EESTI PANK

FINANCIAL STABILITY REVIEW

November 2003

Dear Reader,

You are holding the first issue of Financial Stability Review by Eesti Pank. This is a semi-annual publication aimed at providing an assessment of the risks and performance of the Estonian financial sector and its infrastructure, taking into account the overall economic situation and the financial behaviour of the real sector. The Financial Stability Review can be considered a sister edition of the Monetary Developments & Policy Survey first published in 1997, which offers essential additional information for assessment of the sustainability of macroeconomic development through regular analysis of the financial system.

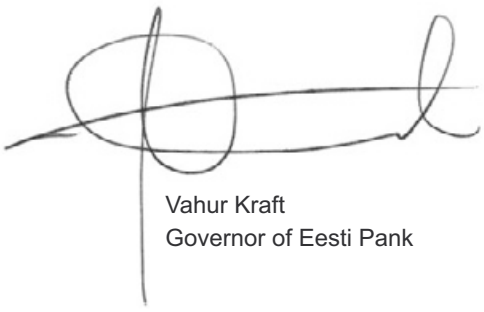
Eesti Pank has been analysing the development of the financial sector since the launch of independent monetary policy. Setting up the Financial Supervision Authority at the beginning of 2002 provided an extra impetus for developing an analysis of the system at large. Separation of the analysis of institution-based risks from macro-prudential analysis has created better opportunities for the central bank to carry out a macro-level analysis of financial stability.

Considering the changes that have occurred in the Estonian financial sector in recent years – the creation of financial groups and internationalisation – as well as our upcoming accession to the European Union, which, among other things, creates a need for the financial system to play by the common rules of the whole euro area already in a few years, it is unavoidable that Estonia's financial sector should be treated as an integral unity.

The most relevant conclusions derived from the analysis together with the given assessment, while making the data publicly available, contribute to a better understanding of the financial behaviour of financial intermediaries, households and companies alike. Moreover, disclosing the data and the results of the analyses contributes to stronger market discipline of the banks and other financial intermediaries, while reducing risks. Based on monitoring and the results of analysis, supplementary measures are selected to reinforce the credibility of the financial system. And one must not forget the so-called technical side – successful application of two settlement systems of interbank payments and turbulent changes that have occurred in the payment habits of both people and companies.

Taking into consideration the bulk of financial sector information collected by Eesti Pank, it is only natural to share such information with the public and provide private persons and organisations interested in the activities of the financial sector with a better understanding of the activities of financial intermediaries.

Such is the prelude to the Financial Stability Review.



Vahur Kraft
Governor of Eesti Pank

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SUMMARY

International Economic Environment

According to several analysts, clear signs of the recovery of **world economy** and improved growth outlooks appeared in the middle of 2003. Since economic recovery in Europe still remains modest, the level of interest rates should stay low at least during the following half a year. Though a rise in interest rates is just a matter of time, even the most optimistic market participants expect it to happen no sooner than in the middle of 2004.

In spite of long-lasting recession, the profitability and loan losses of the **European banking sector** have been relatively satisfactory. This has been supported by both cost-cutting and profound reorganisation of businesses, as well as improvement of risk management. Regionally, the profitability of banks and the loan quality still remained diverse.

Nordic banks in comparison to other European banks are consistently among the most profitable ones. The even better profitability of their Estonian subsidiaries, as well as expectations for the profitability to be sustained at least on a comparable level, are significant arguments in favour of very aggressive money supply in the Estonian credit market.

Financial Strength of the Estonian Real Sector

Due to limited external demand Estonia's economic growth has been increasingly underpinned by surging internal demand, which is characterised by a rapid growth rate of both investments and private consumption.

The good adaptability of **Estonian companies** along with flexibility supported relatively good sales results and sufficient profitability during both 2002 and 2003. Even if individual companies faced marketing problems, in most cases these did not extend to the economy at large.

The companies operating in the sectors that are focused on domestic demand have been more successful, operators in the real estate and construction business in particular. Also investment demand has been bigger in these areas, while investments of export-oriented companies have been reduced. The modest investment and loan demand in the manufacturing companies might involve the risk that investments made in earlier periods might not be sufficient for generating export income, if external demand picks up considerably.

Given the forecasts of the pick-up of economic growth in Europe, the outlook for 2004 might also be regarded as positive for the Estonian companies. However, should the recovery of European economy be further delayed, several risks might materialise, resulting in the decline in the revenues of the companies that have so far been successfully operating.

Even though the confidence of **households** has weakened as a result of halting savings growth, the fear of unemployment and rising consumer prices, optimism is upheld by favourable loan conditions as well as extensive growth in real wages. Lower confidence resulting from declining savings is clearly reflected in the decline of the net position of households' financial assets and liabilities. While indicating increasing insolvency risks on the level of households (financial assets as buffers against changes in loan conditions or incomes are reduced), on a broader scale it also reflects a threat to the growth and stability of the Estonian economy.

Rapid growth of households' loans in Estonia (consistently more than 40% a year) is characterised by the lack of restraints on both the demand and supply side. Since the anticipated rise in Euribor can be partly compensated for by the potential decline in the interest margins of banks, the loan interest rate for private persons might not yet rise significantly in 2004. Such development will further increase the debt burden of

households and their openness to financial risks. Thus, the growth in loans will predominantly depend on other factors, including the potential demand in the market.

An estimated 10% of all families had borrowed for housing by the autumn of 2003. The growth potential of housing loans is bigger in the segment of lower income families. Considering futher increase in incomes, as well as the growth potential among higher income earners, it is possible that the housing loans portfolio of Estonian financial intermediaries will double in the next three years.

The loan burden of private persons has grown fast and loan servicing as well as private consumption have become more sensitive to possible changes in the economic environment. Loan servicing risks are bigger for such families whose incomes are smaller and who have borrowed excessively at the end of the interest rates decline cycle.

Similarly to Estonia, the growth in the housing loans portfolio has also been rapid elsewhere in Europe (an increase of 20–30% in different countries), whereas the rise in real estate prices has in some cases even been faster due to active demand. The rise in the prices of typical apartments in Tallinn is restricted by the relatively high level reached so far, on the one hand, and the increased supply of new apartments, on the other hand.

Banking

The year of rapid growth strengthened the profitability and efficiency of the banking sector. Regardless of the sustained decline in the **spread**, the banks have managed to maintain the profit growth on the desired level. The first signs of slowing interest income growth became evident in the third quarter. The further decline in margins can be compensated at the expense of increasing fee income and improving efficiency, along with the synergies achieved on the group level.

Regardless of fast loan growth, **capitalisation** has remained strong, being supported by consistently good profitability. The results of the banks' stress tests indicate that the capital buffer is sufficient for covering outstanding credit risks in possible crisis situations. Even if the volume of loan losses exceeded the situation experienced during the Russian crisis (3–4% of total loans) by a percentage point, major part of the banking sector would still meet the 10% capital adequacy requirement.

Loan quality is good if compared to earlier periods and cross-country data. Due to the amortisation of the portfolio and competitive pressure a moderate rise in loan losses can still be expected.

Proceeding from the high quality of the liquidity portfolio of the banks and flexible liquidity management, **liquidity** can be evaluated as adequate. Meanwhile, on the funding side the loans-to-deposits ratio has grown swiftly. Even though the rise in external funding is a byproduct of financial deepening, the pace has been faster than the overall growth of the economy, including the repayment capacity of the residents.

Securities Market and Other Financial Intermediaries

Estonia's **bond market** has remained passive. This has been characterised by the contracting primary market, as well as the low turnover of the bonds quoted on the Tallinn Stock Exchange. At the same time, **the stock market** has picked up remarkably, bringing about a significant price rise (some 30% from the beginning of 2003). Expectedly, further developments in the Estonian stock market will be positively affected by the merger of Finnish and Swedish stock exchanges into OMHEX at the beginning of September. This transaction further promotes the integration of Nordic and Baltic securities markets.

More flexible settlement conditions and new savings instruments developed by the banks have secured the rapid growth pace of **money market and interest funds** (from the start of 2003 until the end of September another two billion kroons were added to these funds).

Around 60% of the employees have joined the second pillar of the funded pension system, which enables to predict the total volume of **pension funds** to stand at some two billion kroons at the end of 2004. 10% of the employees have joined the third pillar of the pension system, but, instead of funds, the main role here is played by insurance companies.

The profitability of **insurance companies** has been restored after losses from previous years and the premiums collected are twice as large as the nominal GDP growth.

Payment Systems

As a result of the payment systems **oversight** process, it has been established that the legal framework, applications and procedures of the settlement system of interbank payments of Eesti Pank are generally secure and up-to-date. At the same time, the framework covering access to the systems has to be supplemented and made publicly available.

Although the usage of different non-cash **payment instruments** is similar to the ones used in the Nordic countries and major breakthoughs are unlikely to happen in the near future, there is still room to reduce the share of cash payments. The changes in the financial behaviour of the people are mostly related to the rapid development of card payments, which translate into faster growth of respective incomes related to service fees for the banks.

Stability Assessment and Policy Implications

Vis-à-vis the financial sector, we have mostly reasons to be satisfied with the developments that have occurred: the financial sector has secured itself with robust capital and liquidity buffers, profitability is good, efficiency has improved, and the quality of assets is at all-time high. However, the international favourable interest environment and still modest economic recovery have in the long term brought about a risk of possible adverse development in the Estonian real sector.

One of the problems that inhibit balanced economic development is the rapid growth pace of loans against the background of modest savings. This has been underpinned by the overly optimistic expectations of households and enterprises alike, as well as the highly favourable interest environment. In such a situation it is the task of Eesti Pank in co-operation with the government and the Financial Supervision Authority to apply measures so as to support balancing of the economy in order to reduce the risk of setbacks. The primary aim of the measures is to affect the behaviour of households, corporations and banks and contribute to a slow-down in the pace of loan growth.

The role of the central bank and the Financial Supersvision Authority is, first and foremost, to consistently draw the attention of the banks to keeping the loan conditions up-to-date and sufficiently conservative. Extending the number of private borrowers by riskier customer groups in order to maximise profits in tough competition conditions may cause problems. Under subdued economic growth the banks themselves might endure potential losses, but the society might face serious social problems, which in turn will reduce the earning prospects of the banks in the future.

So as to support the measure mentioned above, it would be appropriate for the government to review the need for such instruments supporting households' borrowing, eg the option to deduct housing loan interests from taxable income, as well as the guarantees by KredEx that lower the required down payment. Such economic policy measures of the state, which in earlier periods helped to make housing loans more accessible, have ceased to be appropriate. Supporting rapid growth of housing loans by the government, along with helping the households who are especially sensitive to the changes in the economic situation to the housing market, might create long-term social problems at times of economic recession. These can be avoided by reassessing the usage of instruments promoting private borrowing.

I
EXTERNAL ENVIRONMENT

International Financial Markets

Owing to the recovery of world economy and improved outlook **the stock markets** started to rise in March 2003 and such movement lasted until mid-October (see Figure 1.1). Of major economic areas Japan and the United States showed the fastest revival with major stock indices rising by 27 and 19%, respectively. Meanwhile, the rise in the stock markets of the euro area remained slower (10%) due to weaker economic growth. In the Nordic stock markets Sweden outpaced Finland with indices rising by 25 and 5%, respectively, from the start of 2003 to mid-October.

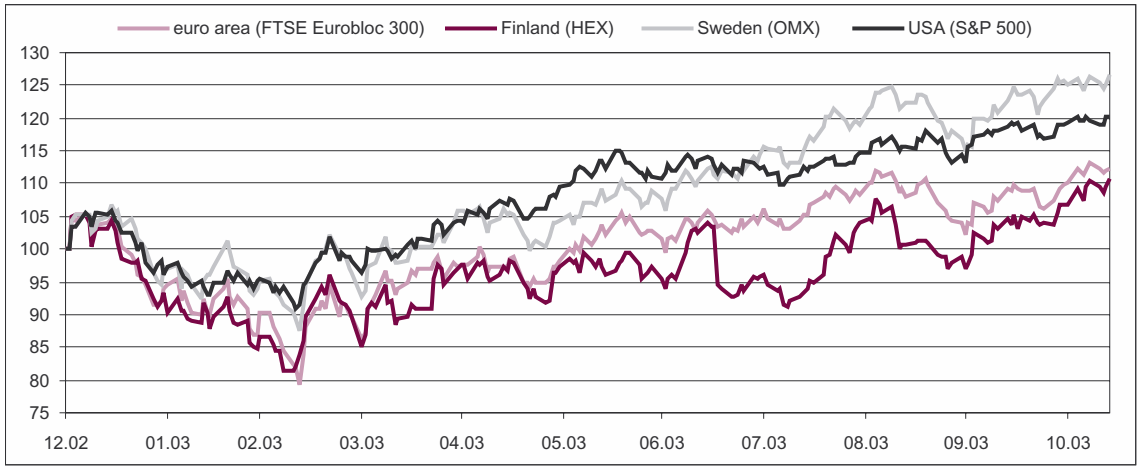

Figure 1.1. Stock indices in the United States, euro area, Sweden and Finland (31 December 2002 = 100)

Source: EcoWin

The continued growth of equity indices reflects investors' belief that global economic growth is going to pick up towards the end of 2003 and strengthen further in 2004. At the same time, a prerequisite for improved economic growth is continued investment growth along with improvements in the labour market. However, some important risks to the growth still remain, of which the issue of sustainable private consumption is the most intense, calling for stronger employment.

Changes in economic activity are also reflected in the dynamics of the **bond market**. In the first half of 2003, the actions of central banks were still clearly dominated by the trend of easing the monetary policy in order to boost economic growth. Another reason was consistent decline in the inflation rate along with the fear that such a downslide might lead to an undesirably low level of inflation; in the US there were even discussions about the threat of deflation.

Therefore, the central banks of the United States, the euro area and Sweden alike lowered key interest rates (by 25, 75 and 100 basis points, respectively), which led to lower short-term interest rates (see Figure 1.2). The latest decline in the key interest rates in the US and the euro area happened in June (to 1 and 2%, respectively), while in Sweden it occurred in July (to 2.75%).

Starting from the second quarter of 2003, the signs of increased economic activity appeared in the leading economic areas (the euro area was still an exception) accompanied by rising long-term interest rates: by

mid-October, 10-year interest rates had risen by 58 basis points in the United States from the start of the year, while in the euro area the increase was 15 basis points and in Sweden 21 basis points (see Figure 1.3).

