

II BANKING SECTOR STABILITY AND RISKS

Strategic development of the banking sector

The role of the banking sector in the structure of Estonia's financial sector is clearly predominant: at the end of March, banks' financial assets accounted for 124% of GDP (see Figure 1). Stock market capitalisation and leasing portfolios followed with 22% and 16% of GDP, respectively. Owing to the economic adjustment process and developments in the global market in the past six months, financial sector assets have decreased as a ratio to GDP.

Seven companies licensed as credit institutions in Estonia, eight branches of foreign credit institutions and over 190 cross-border banking service providers were operating on the Estonian market at the end of the first quarter of 2008. The number of cross-border service providers has increased by 20 in the past six months.

The number of market participants has increased by two branches of foreign credit institutions: Allied Irish Banks PLC Estonia branch and AB Bankas Snoras Estonia branch. Siemens Financial Services AB Estonia branch left the market. In the first quarter of

2008, the owner of Sampo Pank, Danske, decided to turn Sampo Pank from a subsidiary into a branch of foreign credit institution. This decision will enter into force in summer 2008. Currently the branches of foreign credit institutions are holding around 14% of the market. Once Sampo Pank has become a branch as well, the market share of branches will rise above 25% of the Estonian banking market.

Although some new participants entered the market, the distribution of market shares did not change remarkably in the past half-year. At the end of the first quarter, 95% of the total loan and leasing stock in Estonia had been issued by the four largest market participants. Two of the largest market participants were holding a 71% market share (nearly 73% six months before). The assets of branches of credit institutions or credit institutions controlled by non-resident financial groups accounted for almost 100% of the total assets of banks operating in Estonia.

Quality of assets

The **growth rate** of financing portfolios has decelerated considerably in the last six months. In 2007

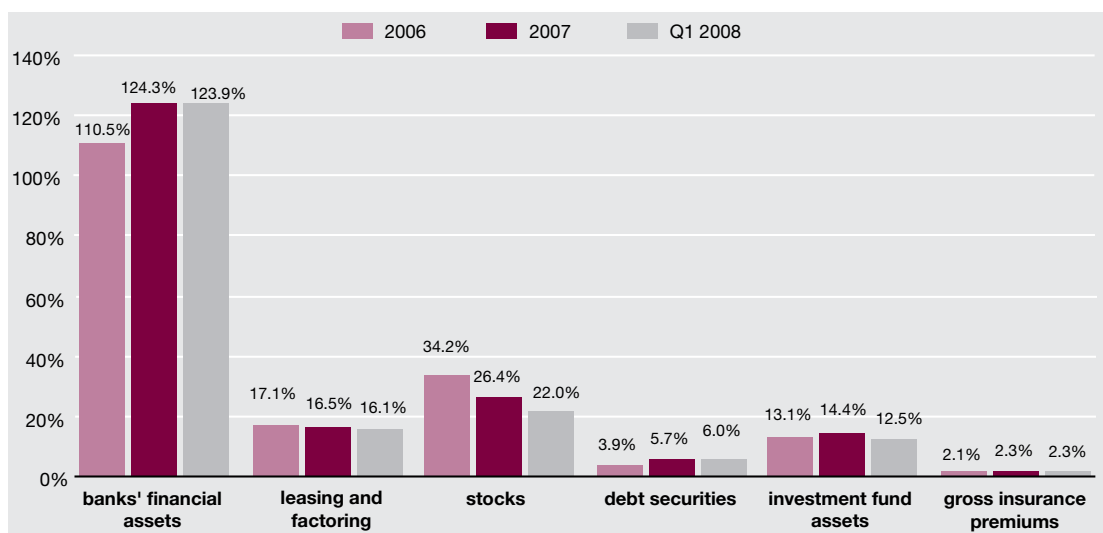


Figure 1. Structure of financial intermediaries

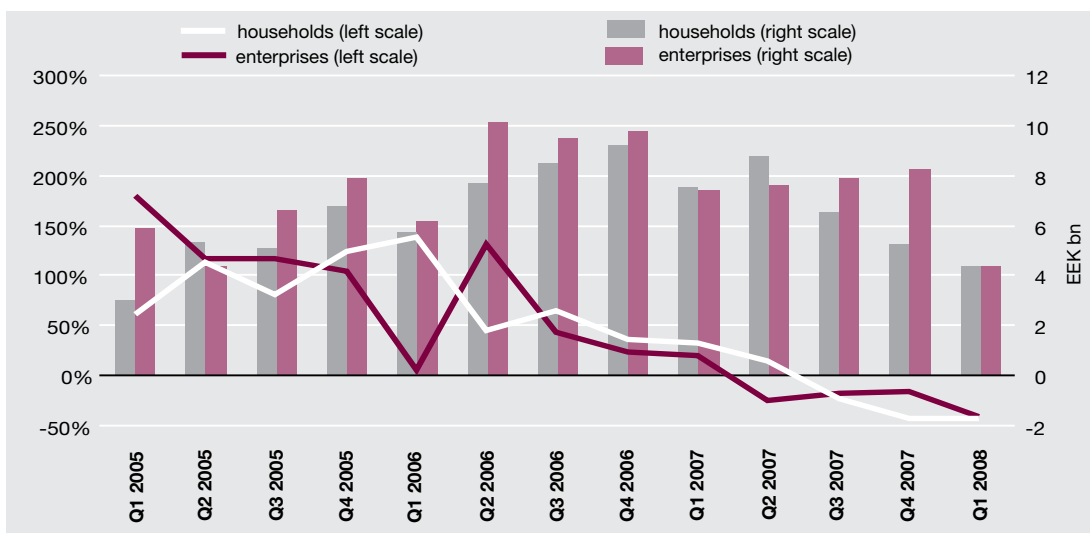


Figure 2. Loan stock added in a quarter and change compared to the same quarter a year ago

portfolios increased by 48% year-on-year, whereas in March 2008 this indicator was 25%. In the first quarter of 2008, the stock of loans granted in a quarter accounted for nearly 58% of the loan stock added in the first quarter of 2007.

At the end of the first quarter of 2008, **foreign currency loans** (the majority issued in euro) constituted 80% of the loan stock of Estonia's non-financial sector. The share of euro loans among corporate loans has somewhat increased (by 5 percentage points) over the year. However, the high share of foreign currency loans is not an issue of concern in terms of financial stability because:

- loans have been taken in a foreign currency to which the exchange rate of the Estonian kroon is pegged;
- the Estonian kroon belongs to the exchange rate mechanism ERM II, and when Estonia will adopt the euro, the central rate will be used;
- the natural exchange rate risk has been covered, as the income level of economic agents (even if they work in the non-tradable sec-

tor) depends on the economy's ability to earn income in euros;

- it is less expensive and less risky for economic agents to borrow in euros because the interest rate risk and the resulting potential loan-servicing cost is higher in the case of a currency of a small economy.

The structure of the **collaterals** of non-financial sector loans has not changed much over the period under review. The only considerable change is that the share of loans collateralised by securities in total corporate loans has increased. In March 2007 loans collateralised by securities accounted for 3.2% of the corporate loan portfolio, whereas in March 2008, this indicator was 4.6%.

