by the pass-through of higher key interest rates to loan portfolios, which, unlike changes in the cost of funds, usually occurs with some delay because of the terms of a number of loan contracts[5] (see Figure 23).

As the majority of loans granted in Estonia are linked to the Euribor, changes in the key interest rate will be passed on to loan customers through loan contracts also in the future. Competition has so far kept the interest margins on new loans relatively stable; however, the changed market situation has presumably increased banks' desire as well as opportunities to use higher risk margins on new loans. Higher loan margins would reduce the impact of potential higher funding costs on banks' profitability.

The **net interest income** of banks increased nearly 4% and that of groups approximately 2% in the third quarter (excluding the impact of the decreased contributions to the Guarantee Fund). At the same time, banks' **net fee and commission income** was about 1% lower and that of groups around 3% lower than in the second quarter. Given the difficult market situation, incomes on investment and trading as well as on fees for entering into and changing loan contracts have decreased the most. The decrease has been offset by continuously high incomes on payment intermediation (see Figures 24 and 25).

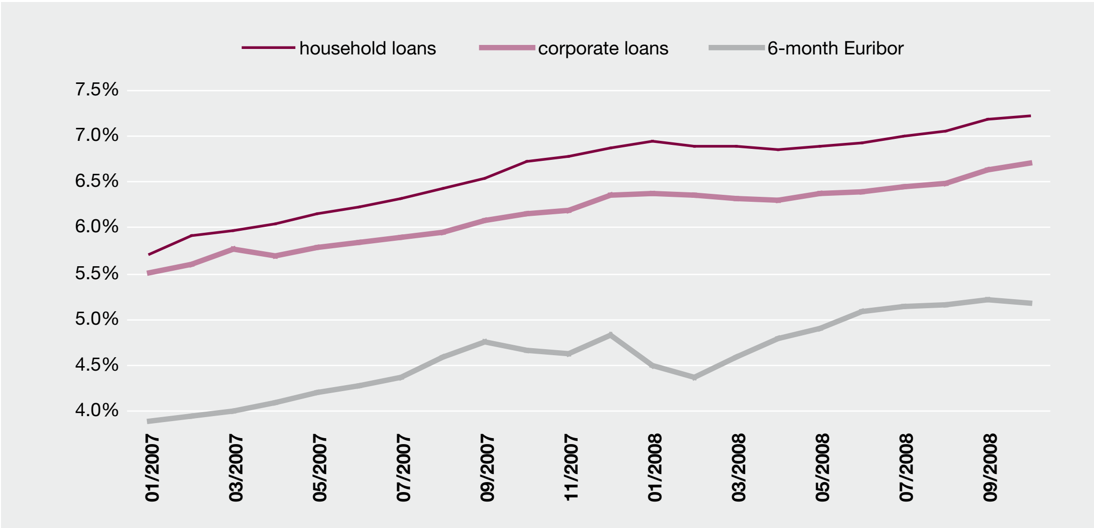

Figure 23. Average interest rates on loan stock

[5] In the case of loan contracts, the change in the key interest rate is usually taken into account twice a year.

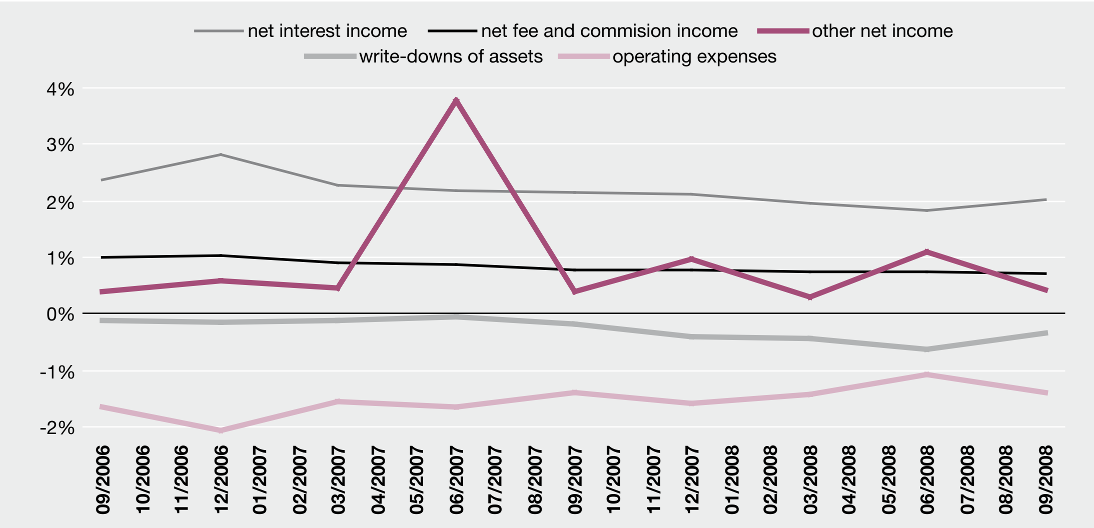

Figure 24. Income and expense items of banks (% of average assets per quarter x 4)

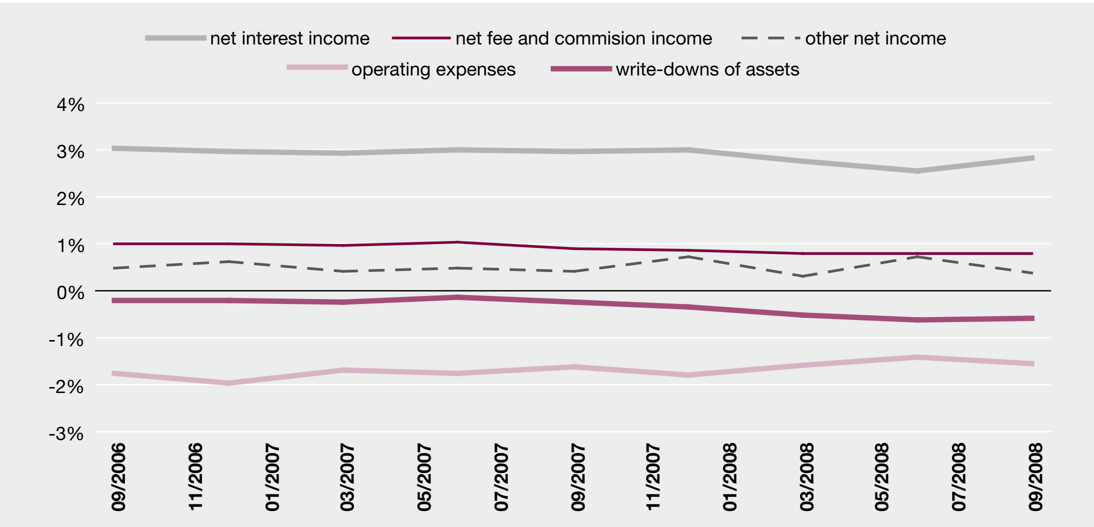

Figure 25. Income and expense items of banking groups (% of average assets per quarter x 4)

Banks have started to **cut down on expenses** more vigorously in light of unfavourable market conditions. Performance pay reserves have been reduced and organisations are being adjusted according to the market situation. The growth of general and administrative expenses has also slowed. Excluding the one-off reversal of the bonus reserve of one banking group, the third-quarter operating expenses of both the banks and the groups were lower compared to the first and second quarters. Besides staff costs, banks might cut also other administrative expenses. Namely, the prices of outsourced services and rent are likely to decrease in an economic downturn.

In the context of the changing economic environment, **credit risk** is currently more likely to materialise, which is why also loan provisioning has increased as expected (see Figure 26). However, developments vary across banks and the total volume of write-downs includes also the provisions of some larger loans (especially in the second quarter). In the second quarter, net provisions reached nearly 0.16% as a ratio to assets at the beginning of the quarter, both in terms of banks and groups. Third-quarter write-downs were lower compared to the second quarter: 0.08% of the assets at the beginning of the quarter in the case of banks and 0.15% in the case of groups. Estimating the need for further provisioning, it should be borne in mind that on aggregate over 40% of the total loans overdue for more than 60 days had already been taken into account as loan losses at the end of September. Presuming that banks will be able to collect about 60% of the outstanding amount of loans overdue for more than 60 days (as at the end of September), these loans will not cause any substantial damage to banks in the future.

As regards the future profitability banks, different business models of groups and thus also opportunities for coping in a more complicated economic environment should be taken into consideration.

The future profitability of the banks will be affected by the changes in the cost of funding owing to the large share of interest income in the income structure of local banks. Higher risk estimates for Estonia and, regarding banking groups, also for other Baltic States may manifest in an increase in the cost of funds. The increase in the share of time deposits in total deposits also means higher funding costs for banks. At the same time, markets are awaiting the impact of governments' and central banks' measures to take effect, which should lower the general cost of funding. Bigger market participants largely depend on parent banks' ability and will to provide funds to them.

Banks can offset the impact of a possible increase in interest expense by requiring higher risks margins from customers. Although the third-quarter data did not show rapid growth in loan margins, the behaviour of market participants gives reasons to expect a slight increase in the coming periods. Data confirming the continuous slowdown in credit growth indicate that the struggle for market shares is being replaced by the desire to ensure the profitability of the funds invested in this region and the confidence of fund providers in the short run.

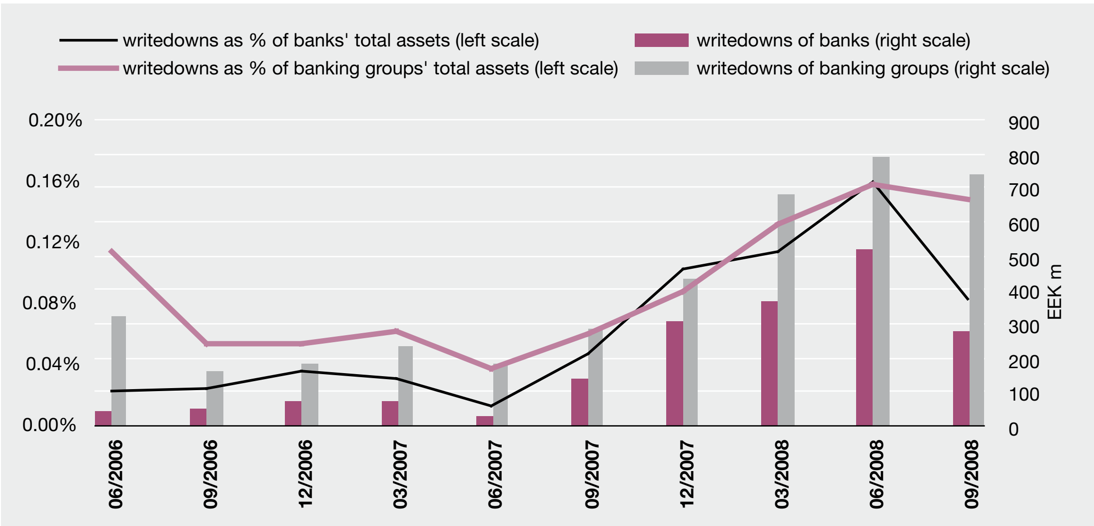

Figure 26. Loan provisions of banks and banking groups at the beginning of period*

* Data of groups does not include Danske Bank.

Given the large share of income on payment intermediation in the banking sector, the fee and commission income is not likely to decrease significantly in the near future. This applies even if credit growth eases further. Although loan provisioning will probably increase, based on economic forecasts and the structure of banks' assets, the high rate of provisions already made in relation to overdue loans gives reason to expect that the established buffers will reduce the impact of the future materialisation of credit risk.

Presumably, banks will also be able to cut down on expenses even more. The flexibility of staff costs (for example, large share of performance pay) enables to adjust them at least to some extent according to the revenues earned. Changes in the economic environment may inhibit growth in administrative expenses or even reduce them.

In conclusion, the profitability of banks has remained quite high. Should the funding costs increases further, it will be difficult for banks to preserve the current net interest margin. However, the possible rise in the cost of funding can be, at least partly, offset by an increase in loan margins. The large share of payment intermediation income in the fee and commission income allows to assume that the latter will not decrease significantly in the near future. As the banks operating in Estonia are oriented to traditional financial intermediation, the impacts of potential adverse developments in capital markets on banks' profitability would be limited. Based on economic forecasts, loan provisioning might grow further, but the high ratio of provisions made compared to the volume of loans overdue will reduce the impact of the materialisation of credit risk on banks' future profitability.

III SECURITIES AND MONEY MARKET

International financial markets[1]

The downward trend on major **stock markets** that had started in the middle of 2007 continued also in 2008. The year began with a strong sell-off that lasted until mid-March. Then markets somewhat stabilised, but in May the downward trend resumed and in September-October strong sales started off again. The period from April to October was characterised by continuous liquidity and credit crisis in the financial sectors of advanced economies. In addition, there was an economic decline in the euro area and Japan in the second quarter and the likelihood of recession increased also in the United States. In October it was already apparent that the crisis had acquired global dimensions. Although various central banks and governments implemented stabilising measures, investors were panicking to get rid of stock investments that were losing value day after day. This was probably the fastest and strongest post-war decrease in stock prices occurring in many countries simultaneously.

The stock indices of **advanced economies** had lost an average of 40–50% of their value by the end of October. The euro area stock index Stoxx 50 had fallen by 41%, the US S&P 500 index by 34% and Japan's Nikkei 225 index by 44%. The stock indices of Finland and Sweden had declined by 41% and 47%, respectively (see Figure 1).

Most of the market participants believed at the beginning of the crisis that it would be less pronounced in developing markets with relatively rapid economic growth. Unfortunately, the reality turned out to be rather different. Partly, it might have been that these regions were initially considered more immune to the problems. The earlier big investment boom also played a role here. The Shanghai Composite Index in China had fallen by 67% and India's Bombay Sensex 30 index by 52% by the end of October compared to the beginning of the year. At the end of October it was not clear whether and for how long it was possible to halt the market decline and achieve at least some stability.