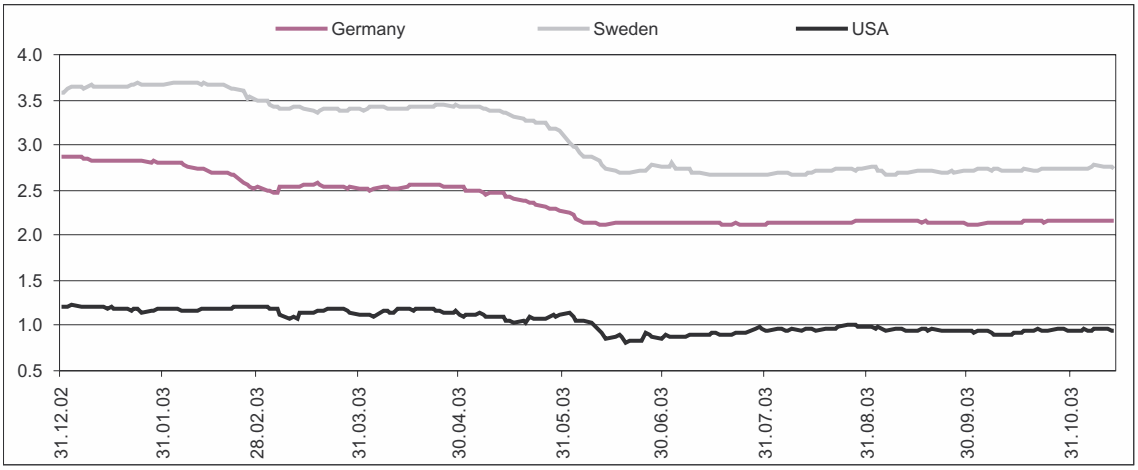

Figure 1.2. 3-month interest rates in the United States, Germany and Sweden

Source: EcoWin

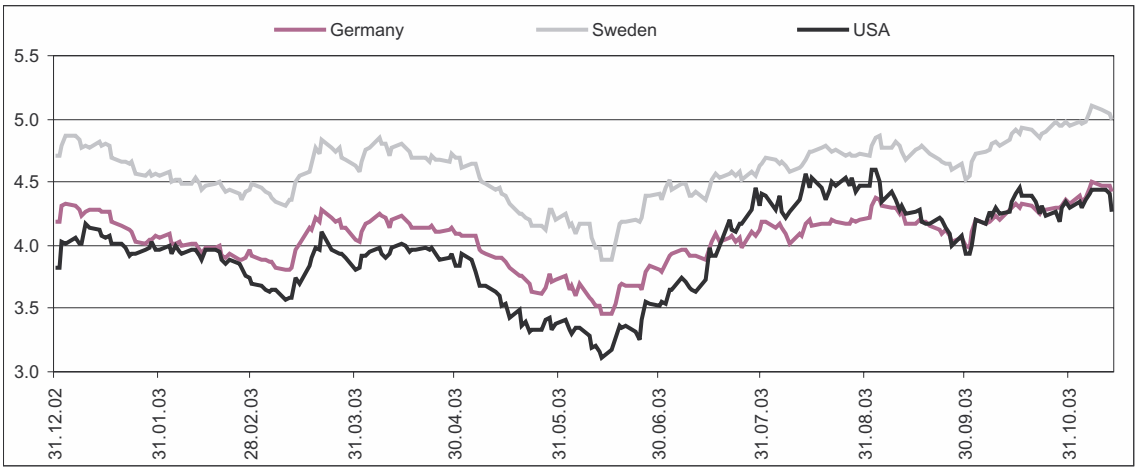

Figure 1.3. 10-year interest rates in the United States, Germany and Sweden

Source: EcoWin

However, economic recovery did not bring about significant changes in the monetary policy of central banks and key interest rates will probably not be raised in 2003. But the markets expect this to happen in 2004 – a rise of 25 basis points by the end of the second quarter of the next year has been predicted for the United States and the euro area alike. Such an expectation might seem a little too optimistic for the euro area, since economic growth remains sluggish and financial conditions have started to restrain growth due to the appreciating euro.

In the currency markets the main trend in 2003 has been the decline in the dollar exchange rate against other leading currencies (see Figure 1.4). It has been particularly significant against the euro (exchange rate has soared by 11.2% from the start of the year), as well as against the yen (exchange rate has increased by 7.7%). The current account deficit of the United States might soar to 600 billion dollars in 2003, which is why the country finds it increasingly difficult to finance the deficit through capital inflow from other countries.

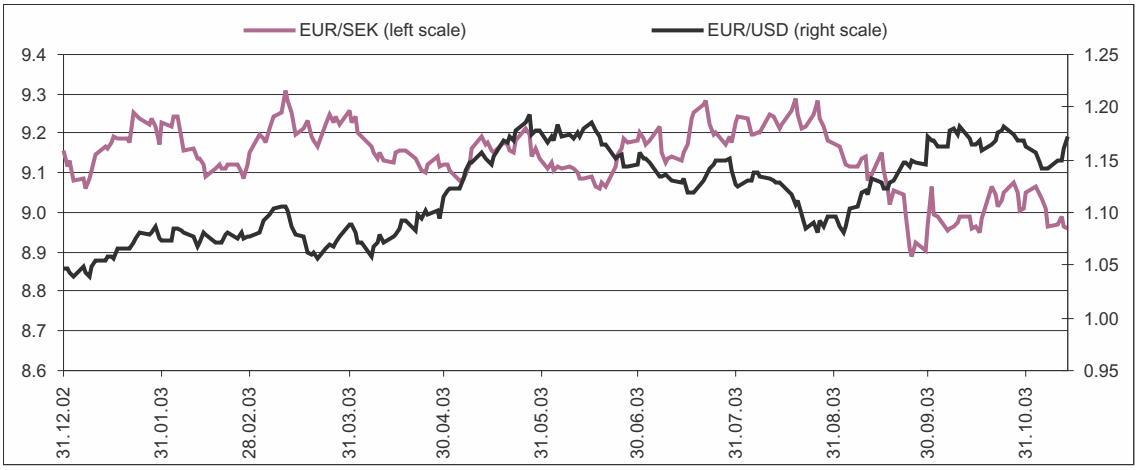

Figure 1.4. Exchange rate of the euro against the Swedish krona and United States dollar

Source: EcoWin

In order to reduce the imbalance, economic growth in the United States has to outpace that of the other countries significantly, or the US dollar has to weaken. Meanwhile, the United States are not interested in a plummeting dollar since this might lead to extensive sales of dollar assets, particularly shares and bonds held by foreign investors, which in turn might curb a boost in economic activity.

Regarding further dynamics in the exchange rate of the euro, it is getting increasingly difficult to predict a rise in the shorter term since economic growth in the euro area is currently lower than in the United States (the respective 2003 growth rate predictions stand at 0.5 and 2.6%). In longer term one cannot exclude further strengthening of the euro.

Development of the European Banking Sector[1]

European banking sector has been operating in an environment of slow economic growth both in 2002 and 2003. Although profitability has been affected, the sector has so far been capable of managing quite well with the impacts of unfavourable environment. To maintain profitability and adequate solvency banks have been cutting costs, reorganising businesses and improving risk management. The deterioration in banks' asset quality has been relatively modest.

The decline in the **profitability** of EU banks continued in 2002 and banks' aggregate return on equity after tax and extraordinary items (ROE) decreased from 10.1% in 2001 to 8.6% in 2002. Regionally, the profitability of banks still remained diverse. While in 2002 the deterioration in profitability was affected by decline in non-interest income and deterioration in asset quality, the data on major banks indicates improvement in profitability in the first half of 2003 supported by cost cutting and reduction in loan loss provisions. Still, there is no full certainty yet whether these improvements in profitability indicate a beginning of a longer trend.

In 2002 the share of net interest income in total operating income of EU banks increased to 61.5%. Even though sluggish pace of economic activity has led to restrained **loan growth**, the growth in housing loans has helped the banks to compensate for the more modest growth in corporate lending. At the end of the first half of 2003, the annual growth rate of lending for house purchase was 7.0% and of lending to non-financial corporations 3.6% (at the end of 2002 these growth rates were 7.6% and 3.4% respectively). As for new housing loans, European lowest interest rates still tend to be those in Finland (see Figure 1.5).

[1] Source: EU Banking Sector Stability: Autumn 2003 Report.

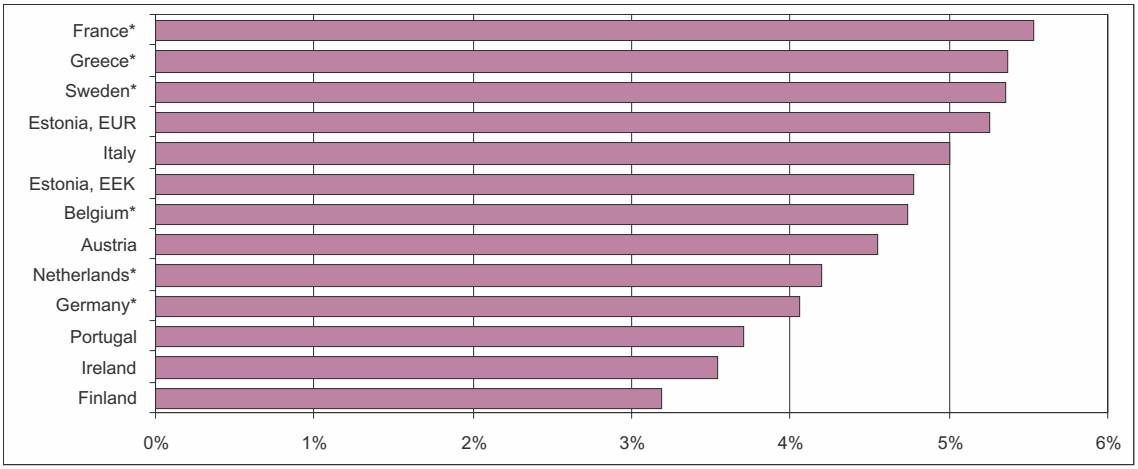

Figure 1.5. Interest rates of new housing loans in Estonia and in several EU countries, June 2003 (unharmonised national statistics)

** fixed interest rate*
Sources: ECB and Eesti Pank

In 2002 the aggregate cost-to-income ratio of banks decreased to 66.0%. The major banks' data reveal improved efficiency in the first half of 2003. As total expenses decreased in 2002, the share of staff expenses increased – staff expenses accounted for 53.8% of total expenses in 2002.

Regardless of the unfavourable economic environment, banks' **asset quality** remained in general still quite satisfactory in 2002. Non-performing and doubtful loans increased from an average 2.9% of total loans and advances in 2001 to 3.1% in 2002. Majority of problem loans originated from corporate sector; still, in some regions also slight decline in household loan quality was noted. If so far favourable interest environment has assisted clients at servicing their debt, from credit risk perspective it is important how possible growth in interest rates may affect clients' debt servicing capabilities.

Even though lending growth to the non-bank private sector has been decelerating (year-on-year growth has slowed from 5.7% at the end of 2002 to 4.5% at the end of the first half of 2003), corporate and household debt ratios have continued to increase. Stronger growth in housing loans has increased their share in banks' loan portfolios. Regarding the risks related to housing loans, it can be considered that in majority of EU countries loan-to-value ratios usually do not exceed 60–80%, and even though the possibility of problems in some regions cannot be fully excluded, it is still deemed unlikely that risks related to housing loans might currently threaten the overall stability of EU banking sector. However, banks' asset quality may be affected, should interest rates rise or households become more affected by corporate sector difficulties.

EU banks' aggregated **regulatory capital ratio** increased by 0.1 percentage points in 2002 – to 12.3%. The total capital ratio of large banks declined to 11.8%, the ratio of medium-sized banks increased to 12.5% and that of small banks to 15.9%.

Further developments in banking sector depend on future developments in European as well as global economy.

II
FINANCIAL BEHAVIOUR OF DOMESTIC REAL SECTOR

Economic Growth, External Balance and Inflation

While in 2002 Estonia's economy displayed relatively robust growth (6.0%), exceeding economic growth of the euro area by more than 5 percentage points, in the first half of 2003 the growth was more modest due to weak external demand (see Figure 2.1). Although Estonia's economic growth rate remained significantly above that of the euro area[1], it maintained a downward trend and is forecasted to reach just 4.4% in 2003. For the year 2004 Eesti Pank forecasts a growth rate of 5.2%, given the recovery of global economy.

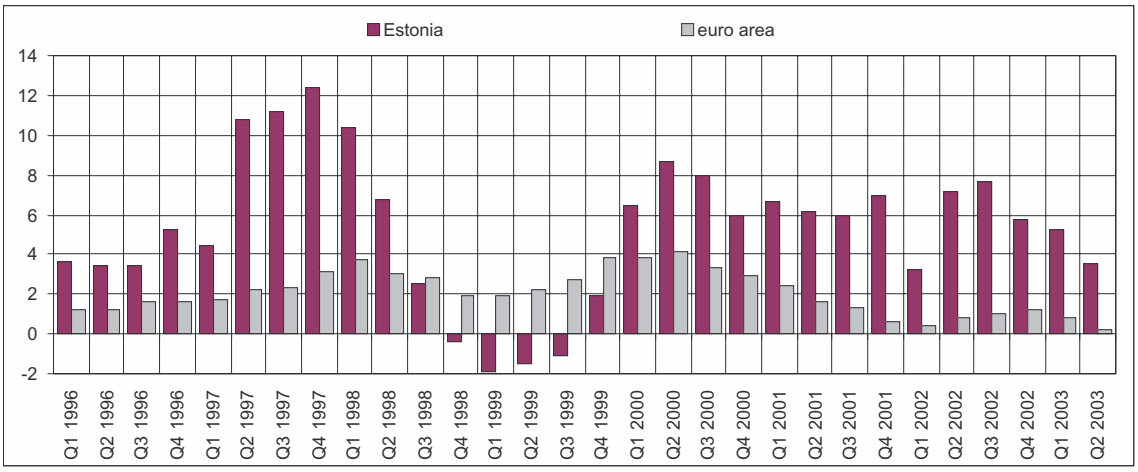

Figure 2.1. Real growth of GDP by quarters (%)

Sources: Statistical Office of Estonia; Eurostat

Under deteriorating global economic growth outlooks and lack of significant inflationary pressure, the monetary policy abroad has been predominantly expansionary, which has boosted Estonian domestic demand through the transmission of a low interest level.

Weak external demand diminished slightly the role of export as a growth engine – the export growth neither accelerated the GDP growth nor decelerated the widening of the **current account deficit** (see Figure 2.2). However, the extensive import of primarily investment goods in the first half of 2003 sent current account deficit to the record high – above 14% of GDP –, which was sustained throughout the second half of the year. The share of foreign direct investments in financing deficit shrank, soaring Estonia's external debt.

In 2003, **domestic demand** strengthened due to high investment activity, which for the most part started as early as in end-2001 and was primarily channelled into the sheltered sectors, whereas exceptionally many **investments** were made into single large projects (mostly in energy sector and transport). Due to several large infrastructure projects, investments in fixed capital were continuously above 30% of GDP (investments

[1] The difference between the economic growth in Estonia and euro area shrank to 3.8 percentage points in the first half of 2003.