Due to tougher economic environment and rising interest rates, the volume of **overdue loans** and their share in total loan portfolio has increased considerably over the last year. In March 2007 loans overdue for more than 60 days constituted 0.35% of the loan portfolio, whereas in March 2008 this

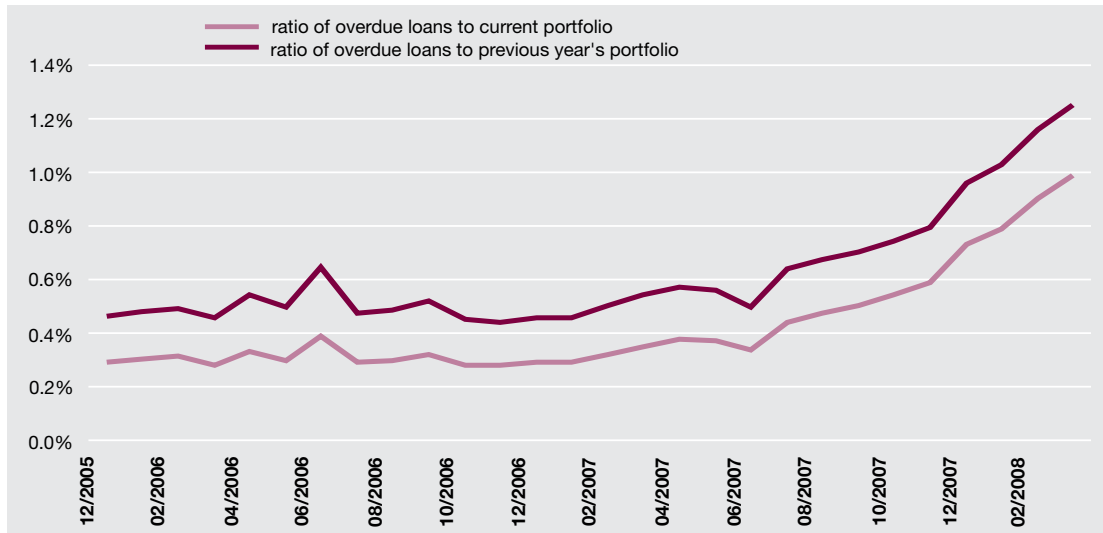


Figure 3. Ratio of loans overdue for more than 60 days

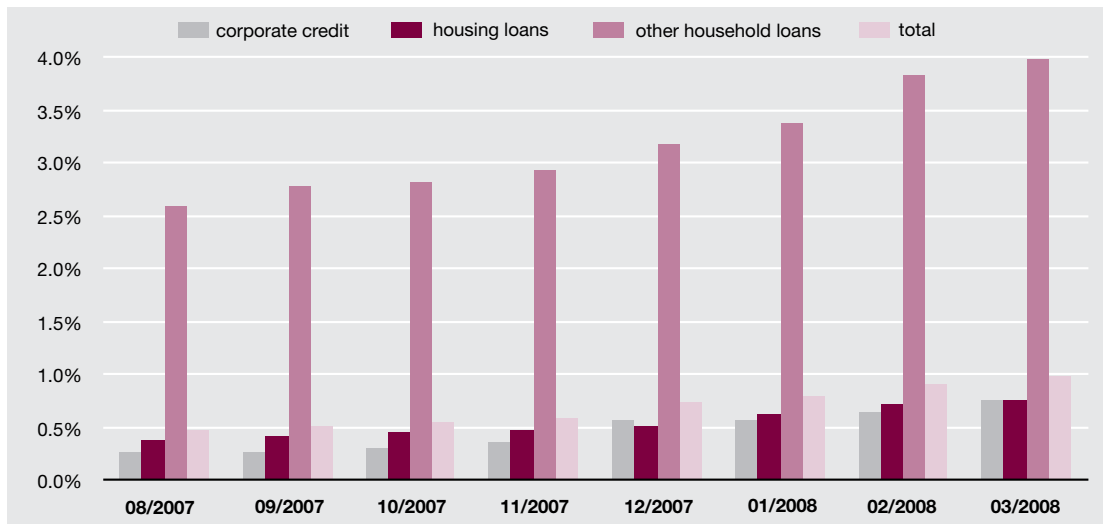


Figure 4. Structure of overdue loans in the loan portfolio

indicator stood at 0.99% (see Figure 3). In the current period, the increase in the share of overdue loans is largely influenced also by the slower growth of financing portfolios.

By sectors, in March 2008 the non-housing loan portfolio of households contained the largest share (4%) of loans overdue for more than 60 days (see Figure 4). At the same time, nearly 61% of the overdue consumer loans of households had been issued by a small institution. In the case of other credit institutions, the respective indicator is much smaller.

At the end of March, loans overdue for more than 60 days accounted for 0.75% of the corporate loan portfolio. The construction sector had the highest percentage of overdue loans; in terms of volume, however, the commercial real estate sector had the most of such loans (see Figure 5). The total stock of corporate loans overdue has increased 3.5 times over the last year, while the stock of commercial real estate loans overdue has increased nearly 8 times at the same time.

Since the pressure on average prices in the **housing market** will presumably persist (see also Housing loans), real estate companies may expect further difficulties. In the coming years, a record amount of new office premises will be completed, but it will be difficult to rent them out owing to increased uncertainty. Then again, new office premises are being established mainly by large and experienced real estate developers, and banks have also limited their funds for financing office premises.

The increase in overdue loans is also indicated by the reclassification of loans by banks. The share of household loans in different classes of loan quality has remained relatively stable over the past year. In the case of companies, however, the share of problematic loans has risen from last year's 13.7% to 19%.

While provisioning has also gradually increased, the stock of provisions for loan losses as a ratio to loans overdue for more than 60 days has decreased significantly over the past year. In March 2007, the provisions accounted for 129% of overdue loans,