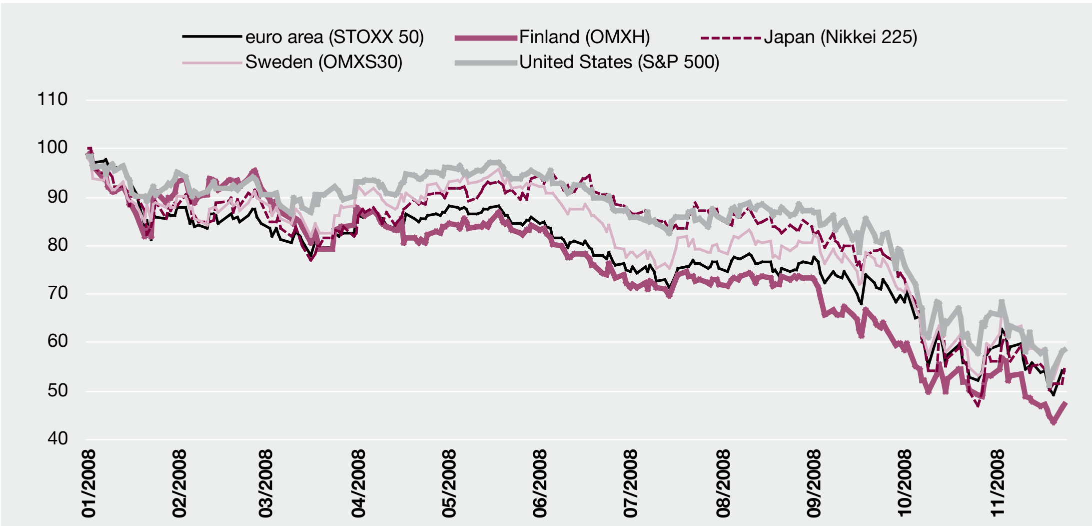

Figure 1. Stock indices in the United States, the euro area, Japan, Sweden and Finland (points; 31/12/2007 = 100)

Source: EcoWin

[1] The Review covers the period from January 1, 2008 to October 31, 2008, focusing on events that occurred from the beginning of the second quarter.

The **Central and Eastern Europe** (CEE) is worried about continuous inflationary pressures, and high volatility and uncertainty in financial markets. At the same time, this region has managed to maintain solid economic growth, although most CEE countries have relied on foreign capital in financing the growth. The banking sector has experienced robust credit growth. CEE stock markets have generally followed a downward trend: the composite index decreased by 47% over the period under review (see Figure 2). The Czech stock market witnessed the fastest fall (by 55%), followed by the markets of Hungary and Poland (by 50% and 43%, respectively). The **Russian** stock index RTS started to drop in mid-May and in October it was already 78% lower than the peak. The global market fall also concerned the **Baltic States**. The Latvian and Lithuanian stock exchanges had dropped by 37% and 56%, respectively, as at October 31 compared to the beginning of the year (56% in Estonia; for further information see Section *Stock market*).

From among the CEE countries, **Hungary** has suffered the most in the global financial turmoil. Hungary largely relied on foreign investors buying government bonds while banks had difficulties in funding the bonds in foreign currency as international and local money markets lacked liquidity. The Hungarian government and the central bank have taken several measures to support the Hungarian forint and money market. In the last week of October, the central bank raised the key interest rate by 300 basis points to 11.5% in order to stop the further depreciation of the forint. In addition, an agreement was reached between the International Monetary Fund, the European Union and the World Bank in respect of a rescue package of 25.1 billion US dollars, which would help stabilise the Hungarian economy.

Developments in **bond markets** were also strongly influenced by the international financial crisis, which became more pronounced in September and October, and forced central banks as well as governments to actively intervene in order to balance the situation and ease the panic in financial markets.

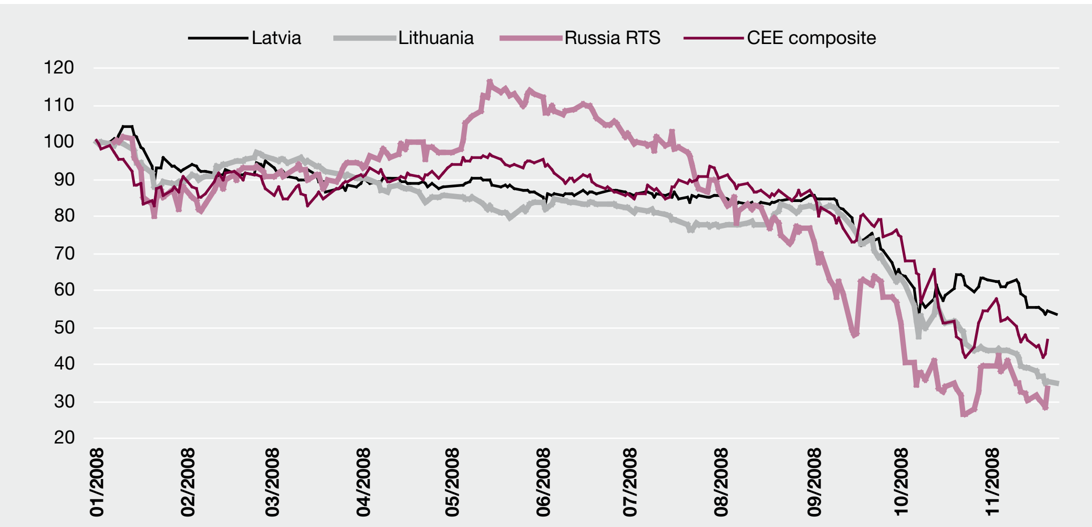

Figure 2. Stock indices in the CEE countries, the Baltic countries and Russia (points; 2/1/2008 = 100)

Source: EcoWin

In government bond markets, two opposite development periods could be distinguished. A slight stabilisation in stock markets and interbank money market from mid-March until end-June brought along an increase in government interest rates. Despite the slowdown in economic growth, economic environment seemed so favourable that some central banks (Swedish central bank and the European Central Bank) still perceived the rise in inflation as the primary risk and continued to raise **monetary policy interest rates**. In July the situation started to change: stock markets started to decline again and interest rates began to decrease as well in the backdrop of deteriorating growth outlook. This process gained even more momentum in September and October when the liquidity and credit crisis flared again. In October several central banks (the US, the euro area and the United Kingdom among others) cut the key interest rate by 50 basis points.

The dynamics of **short-term interest rates** was characterised by the growing spread between government and interbank interest rates due to the liquidity crisis. At the peak of the crisis, the demand for short-term government bonds was so high that their three-month interest rates fell to zero in the US, and elsewhere to the levels that did not meet the actual interest expectations. The spread between government and interbank money market interest rates increased sharply owing to lack of trust in the interbank market (see Figure 3). The US three-month government interest rate fell by 94 basis points to 0.39% from end-March to end-October; meanwhile the three-month dollar Libor increased by 34 basis points to 3.03%. The same could be noted in the euro area, where the respective changes were -132 and +4 basis points, and in Sweden (-72 and -13 basis points).

In October, the Latvian and Lithuanian interbank three-month interest rates increased considerably, reaching 11.6% in Latvia (660 basis point spread with the Euribor) and 8.4% in Lithuania (358 basis point spread; see Figure 4). The October peaks were followed by a slight decrease in the interest rates, but November witnessed a new rise.

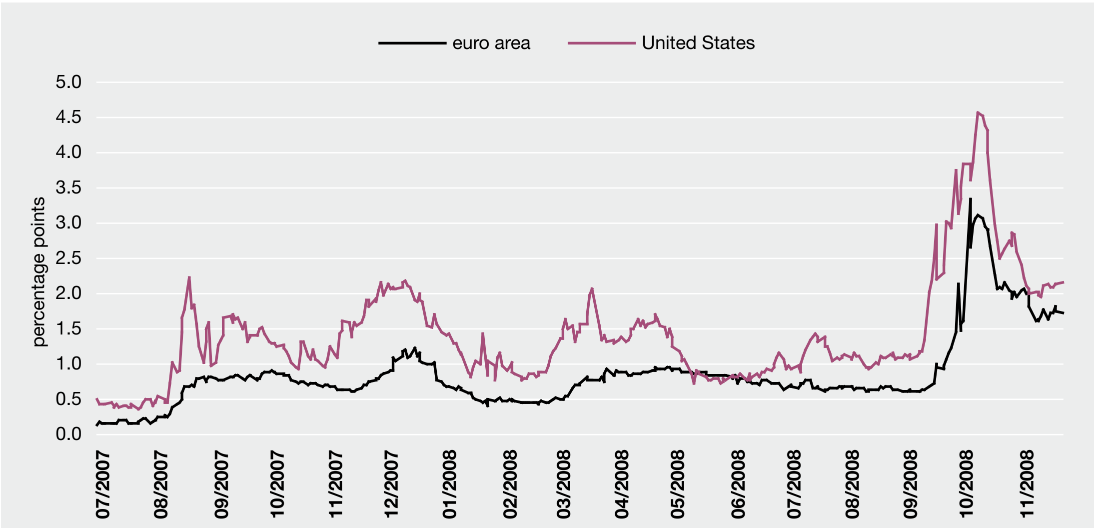

Figure 3. Spread between interbank money market interest rates and government interest rates in the United States and the euro area

Source: EcoWin

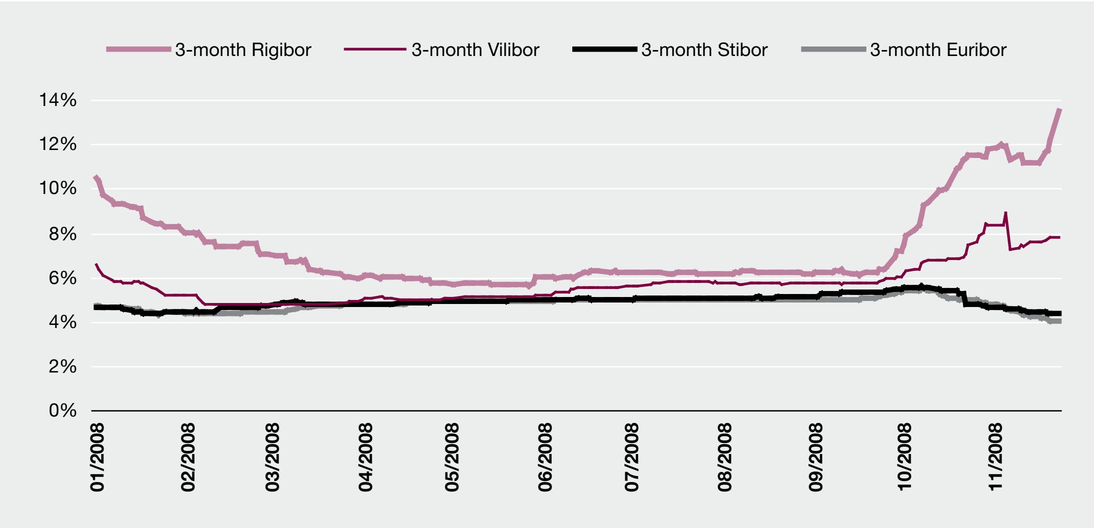

Figure 4. Money market interest rates in Latvia, Lithuania, Sweden and the euro area

Source: EcoWin

The liquidity of the Russian economy started to decrease already in June 2007. Government support packages have not been very stimulating to liquidity either. The 30-day Mibid increased from 4.6% in the middle of May to 9.5% at the end of October. The Mibor rose from 5.8% in the middle of May to 12.9% at the end of October. The liquidity programme launched in October and lack of trust in the economy have been rapidly reducing the central bank's foreign reserves, which have decreased from the record high of 598 billion US dollars at the beginning of August to only 485 billion dollars (-23%) by end-October.

Long-term (ten-year) government interest rates remained unchanged in the euro area and declined by 46 basis points in Sweden. In the United States, long-term interest rates rose by 56 basis points due to a massive support package to the financial sector. At the same time, the market was extremely volatile in October and fluctuated in a wide range (see Figure 5).

Foreign exchange markets experienced several significant developments in the period under review. The US dollar stabilised in the second quarter despite the financial crisis looming in the States and began to appreciate rapidly at the beginning of the third quarter. First, the long-term downward trend had made the dollar relatively cheap vis-à-vis other currencies considering the purchasing power parity, which means that it had become attractive to investors. Second, the widening of the interest rate spread with other countries, which had so far been weakening the dollar, ceased as the financial crisis and economic slowdown spread also elsewhere. Third, the financial crisis brought about a decrease in financial leverage and risk appetite, thus leading to an extensive unwinding of carry transactions. This is indicated by the fact that in the primary months of crisis (September-October), it was the currencies with lower interest rates – the Japanese yen, the US dollar and the Swiss frank – that appreciated in advanced economies. From the beginning of the year until October 31, the yen appreciated by nearly 34%, the US dollar by 17% and the Swiss frank by 15% against the currencies of other G7 countries. However, the biggest losers were the currencies formerly known for high interest rates, such as

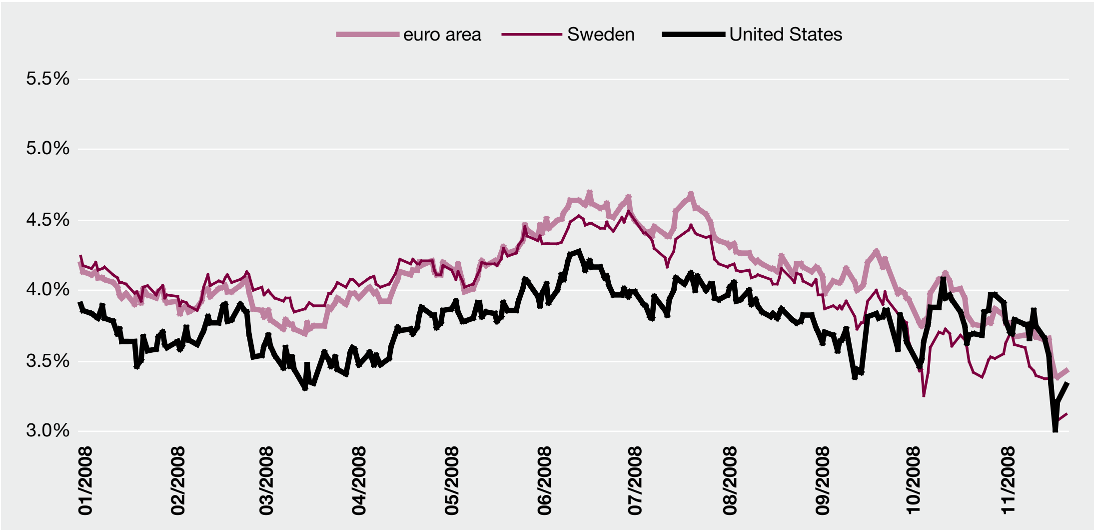

Figure 5. 10-year interest rates in the euro area, Sweden and the United States

Source: EcoWin

the Australian dollar and the New Zealand dollar (both dropping 14%).

In sum, foreign exchange markets witnessed the following developments from the beginning of April until end-October: the euro depreciated against the dollar by 19.4% to the level of 1.27 and the Swedish krona depreciated against the euro by 5.5% to 9.88 (see Figure 6). The Japanese yen appreciated against the US dollar by 0.7% to 98.44. As the financial crisis deepened in September and October, the average daily volatility of exchange rates increased nearly 4 to 5 times compared to July and August. The exchange rate of the Latvian lat has slightly depreciated against the euro compared to the beginning of the year.

The upward trend in the **commodity markets** stopped in the second quarter as slower economic growth had eased demand. The CRB index, which reflects the prices of 22 major commodities, started to decrease in July, falling nearly 18% from the beginning of the year until October 31.