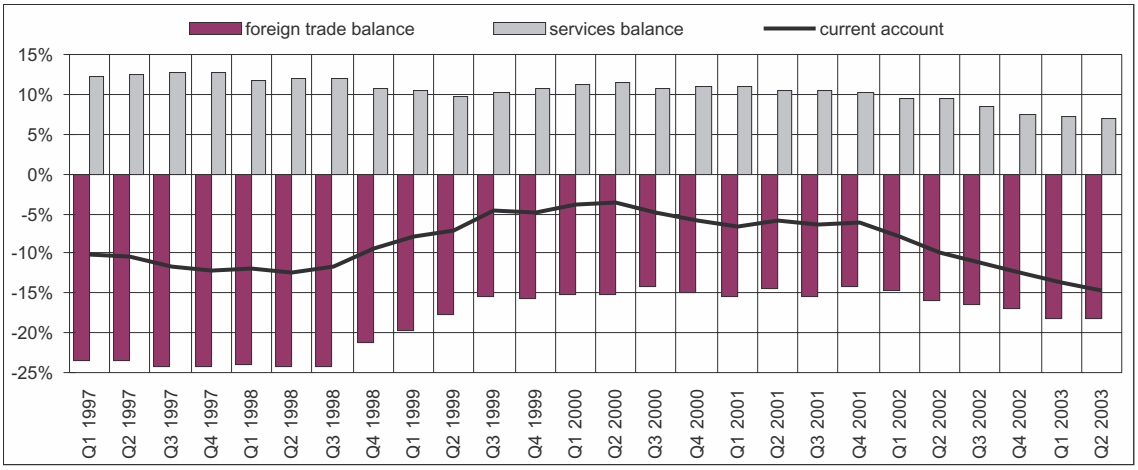

Figure 2.2. The share of foreign trade balance, services balance and current account balance to the GDP (4 quarters average)

together with inventories reached 34% of the quarterly GDP in the first half of 2003). These projects worsened the trade balance by approximately 4% of GDP.

In the shadow of growing sheltered-sector investments, in some export-oriented industries investments decreased, which could endanger long-term growth potential.

Private consumption growth in current prices slowed down from 10% in the first quarter to 7% in the second quarter. As private consumption has traditionally been the most influential and stable component in the GDP structure, the change in trend reflects clearly cyclic impacts. In the context of the current external imbalance of the economy, a major issue is the adjustment of domestic demand to the weak external demand, which results from the deeper and longer than anticipated recession in industrialised countries. Adequate response of borrowing-sustained private consumption to changes in income could be considered the main prerequisite for balancing the economy.

Vis-à-vis Estonia's productivity and competitiveness, the increasing share of wage cost has become problematic, as by GDP statistics, nominal wage growth has significantly exceeded productivity growth in 2003.

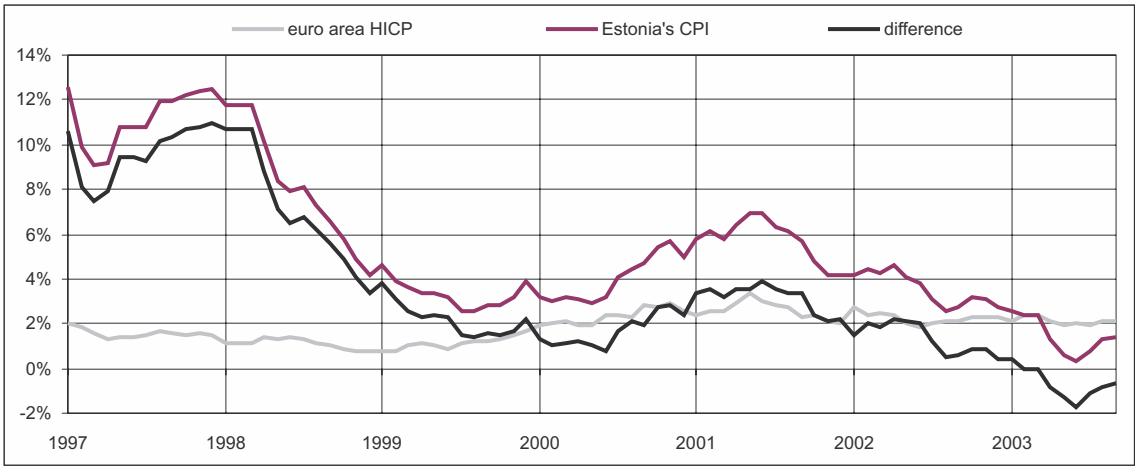

Figure 2.3. Annual growth of consumer prices in Estonia and euro area

Sources: Statistical Office of Estonia; Eurostat

In **inflation** dynamics the most pronounced feature in 2003 has been constantly decreasing external price pressure. Apart from weak external demand, also nominal exchange rate growth of the euro against major currencies, as well as a food and fuel price drop sustained a low price level. An additional domestic factor, which contributed to the low inflation, was the lack of changes in administratively regulated prices in 2003 as opposed to 2002. The joint impact of the above factors lowered the **annual consumer price growth** to 0.7% in the second quarter, even below the euro area indicator (see Figure 2.3).

In sum, GDP growth slowdown under other equal conditions is rather of cyclic nature. This finds support also in weak external-demand-induced problems in several production and export branches. The questions still on the agenda are if certain investments, which increase the debt burden, are reasonable and how strong inflationary pressures are likely to arise from faster wage growth than productivity growth.

Enterprises

Corporate Financial Strength

According to the Estonian Institute of Economic Research, in the autumn and winter of 2002 Estonian enterprises lost some of the optimism in development outlooks they had had in spring and summer (see Figure 2.4). Manufacturing sector optimism shrank primarily due to contracting external orders, construction sector was cautious because of pessimistic growth outlooks. Commercial businesses have remained relatively stable in their estimates; given some seasonality, they have become even slightly more optimistic.

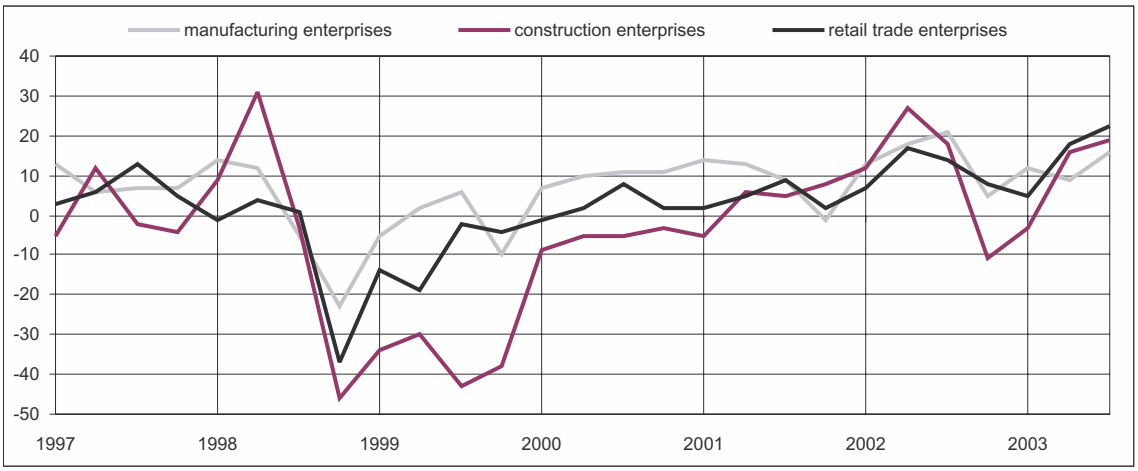

Figure 2.4. Confidence indicators of Estonian enterprises

Source: Estonian Institute of Economic Research

Since the second half of 2003, manufacturing and construction companies have revealed moderate optimism, probably catching on the first indications of recovering foreign trade. Beginning from September, manufacturing companies have been more positive in estimating external demand, although year-on-year demand growth expectations remained more modest (see Figure 2.5).

Changes in real indicators confirmed the reliability of corporate confidence indicators. Rapid **sales growth** continued in main branches of manufacturing (eg, wood processing). In some branches (eg, in food and chemical industry) sales difficulties, which had emerged in the first half of 2003, were abating. The services sector maintained a modest trend in the indicators.

In 2003, the growth of corporate **profits** remained below the GDP growth. This applies primarily to domestic companies, whereas profitability of companies enjoying FDI increased.

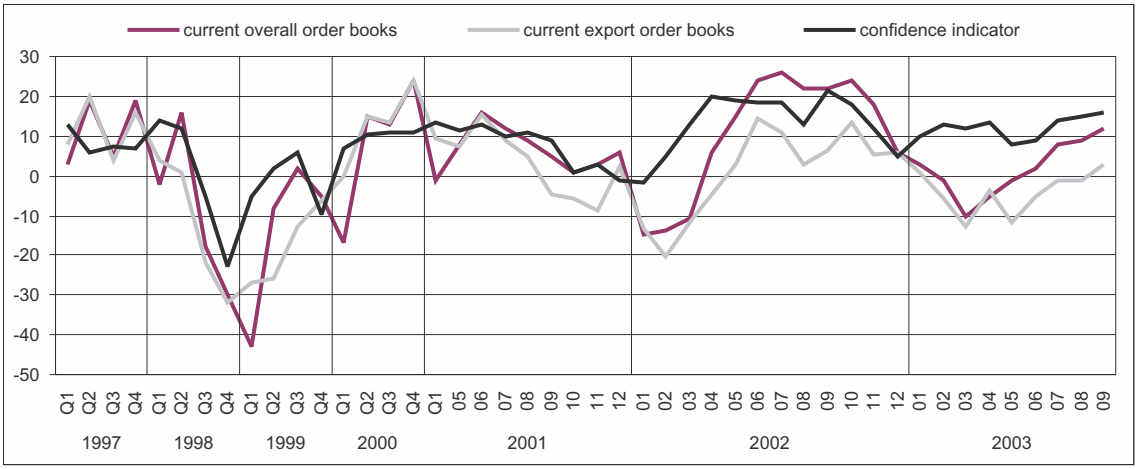

Figure 2.5. Production demand of manufacturing sector enterprises and confidence indicator

Source: Estonian Institute of Economic Research

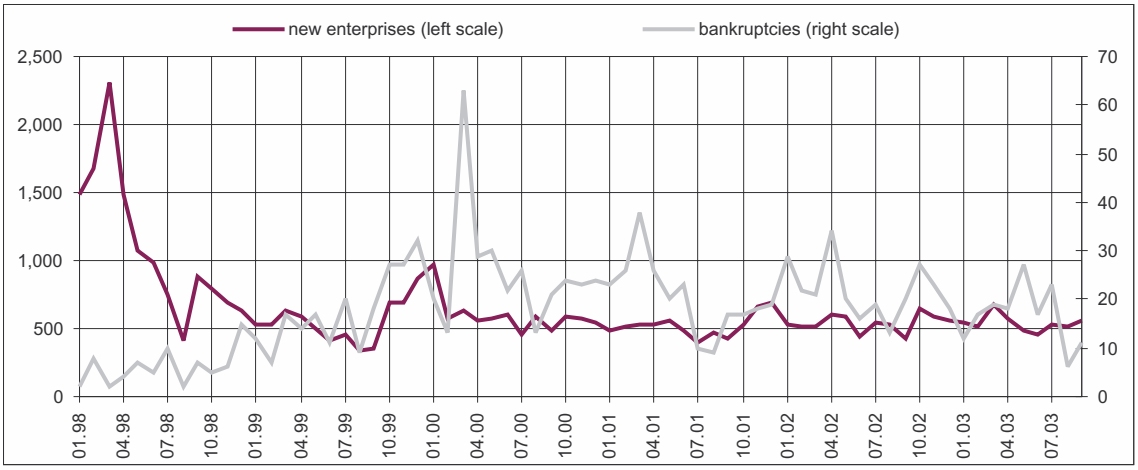

Figure 2.6. New enterprises entered in the commercial register within a month and bankrupt enterprises (without data on self-employed persons and foreign enterprises)

Source: Estonian Enterprises Register

While the number of **new registered companies** has remained stable and has not indicated changes in economic activity, the number of bankruptcies in the first nine months of 2003 was significantly below the last couple of years (see Figure 2.6).

Similarly to 2002, in 2003 most of the new companies have been established in commerce and real estate sector, the growth rate has been the fastest in construction. The number of bankruptcies was larger in commerce and manufacturing, as well as in real estate and other business services sectors. Over nine months, 150 companies went bankrupt, which is significantly fewer against the year-ago period (194 bankruptcies).

Corporate Net Financial Position and Saving

The net position of financial assets and liabilities of enterprises (mediated by domestic banks and leasing companies) became even more negative due to modest deposit growth (see Figure 2.7). Compared to increased financial liabilities (+4.1 billion kroons), corporate financial assets grew more than five times less during the nine months of 2003 (+0.8 billion kroons).

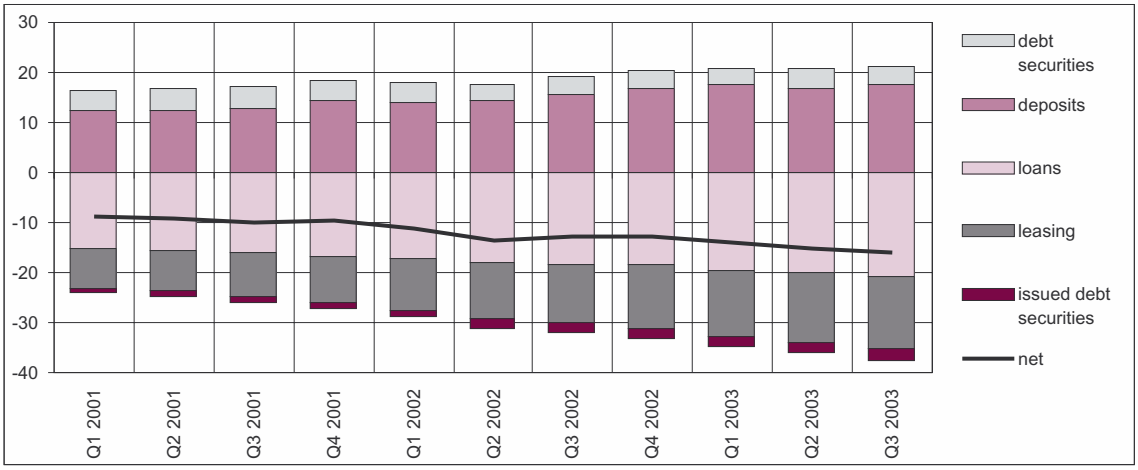

Figure 2.7. Financial assets and liabilities of enterprises vis-à-vis domestic banks and leasing companies (EEK billion)

Traditionally, the growth rate of domestic **corporate deposits** has been very volatile. While in early-2003 it revealed a pronounced acceleration (over 25%), by end-September the growth rate had stabilised at 12%. Corporate deposit structure has not essentially changed: the share of time deposits has remained within 25–35% since end-1999. However, the buffer role of time deposits has decreased slightly, primarily because deposit interest rates have dropped.