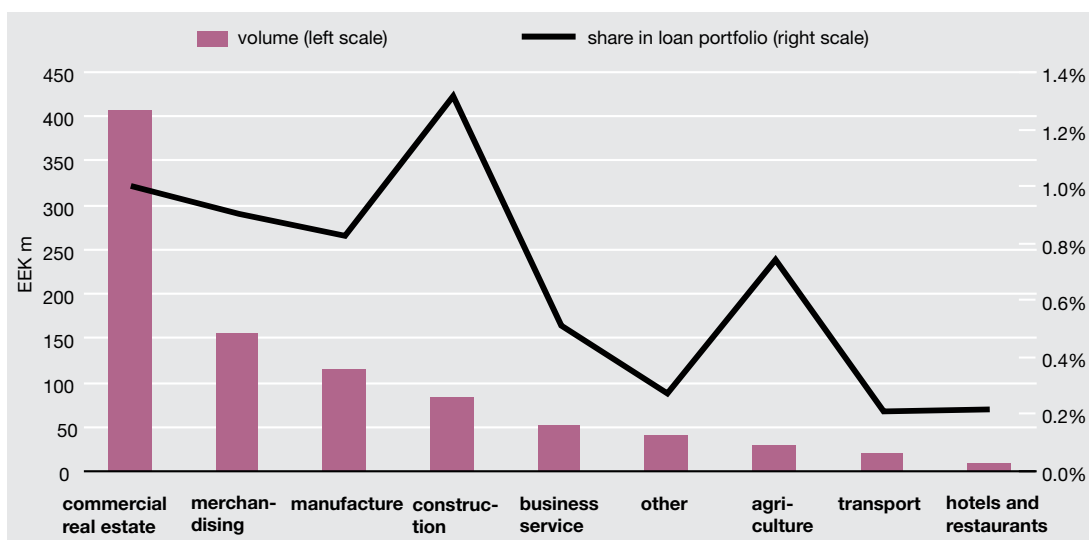


Figure 5. Overdue loans by sectors as at March 31, 2008

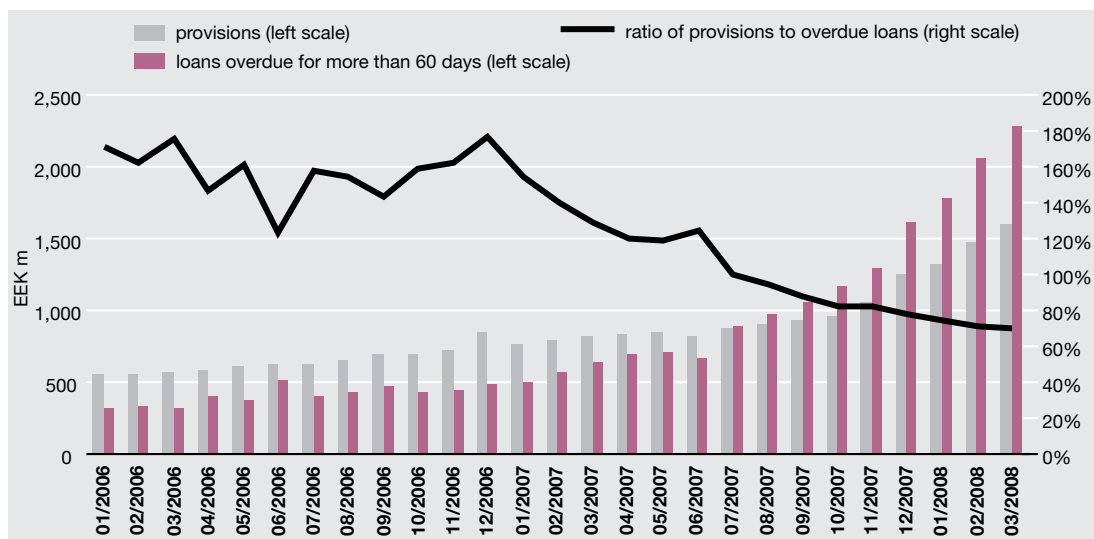


Figure 6. Overdue loans and provisions

and in March 2008, for 70.3% (see Figure 6). The share of general provisions has decreased the most, which is partly due to changes in accounting. Specific provisions¹ accounted for 63.5% of the total provisions last year; in March 2008, the respective indicator was 70.7%.

As regards the **total of banking groups**, the share of provisions for loan losses has increased. At the end of the first quarter, the stock of provisions for loan losses comprised 0.73% of the aggregate portfolio of banking groups (0.67% in the first quarter of 2007). The share of loans overdue for more than 60 days in the financing portfolio of banking groups has also increased. In December 2006, overdue loans accounted for 0.31% and in December 2007 for as much as 0.56% of the loan portfolio. Provisions of banking groups exceeded the volume of loans overdue for more than 60 days by 30%; however, year-on-year, the coverage of overdue loans by provisions has decreased considerably.

Capital adequacy

On January 1, 2008 the revised, more risk-sensitive capital adequacy framework (based on Basel II) became mandatory for all credit institutions operating in Estonia. The quantitative impact studies conducted beforehand showed that the implementation of the new principles may bring along a considerable decrease in risk assets. Although Estonia has established a 60% risk weighting on housing loans instead of the customary 35%, the first months of the new framework have confirmed the validity of the study results.

Credit institutions operating in Estonia use the less sophisticated approaches for calculating capital requirements. Changes in risk weighted items after the implementation of the new framework are presented in the following table.

¹ Specific provisions are made when there are objective reasons to believe that a claim will not be collected in full.

Table 1. Changes in risk weighted items after implementing the new capital adequacy framework

	12/2007	01/2008	02/2008	03/2008
Tier I own funds	25.2	25.3	26.1	26.7
Tier II own funds	11.8	11.7	11.7	11.7
Deductions	1.6	1.6	1.6	1.6
Own funds in capital adequacy calculation	35.3	35.4	36.2	37.0
Credit risk	233.9	204.5	204.2	203.1
Other risks	5.2	5.1	5.6	5.5
Operational risk		9.2	9.2	9.3
Risk weighted items	239.1	218.8	219.0	218.2
Banking sector average capital adequacy	14.78	16.20	16.50	16.95
Lowest average capital adequacy ratio	10.74	11.60	12.70	12.26

Resulting from the implementation of the new framework, the share of credit risk weighted items in total risk weighted items has decreased from 97% to 93%. Comparing the credit risk weighted items calculated on the basis of the earlier system to those calculated on the basis of the new framework, the credit risk weighted items have decreased by 12.5% in the new framework. The difference between risk weighted items calculated on the basis of the new and old framework – after the addition of the capital requirement calculated for covering the operational risk – was 8.5%.

Banks' own funds increased in the period under review, supported by growth in Tier I own funds. Major banks have included the retained profits of previous periods in own funds and currently meet the required capital level with some margin. At the end of March, the average capital adequacy ratio of the banking sector was 16.95%, which is the highest indicator of the last seven years. The respective indicator of banking groups was 11.6%, being rather similar to earlier indicators (see Figure 7).

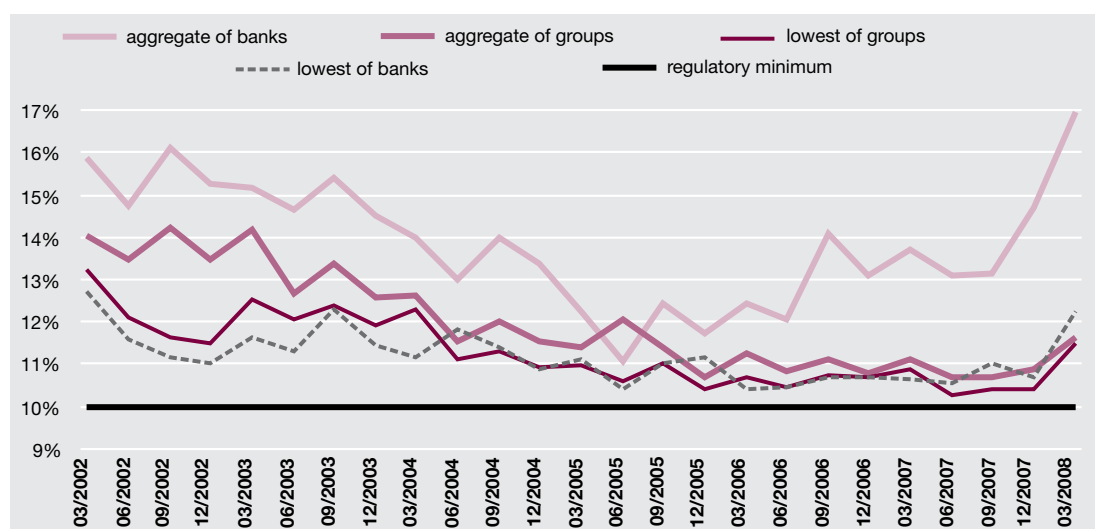


Figure 7. Capital adequacy ratios of banks and banking groups

Since major banks had included the retained profits of previous periods in own funds by the end of the first quarter, the average capital adequacy ratio of the banking sector might decrease in the coming periods. Nevertheless, the current strong capitalisation and slowing credit growth suggest that

banks have enough own funds to comply with the capital adequacy requirement in the forecast horizon. It should also be stressed that strong capitalisation together with sufficient liquidity is one of the most important preconditions for ensuring financial stability.