The price of **crude oil** (WTI) continued to increase until the beginning of July and reached a record high of 145 US dollars per barrel. However, this was followed by a drastic fall and in October the price was already 60–70 US dollars per barrel, which was over two times lower than the July's peak (see Figure 7). This caused concerns for OPEC, which discussed reducing the production in order to stabilise the price.

The price of **gold** peaked on March 17 at 1,002 dollars per ounce. By the end of October, the price of gold had decreased by 13.8% due to lower inflation risk and the appreciation of the US dollar.

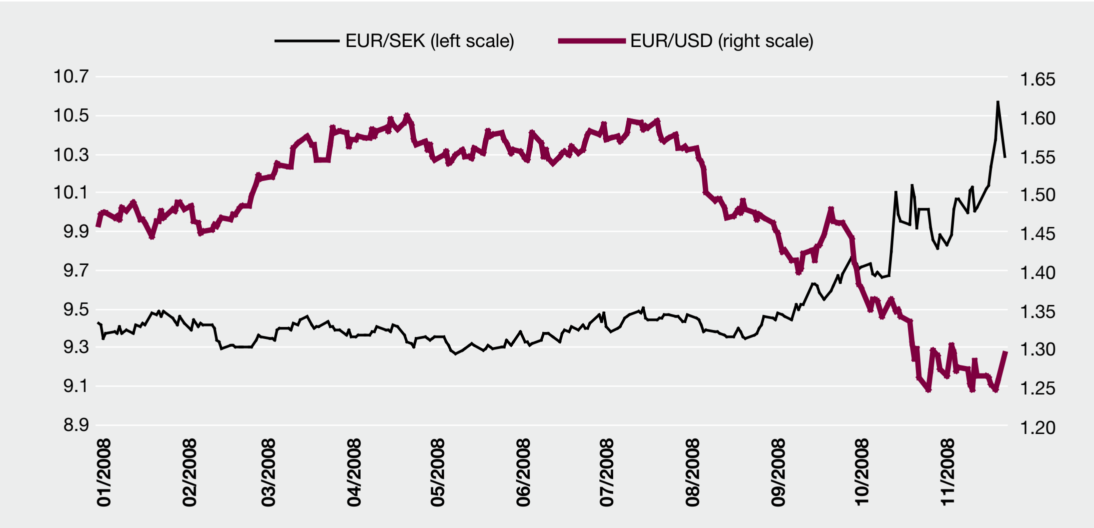

Figure 6. Exchange rate of the euro against the Swedish krona and the US dollar

Source: EcoWin

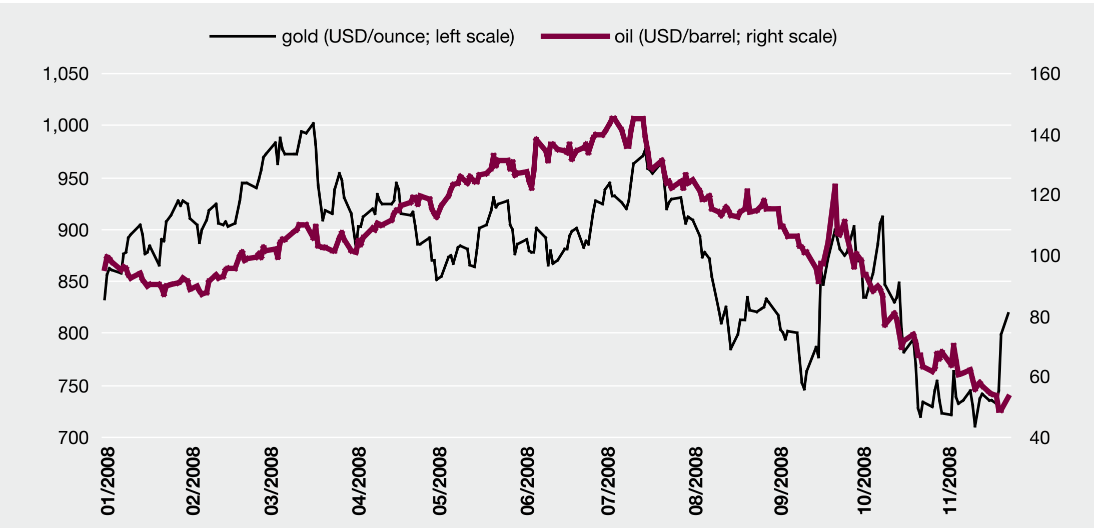

Figure 7. Prices of gold and crude oil (WTI)

Source: EcoWin

PROGRESS OF THE GLOBAL LIQUIDITY AND CREDIT CRISIS

The financial crisis that had started off from the cooling of the US real estate market and the accumulation of mortgage delinquencies deepened considerably in September and October, when the lack of trust between banks resulted in an increasing number of financial institutions with liquidity problems. The crisis originating from the US quickly extended to Europe and achieved global dimensions soon after. The earlier hope that at least some countries remain relatively immune to the economic and financial difficulties of advanced economies faded and the crisis unfolded fully also in emerging economies.

The turbulence in financial markets has also affected the non-financial sector and has increased the risk of global economic recession. Several central banks and governments have separately as well as together developed support measures for stabilising the financial system but have not so far succeeded in creating enough confidence in the markets.

After the takeover of the US investment bank Bear Stearns & Co by JP Morgan in March, financial markets adopted a wait-and-see approach. Tensions escalated again on September 7 when the Federal Housing Finance Agency (FHFA) declared together with the US government and the Federal Reserve Bank that Fannie Mae and Freddie Mac – the mortgage loan agencies experiencing financial difficulties – would be placed into conservatorship. The purpose of the governmental takeover was to ensure the stability of financial markets and the availability of housing loans to support the housing market and protect the interests of taxpayers.

However, markets' positive reaction to government intervention was short-term because the lack of trust between investors hit new major market participants and the next on the endangered list were the biggest US investment banks. After Bear Stearns, the next of the four remaining Wall Street investment banks to disappear was Merrill Lynch, which was acquired by the Bank of America on September 14. On September 15, Lehman Brothers, the fourth largest investment bank in the US, filed bankruptcy petition because of liquidity problems. This time the government was unwilling to support the takeover and due to great losses and undetermined amount of debts potential investors also lost interest in the takeover. The era of Wall Street investment banks ended on September 21 when the last two giants, Goldman Sachs and Morgan Stanley, were turned into bank holding companies.

Besides the investment banks, a leading insurance company in the US, American International Group (AIG), also faced liquidity constraints. Again the Federal Reserve stood up to save AIG and on September 16 informed the public of granting AIG a liquidity loan in the amount of 85 billion US dollars (in October, the credit line was increased by another 37.8 billion dollars). September 25 witnessed the bankruptcy of the largest savings and loan association in the US, Washington Mutual. This was the biggest collapse in the US banking history. The Federal Deposit Insurance Corporation (FDIC) sold the frozen assets and part of the liabilities of Washington Mutual to JP Morgan. Next in line was the sixth largest bank in the US, Wachovia, who reported of selling its assets to Citigroup on September 29. However, the transaction with Citigroup failed since the assets were sold to Wells Fargo who made a better offer.

Due to close economic ties, the crisis quickly extended to Europe where the lack of trust between banks forced several governments to take steps for saving the financial sector. In addition to the British bank Northern Rock, which faced a serious liquidity squeeze in autumn 2007 after the massive deposit withdrawal and which was nationalised, the next victim of the crisis was the British banking and insurance group HBOS, whose takeover was announced on September 18 by Lloyds TSB.

On September 28, the governments of Benelux countries informed about the partial nationalisation of Fortis, the largest banking and insurance company in the Netherlands. On September 29, the British government reported the partial (bank's loan portfolio) nationalisation of Bradford & Bingely; retail banking network and deposits were taken over by Spain's largest bank, Banco Santander. On the same day it was reported that the German government and banking consortium would provide credit to the biggest mortgage bank in Germany, Hypo Real Estate (member of the German stock exchange DAX, the owner of DEPFA bank). On September 30, the governments of Belgium, France and Luxembourg notified of granting a loan to Dexia – a bank specialising in servicing local governments. On October 13, the British banks RBS, HBOS and Lloyds TSB were partly nationalised. October 16 recorded reports of plans to save the major Swiss banks UBS and Credit Suisse.

The beginning of October witnessed the collapse of the banking sector of Iceland owing to its large external debt. Due to the extensive use of loan resources, the revaluation of assets revealed serious problems for three major banks of Iceland (Glitnir Bank, Landsbanki and Kaupthing Bank) and the banks were nationalised. The Icelandic krona depreciated steeply by about 30% and stock market capitalisation decreased by more than 75%. By the end of the second quarter, Iceland's external debt had increased to 9,553 billion Icelandic kronas (GDP for 2007 was 1,239 billion kronas).

Governments and central banks responded to the systemic crisis with various measures, including the abovementioned nationalisation of banks and series of other extraordinary steps to stabilise the markets. To ensure the functioning of the monetary system, central banks injected extra liquidity to the market. It mainly included the US dollar but extraordinary offers were made also by the European and British central banks. The Federal Reserve introduced new monetary policy instruments and expanded the range of acceptable collaterals to improve the availability of credit. The European Central Bank, the Bank of England, the Federal Reserve, and the central banks of Canada, Switzerland and Sweden made coordinated key interest rate cuts by 50 basis points on October 8 in order to boost the loan market. Several Asian countries (China, South Korea, Indonesia, Hong Kong, Taiwan and Philippines) followed suit.

On September 19, the US Secretary of the Treasury Henry Paulson announced the development of the national rescue plan TARP (Troubled Asset Relief Program, later revised and retitled as the Emergency Economic Stabilization Act of 2008) for the stabilisation of the financial system. The US government proposed to clear the market from non-performing illiquid assets and take on 700 billion dollars worth of problematic real estate investment. The first round of voting in the US Congress on September 29 did not produce enough votes needed to approve the plan. Consequently, the fear and panic in the market deepened and stock markets reacted by falling sharply. The revised rescue plan was approved in the second round of voting on October 3, but the market fall could not be stopped and the expected positive effect was not achieved.

The governments of European countries also took steps to support the markets. On October 8, the British government announced the development of 500 billion pounds worth rescue plan for banks. Banks will receive additional resources, their liabilities will be guaranteed to the extent of 250 billion pounds, the volume of short-term marginal lending facility will be increased and the upper limits of deposit guarantees raised. Several other European governments (Germany, Italy, Austria, Belgium, Denmark, Sweden, Portugal, Greece, Ireland and Spain) also reported raising the upper limits of deposit guarantees. In some countries, government guarantees were given to new bank loans to stimulate the credit market.

In addition, supervision and legislation have been strengthened to achieve stability. Several countries (e.g. the UK, the US, Australia, Germany, Ireland, Switzerland, Canada, France, the Netherlands and Belgium) have established restrictions on short sale to stop the market fall.

To balance global financial markets, the G7 countries have agreed on an action plan according to which:

- all available tools will be used to support systemically important financial institutions and prevent their failure;
- all necessary steps will be taken to "unfreeze" credit and money markets and ensure that financial institutions have access to capital;
- the consistency of national deposit insurance and guarantee programs will be ensured;
- secondary markets for mortgages and other securitised assets will be relaunched;
- measures should be taken in ways that protect taxpayers and avoid potential adverse effects on other countries.

According to the **International Monetary Fund** (IMF), the current priority is to restore trust in the financial sector and avoid the mutual amplification effect of negative developments in the real economy and the financial sector. This requires strengthening banks' capital and ensuring the availability of funding.

In a slightly longer term, it is equally important to strengthen the legislation regulating the financial sector. The IMF has stressed that the risk and liquidity management of financial institutions needs to be strengthened; risks must be clearly reflected in balance sheets and be comparable across different institutions and periods. The current crisis has also shown the significance of efficient crisis management and cross-border supervisory cooperation.

In addition to the direct measures for supporting the financial sector, the IMF recommends taking also macroeconomic measures to foster economic growth. The alleviation of monetary policy might not be sufficient and economy needs additional fiscal stimulus. This can be done in countries where fiscal position is sufficiently strong.

Besides economic policy consultations and the promotion of international cooperation for strengthening the financial sector, the IMF has provided support to countries through loans and economic programmes. The Fund also introduced a new loan instrument at the end of October. This instrument enables to provide quick support to the countries with sound economic policy that need short-time funding in the current crisis situation in order to solve temporary liquidity problems.

Together with other international organisations, such as the Financial Stability Forum (FSF), G7 and G20, the IMF continues work on strengthening the global financial system, taking on the role of coordinator.

Money market

The European Central Bank (ECB) continued tightening the monetary policy stance in the first half of 2008, changing on July 3 the **monetary policy interest rates** that had remained unchanged for more than a year. The minimum bid rate for the main refinancing operations was increased by 25 basis points to 4.25%. The ECB explained this by the growing risk of the so-called second-round effects, which could undermine the price stability goal.

However, as the financial crisis aggravated in the middle of September, the ECB was forced to cut the monetary policy interest rates. Thus at the beginning of October, the ECB in a coordinated action with other major central banks lowered the minimum bid rate for the main refinancing operations by 50 basis points to 3.75%. In addition, the ECB decided to narrow the range of interest rates on marginal lending facility: the difference between marginal lending and deposit facilities was reduced from earlier 200 basis points to 100 basis points.

At the beginning of November the ECB was again forced to cut all monetary policy interest rates by 50 basis points in order to ease tensions in the money market. The interest rate on the main refinancing operations was decreased to 3.25%.

The euro area **interest rates of the interbank money market** had slightly increased across all major maturities already before the spread of the crisis. In October, the loss of liquidity and confidence in the interbank and money and securities market boosted the Euribor to a record high. After that, and mostly as a result of the monetary policy steps taken by the ECB, the upward trend of the Euribor turned.

The difference between the interest rate quotations of the Estonian money market (Talibors) and respective Euribors grew sharply in October and November, as at the time Euribor decreased, Talibor rather increased (see Figure 8).