Considering the numerous alternative financial instruments (especially various investment funds) and flexible conditions for their use, the analysis of corporate financial assets and their utilisation is becoming increasingly important. In the third quarter of 2003, it became evident that the modest deposit growth could not be explained merely by growing investment fund volumes. Namely, the overall financial asset contraction indicates a possibility that investments were financed or current expenditure covered more and more from savings and current cash flows.

Corporate Debt

In financing Estonia's non-financial companies, domestic bank loans and leasing, FDI and other foreign liabilities are relatively equally important. The first half of 2003 did not bring along any substantial changes either (financing was split 30, 50 and 20%, respectively).

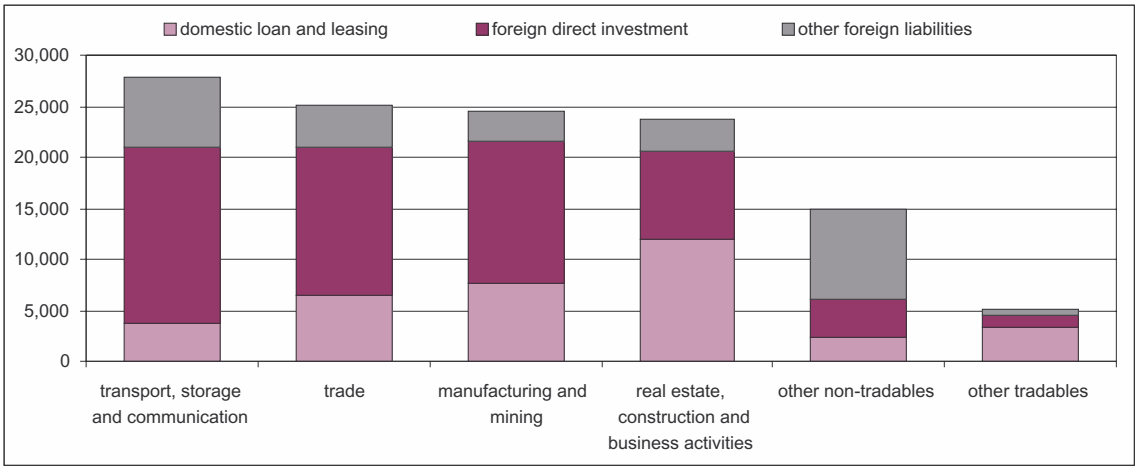

Figure 2.8. Financing of enterprises by domestic and external sources, as of 30 June 2003 (EEK m)

However, by sectors the engagement of funds varies greatly (see Figure 2.8). Real estate and construction sectors are most borrowing-oriented, with domestic borrowing responsible for more than 50% of the domestic and external funds involved. Domestic loan stock grew most in this sector also in the first half of 2003.

Although corporate liabilities account for the largest share of the loan and leasing portfolio, households are consistently catching up due to their high borrowing activity. In end-September 2003, corporate liabilities constituted 63% of the real sector's loan and leasing portfolio, against 78% in 2000.

The annual growth of corporate **domestic debt** reached the peak of the recent years in mid-2002, slightly stabilising afterwards (see Figure 2.9). In the third quarter of 2003, the debt growth amounted to 15–16%, sustained by high borrowing demand in the real estate sector (see Figure 2.10). At the same time, decelerating borrowing by manufacturing companies reflects adjustments taking place in the sector.

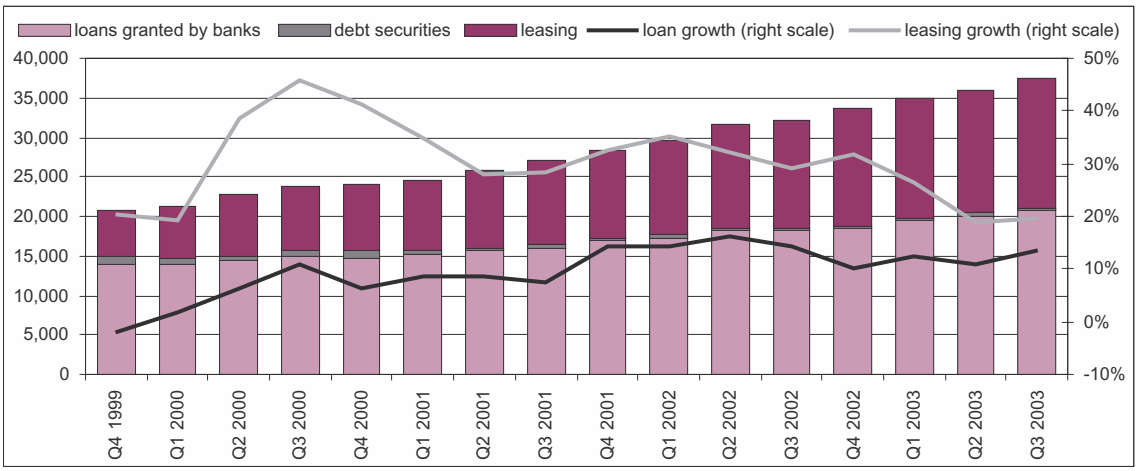

Figure 2.9. Domestic credit to corporate sector (EEK m)

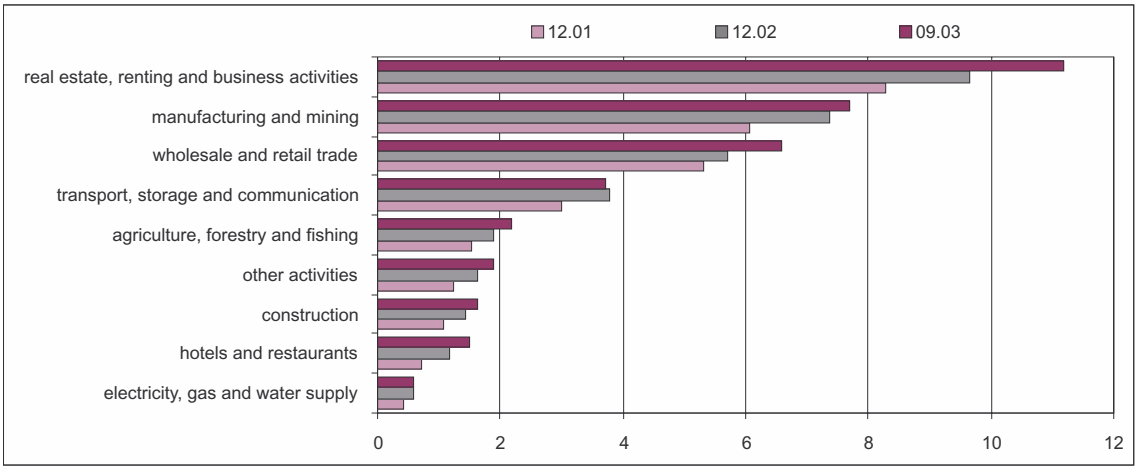

Figure 2.10. Loan and leasing portfolio by industries (EEK billion)

By **debt instruments**, the share of bank loans has been decreasing since mid-2001, stabilising at 56% in 2003. However, in transport and agriculture leasing financing is still prevailing: accounting for financing 61 and 67% of projects, respectively. The importance of the domestic bond market in involving funds remains marginal.

The cost of corporate borrowing has significantly shrunk over the last year – **the interest rate of long-term loans** decreased to 5.5% in mid-2003 (see Figure 2.11). The real estate, renting and other business services sector, which has the largest loan portfolio, experienced the most remarkable drop.

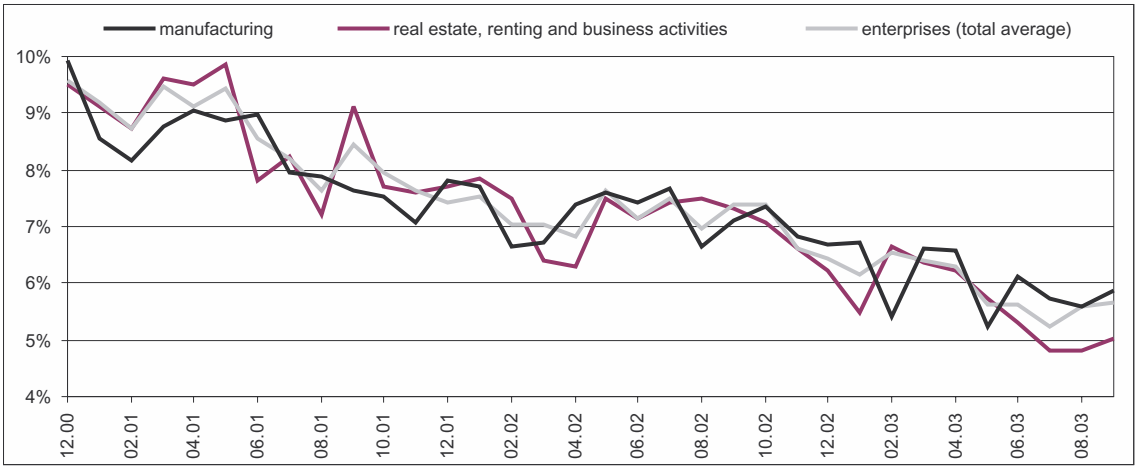

Figure 2.11. Long-term interest rates of enterprises

BACKGROUND INFORMATION

LOAN COMMITMENTS AND INVESTMENTS

Loans for acquisition of fixed assets account for more than a half of the corporate loan portfolio, 88% of which are loans to purchase real estate either for own use or resale. However, domestic lending and leasing accounted for only a small fraction of corporate investment financing – about 1.7 billion kroons of an estimated 10-billion-kroon volume of investments.

Together with the cyclical development of the economy, **investments by industries** have decreased both in primary and secondary sectors (including manufacturing). Contemporaneously, investments in energy, gas and water supply sectors and construction added volume (see Table 2.1).

Table 2.1. Investments in tangible fixed assets (EEK m)

	1st half of 2002	Structure	1st half of 2003	Structure	Difference	Growth
Investments in tangible fixed assets	9,326	68.3%	9,988	61.6%	663	7.1%
Agriculture, forestry and fishing	346	2.5%	286	1.8%	-60	-17.3%
Mining	153	1.1%	138	0.9%	-15	-9.7%
Manufacturing	2,121	15.5%	1,956	12.1%	-165	-7.8%
Electricity, gas and water supply	1,401	10.3%	2,054	12.7%	653	46.6%
Construction	239	1.8%	313	1.9%	73	30.7%
Wholesale and retail trade, hotels and restaurants	1,496	11.0%	1,619	10.0%	122	8.2%
Real estate, renting and business activities	2,069	15.2%	2,092	12.9%	23	1.1%
Other activities	285	2.1%	273	1.7%	-11	-4.0%
Investments in tangible fixed assets by GDP	13,650		16,203		2,553	18.7%
Volume not covered in sectoral statistics	4,324	31.7%	6,214	38.4%	1,890	43.7%

Source: Statistical Office of Estonia

The share of investments falling out of regular classification was exceptionally large – over 38%. This indicator covers both start-ups (ie new companies who did not sell their production in 2002) and investments by private persons not included in real estate companies' statistics.

In the **structure of investment objects** the share of machinery and equipment has gone up, primarily due to developments in the energy sector. However, in the manufacturing sector, less machinery and equipment was purchased in the first half of 2003.

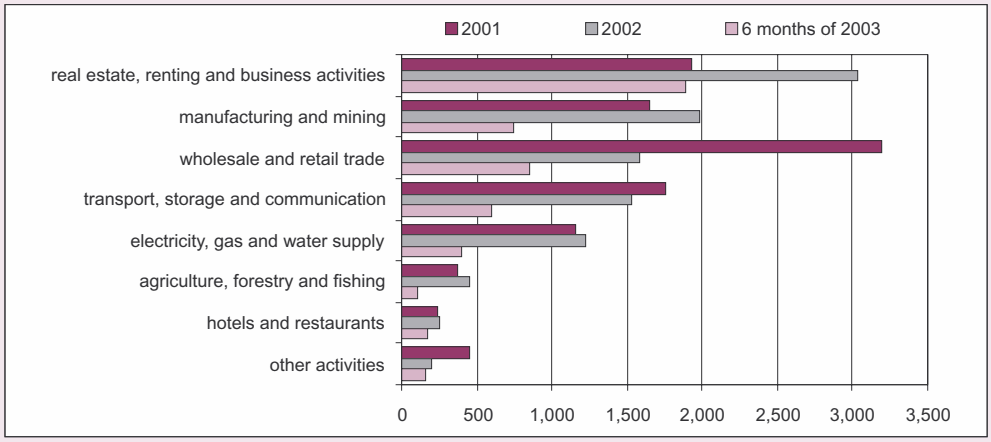

Figure 2.12. Investments in real estate (EEK m)

Source: Statistical Office of Estonia

Real estate investments remain relatively large. The real estate demand of non-real estate commercial undertakings varies by sectors (see Figure 2.12). While industrial, agricultural, transport, communication, electricity, gas and water supply companies were relatively modest in real estate investments in the first half of 2003 compared to previous years, other industries, especially commerce, sustained a high investment demand[2].

Future Outlook and Risks

The adaptability of Estonia's business sector against the setting of protracted recession in Europe's economy can be considered good. Both sales and profitability have remained on the level to ensure adequate loan servicing ability. Also, near-term outlooks can be considered rather positive, provided that our main export markets will recover.

In Estonia, construction and real estate companies have performed above average, as higher expectations have boosted investment demand. On the financing side, besides an increase in FDI, also banks' loan portfolio has grown primarily in domestic-demand-oriented sectors.

Lack of investment and loan demand in export sector undertakings is a clear sign of inhibited outlooks at main export markets. It could happen under the circumstances that if external demand starts to recover, previous investments may not suffice to generate export revenue. Neglected export demand potential could, in its turn, jeopardise anticipated return on investment. Considering current bank behaviour, the loan growth rate of manufacturing is not likely to recover in near-term.

Last years' experiences have shown that Estonian companies are sufficiently flexible and adaptable under changing economic environment. Should they sustain this ability, the business sector would be likely to maintain adequate financial strength in future as well.

[2] Due to the increment of new enterprises, the data may be inaccurate.

The soaring real estate sector's loan portfolio has preserved its good quality. Simultaneously, **commercial real estate risks** have not decreased over the last year – the threat of accumulating vacant space and dropping rents (especially for office space) has actually deepened. New shopping centres to be completed in 2004 could jeopardise also commercial space, although the risk is inconspicuous as yet.

Households

Labour Market Indicators

The economic growth over the last ten quarters was based on investments into fixed capital, but also on supplementary demand for labour. Steady **employment growth**, which started already in the second quarter of 2001, continued in the first half of 2003 (see Figure 2.13).