STRESS TEST OF OVERDUE LOANS AND CAPITALISATION OF BANKS

In order to assess the vulnerability of the banking sector, Eesti Pank conducted a test on the potential impact of overdue loans. To this end, the central bank used an econometric model including such macroeconomic determinants of overdue loans as loan interest rate, nominal GDP growth and the share of overdue loans in the previous period.

Interest rate is a direct indicator of the loan servicing cost. When the interest rate increases, the number of overdue loans increases too. Nominal GDP growth reflects cyclical unemployment and inflationary pressures. One determinant of nominal GDP growth is nominal wage growth which illustrates households' loan-servicing capability. The share of overdue loans in the previous period was included in view of the autoregressive nature of the process. Moreover, this component also comprises, at least partly, overdue loans reduced by refinancing.

The stress test covered the period from the first quarter of 2000 until the first quarter of 2008 because the structure and characteristics of loan products has changed significantly over that time.

Therefore, compared to later surveys, the earlier values of the time series provide significantly different qualitative (as regards econometric evaluation, also quantitative) information. The test was based on the method of least squares.

The principles of the conducted stress test are similar to those used in earlier tests. The model's parameters were used to test the base scenario as well as the three risk scenarios of Eesti Pank's macroeconomic forecast (see Figure 8).²

According to the **base scenario**, the share of **overdue loans** in the loan portfolio will increase to 1.5% by the end of 2008 and to 2.2% in 2009. According to **risk scenario 1**, which is the most negative of the spring forecast risk scenarios, the ratio of overdue loans will increase to 2.6% by the end of 2008 and to 3.1% by the end of 2009.

In the case of **risk scenario 2**, the development of overdue loans is quite similar to that set out in the base scenario: at the end of 2008, overdue loans constitute 1.6% of the loan portfolio, and at the end of 2009 – as much as 2.5%.

² Risk scenario 1 describes the correction in domestic demand. Risk scenario 2 is a positive scenario expecting the realisation of the export potential together with a new global growth cycle in 2009. Risk scenario 3 describes what might happen should the wage-price spiral continue.

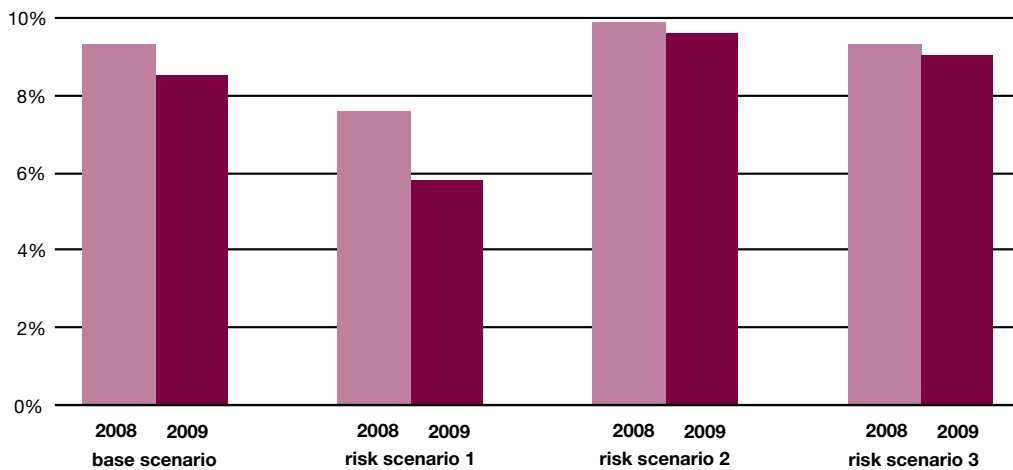


Figure 8. Loan growth under different scenarios

According to **risk scenario 3**, the share of overdue loans will not increase considerably in 2008, and will account for 1.3% of the loan portfolio. In 2009, however, the economic situation will worsen significantly and the share of overdue loans will increase to 2.3%.

Arising from the strong capitalisation of banks at the end of 2007, the banking sector will not have any difficulties with meeting the **capital adequacy requirement**, considering the assumptions used in the base and risk scenarios. The results of the stress test are strongly affected

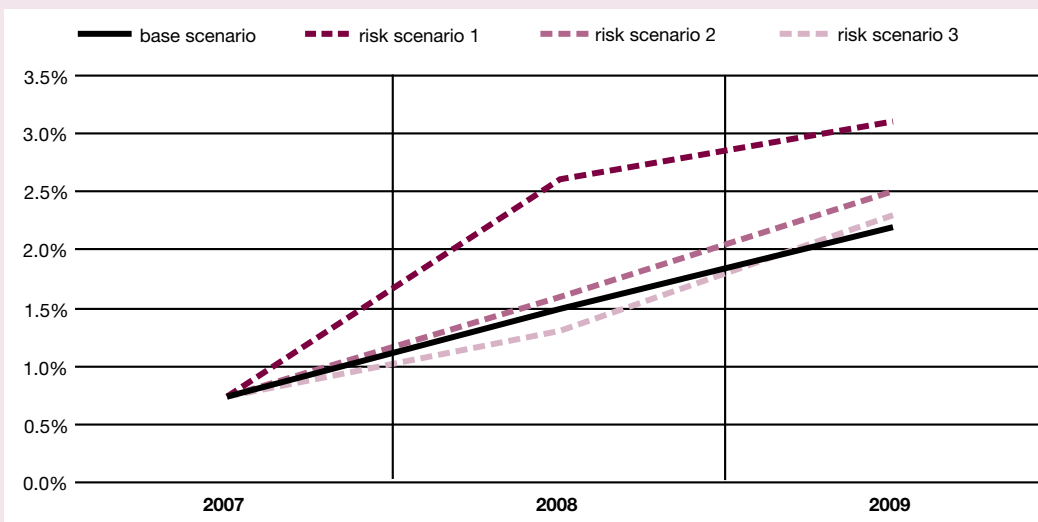


Figure 9. Ratios of loans overdue for more than 60 days under different scenarios