Money market quotations have quite well reflected the developments in the Estonian kroon derivatives market, which is relatively more active in terms of turnover: **forward premiums of the kroon** have increased across the entire maturity spectrum (see Figure 9). The slightly higher interest of investors to cover the kroon positions

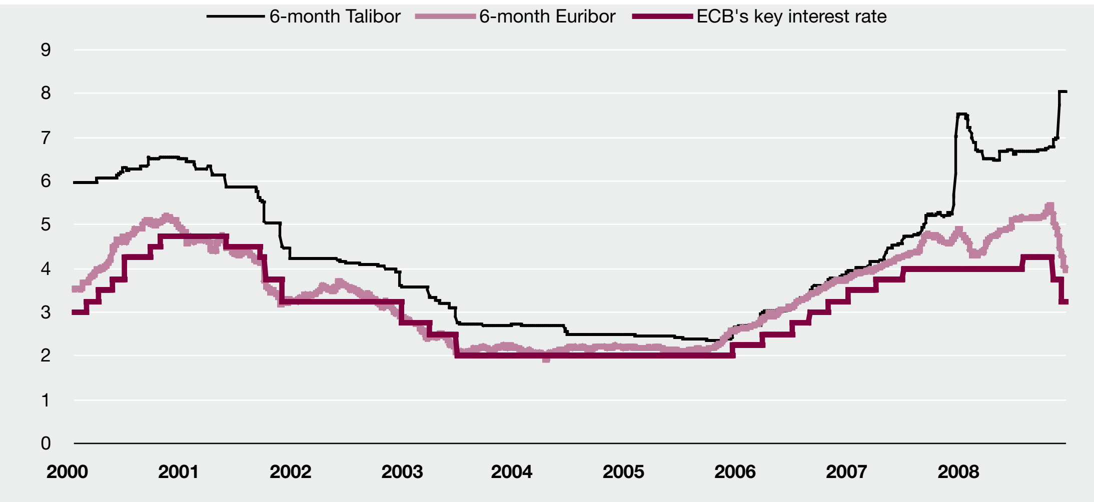

Figure 8. Money market interest rates in Estonia and the euro area (%)

Source: EcoWin

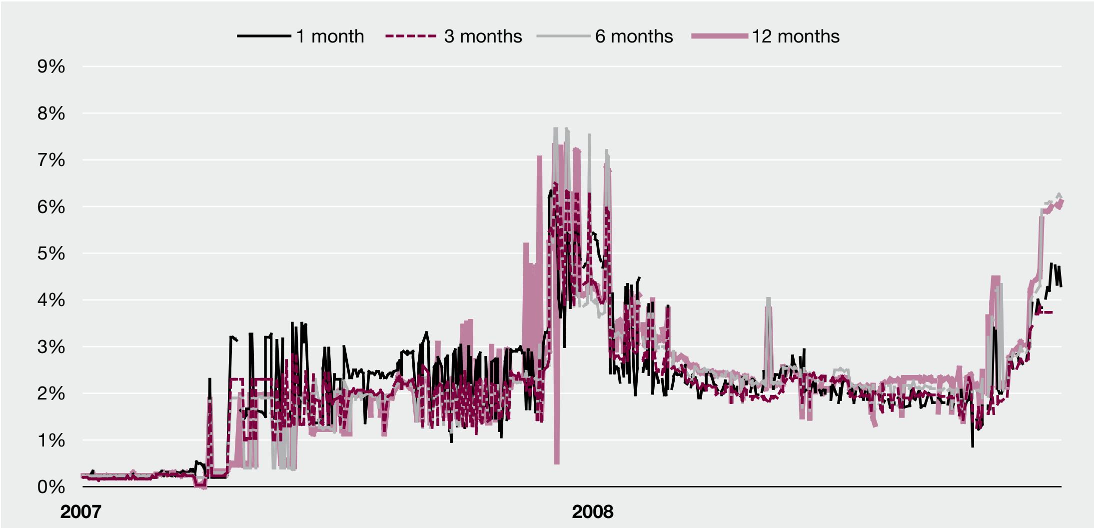

Figure 9. Forward premiums of the Estonian kroon against the euro

Source: Reuters

was to be expected given the lower risk assessments for the Baltic States. On the other hand, until the end of November the prices of derivatives did not reach the high levels recorded at the end of 2007, when the covering of the kroon positions was more active due to devaluation panic.

The **turnover of the derivatives market** remained low in the second and third quarters of 2008 and decreasing further in August and September (see Figure 10). More than a half of the turnover comprised transactions with non-residents. Similar to derivatives, the interest in spot transactions with the Estonian kroon has remained modest.

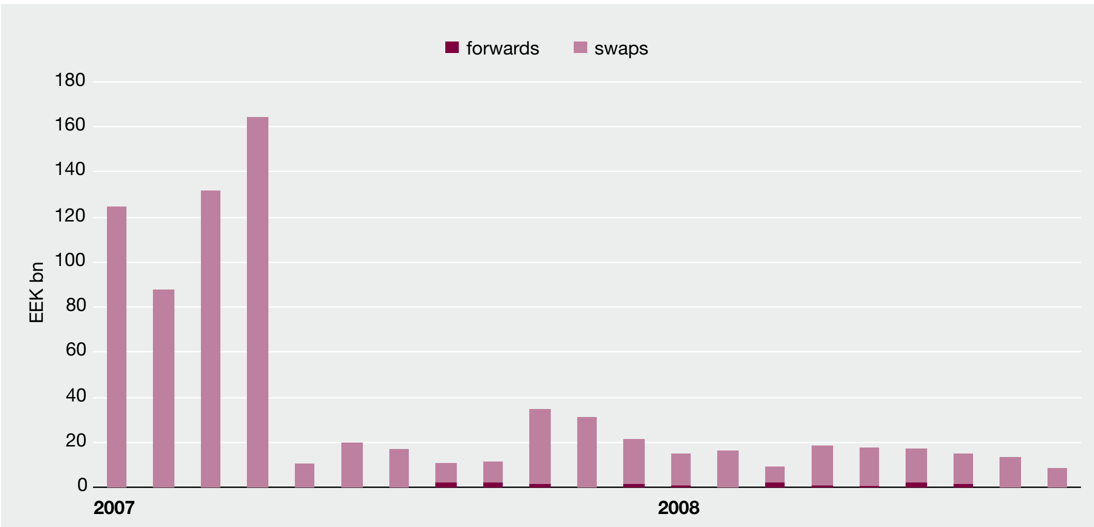

Figure 10. Monthly turnover of derivatives transactions with Estonian credit institutions

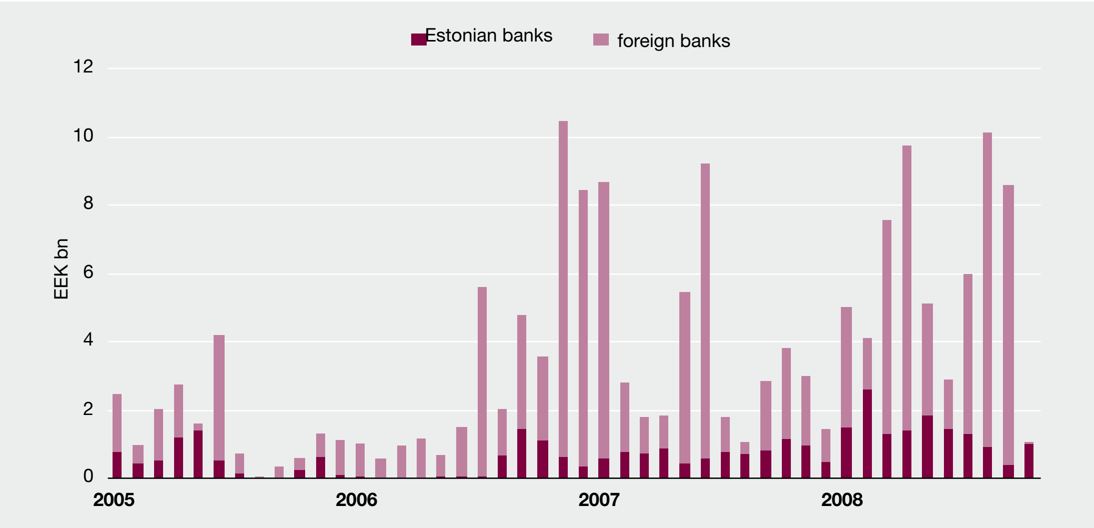

Figure 11. Monthly turnover of short-term kroon loans in the interbank money market

The **turnover of short-term kroon loans** has increased in 2008, whereas from the first quarter, an increase in the lending activity of local credit institutions could be observed (see Figure 11). Swedish credit institutions still prevailed among non-resident market participants. The liquidity management of Estonian credit institutions is centralised at the group level. To convert euros to kroons, the central bank's forex window is widely used.

The liquidity of the Estonian kroon has been stable and no significant failures have occurred in the financial sector's kroon liquidity. **Banks' settlement buffers in the central bank** have been high enough and the banking sector has not had difficulties with fulfilling the reserve requirement (see Section *Interbank payment and settlement system*). Moreover, due to tensions in the international money and capital markets, it became more profitable for some banks to deposit their entire required reserve in Eesti Pank, rather than investing it in other widespread debt instruments, such as government bonds. This, however, had no impact on Estonia's real economy.

Bond market

The **primary bond market** was calmer in the last two quarters compared to the earlier very active quarters (see Figure 12). The annual turnover of the primary bond market had increased only 2% by the end of September despite the high levels recorded in the first months of 2008. The total market capitalisation of bonds amounted to 14 billion kroons at the end of September, forming 5.2% of GDP (5.1% in September 2007). October witnessed the trend of the previous period with the total monthly volume of issues being 90 billion kroons.

The second and third-quarter turnovers (3.2 billion kroons) accounted for only approximately half of the volume of the two previous quarters. Issues decreased in all sectors. The majority of the primary market turnover included the bonds of non-financial sector companies and non-residents – 57.8% and 30.6%, respectively. After the issues of credit institutions in April and May, which totalled 325 million kroons (11.6% of the turnover for the first half-year) there have been no issues.

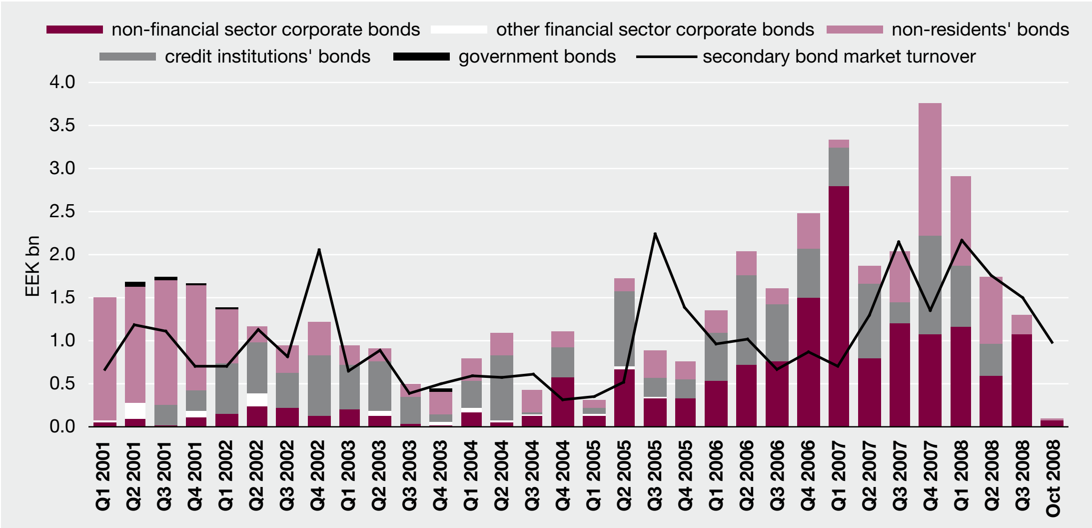

Figure 12. Bonds issued and secondary bond market turnover on a quarterly basis

The majority of the primary market turnover included residents' issues, whereas the share of issues in Estonian kroons decreased (see Figure 13). The issues in Estonian kroon in the past six months constituted on average only 27% of the total turnover (14% in the last quarter). The share of non-residents' issues decreased as well: to 38%.

While turnover growth in the primary bond market was two times lower than in earlier quarters, the monthly average daily turnover of the **secondary bond market** (26 million kroons) remained at the level of the previous half-year.

On the **Tallinn Stock Exchange** the bonds of Balti Investeeringute Grupi Pank were redeemed in the last half-year in the total amount of 170 million kroons. Bonds of three new companies were listed during the same period. The bonds of seven companies[2] had been listed

Figure 13. New bonds by issuer's residence and currency

[2] ABC Grupp, LHV Ilmarise Kinnisvaraportfell, Manutent, Q Vara, SEB Pank, Tallinna Sadam and BIGBANK.

at the Tallinn Stock Exchange as at the end of October. Their total market value was 609 million kroons; that is, 4.6% of the total bond market capitalisation.

The share of resident **investors** in the bond market capitalisation has decreased since 2003, standing at 65% (9.1 billion kroons) at the end of September 2008. Private investors own about 2.4% of the bonds[3] (see Figure 14).

Stock market

The fall hit the Tallinn Stock Exchange at the end of summer 2007 and continued also in the past six months. By mid-November, the value of Tallinn Stock Exchange index **OMXT** had fallen below 300 points. OMTX has decreased by 63% with the year. The value of the index has fallen approximately 74% compared to the peak achieved in February 2007 (1043 points).

Figure 14. Bond investors by residence

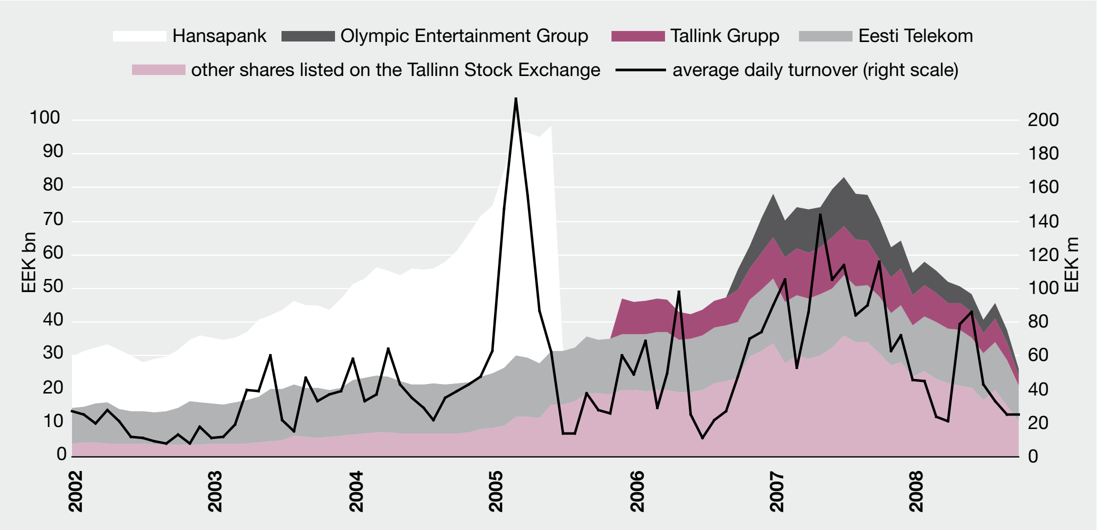

Figure 15. Market capitalisation of shares listed on the Tallinn Stock Exchange and average daily turnover (end-month)

[3] The structure of resident investors is divided into non-financial sector companies, insurance companies/pension funds and an unspecified group (18%, 24% and 25%, respectively).

The **capitalisation** of the Tallinn Stock Exchange has decreased further as a result of a rapid price decline. Total capitalisation was only 26 billion kroons at the end of October (see Figure 15). It has decreased by about 50% over the past six months and by approximately 44.7 billion kroons year-on-year (63%).