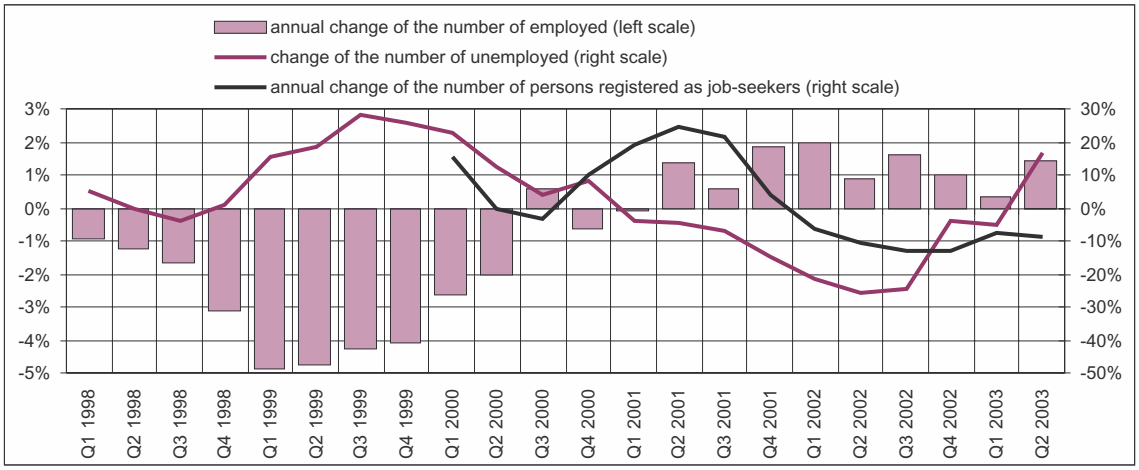

Figure 2.13. Annual change of employed and unemployed persons and active job-seekers

Source: Statistical Office of Estonia

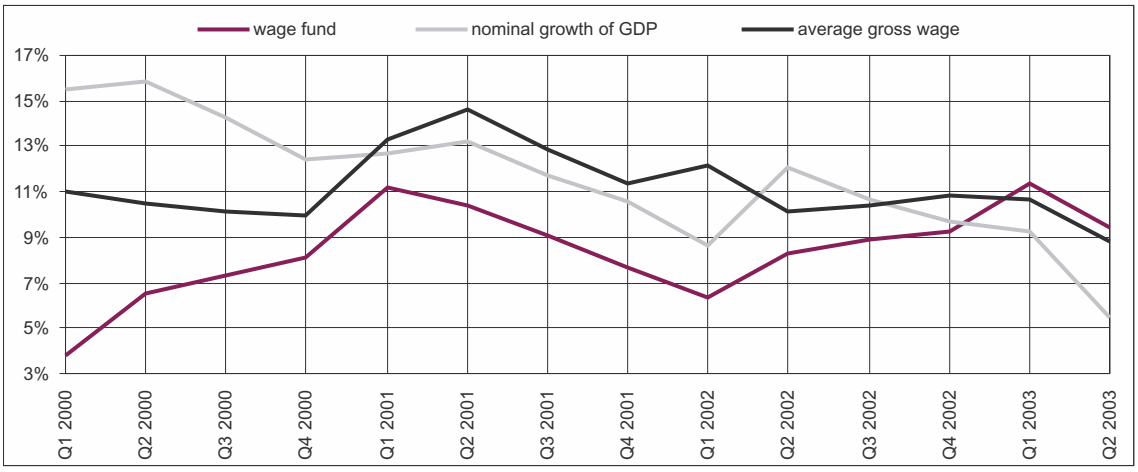

Figure 2.14. Annual growth of average wage, wage fund and nominal growth of GDP

Source: Statistical Office of Estonia

In 2003, no drop in **unemployment** comparable to 2002 has occurred. In the second quarter, the number of the unemployed even picked up. This is, on the one hand, an indication of increased economic activity of

the working-age population, as both the number of the employed and the unemployed grew. On the other hand, it reflects insufficient demand for labour – not all the unemployed can find a job. Future outlooks are insecure, as the delay of global recovery may force the Estonian manufacturing to further cuts in the workforce in order to raise efficiency, and the creation of new jobs in the service sector may come to a halt as the growth of domestic demand slows down.

The **wage** growth rate has remained relatively high throughout 2003, being significantly above the nominal GDP growth in the first half of the year (see Figure 2.14).

Confidence and Household Budget Surveys

According to the surveys conducted by the Estonian Institute of Economic Research, **the consumer confidence index** underwent a slight decline in summer after being sustained at a high level for more than a year (see Figure 2.15). Although estimates of the household economic status have become more optimistic, the fear of job loss and inhibited growth of savings undermined confidence. Consumer price increase is anticipated to gain pace.

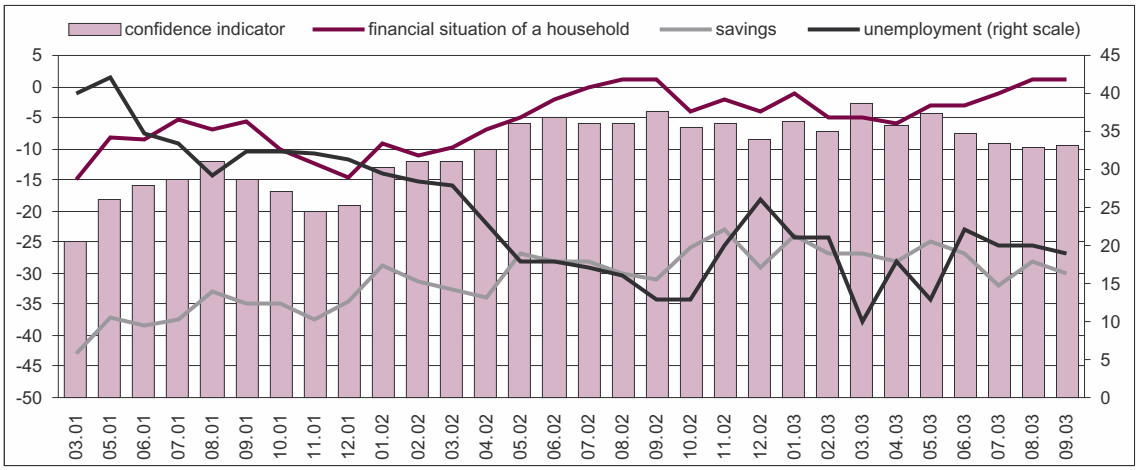

Figure 2.15. Consumer confidence indicators

Source: Estonian Institute of Economic Research

Evidence of a slight decrease in optimism can also be found by looking at import volumes – imports of consumer goods have declined year-on-year in 2003. At the same time, consistently favourable lending conditions and the highest growth of real wages over the recent years sustain households' borrowing activity (primarily related to real estate).

Household Net Financial Position

The net position of households' financial assets and liabilities continued deteriorating in the second half of 2003: by end-September surplus assets accounted merely for 40 million kroons (see Figure 2.16). Shrinking household net saving reflects pressure on current account and high domestic loan demand is an impetus to boost external debt. For households, declining level of saving undermines buffers to be used under growing debt burden, should lending conditions deteriorate.

The annual deposit growth rate has remained below 20% since mid-2002 (see Figure 2.17). By end-September 2003, the growth rate had slowed down to 12%, which is obviously insufficient to meet the continued high loan demand – in the first nine months of 2003, deposits added 1.4 billion but debt 5.1

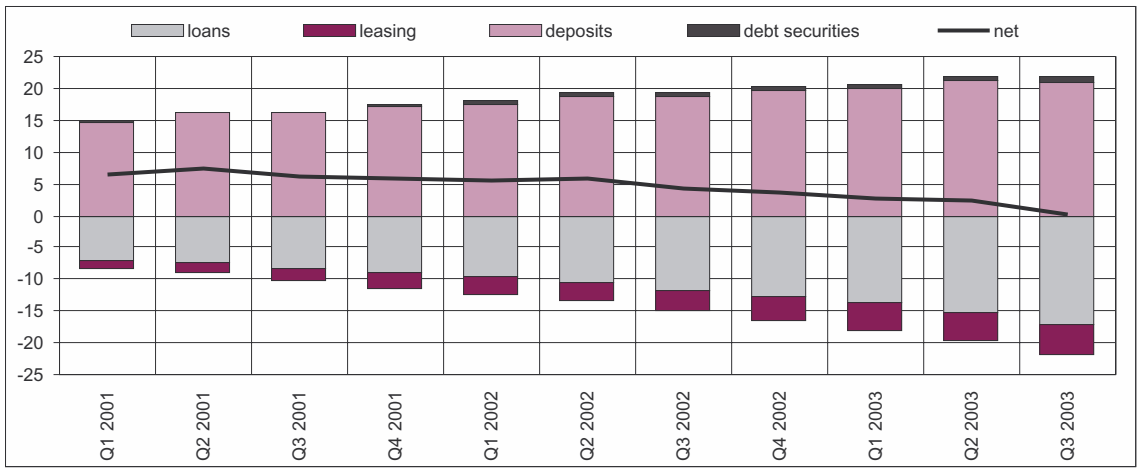

Figure 2.16. Financial assets and liabilities of households vis-à-vis domestic banks and leasing companies (EEK billion)

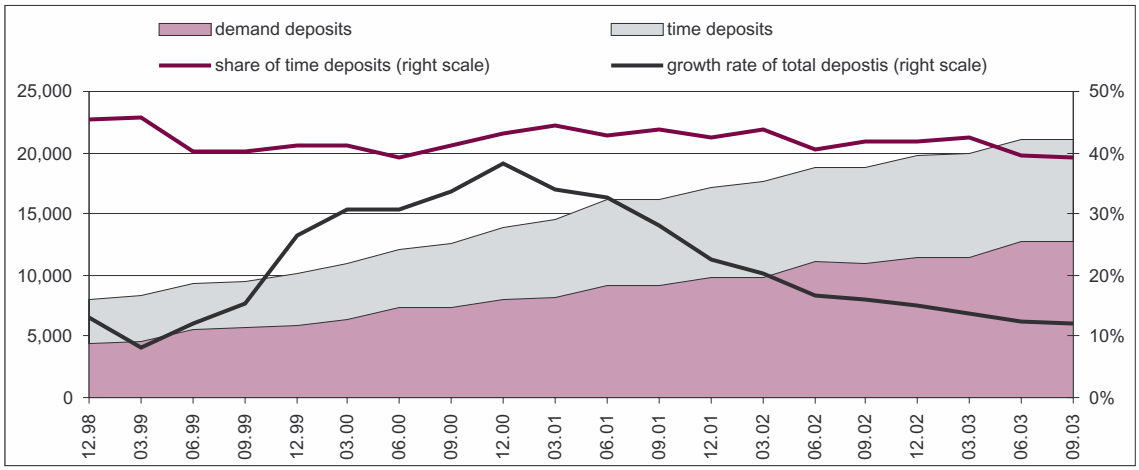

Figure 2.17. Households' deposits in domestic banks (EEK m)

billion kroons. The share of time deposits was contained at 40%. In the setting of heightened credit demand and related current expenditure it reflects sustained interest in saving but also certain inertia in saving behaviour.

Vis-à-vis households' level of saving, the successful launch of **the second pillar of the pension reform** is worth mentioning. Pension savings (II and III pillars) reached an estimated 1.4 billion kroons by end-September 2003, being 1.2% of GDP and 6.2% of gross household saving (deposits and pension savings).

Household **debt** has been **soaring** (annual growth rate over 40%) since the end of 2000. In the first half of 2003, borrowing accelerated from month to month and stabilised at the end of the third quarter (see Figure 2.18). The large credit volume of previous periods is curbing credit growth, as credit turnover has rather grown over the recent months.

Borrowing to acquire or renovate housing accounts for about 70% of the private persons' loan stock. At the same time, it is also the largest market segment in the loan and leasing portfolio (in end-September 2003, housing loans were 26% of the real sector loan and leasing portfolio, against 21% a year ago). However, rapidly growing volume of housing loans has not contributed to any significant real estate price growth in 2003.

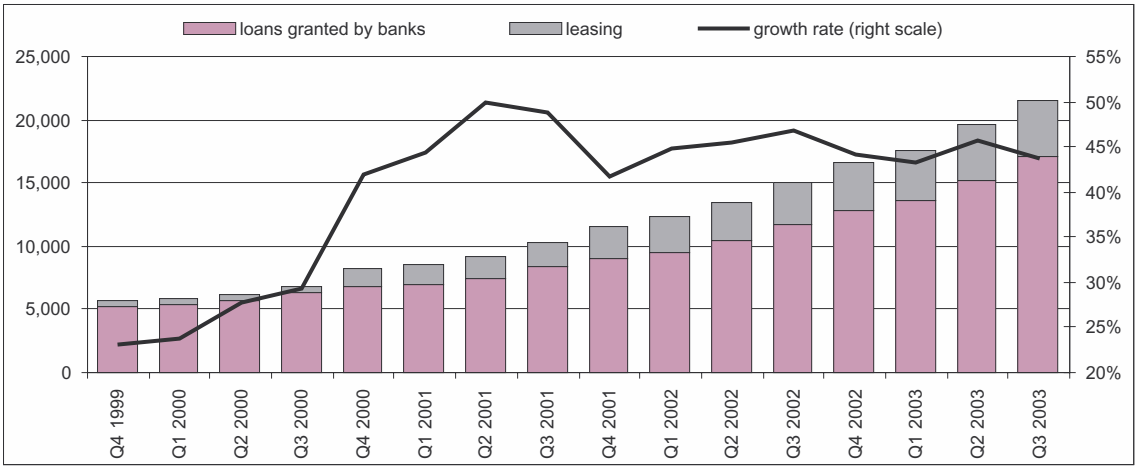

Figure 2.18. Domestic credit to household sector (EEK m)

The growth rate of **consumption loans** has also remained relatively high – 40%. At the end of the third quarter, consumption loans accounted for less than a fifth of gross household debt, whereas leasing of cars was responsible for 43% of consumption loans. During the last year, the volume of consumption credit via credit cards has nearly doubled.

Household Credit Growth: Factors and Conditions

Rapid growth in recent years reflects several structural and cyclic trends. Growing income and declining interest rate have had the strongest impact.

The low international interest rate level has significantly inhibited **housing loan interest rates** also in Estonia (see Figure 2.19). The contemporaneous decline in inflation kept real interest rates stable.