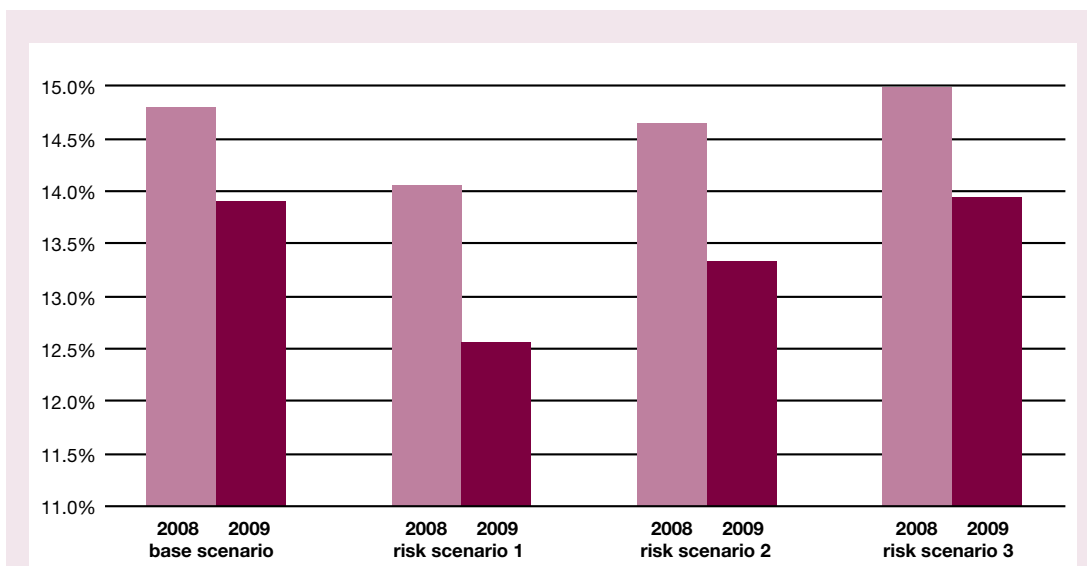


Figure 10. Capital adequacy ratio under different scenarios

ted also by the implementation of the new capital adequacy framework. The new framework did not have an impact on own funds. The volume of risk

weighted items, on the other hand, decreased significantly.

Liquidity

Funding

Although the growth rate of loan portfolios decelerated in the period under analysis, growth in deposits was insufficient to reduce the **funding gap between deposits and loans** (see Figure 11). Therefore, banks again had to include additional funds from parent banks.

At the end of the first quarter of 2008, nearly half of the 298 billion kroons of banks' liabilities originated from foreign **institutions**. The structure of external financing has not changed much over the past half-year. The majority of funds have been received from parent banks as loans and deposits. The share of funds obtained through bond issues has decreased even further in the last two quarters on an aggregate basis. The share of bond liabilities in total lia-

bilities has fallen below 6%; the majority of bond liabilities still consist of long-term funds received in earlier periods.

Arising from the slower growth of loan portfolios and the implementation of the Basel II principles based risk assessment framework as of 2008, in the last quarters banks had no need to raise additional **subordinated funds** in large volumes. Thus, the share of subordinated liabilities in banks' total liabilities had decreased below 4% by the end of the first quarter of 2008.

Parent banks have provided funds to local banks still at more favourable prices compared to the local banks' own opportunities (considering, for instance, the difference in credit ratings). At the same time, the **share of time deposits** in customer deposits has increased further (see Figure 12).

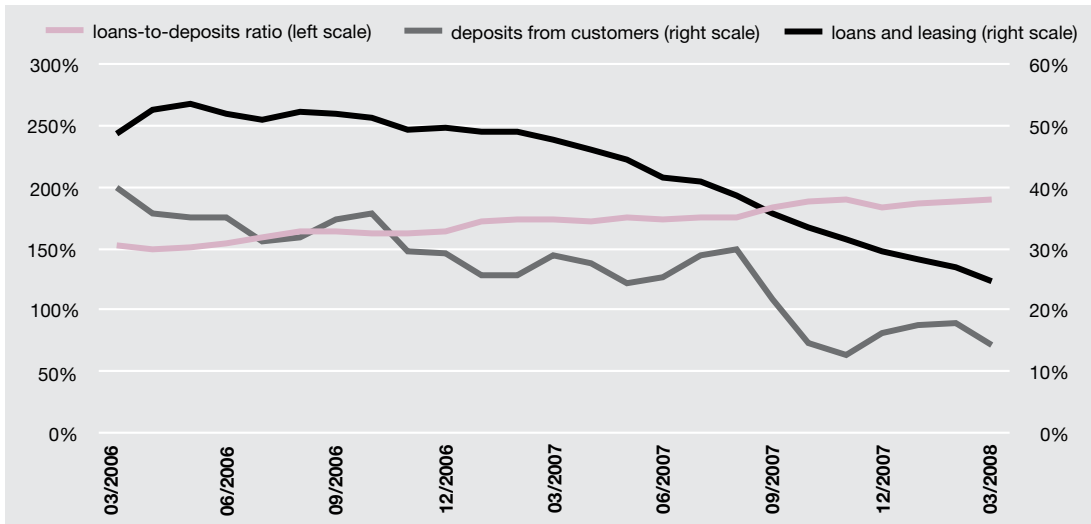


Figure 11. Loans-to-deposits ratio and year-on-year loan, leasing and deposit growth

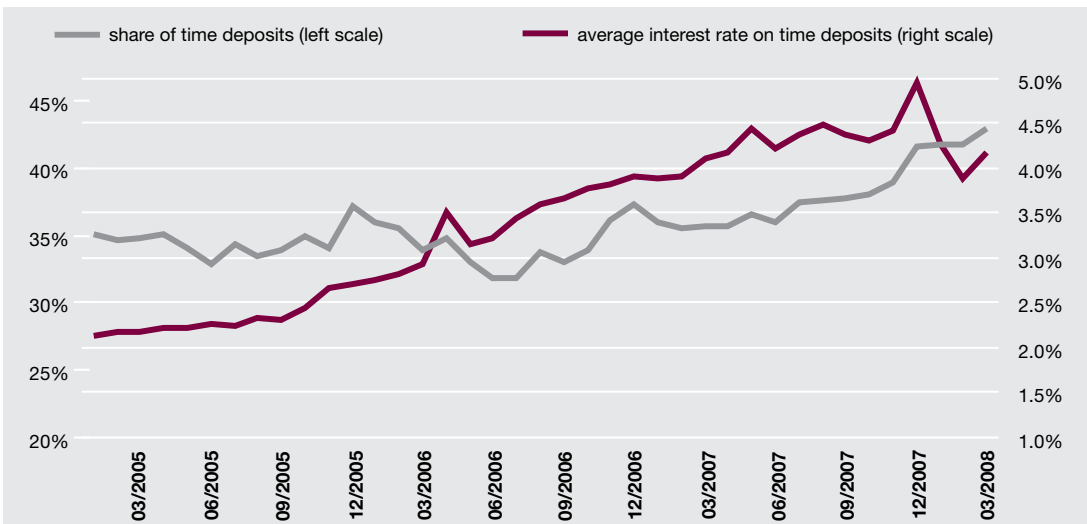


Figure 12. Average interest rate on time deposits and the share of time deposits in total deposits