The primary list of the Tallinn Stock Exchange included 18 companies at the end of October.[4] The fall in total market capitalisation of listed companies brought along a further decrease in the market capitalisation to GDP ratio, which stood at 10% at the end of October (31% in October 2007).

The **average daily turnover** of the Tallinn Stock Exchange has decreased by approximately 13 million kroons in the last two quarters as a result of the uncertainty in financial markets and the drop in share prices. The average daily turnover for the last two quarters was only 48 million kroons. October was also quiet: the average daily turnover was approximately 25 million kroons.

The most liquid shares over the past six months were those of Tallinna Vesi, Eesti Telekom, Tallinna Kaubamaja and Tallink Grupp, which accounted for most of the turnover of the Tallinn Stock Exchange.

At the end of October, the **Tallinn Stock Exchange** had 31 members.[5] Swedbank, SEB Pank and LHV were again the most active traders, accounting for 35.5%, 20.3% and 14.4% of all transactions, respectively.

While capitalisation of the companies listed on the Tallinn Stock Exchange has lost more than a half of its value over the past six months, the **structure of investors** has remained the same (see Figure 17). The share of foreign investors is continuously high, namely 49% of total capitalisation (18.5 billion kroons). The majority of foreign investors are Swedish (53%). Approximately 10% of residents' investment belong to private investors.

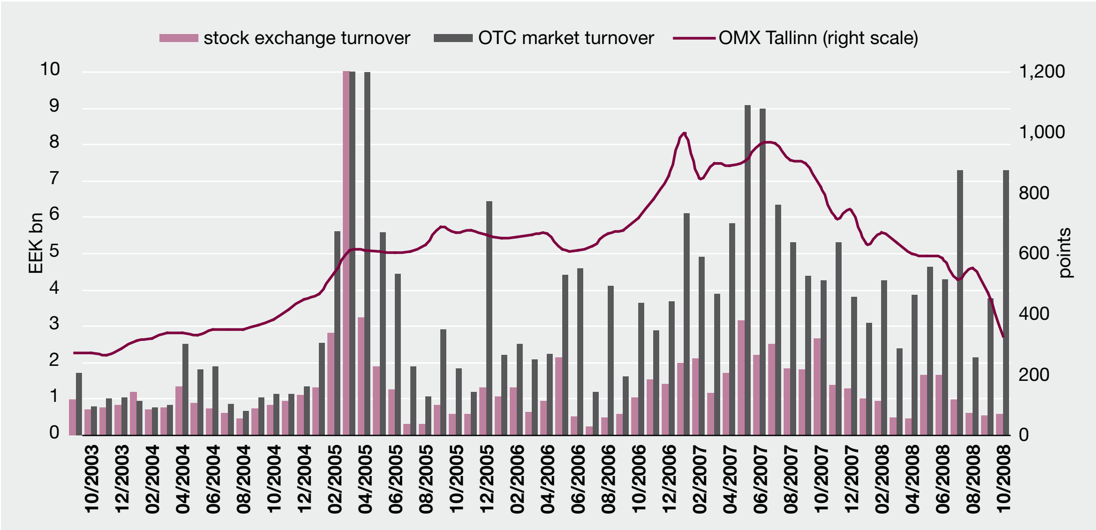

Figure 16. Stock turnover on the Tallinn Stock Exchange and OTC market and index OMX Tallinn (end-month)

[4] Saku Õlletehas left the stock exchange on September 19, having been in the primary list for 12 years. The last half-year also witnessed the split of Merko Ehitus into AS Järvevana and AS Merko Ehitus.
[5] The list was extended by four new members: Ukio Bankas, Finasta bank, SEB Pank and Evli Bank Plc. Nordnet Bank and Evli Securities were delisted.

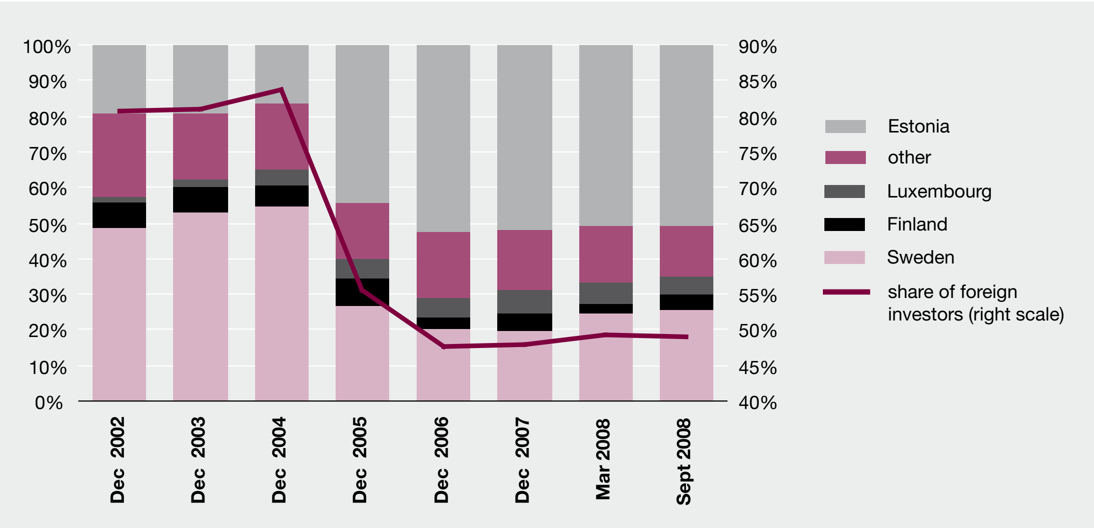

Figure 17. Structure of investors by residence and share of foreign investors of shares listed on the Tallinn Stock Exchange

Investment and pension funds

Since the end of March 2008, the **yield** of investment funds has been influenced by the ongoing global credit and liquidity crisis. The crisis has primarily affected the yield of equity funds, which experienced a robust decline (see Figure 1). By the end of September, the yield of equity funds had reached its all-time low; that is nearly -37% as a moving average. The same developments also characterised the yield of hedge funds, which nevertheless remained positive with about 15%. Contrary to riskier funds, the yields of interest and money market funds continued to increase. By the end of September, the average yield of both types of funds exceeded 4.5%. The last time the yield of funds reached so high was 7 and 8.5 years ago in the case of interest funds and money market funds, respectively.

The SEB Liquidity Fund differed from other interest funds with its units being written down by 13%. This was caused by the losses from owning securities of Icelandic financial institutions that encountered major difficulties as a result of the global financial crisis. A few days after informing about the write-down, the management of SEB Pank decided to compensate for the unit holders' losses incurred by the revaluation in order to save the reputation of the SEB Group.

Although the developments on the global financial markets have turned the annual yield of riskier pension funds negative, the value of the funds has increased by an average of 13–25% since their establishment (see Figure 2). The value of the second pillar pension funds is approximately the same as in 2005. Over the years, the funds harbouring a conservative strategy have increased their value by 13%, the funds with a balanced strategy by 17% and the funds with an aggressive strategy by 25%.

Influenced by the events on financial markets, **growth in investment fund assets** started to slow at the beginning of 2008, followed by the start of a decrease in assets in mid-summer (see Figure 3). At the end of September, they stood at the level of end-2006 with 18.3 billion kroons, having lost a quarter of their volume with the year.[1]

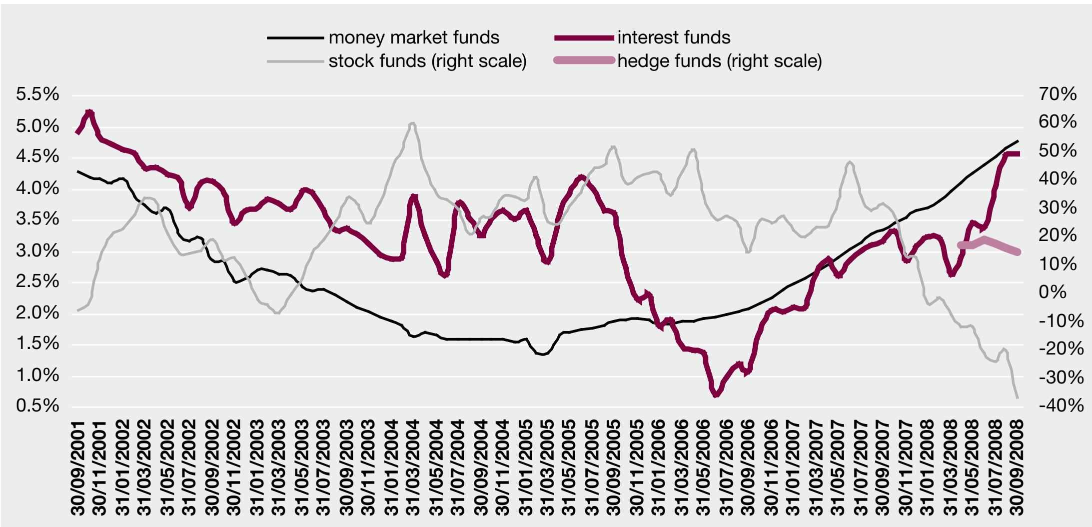

Figure 1. Average annual yield of investment funds at end-month

[1] Owing to changes in investment strategies the SEB Liquidity Fund and the Sampo Liquidity Fund, which used to operate as money market funds, are now operating as interest funds since the beginning of 2008 and October 2006, respectively.

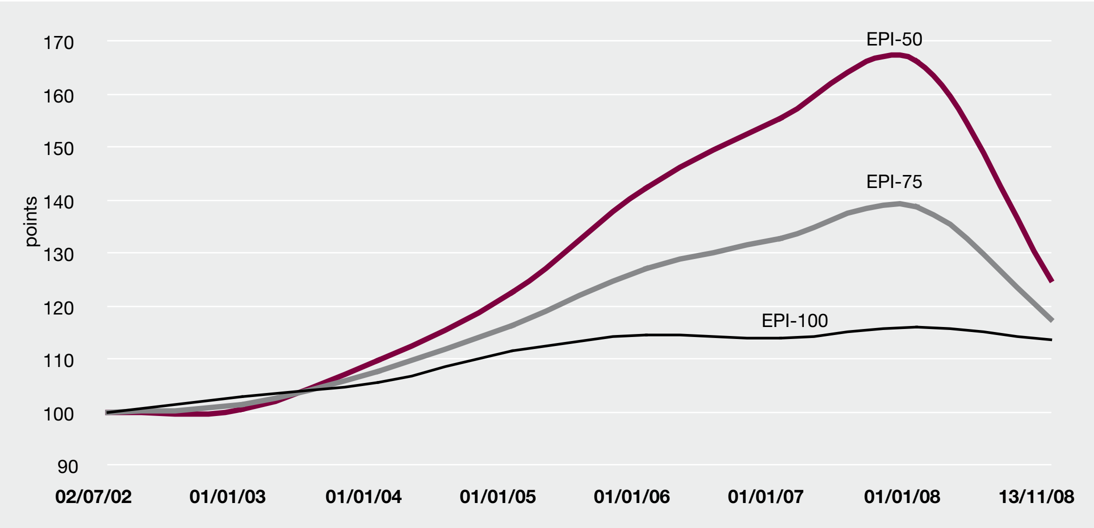

Figure 2. Second-pillar pension fund indices

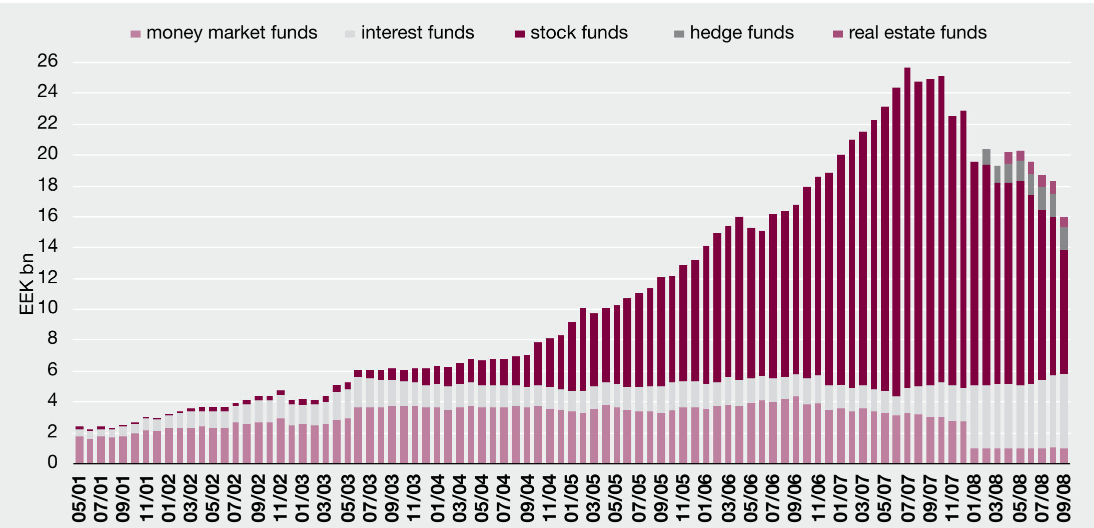

Figure 3. Value of investment fund assets at end-month

The rapid decrease in assets was slightly offset by the market entry of new hedge and real estate funds. They comprised 13% of total investment fund assets at the end of September.

The growth rate of the second pillar funds continued to decline due to the high comparison basis and the shrinking yield, reaching 30% at the end of September (see Figure 4). The total volume of second pillar funds reached 12.9 billion kroons. The total volume of the third pillar exceeded 3 billion kroons. The share of funds in the total third pillar dropped to 32% as a result of a sharp deceleration in the annual growth of assets.