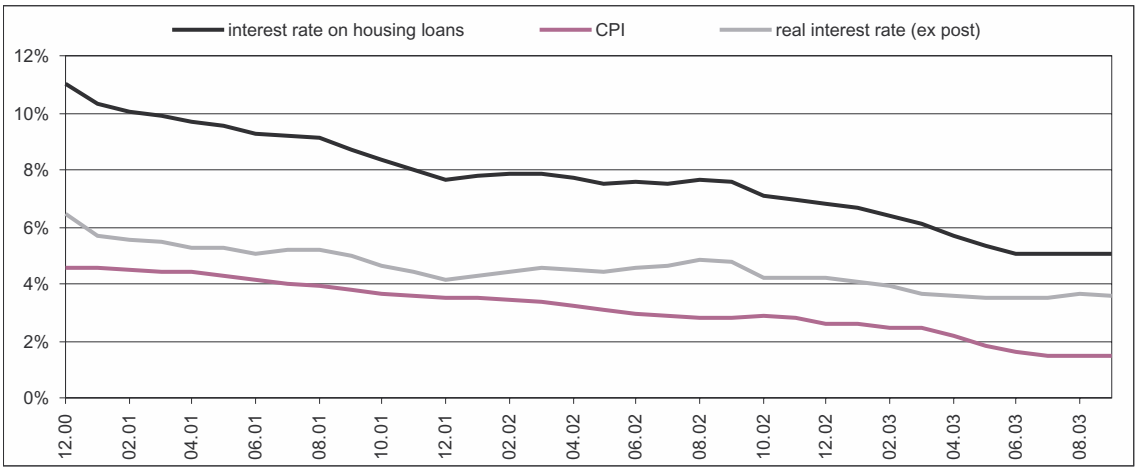

Figure 2.19. Nominal and real interest rates on housing loans and consumer price index

In recent years, the growth of debt burden has primarily been subject to **entrance of new creditworthy persons in the market** as credit behaviour has changed and general income gone up. According to household financial behaviour study conducted by Emor in September 2003, the share of families with a housing loan experience increased from 13% to 15% in 2003, ie another 12,000 new credit customers may

have come to the market. Provided that the average housing loan has reached 300,000–340,000 kroons, new credit customers may account for up to 4 billion kroons of the about 4.7-billion-kroon loan increment[3].

The more active real estate market in the typical apartment segment in Tallinn reveals that credit growth in the second half of 2003 was mainly sustained by credit demand among slightly less affluent families. Apart from an increase in the number of borrowers, it is possible that lower interest rates and/or growing income **has increased the debt burden among relatively wealthier families and families with previous credit experience**. This opinion finds support in soaring real estate prices, the level of which indicates demand for higher quality credits.

As the share of families with housing loans is still relatively small (an estimated 10% of families in September 2003), the growth potential is not exhausted yet. Although in future higher growth could be seen in families with somewhat above average incomes, there seems to be a slight growth reserve also in higher income groups. For instance, families with a loan exceeding 500,000 kroons account for about 13% of all housing loan takers.

Competitive pressure in the market has made banks to lower customers' risk margins. Contemporaneously, banks' credit policy has remained relatively conservative, characterised primarily by consistency in asking for quality collaterals. A conservative approach can be seen also in the rise of minimum net income criteria by banks by an average of 1,000 kroons for long-term housing loans.

The government sector policy has also been supporting private persons' borrowing. In 2002, KredEx issued approximately 245 million kroons worth of housing loan guarantees, which increased the total of housing loans by one billion kroons. In end-2002, housing loans with KredEx guarantees totalled 1.6 billion kroons or about 14% of the total housing loan portfolio.

Unlike loan guarantees, which do not reduce household expenditure on housing (rather the interest burden will go up), the **deduction of housing loan interest rates from taxable income** provides some relief. The volume of interest payment returns has been increasing year-on-year (114 million kroons in 2001, 135 million kroons in 2002), although due to expanding borrowing community the average tax return has remained relatively stable.

Private Persons' Loan Servicing Ability

In countries with lower income level, **the indebtedness** is usually also lower. This reflects historically suppressed financial deepening, which does not allow catching up with the level of developed countries without serious implications for macroeconomic and financial stability of the country. Apart from differences in income levels, formation of debt is also subject to the structure of the housing market (eg, share and efficiency of the rental market, share of state and municipal property, government support schemes, etc) and other factors (including socio-cultural and demographic factors, level of securitisation, etc). Although households' indebtedness compared to several developed countries is still modest, the relatively liberal housing and financial market has brought the indicators close to the level of some EU Member States and ahead of acceding countries.

Despite the rapidly growing loan stock, quarterly loan interest payments have not essentially changed, primarily because of the favourable impact of low interest rates. The **interest cover ratio** of Estonian households has remained stable at 2.2–2.3%[4] (see Figure 2.20).

However, the households' debt burden does not imply merely interest payments. Although principal payments increase households' assets and improve net wealth at any given period, the volume of borrowing

[3] Compared to September 2002.
[4] In developed countries the indicator is 5–7%.

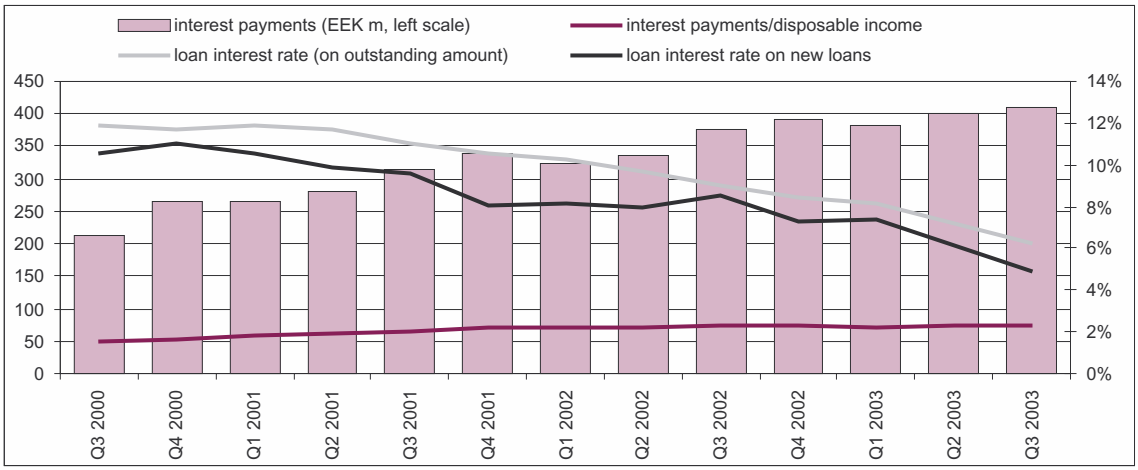

Figure 2.20. Households interest payments, interest burden and loan interest rate

will determine the structure of households' expenditure for a relatively long period. Loan servicing costs (principal payments and interests) of Estonian households have been going up over the time. According to a family budget survey B-monitor by Emor, families spent about 7% of their net income on loan servicing (see Figure 2.21) in 2002. Based on banking sector statistics, the indicator could be higher than in the survey, estimated to reach 12%. During nine months of 2003, the ratio of loan repayment to disposable income has risen to above 14%.

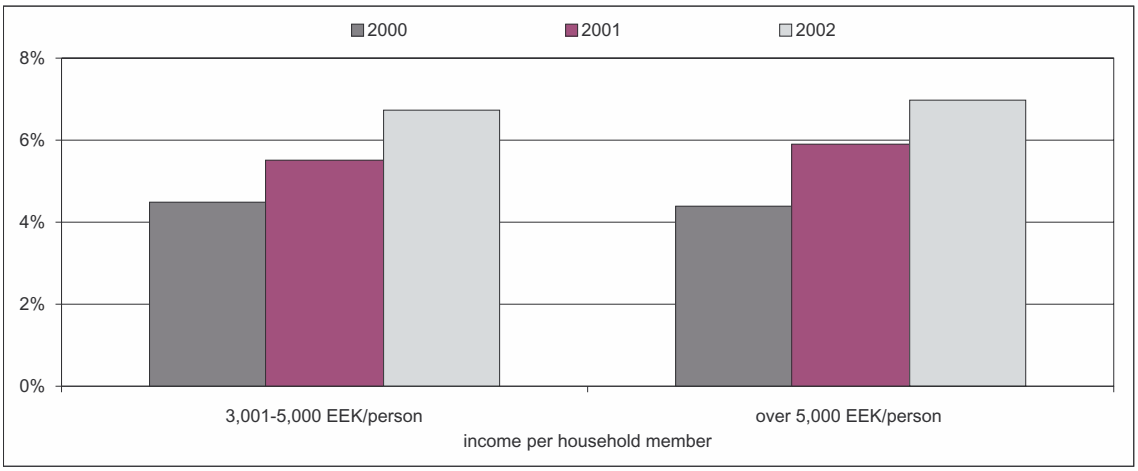

Figure 2.21. Loan repayment to disposable income among high income households

Source: TNS EMOR B-monitor

Weakened loan servicing ability due to shrinking income and/or increasing interest rate threatens primarily **families who have, under irrational expectations, excessively over-borrowed**. This risk is probably the highest for medium-income families. On the one hand, we should consider that the price level in the real estate market determines minimum loan volume. On the other hand, the lower the family's income level, the larger share of its net income is tied up with the so-called inevitable costs (food and housing). Thus, the room for manoeuvre for medium-income loan customers may prove too narrow for loan servicing, making borrowers to reconsider their consumption habits and investments.

For example, for a medium-income family having a 15-year loan of 200,000 kroons with 5% interest rate, at a 1-percentage-point rise in the interest rate, monthly payments will increase by 6.7%; but, in case of a 2-percentage-point rise, payments will increase already by 13.7%. As a medium-income family spends about

half of its income on food and housing, a 2–3-percentage-point rise in the interest rate could become critical[5]. If income outlooks of a family deteriorate and/or inevitable costs go up under inflationary pressure, the loan-servicing ability will weaken even further.

Future Outlook and Risks

Larger income and lower loan interest rates motivate households ever more to take on long-term loan commitments to improve their housing conditions. The rental market does not offer a sufficient alternative, as loan repayments are often lower compared to rental payments. In some cases also the pronounced governmental policy (eg, credit guarantees by KredEx) calls on people not to delay borrowing.

Although banks have raised the minimum income criterion in order to qualify for a loan, **the potential household credit demand remained high**. In 2004, in addition to new, mainly medium-income loan customers, loan demand among the wealthier population with borrowing experience may not fade away either.

While borrowing has grown rapidly, growth in depositing has remained extremely moderate. However, this means that the household sector buffer against changing crediting terms or income has significantly weakened. Apart from an increased insolvency risk on the level of individuals or families, the **deteriorating net position of the household sector** will threaten macro stability.

Banks have insured themselves against potential customer insolvency with high down payment requirements, guarantees, as well as with an annuity-based loan schedule. Thus, in case of potential setbacks under adverse scenarios, banks will be exposed to decreased profitability (revenue base will shrink), whereas potential **social problems** will be immeasurable.

In long term, with the current trends in credit demand sustained, the liquidity of the secondary real estate market could also become problematic, as outdated residential areas could become short of an adequate number of solvent buyers. Such a situation together with other problems, accompanied by drying up of some income sources and/or increased loan losses, could potentially threaten also the stability of the banking sector.

We should also consider that, **under the increased debt burden, private consumption has become more susceptible to changes in the economic environment**. The role of households in enhancing economic growth could weaken in difficult periods, amplifying problems in the business sector.

As credit demand has recently been higher among medium-income families, one of the most serious risks in the next two-three years will be the **loss of loan servicing ability**.

[5] As a rule, loan issuing conservative banks also consider the housing loan servicing ability in case of a 2-percentage-point interest rate rise.

III
FINANCIAL SECTOR

The Structure of Financial Intermediation and Financial Deepening

The relatively rapid financial deepening is still mostly based on the expansion of the banks' loan and leasing portfolio, which outpaces nominal economic growth by 2.5 times (see Figure 3.1). In the third quarter of 2003, the faster growth of the leasing portfolio compared to the loan portfolio that had continued through several years came to a halt. Provided that the structure of financing does not change significantly, the growth rates of both portfolios should remain similar. Credit growth has outpaced the expansion of the banks' overall financial assets for some time now, leading to a consistently increasing share of the loan portfolio in the structure of assets.

Investment funds have remained the fastest growing segment in the structure of financial intermediaries. In a year, their share has increased from 4% to 6% of the GDP (see Figure 3.2). Along with the growth in the assets of the investment funds during the past year (over 50% year-on-year), stock market

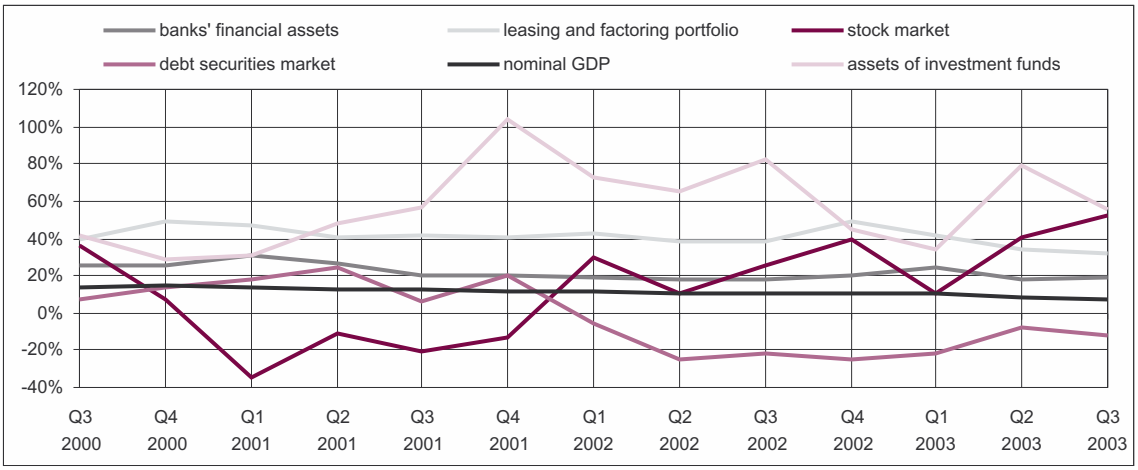

Figure 3.1. Yearly growth rates of financial assets and nominal GDP

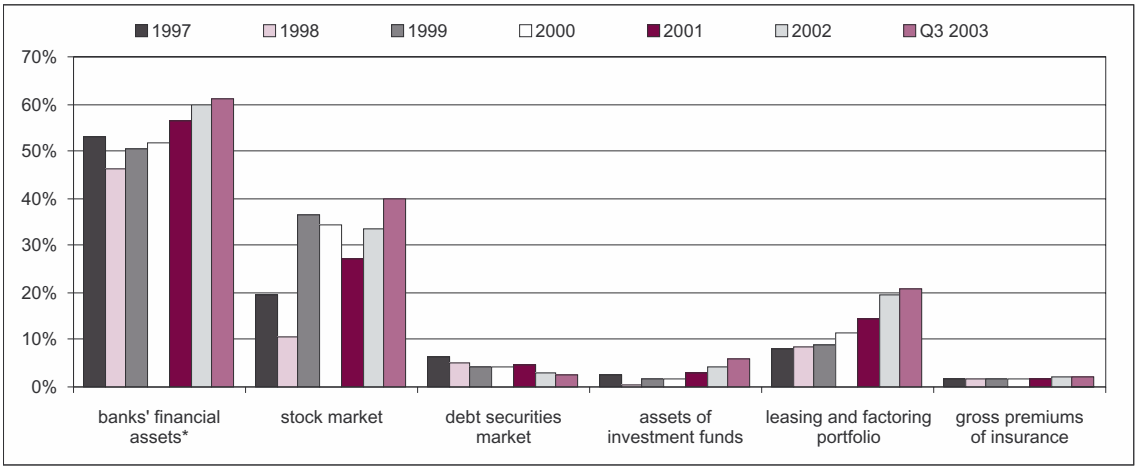

Figure 3.2. Structure of financial intermediaries (% of GDP)

** except loans issued to financial institutions (mostly leasing companies)*

capitalisation has soared also rapidly. This has been underpinned by persistently rising prices following the buying interest of foreign investors in a thin market. The only capitalisation to have shrunk is that of the bond market, and not only against the GDP, but also nominally.