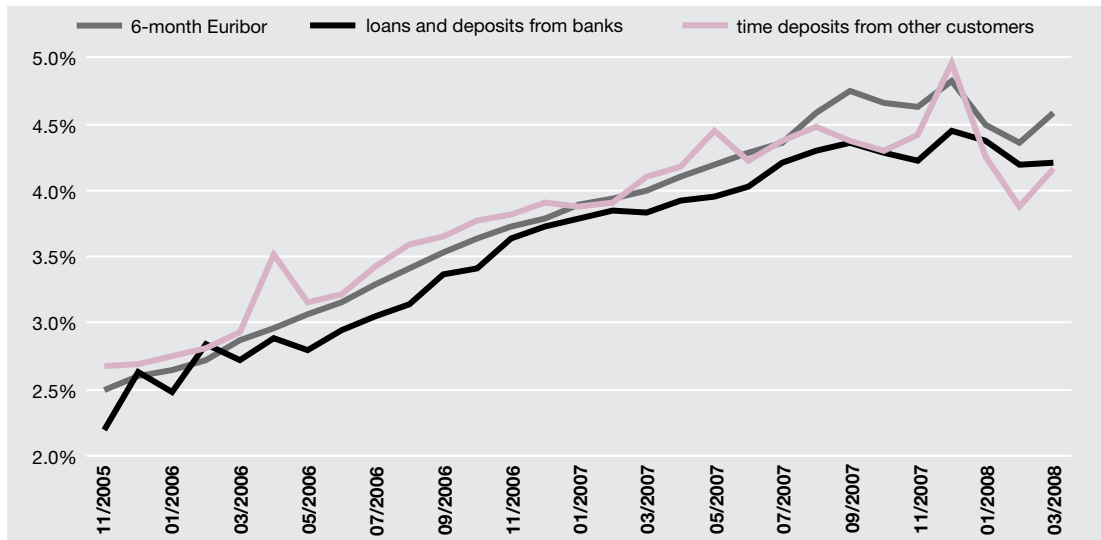


Figure 13. Average interest paid by banks on funds raised and 6-month Euribor

This is reflected also in banks' profitability (see also *Profitability*), since the interest rates on time deposits are considerably higher than those on demand deposits (see Figure 13).

Liquid assets

Since the major rearrangement of intra-group financing schemes in the first half of 2006, the

structure of banks' liquid assets has not changed that substantially any more (see Figure 14).

Along with the increasing share of time deposits, the coverage of banks' short-term liabilities by short-term assets has somewhat increased in the last quarters (see Figure 15). However, banks' liabilities with a maturity of up to two days exceed

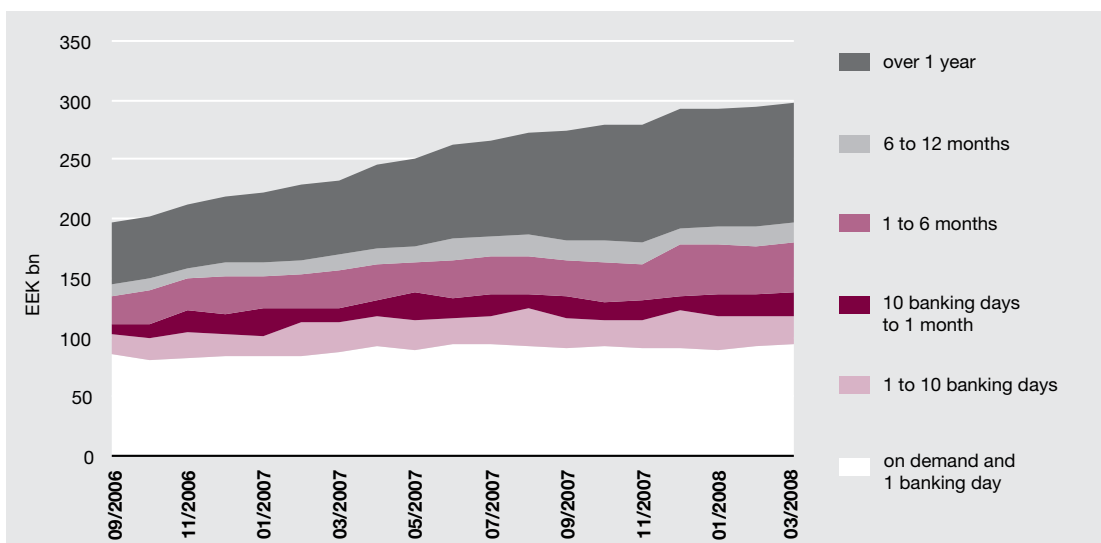


Figure 14. Banks' liabilities by remaining maturity

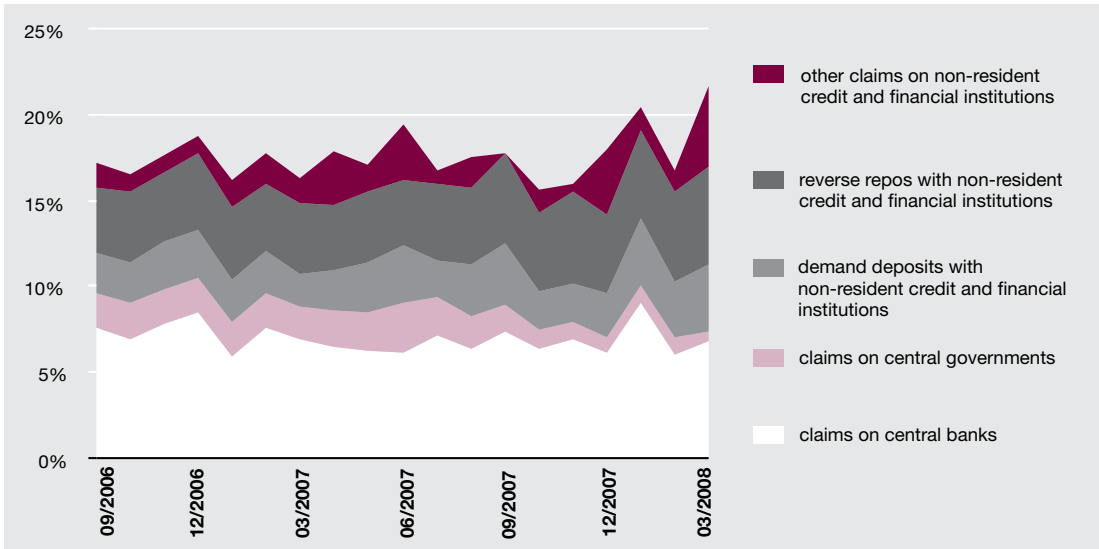


Figure 15. Share of highly liquid assets in banks' total assets

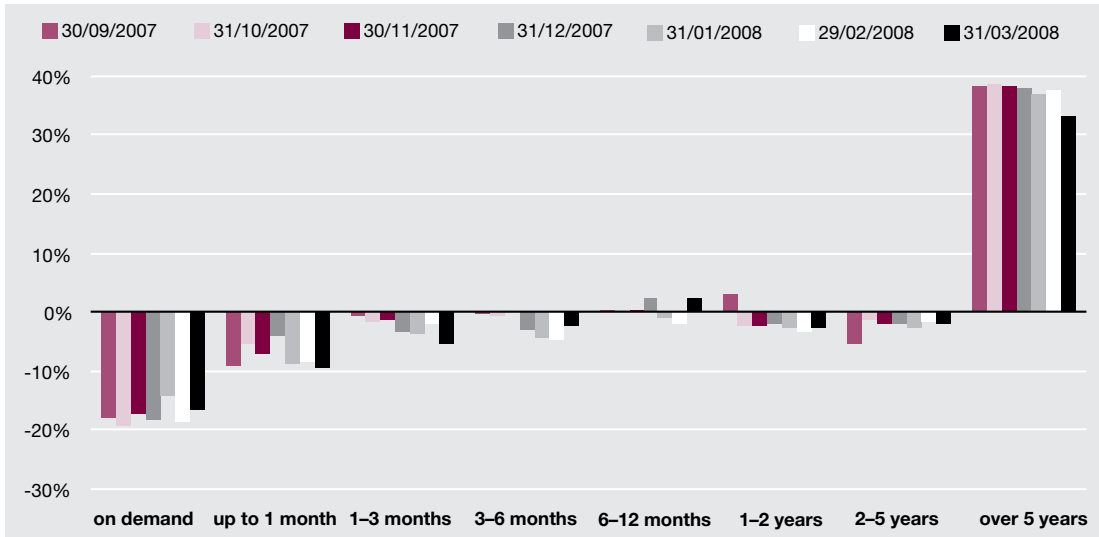


Figure 16. Net positions of banks' claims and liabilities (% of total assets)

assets with the same maturity by nearly 60 billion kroons (see Figure 16). In March, the prevalence of assets with a maturity of over five years decreased as a ratio to liabilities with the same maturity. This was mainly caused by the reallocation of intra-group funds.