According to imputed estimates, 63% (7 billion kroons) of the year-on-year decline in investment fund assets stemmed from the **decreasing yield of assets**. The rest (that is 37% or approx-

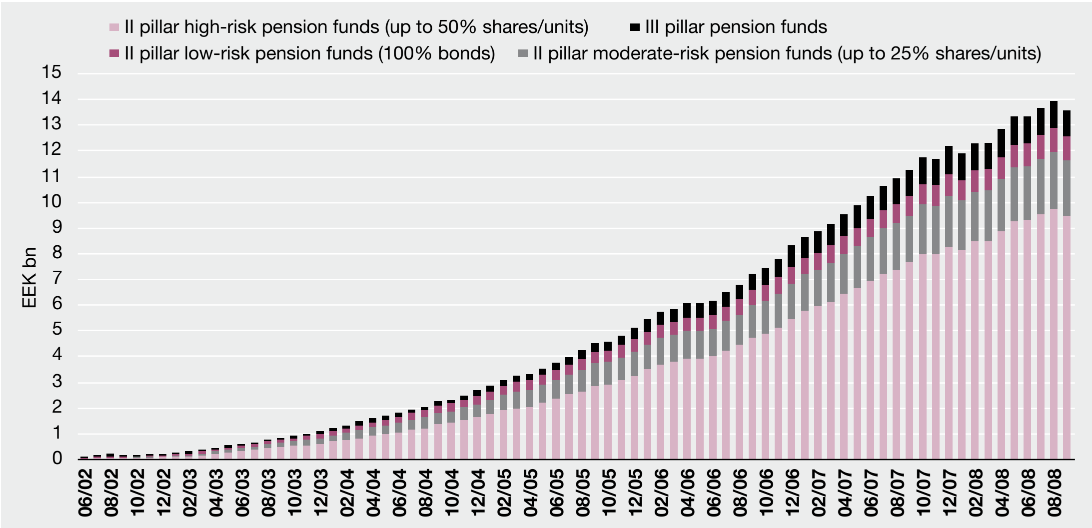

Figure 4. Value of pension fund assets at end-period

imately 4 billion kroons) consisted of capital withdrawn from investment funds. The majority (4.5 billion kroons) of the relocated capital was withdrawn from equity funds, causing their assets to diminish by nearly a quarter with the year. The slight decrease in the assets of money market funds (about 75 million kroons were withdrawn over the year) was somewhat alleviated by the increasing yield of those funds. As a consequence of the relocation of investment only the value of interest fund assets increased, whereas 74% of the increase can be attributed to new capital.

The **share of foreign assets** in fund assets, which had been rising moderately, started to descend again at the end of the fourth quarter of 2007. By end-September 2008, foreign assets comprised about 70% of total assets (see Figure 5). Foreign assets have decreased mainly on account of residents' investment in bonds and deposits. The share of such investment grew from 22% half a year ago to 28% of total fund assets by the end of September. The main reason for investing in Estonia, especially in the deposits of the credit institutions operating in Estonia, is the relatively high interest rate on deposits in Estonian kroon and a comparatively stable income base compared to the highly volatile securities markets.

As regards investing in foreign markets, the popularity of riskier and emerging markets is waning, while focus has shifted towards more stable markets (see Figure 6). For instance, investment in the EU countries has remained at 77% of total foreign investment for the last few years, but the share of the old and more advanced member states has risen to almost 70%. In autumn 2007 the total value of instruments issued to the Estonian stock, bond and fund market among the assets of investment and pension funds registered in Estonia decreased to 10%. By the end of September 2008, it had risen to 18% and totalled about 5 billion kroons. 14% (708 million kroons) of the capital invested in the Estonian securities market was channelled to the funds of Swedbank (former Hansapank).

In general, the invested capital of the investment and pension funds registered in Estonia to other funds decreased over the last six months (see Figure 7). At the end of September, 90% of the third pillar pension funds and 75% of the second

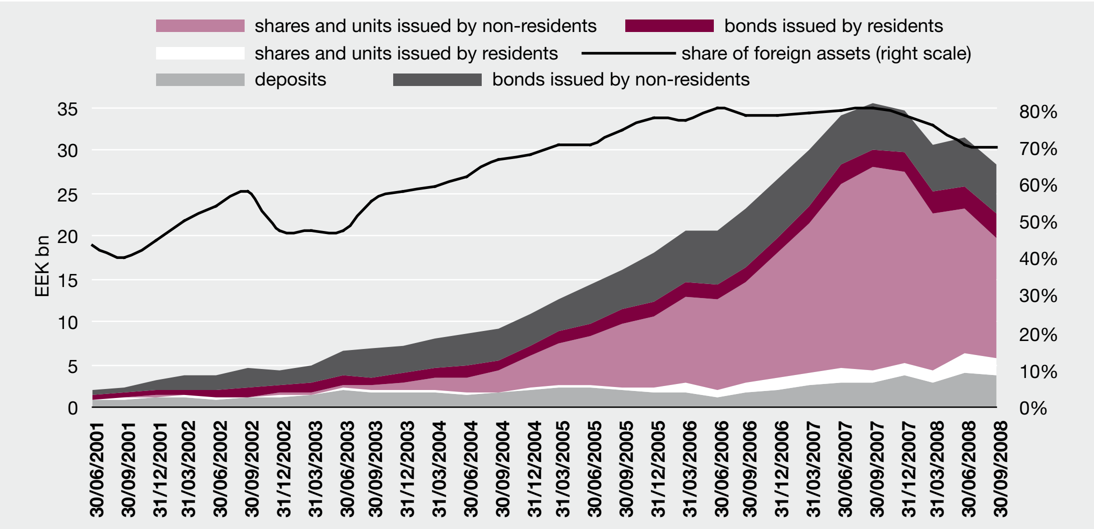

Figure 5. Structure of investment and pension fund assets and the share of foreign assets

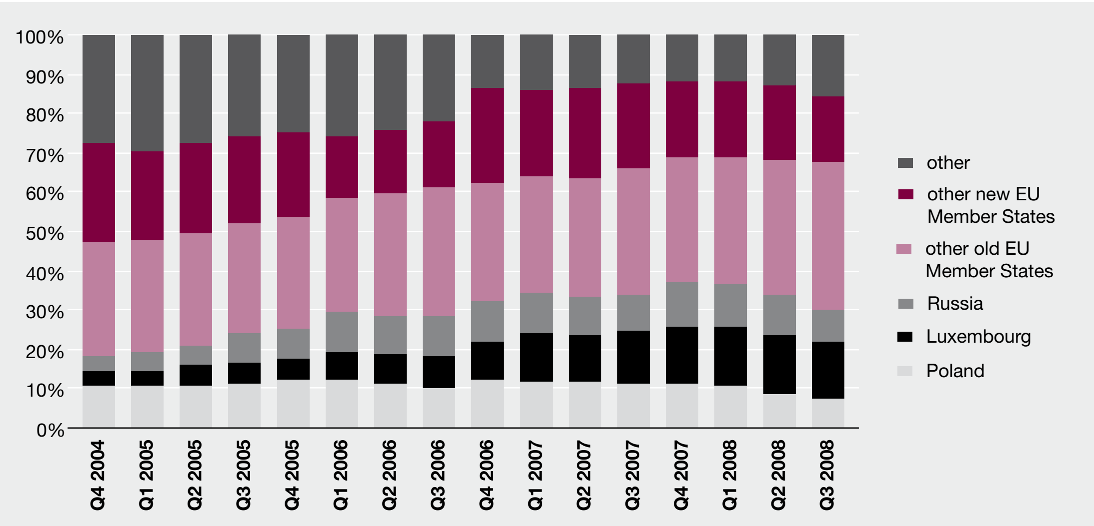

Figure 6. Foreign investment of investment and pension funds by residence at end-period

pillar pension funds had invested in investment fund shares or units. Third pillar pension funds had invested over two thirds and second pillar pension funds 44% of the assets. Over half of the equity and hedge funds had invested in other funds. Meanwhile, the investment made by equity and hedge funds in other funds continued to grow, reaching 21% and 3%, respectively. Interest funds considerably cut their investment in other funds. Money market and real estate funds did not have any shares or units invested to other funds.

Eight new pension funds (four second pillar and four third pillar funds), one equity fund, one interest fund, two hedge funds and three real estate funds entered the market in the last half-year.

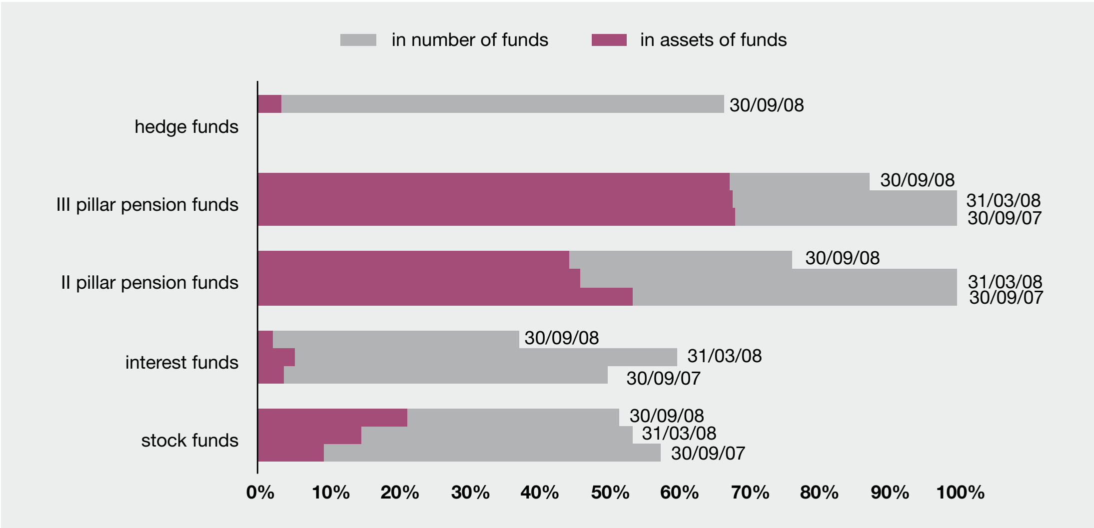

Figure 7. Share of investment funds invested in other funds at end-period

Insurance

The IMF expects the losses stemming from the financial crisis of the global insurance market to amount to 17% of the financial sector's estimated total expenses.[2] In September, the US government rescued the world's largest insurance company AIG in order to avoid an even greater collapse in the financial sector. In October, a small Japanese life insurance company Yamato Life Insurance Co filed for bankruptcy after the failure of alternative investment strategies. So far, the financial crisis has had a limited impact on the European insurance companies, but the persisting turmoil in the financial markets – primarily the dropping stock prices and the shrinking yield of long-term debt securities – is already undermining the creditworthiness and profitability of insurance companies. Currently, the insurance sector is mostly facing technical risks as well as risks related to the decreasing value of the investment portfolio and reputation.

Life insurance

In the first quarter of 2008, the loss of the life insurance companies registered in Estonia totalled 82 million kroons. Along with the slight stabilisation of the financial markets also the profitability of insurance companies improved in the second quarter, posting only a 4.2 million kroon loss. In the third quarter the loss increased again; this time to 75 million kroons (see Figure 8). In conclusion, while the profit earned in the first nine months of 2007 reached 127 million kroons, the loss for the same period in 2008 amounted to 161 million kroons. The poor results have been largely caused by the total losses on investment and the decrease in sales turnover.

968 million kroons[3] of insurance payments were collected in the first nine months of 2008; that is 30% less than in the same period last year. The sales turnover has been adversely affected by the cautious financial behaviour of households. The majority of collected gross premiums are unit-linked life insurance payments, although the life insurance premiums of this type have shrunk by 49% compared to premiums collected in the first nine months of 2007. The sale of unit-linked life insurance has largely been affected also by the insecurity in the stock and securities markets.

[2] "Global Financial Stability Report – Financial Stress and Deleveraging Macrofinancial Implications and Policy", World Economic and Financial Surveys.

[3] Including only the insurance payments paid pursuant to insurance contracts concluded in Estonia.

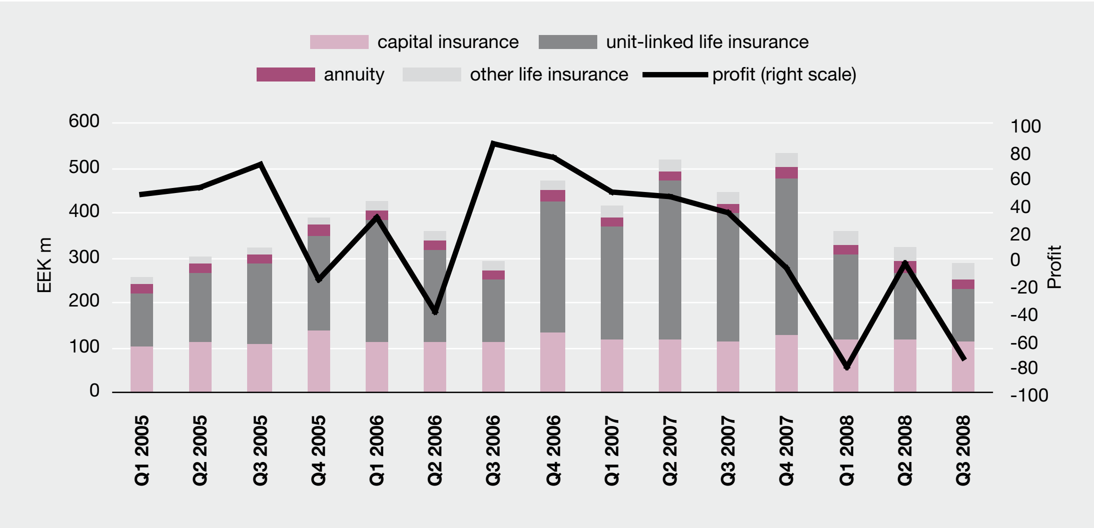

Figure 8. Profits of life insurance companies and gross premiums from residents

Consequently, this year the yield of investment has diminished by 2% on average.

Insurance companies have set a goal to maintain the liquidity of financial instruments when making investment decisions. Only securities with high ratings are obtained to curb the credit risk. Compared to the third quarter of 2007, the share of bonds and other fixed-income securities in the investment structure as well as that of shares and units has dropped. At the same time, time deposits in credit institutions have grown by about 60% (see Figure 9). Currently, banks are offering securer interest income than stock markets. In terms of volume, unit-linked life insurance investment has shrunk by 1.36 billion kroons since the beginning of 2008, comprising 44% of the 7 billion-kroon balance sheet total of life insurance companies in the third quarter.

The number of paid insurance claims has substantially increased over the year, namely 123%. The benefits paid in the second and third quarters of 2008 totalled 503 million kroons; 67.4% of the benefits were unit-linked life insurance payments. The termination rate of insurance contracts has also risen, to 1.7% in the third quarter, especially as regards endowment insurance. A year earlier this indicator stood at 0.95%.

The ratio of operating expenditure to insurance premiums has increased over the year, but this has been caused by a decrease in insurance payments rather than an increase in expenditure. In the third quarter, the expenditure stood at 237 million kroons; conclusion costs totalled 62.1%, administrative costs accounted for 3.6% and claim handling costs for 1.9% of the expenditure. Loss adjustment expenses have increased the most year-on-year (45.7%). Administrative costs have soared by 20%, but their share in total operating expenditure has declined by 1.13%.

The equity capital of insurance companies totalled 809.4 million kroons as at September 30, 2008. The return on equity for the four last quarters stood at -19.7% at the end of September. The first half of 2008 also witnessed a violation of the minimum requirement of own funds, when the own funds of one life insurance company were below 3.2 million euros.