Banking

Strategic Development in the Banking Market

The institutional division of the banking market has remained stable during the past three years: the market has been divided between the three largest banking groups, three small banks and a branch of a foreign bank.

Regardless of the certain level of maturity achieved in market coverage and balance stroken between market participants, competition still shows the signs of becoming increasingly fierce. Since 2002 clear features – rapidly declining loan margins and luring away clients – have indicated certain market saturation. Affected by the competition, the aggregated loan growth (together with leasing claims) will amount to 25–26% in 2003. The volume of the fastest-growing segment of the portfolio – housing loans – might soar to 17 billion kroons (annual growth of more than 50%; see Figure 3.3).

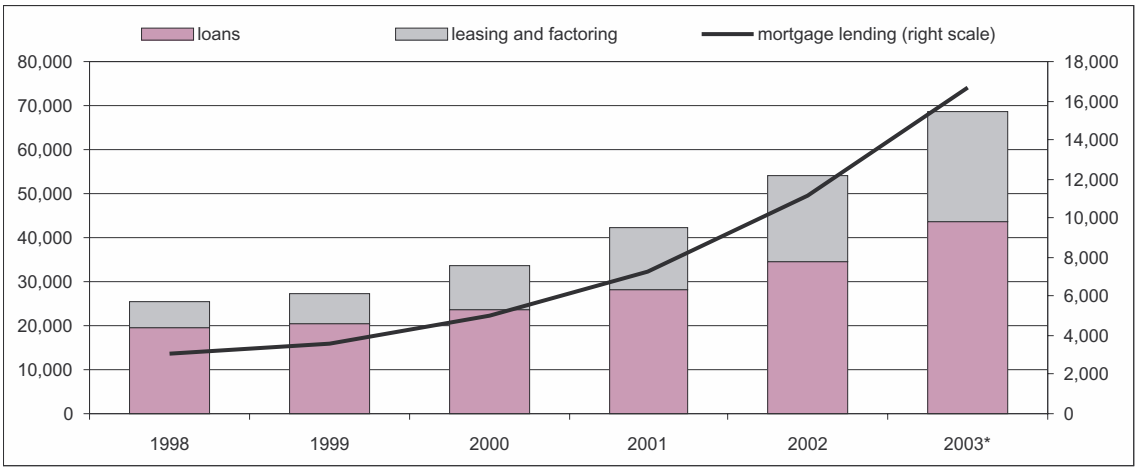

Figure 3.3. Loan and leasing portfolio inluding residential mortgage lending

** forecast as of the end of the year*

Capital Adequacy

The average aggregate capital adequacy **ratio (solo)** for the nine months of 2003 stood at 15% (15.6% in 2002). The sector-wide solvency level was the lowest in July (14.4%), before second quarter profits were recognised in Tier capital. By September, the banks had transferred 666 million kroons from the second quarter profits into Tier capital, which boosted the average adequacy to 15.4%. Simultaneously, the solo capital adequacy ratio of the banks, where it had been the lowest, rose to 12.3% from 11.1% (see Figure 3.4). The rise in the capital adequacy ratio was supported by the decline in risk assets arising from classifying particular claims into lower risk categories.

In June the **consolidated** capital adequacy ratio fell to the all-time low – to 12.6% (among banking groups the lowest indicator was 12.1%). In line with the inclusion of profits into Tier capital in the third quarter, the average aggregate consolidated adequacy ratio rose to 13.3%, while the lowest indicator among market participants stood at 12.4% in September.

Starting from 2002 the solo and consolidated capital adequacy ratios have changed in different directions. While solo adequacy has grown moderately due to increased profitability, consolidated solvency has consistently

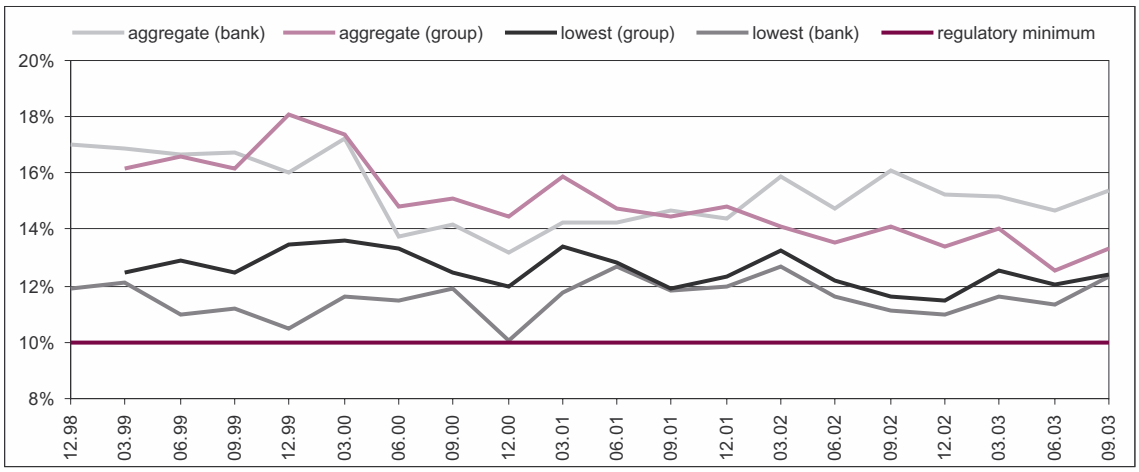

Figure 3.4. Capital adequacy

declined. The underlying reason lies in the rapid growth in risk assets, primarily due to leasing and factoring financing. Risk assets went up by 16% year-on-year on a solo basis but by 26% on the consolidated basis.

The exposures open to market risks are comparatively small in Estonian banks, accounting for just a little more than a tenth of the total position open to risks (see Figure 3.5). Meanwhile, the open risk position has further declined since the second half of 2003. This is above all related to the **decline in the uncovered currency position** because of the changes in calculating the currency risk resulting from intra-group positions. Most of the market risk comes from the interest position risk, which is in a significant part related to the bonds in the liquidity portfolio.

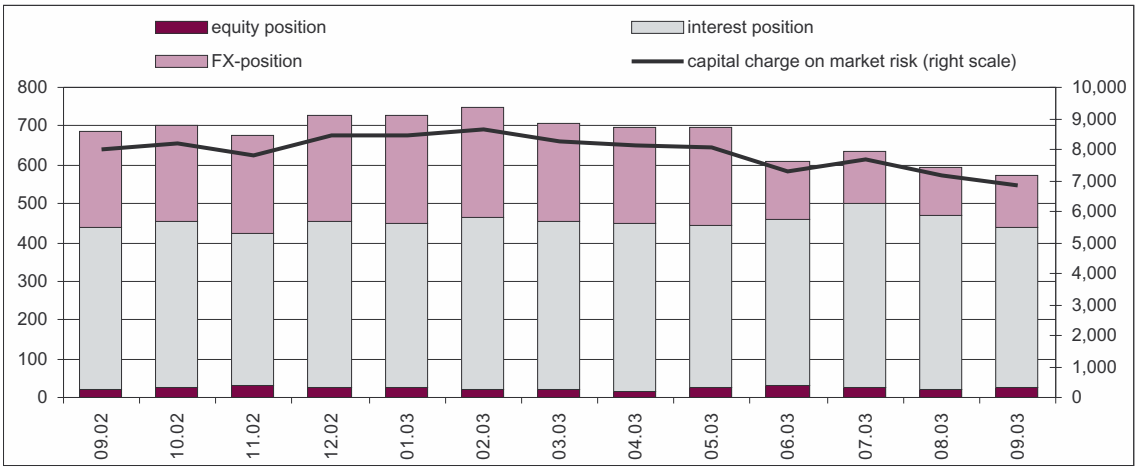

Figure 3.5. Exposures at market risk (EEK m)

Regarding financial stability, the ratio of Estonian banks' **capital adequacy (consolidated) sensitivity** to a potential loan loss suffered during the year is important. Based on calculations one can say that a loan (leasing) portfolio loss of 3% would push the regulative capital to the minimum level in 10% of the banking system, while a loss of 4% would lead more than a third of the banks and a loss of 5% the majority, ie more than 90% of the banking system, to the minimum capital level of 10% (see Figure 3.6).

While evaluating the resistance capacity of the sector under the prerequisite that capital adequacy would drop to 5%, we can see that, for the adequacy to fall to such a low level, annual loan losses in a third of the banking sector would have to amount to approximately one tenth of the loan portfolio. A predominant part of the sector, ie more than 90%, would decline to an adequacy level of 5%, if annual loan losses amounted to 14% of the client portfolio.

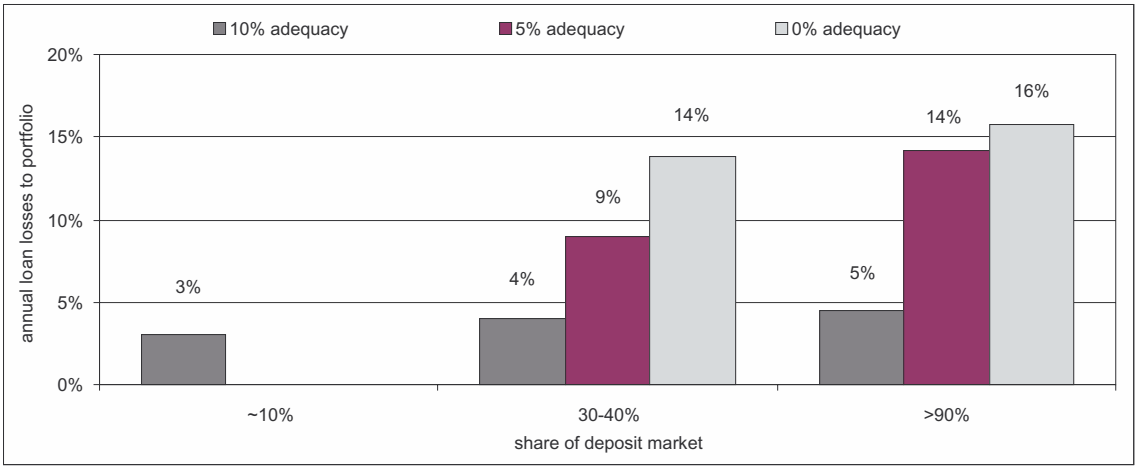

Figure 3.6. Sensitivity of capital ratio regarding loan losses at stress scenario

Full exploitation of the equity to cover loan losses, ie zero-level adequacy, would befall on a third of the banking sector, if loan losses amounted to 14% of the portfolio, and on 90% of the sector, if loan losses amounted to 16%. **Thus, the capitalisation of Estonian banks can be deemed strong, since a loan loss of more than 3% is likely only in the context of a deep banking crisis**, comparable to the experience of the Russian crisis. Currently the annual average loss ratio of the loan portfolio stands at just 0.5%.

Asset Quality

Despite the growing debt burden arising from the rapid increase of the loan portfolio, the quality of the banks' solo portfolio has proved to be good from the point of view of overdue loans. **The ratio of loans overdue more than 60 days to the aggregate loan portfolio improved from an average of 2.5% in 2002 to 1.5% in January-September 2003** (see Figure 3.7).

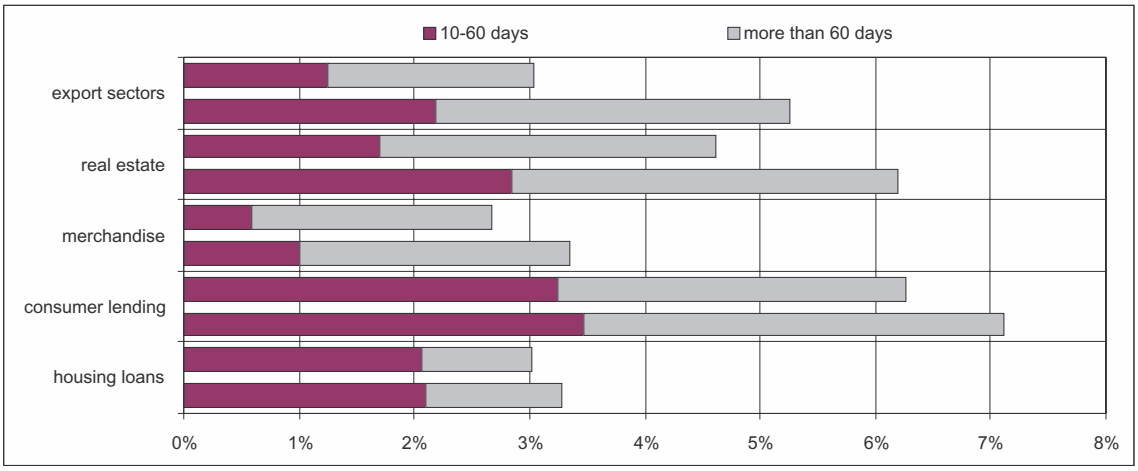

Figure 3.7. Loans past due in 2002 (lower) and 2003 (upper) by economic sectors*

** 9 months average*

The decline in overdue loans has been particularly significant in the export-oriented sectors where several problem loans were resolved in a positive way. Also overdue loans in the commercial real estate sector were reduced, but here the improvement was more notable in shorter (less than 60 days) and less notable in longer (more than 60 days) arrears. As a result of rapidly growing housing loans, their share in the overdue loans fell to 0.9%. The share of overdue loans is still the largest in the consumer loans sector (over 6%), whereas loans overdue more than 60 days account for around half of such arrears.

Developments in the volume of overdue loans indicate that loan quality in the most important business sectors has improved. Regardless of the weakness in the external environment, the quality of the transport sector loan portfolio has remained stable, while that of the more volatile manufacturing sector has even improved.