The primary liquidity risk of the banking sector can be decreased with the help of the liquid assets reserve requirement, which was increased to 15% in Estonia on September 1, 2006.¹ But even with the obligatory reserve requirement, it is very important that market participants maintain sufficient liquidity buffers in a difficult market situation.

Considering the decreased but still large share of demand deposits in banks' liabilities and the increasing dependency of local banks on parent banks' liquidity management, the **liquidity risk of banks operating in Estonia still largely depends on parent banks' ability and willingness to provide funds to local banks.**

Profitability

The profitability of banks has been influenced by the increase in funding costs, an increase in write-downs of claims accompanying the change in the current phase of the economic cycle, and developments on financial markets.

The 2008 first-quarter net profit barely exceeded two-thirds of the profit of the preceding quarter, both in the case of banks and banking groups (1 billion and 2.1 billion kroons, respectively). **The four-**

quarter aggregate profit of banks was over 7.2 billion kroons and that of banking groups over 10.4 billion kroons. The four-quarter aggregate return on equity remained quite high at 27%, regardless of the poor results posted in the first quarter (see also Tables 2 and 3).

The modest profit figures for the first quarter resulted from the joint impact of several unfavourable factors. The cost of funds has increased and banks have not managed to pass all of it on to clients (see Figure 17). Compared to the fourth quarter of 2007, banks' interest income increased by nearly 6% and interest costs by 11% in the first quarter of 2008. The respective indicators of banking groups were 5% and 13% (see Figures 18 and 19)².

Apart from lower net interest income, the developments on the financial markets have negatively affected also the **trading income** and the **fee and commission income** of banks.

As expected, the current phase of the economic cycle has brought along an **increase in the volume of loan write-downs.** Although in the case of banks net write-downs of assets even decreased in the first quarter, in the case of banking groups they increased by more than a half, quarter-on-quarter, and more than two and a half times, year-on-year (see Figure 20). Growth in write-downs reflects, on the one hand, the increased materialisation of credit risk, which is quite expectable given the changed phase of the economic cycle, and, on the other hand, the continuous conservative write-down policies of banks.

¹ The reserve requirement applies to credit institutions as well as branches of foreign credit institutions operating in Estonia. According to the requirement, credit institutions must hold funds amounting to 15% of the calculation base as a monthly average in the respective settlement account with Eesti Pank. The calculation base includes balance-sheet liabilities of credit institutions (except liabilities to resident credit institutions and the central bank) and to some extent also the financial guarantees issued. A credit institution that has signed an agreement with Eesti Pank is allowed to cover up to 50% of the reserve requirement by liquid foreign assets accepted by Eesti Pank.

² If the funding costs that could not have been passed on to clients had been approximately 0.25 percentage points higher on an aggregate basis, the profit would have been about 10% lower.

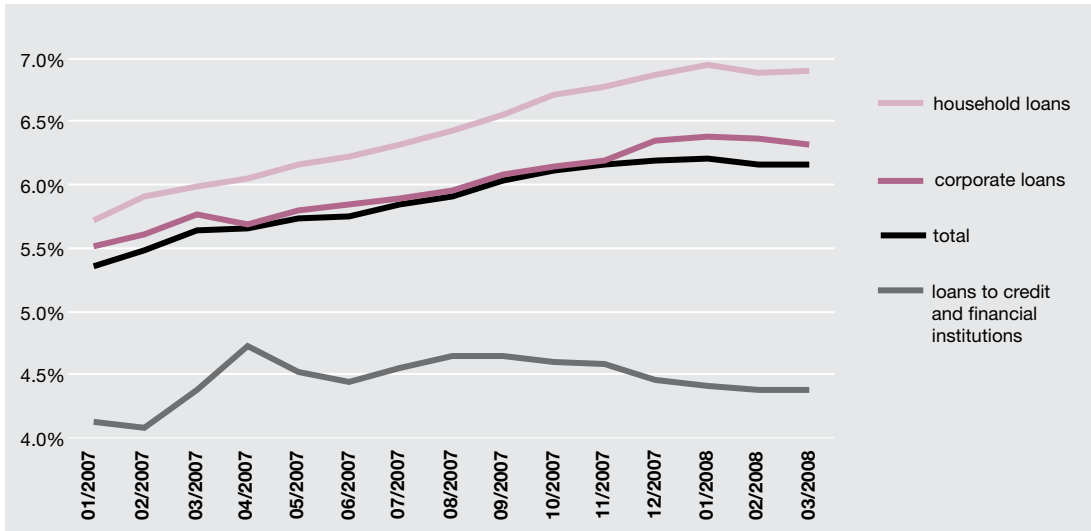


Figure 17. Average interest rates on loan stocks

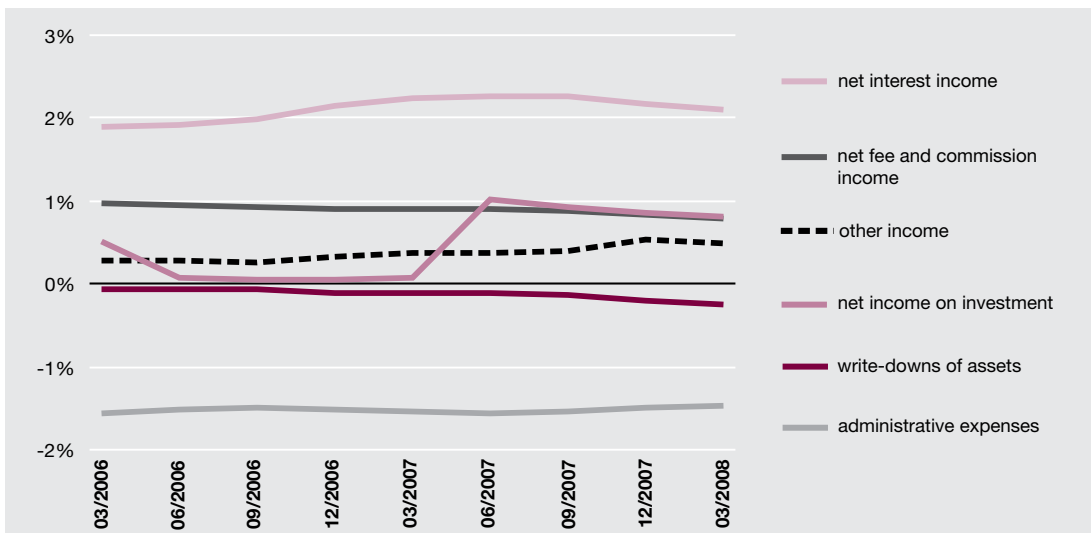


Figure 18. Income and expense items of banks (% of total assets as the aggregate of last four quarters)