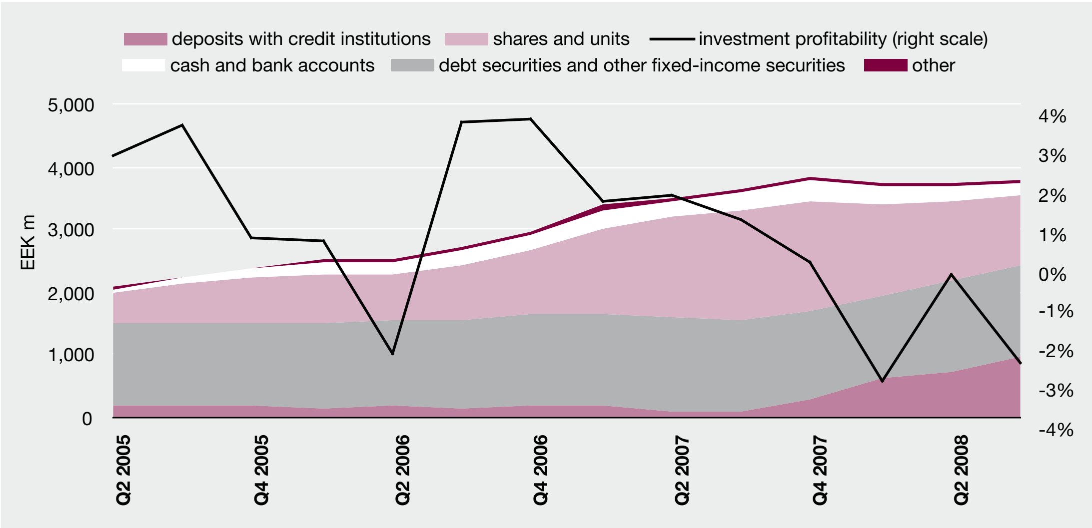

Figure 9. Structure and profitability of life insurance companies' investment

Non-life insurance

The non-life insurance market is expanding in line with the real economy and mainly on account of the compulsory insurance of vehicles and housing purchased by loan or lease. Since economic growth has slowed and domestic consumption has declined, the volume of the gross premiums of non-life insurance companies also shrank in the third quarter of 2008. 952 billion kroons of insurance payments were collected in the third quarter, which is 4.7% less than in the second quarter when the value of payments reached 999 million kroons. In the third quarter, the share of both the third party motor liability and casco insurance in the structure of insurance payments decreased. The share of property insurance, on the other hand, increased by 1.3% (see Figure 10).

The sale of land vehicle insurance grew by only 2.8% owing to tight competition in the non-life insurance market and waning car sales. The number of new cars registered in the first nine months of 2008 was nearly 16% lower than a year ago.

Although gross premiums decreased slightly in the third quarter of 2008, insurance payments have nevertheless grown this year by 6.1% compared to the first nine months of 2007. The profit of non-life insurance companies was 504 million kroons as at September 30, 2008 and exceeded the profit of the same period in 2007 by 61%. Thus, given the current economic situation, the non-life insurance companies operating in Estonia have even been able to improve profitability.

Profits have been stimulated by a decrease in the expense and loss ratio. The latter stood at 23.6% in the third quarter of 2008, being 0.5% lower than nine months ago. More efficient traffic supervision and the dropping traffic intensity along with the past warm winter and the price rise of motor fuel, have reduced the number of traffic accidents by 28% compared to the first nine months of 2007.[4] As a result, the net loss ratio for the first three quarters of 2008 was 60.3%, having declined from the 64.8% registered at the end of 2007.

Although the effects of the economic downturn may appear somewhat later, the profitability of insurance companies should remain high in view of their conservative investment decisions and cost-effective operation.

[4] Source: Road Administration.

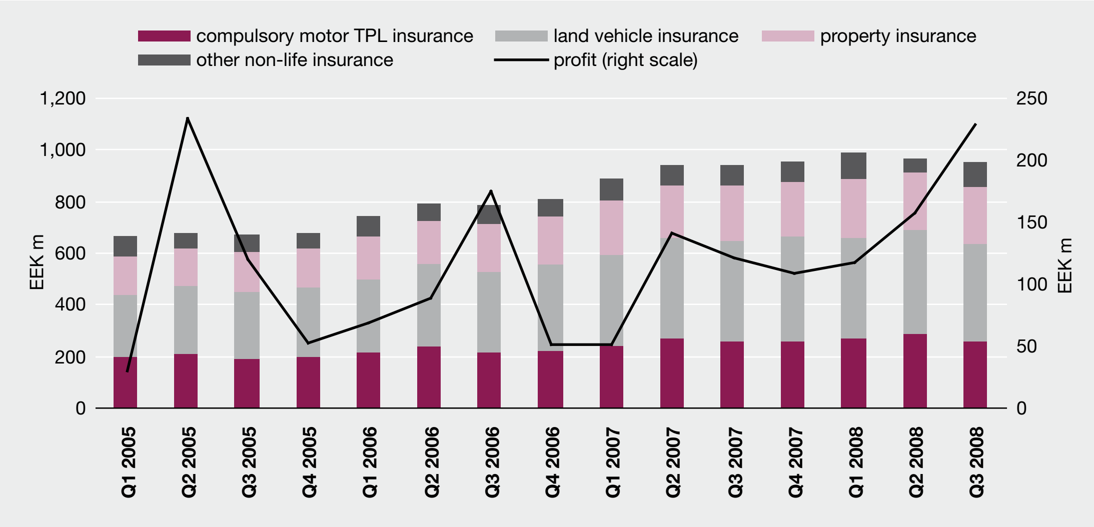

Figure 10. Profit of non-life insurance companies and insurance premiums collected from residents

The volume of investment is growing steadily. At the end of the third quarter, it totalled 4.8 billion kroons and comprised 87% of the balance sheet total of non-life insurance companies. The structure of investment witnessed considerable growth in the share of deposits, which have increased by 86% since end-2007. Investment in debt securities and other fixed-income securities still holds the largest share with 52.5%. The profitability of investment reached the lowest level in the first quarter of 2008 when it became negative (-0.2%). The third-quarter profitability, however, was 0.5% (see Figure 11). Although investment in time deposits earns less interest, the related financial risks are much smaller.

The minimum requirement of own funds was also violated in the non-life insurance market, but the own funds were restored by the end of August after increasing equity capital.

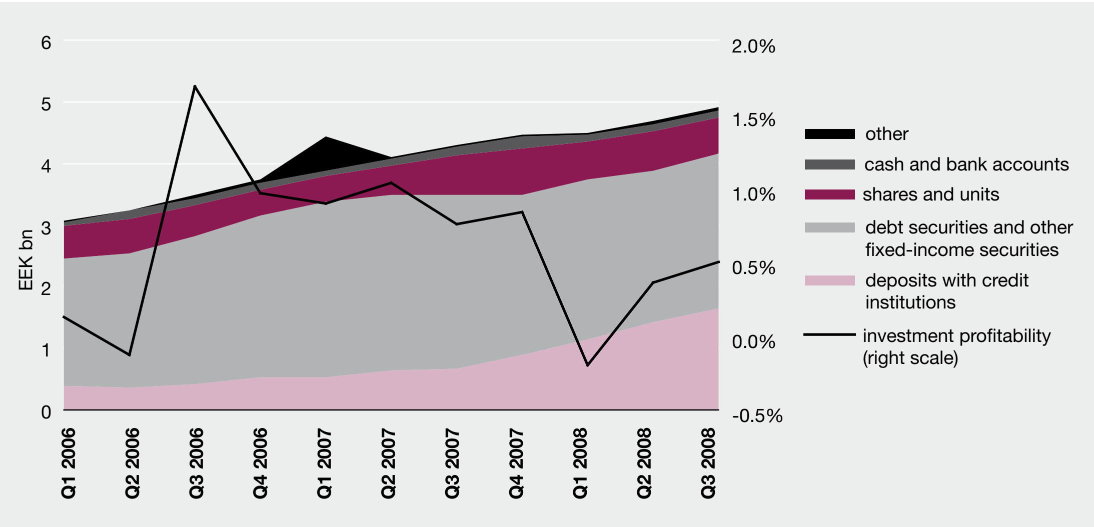

Figure 11. Structure and profitability of non-life insurance companies' investment

V PAYMENT AND SETTLEMENT SYSTEMS

Interbank payment and settlement system

Eesti Pank is managing three interbank settlement systems: the Settlement System of Ordinary Payments (ESTA) for domestic payments, the Real-Time Gross Settlement System (EP RTGS) and TARGET2-Eesti for pan-European euro payments.

The most significant change in the settlement systems of Eesti Pank in the past six months was the implementation of **TARGET2-Eesti** on May 19, 2008. With the introduction of the new and more efficient cross-border system the activity of its predecessor, the TARGET system, was terminated.

In the first six months of TARGET2-Eesti, banks operating in Estonia[1] have used it quite modestly: about 15 payments are processed daily with the average value of 12.3 million euros (see Figure 1). Nearly half of them (49%) are pan-European euro payments initiated by customers.

Although the introduction of TARGET2 expanded the opportunities of cross-border settlements, the banks operating in Estonia have not bought into it yet and the use of the alternative channel for express payments has not gained momentum. Payments received via TARGET2, however, exceed those initiated by over ten times. Estonian banks receive an average of 160 euro payments every day with the average value of 12.3 million euros. As major credit institutions started to use TARGET2-Eesti more actively at the end of September, the value of transactions has surged considerably since then.

The number and turnover of payments processed in the **EP RTGS** has diminished with the year: the number of payments has dropped by 19% and the turnover by 4% (see Figure 2). On average, 277 payments with a value of 5 billion kroons per day were settled via the EP RTGS in the second and third quarters of 2008. The 171 payments initiated by bank customers comprised 60% of the total number of payments.

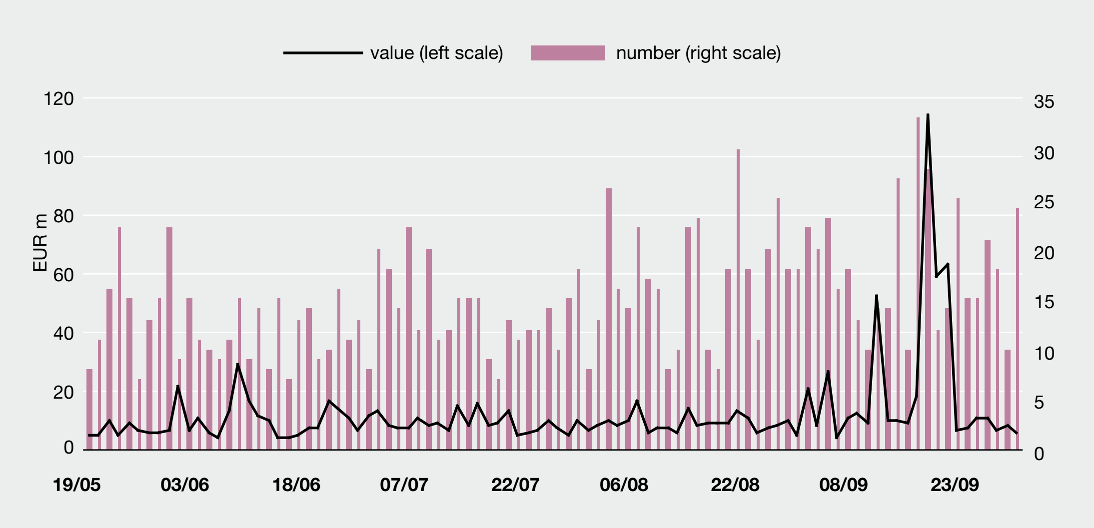

Figure 1. Number of payments processed in TARGET2-Eesti per day and their daily value

[1] The members of TARGET2 are Eesti Pank, Swedbank (former Hansapank), SEB Pank, Sampo Pank, Nordea Bank Estonia, Eesti Krediidipank, Marfin Bank and Tallinn Business Bank.

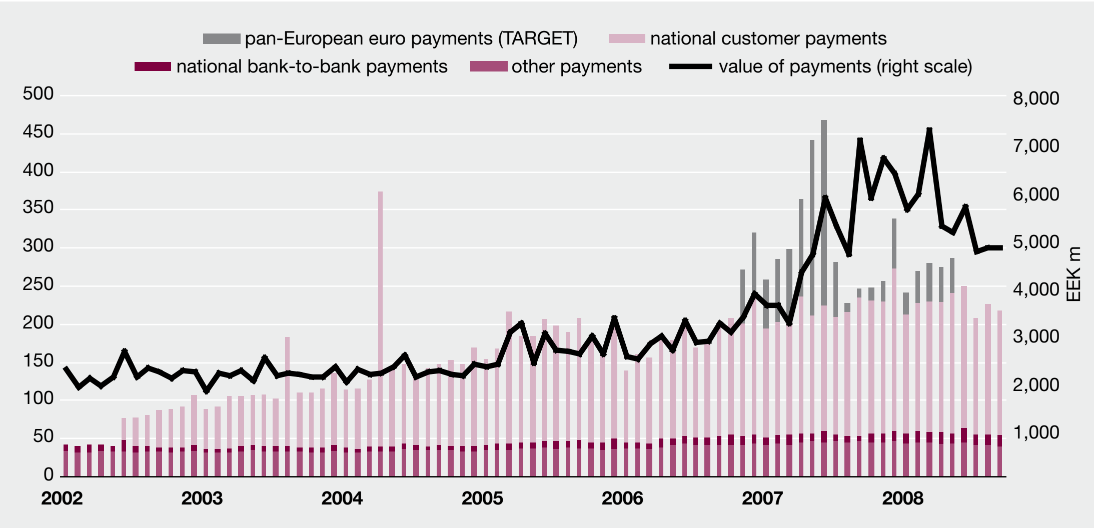

Figure 2. Average number of payments processed in the EP RTGS per day and their average daily value per month

The main reason for the decrease in the number of payments lies in the structural change of the EP RTGS – the transfer of pan-European euro payments from the EP RTGS to TARGET2-Eesti.

In the second and third quarters of 2008, the **ESTA processed 97,000 payments per day**, which is 10% more than a year ago (see Figure 3).

As more and more large payments are settled through the ESTA rather than through the EP RTGS, the average daily turnover of the ESTA is also growing. With the year the average turnover increased by 23% and amounted to 1.8 billion kroons per day. The average value of payments processed in the ESTA has increased to 19,000 kroons.