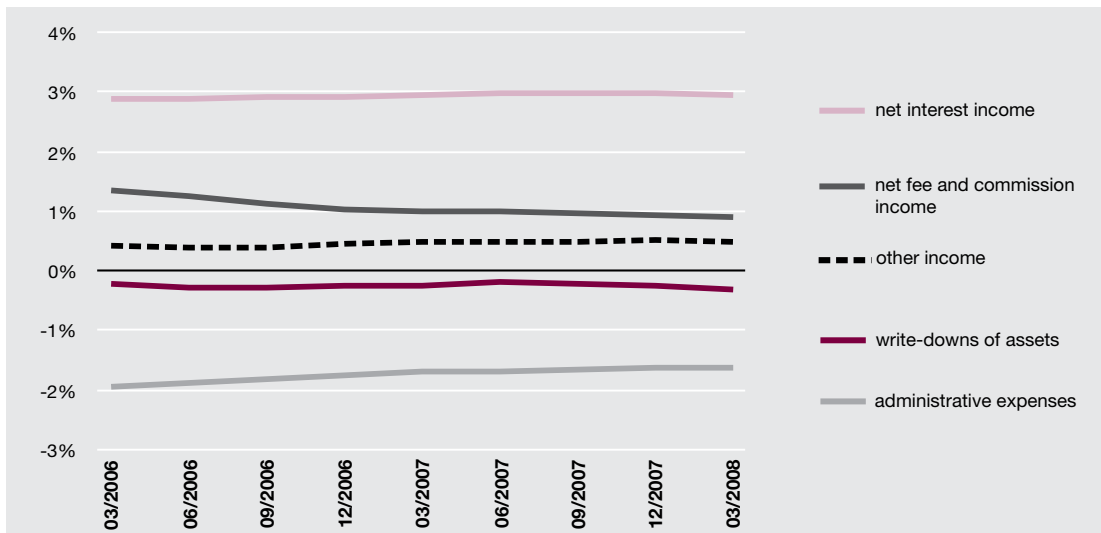


Figure 19. Income and expense items of banking groups (% of total assets as the aggregate of last four quarters)

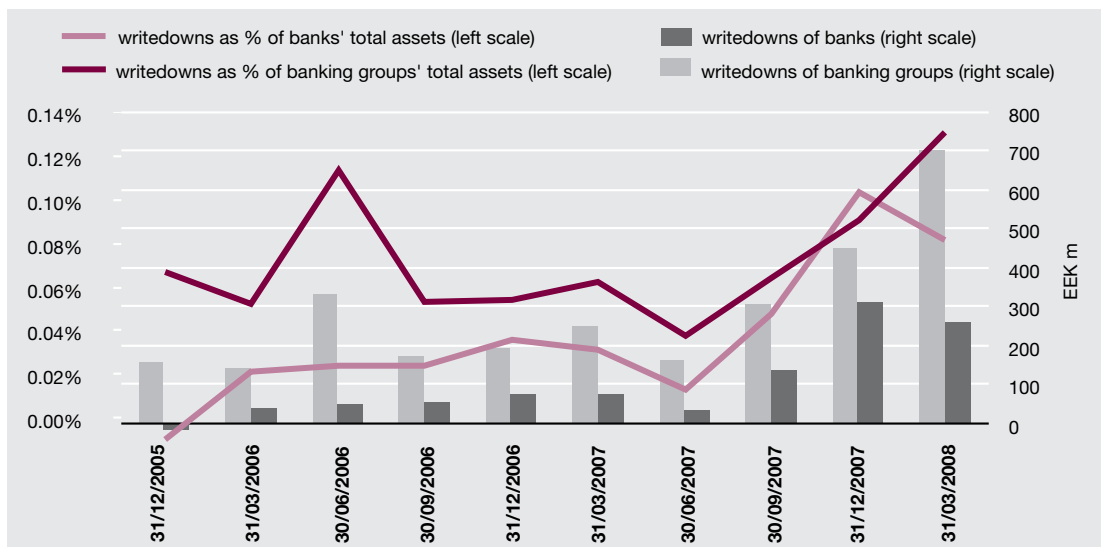


Figure 20. Writedowns of assets of banks and banking groups at the beginning of period

Banks can respond to the decline in income by cutting down on expenses. Although in the first quarter of 2008, the administrative expenses of banks were nearly 4% lower and those of banking groups almost 6% lower than in the last quarter of 2007, this was largely due to seasonal factors. Namely, in the last quarter employee bonuses are also taken into account.

Although banks have managed to keep growth in expenditure slower than the increase in assets, as the aggregate of the last four quarters, this has not been sufficient to offset the decline in income on assets. Consequently, the cost-to-income ratios of banks and banking groups increased in the first quarter (see Tables 2 and 3).

Table 2. Profitability of banks (four quarter aggregate)

	2005	2006	Q1 2007	Q2 2007	Q3 2007	2007	Q1 2008
Return on assets	2.0%	1.7%	1.8%	2.8%	2.7%	2.6%	2.4%
Leverage ratio	9.9	10.7	10.7	10.6	10.5	10.5	10.4
Return on equity	21.1%	19.9%	21.3%	32.5%	31.2%	30.2%	27.0%
Cost-to-income ratio	45.6%	46.6%	45.1%	35.8%	35.9%	35.1%	36.4%

Table 3. Profitability of banking groups (four quarter aggregate)

	2005	2006	Q1 2007	Q2 2007	Q3 2007	2007	Q1 2008
Return on assets	2.3%	2.2%	2.2%	2.3%	2.3%	2.3%	2.1%
Leverage ratio	10.5	12.2	12.5	12.8	12.9	13.0	12.9
Return on equity	24.2%	26.3%	27.4%	29.7%	29.4%	29.3%	27.0%
Cost-to-income ratio	45.7%	42.1%	40.9%	39.7%	39.5%	38.8%	39.6%

The **future profitability of banks** will still largely depend on the cost of funding. The latter, in turn, depends on the general prices in the money market as well as the additional company-specific risk premiums asked. Therefore, given the high share of external funds in the total funds of local banks, the funding cost of banks operating in Estonia significantly depends on the cost of funds raised by their parent banks and also the price at which the latter provide funds to their Estonian subsidiaries. At the same time, as the share of time deposits has grown, the cost of funds received as deposits from customers has increased.

Although the majority of bank loans in Estonia have been issued with floating interest rates, which

enables to charge a higher price when the reference rates change, this does not apply in case the higher funding cost arises from the specifics of a bank. Banks would surely be interested in charging clients a higher risk premium when funding costs increase, but tight competition in the banking market inhibits that. Funding clients/projects of higher risk would, at the same time, increase the probability of incurring losses from credit risk.

However, it should be noted that in the context of changed economic environment a decline in banks' profitability, which has so far been quite high, could only be expected. The high share of floating rate loans in the loan portfolios decreases banks' interest rate risk. Local banks are operating on the basis

of rather traditional banking models, which has kept the risk from trading activities moderate. The conservative write-down policies have decreased the impact of the materialisation of credit risk.

The future profitability of banks depends, among other things, on their ability to respond to the decline

in income by cutting down on expenses. First steps in this direction have already been taken. However, considering the expected asset growth, the impact of cutting down on expenses will probably appear stronger over a longer period.