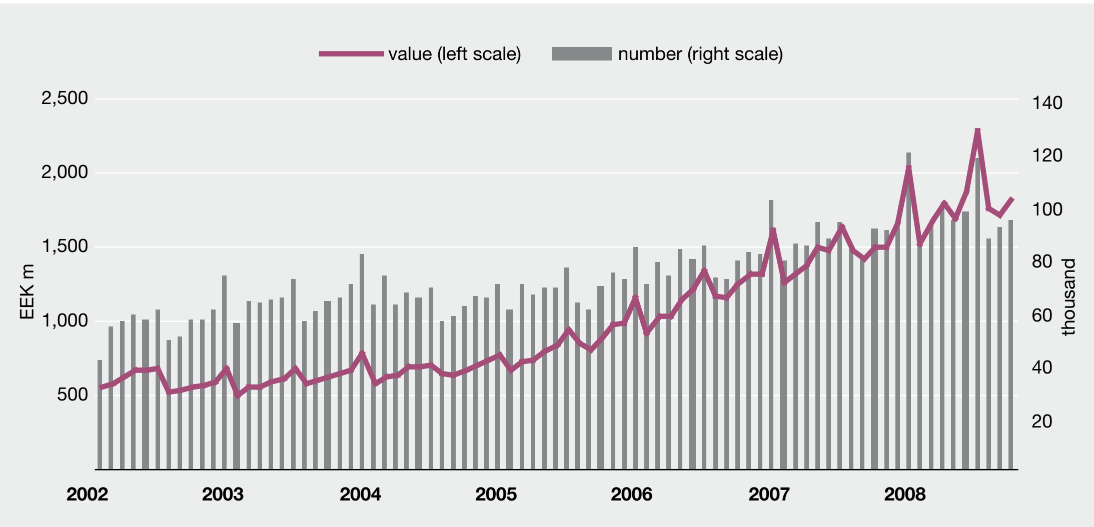

Figure 3. Average number of payments processed per day in the ESTA and their average daily value per month

Payment instruments

Payment environment

The latest survey on financial behaviour, conducted by TNS Emor every autumn, confirms further growth in the use of electronic payment channels. The habits of different population groups still remain different; the use of bank channels is popular with the young and the wealthier. A considerable number of the elderly and people with lower incomes still prefer to make payments in cash or through a post office. The most popular payment instruments are still standing orders and direct debits but also Internet bank transfers.

The popularity of payment cards has surged even further over the last year, especially in the segments where it was above average also in earlier periods, namely among the inhabitants of Tallinn and the young. Most card owners use a debit card to pay for goods and services. Although the share of credit card users has climbed, it still comprises less than a tenth of all payment card users. People with lower incomes and pensioners still prefer paying in cash.

The payment habits and preferences are strongly related to how incomes are received. The survey results confirmed that, as in earlier years, the number of people who receive their incomes to bank accounts has risen (89% of wages and state allowances are transferred to bank accounts). The share of those who receive incomes in cash has declined to 19% (26% in 2007). These are mostly people whose incomes remain considerably below Estonia's average (under 7,000 kroons per month) and pensioners. However, also the retired have started to prefer the receipt of incomes to bank accounts.

The number of POS accepting card payments (16,001) and ATMs (1,002) has grown over the last year, but mainly owing to the increase in cash dispensers (see Figure 4). Year-on-year, the number of payment dispensers dropped by 25% and by the end of September, only 75 had remained in operation. Furthermore, the number of POS accepting mobile phone payments has plummeted from 2,152 to 796 POS.

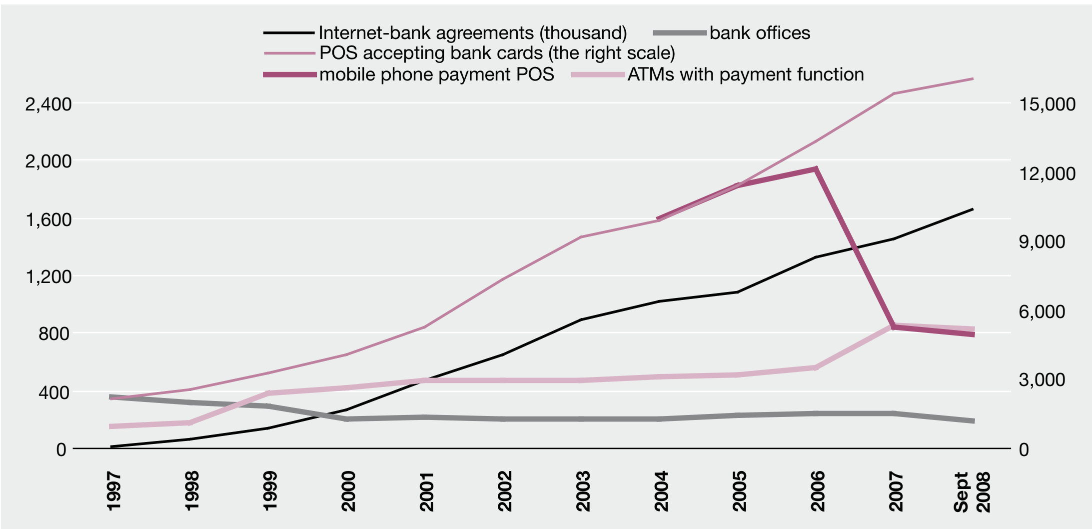

Figure 4. Channels for retail payments in Estonia (end-of-period figures)

Payments intermediated by credit institutions

Similar to previous years, the most popular non-cash payment instruments are card payments and credit orders (see Figure 5). In September 2008 they accounted for 56% and 37% of all non-cash payments, respectively. The most popular channels for credit orders were the Internet bank and telebank, which comprised around 88% of total credit order transactions. Also standing orders have gained more ground, though amounting to only 3.2% of all non-cash payments.

The total turnover of non-cash payments has grown by about 25% over the past year. The turnover of standing orders and direct debits has increased the most – by 120% and 84% – but their share in the total turnover is still small. The situation of card payments is similar, being the most popular in terms of the number of transactions, but boasting a very low turnover that comprises less than 1% of the total. The majority of the turnover of non-cash payments is produced by paper-based credit orders and payments via the Internet bank and telebank (13.3%, 12.3% and 23.6%, respectively).

Use of payment cards

The number of payment cards issued by credit institutions has grown by approximately 6% over the last year. A total of 1.8 million cards had been issued as at the end of September 2008, most of them debit cards (75%). The share of active debit and credit cards has remained virtually unchanged compared to previous years (80% and 56%, respectively).

Instalment cards and revolving credit cards are the most widespread among credit cards (see Figure 6). The share of charge cards, on the other hand, has been steadily decreasing. By the end of September 2008 it had subsided to 9.6%.

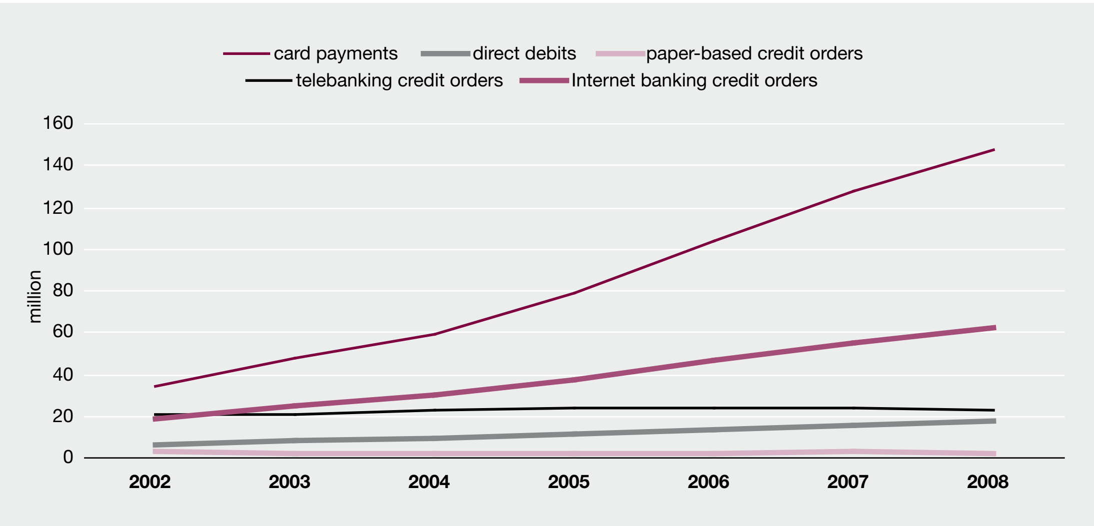

Figure 5. Most common payment instruments in Estonia

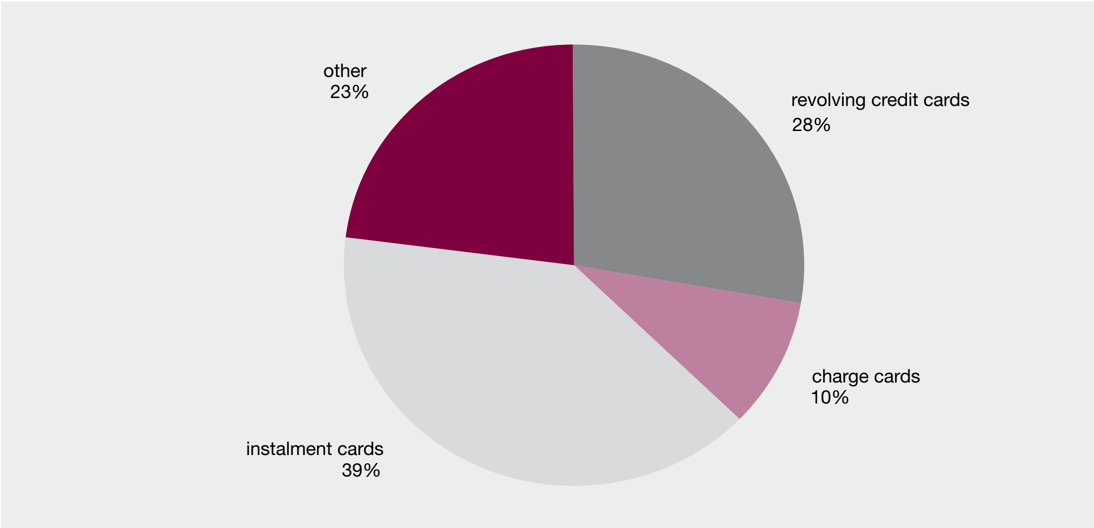

Figure 6. Share of credit cards in Estonia (as at September 2008)

Overseer's assessment of payment and settlement systems

There were no such incidents in the operation of the Estonian payment and settlement systems in the past six months that would have threatened the stability of Estonia's financial sector. The value of transactions processed in the settlement systems increased as a result of the global financial crisis. However, thanks to sufficient buffers the settlement systems experienced no failures that would have entailed the materialisation of the systemic risk in the settlement systems or the financial sector in general.

The functionality and principles of the systemically important settlement systems operating in Estonia – TARGET2-Eesti, the EP RTGS and the ESTA – have been structured so as to minimise the materialisation of potential risks. Nevertheless, some failures occurred in the last six months. The EP RTGS survived one serious malfunction[2] resulting from a communications interruption, which suspended the system's operation for 1 hour and 30 minutes (see Figure 7). The error was localised and repaired, and the business continuity procedure was applied to settle one express payment. The availability of the EP RTGS was 100% in the second quarter and 99.78% in the third quarter.

The ESTA also experienced one communications interruption, which involved all system participants and lasted for 1 hour and 15 minutes. The availability of the ESTA was 99.83% in the second quarter and 100% in the third quarter.

The cross-border payment system TARGET2 also encountered some malfunctions, but these did not influence TARGET2-Eesti. The availability of TARGET2-Eesti remained at 100% throughout the period under analysis. The malfunctions of the settlement systems did not affect financial stability.

[2] According to the risk management procedures, a failure is considered serious if the incident involves several system participants or if it entails the application of business continuity or a decrease in the operability of settlement systems.

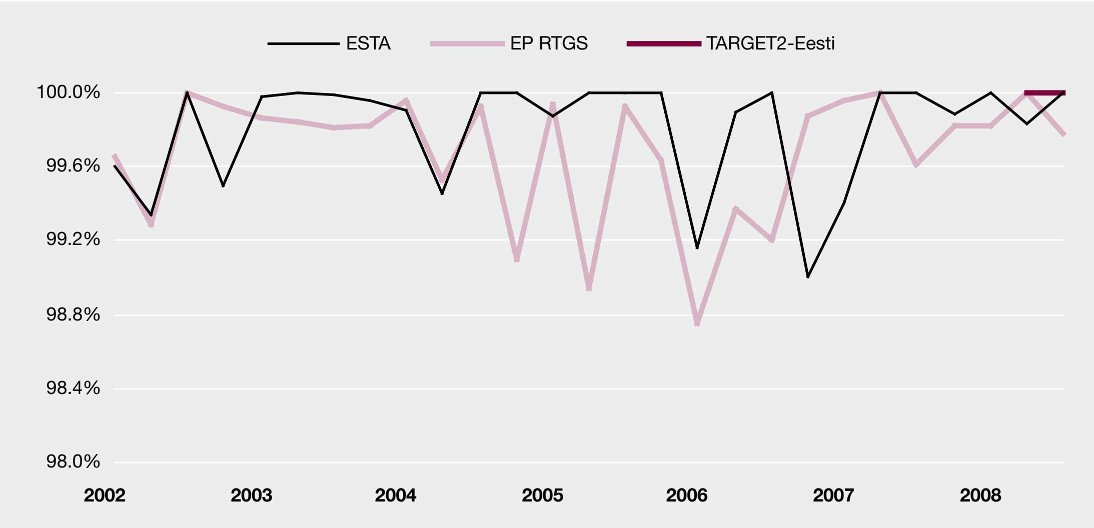

Figure 7. Availability of interbank payment and settlement systems

IMPACT OF FINANCIAL CRISIS ON FINANCIAL SECTOR'S BEHAVIOUR WITHIN THE SETTLEMENT SYSTEM OF EESTI PANK

The influence of the financial crisis on the interbank payment and settlement systems could be perceived from mid-September to mid-October. Namely, the number of interbank settlements soared during that period. This included a nearly 8 billion-kroon cash flow between the major credit institutions operating in Estonia. The credit institutions covered their position changes by making purchase and sale transactions of the Estonian kroon against the euro with the central bank. In general, credit institutions have encountered no liquidity problems. One small bank only survived a malfunction in the ordinary payment system at the beginning of the settlement day owing to an insufficient settlement buffer.

At the beginning of October, the **cash demand** for the Estonian kroon slightly exceeded the customary volume, surging by 7% within the two first weeks, but subsiding by the end of the month. This may primarily be attributed to the preventive measures of banks to hold more cash than usual.

Credit institutions have not faced problems with meeting the **reserve requirement** – all banks complied with the requirement at the end of both September and October. Owing to a deviation in the euro area interest rates from their reasoned levels because of the financial crisis[3], in mid-October some credit institutions fulfilled the reserve requirement only as kroon deposits held with Eesti Pank, temporarily eliminating their high-quality securities held for meeting the reserve requirement base.

[3] Due to tensions in the international money and capital markets, it became more profitable for some banks to deposit their entire required reserve in Eesti Pank, rather than investing it in other widespread debt instruments, such as government bonds. Capital investment in other instruments is generally more profitable, but due to the crisis, depositing capital in central banks became safer and more profitable.