Along with the growth in the volumes of housing loans also the amount of overdue loans has increased. By the beginning of September, the share of these loans among all loans overdue more than 60 days had risen to 26.3% of overdue loans total ie 120 million kroons. In the consumer loans portfolio the volume of overdue loans has remained stable. Here it has to be taken into account that a significant share of riskier consumer loans is contained in the leasing portfolio that has not been reflected in the volumes indicated (see Figure 3.8).

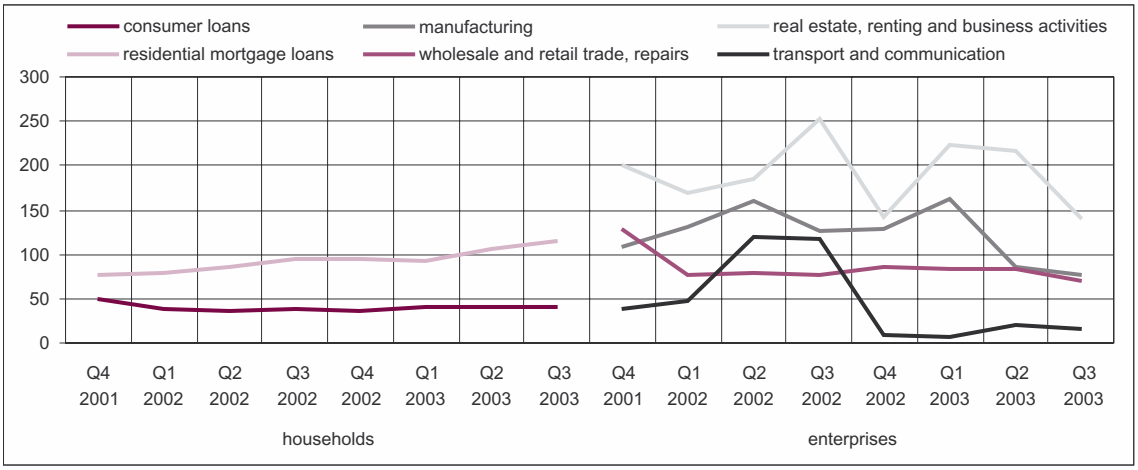

Figure 3.8. Loans overdue more than 60 days by economic sectors and volume (EEK m)

In line with the developments regarding overdue loans, also **the balance of bank loan provisions**[1] has remained stable (500 million kroons, or 1.2% of the loan portfolio) and the average annual growth remains near zero. The biggest contribution to the improved loan quality came from clearing up major problem loans by the end of 2003. Besides, the dropping interest rate level has also facilitated loan servicing as well as re-drawing of old contracts. **The book value of the loan loss reserve of the leasing and factoring portfolio, on the other hand,** soared from 340 million kroons in 2002 to 440 million kroons in the third quarter of 2003.

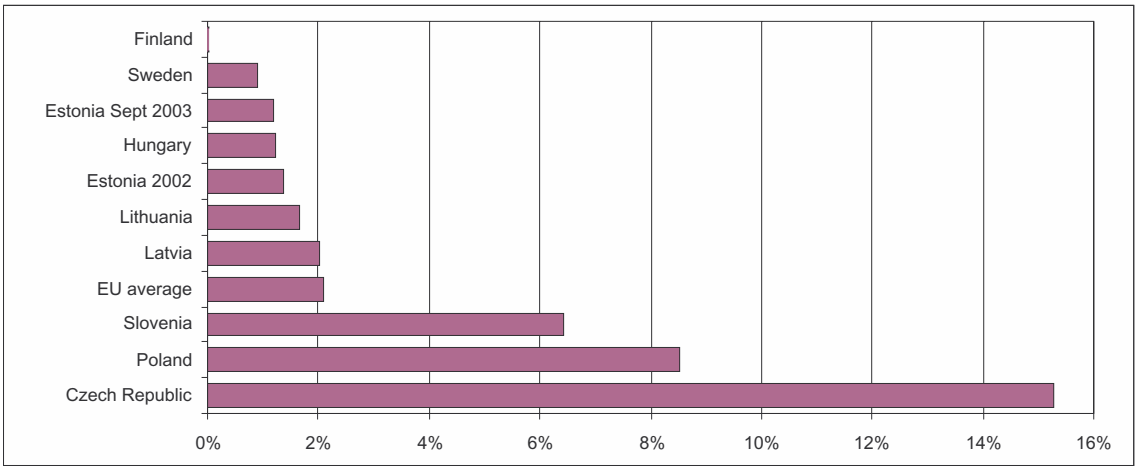

Figure 3.9. The ratio of loan loss reserves to gross loans in European banking in 2002

Source: BankScope

[1] Includes both general and individual provisions.

The loan loss reserve to the leasing portfolio ratio stood at some 2%, being comparable to 2002, considering the extensive growth in the portfolio. All in all, 320 million kroons were charged into losses during the year, while two thirds accounted for the leasing portfolio. The large share of the latter is partly related to the fact that in the banking portfolio loans were recovered in the third quarter.

When comparing **the loan loss reserve to the loan portfolio ratios** of European banks, it becomes evident that loan quality in the Baltic States is above the average of the European Union (EU) and much higher than in most other acceding countries (except in Hungary; see Figure 3.9). If compared to the Nordic countries, the loss provisions to the portfolio ratio is somewhat higher, but this results from the difference in the risk rate of the economic environment.

It is difficult to evaluate **the risks of the housing loans portfolio** because of the large share of new loans. However, if the median interest of the loans issued and the upper interest decile are compared, it is possible to evaluate which part of the loans carries high risk. It appears that the difference between the upper interest decile of housing loans and the median interest has remained comparatively stable since 2000 (see Figure 3.10). This is probably related to the cautious credit policy after the Russian crisis. Along with rapid loan growth since 2002, fluctuations in the upper interest decile have also increased, although a clear trend towards decline or increase is not evident. The dynamics in the second half of 2003 indicate some increase in the difference between median and decile interests. Even though the change is not very significant, a sustained trend might indicate increasing risk tolerance, ie that the difference between risk margins is increasing.

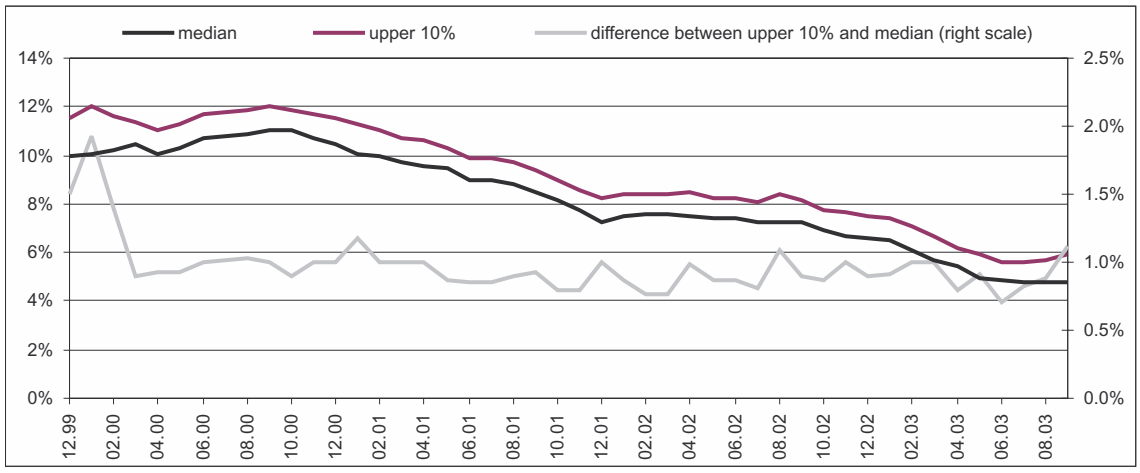

Figure 3.10. Interest on new mortgage loans granted median and upper 10%th level

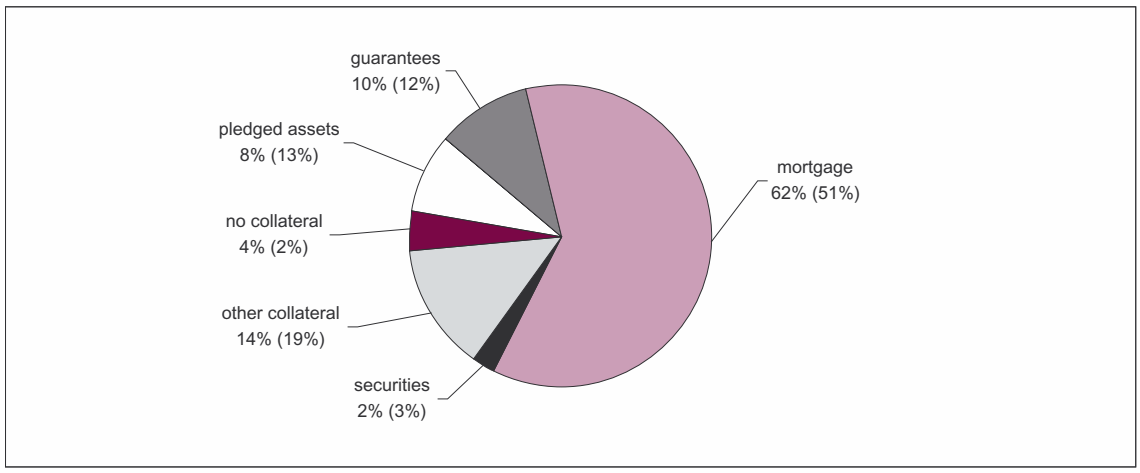

Figure 3.11. Loan collaterals by type at the end of Septemer 2003 (in brackets at the end of September 2002)

Due to the boom in housing loans, the share of mortgages among **loan collateral** is soaring. On the other hand, this is also being facilitated by the fact that the process of real estate registration is reaching its final stage, which enables increased mortgaging (see Figure 3.11). Meanwhile, the share of unsecured loans has been increasing to a certain extent – to 4.4% in September 2003 from 2% in 2002. These are mainly overdraft loans issued to companies, but also overdraft facilities and consumer loans extended to households.

The **volume of guarantees** extended by the banks was some 5% bigger than it had been in September 2002. The growth in guarantees was mostly related to the construction sector. All in all, guarantees extended to the construction sector amount to more than a third of all guarantees. However, if compared to the start of 2003, the guarantees provided to the commerce and the real estate sectors have significantly decreased. Such developments might indicate that the banks deem the risk level in these sectors higher than before.

Efficiency and Profitability

Solo Profitability of Banks

In nine months, the banks earned 1.03 billion kroons in profits, outpacing the 2002 result by nearly 20%. Net profits for the past 12 months stood at 1.3 billion kroons in September, which is less than the result from the same period a year ago only due to an intra-group transaction in the fourth quarter of 2001 that yielded a record profit. Meanwhile, interest income did not contribute to raising the earnings in the third quarter this year and the decline in such proceeds was compensated by income from service fees and financial transactions as well as smaller provisions (see Figure 3.12).

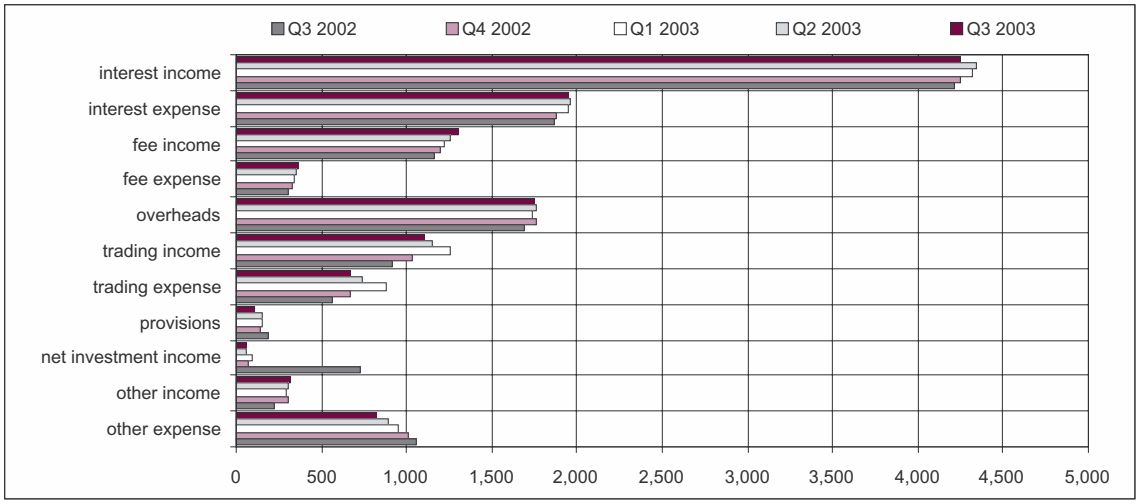

Figure 3.12. Banks (solo) annualised earnings (sum of consecutive 4 quarters, EEK m)

Regardless of the decline in interest rates, **interest income** grew in the first half of the year. In the third quarter, however, interest income shrank primarily due to smaller loan margins. Interest income on liquid assets decreased to a smaller extent; and, here, the underlying reason was rather a decline in the income basis.

Reduced **interest costs** that so far have had a favourable impact on the overall profitability, have reached a level from where further decline is not easily achievable, if deposits continue to grow at a modest rate. The banks had already by the second quarter refinanced the more expensive resources attracted from abroad with cheaper ones. Despite consistently cheapening foreign credits, the price of domestic deposits is still 1.5–2.0 times more favourable. Due to such developments the banks earned 2.3 billion kroons in net interest on an annual basis (see Table 3.1), which is the smallest result after the second quarter of 2002.

Yet, **interest sensitivity** of the banks cannot be considered very high, as most of their liabilities are not sensitive to interest rates. At the same time, the interest sensitivity of loans is high because of being tied to

the market interest rate as well as due to competition, which is why the continuing decline in interest rates affects the profitability of the banks in a negative way. Even though the interest rates on new loans have not fallen significantly in recent months, amortisation of the portfolio along with redrawing loan contracts has a consistently curtailing impact on the average interest of the revenue base. Based on the structure of the banks' assets and liabilities at the end of September, simulation modellation enables to maintain that the aggregate profitability of the banks would decline to a zero[2], if balance sheet position interests declined by a further 2.0% or 2.5%, depending on the bank. Proceeding from that, the 3.2% spread should not decline under 1% on the solo basis so as to secure cost coverage by the banks. In comparison: since September 2002, the average interest earned on assets has declined by 1.2%, ie by an average of 0.3% per quarter.

Table 3.1. Key revenue and expenditure items (solo)*

	Q3 2002	Q4 2002	Q1 2003	Q2 2003	Q3 2003
Net interest income	2,339.1	2,370.5	2,374.7	2,381.1	2,300.1
Net fee income	859.5	869.2	880.2	906.2	939.2
Overheads	1,686.2	1,757.8	1,734.9	1,755.7	1,748.4
Structural profit	**1,512.4**	**1,481.9**	**1,520.0**	**1,531.7**	**1,491.0**
Provisions	187.7	136.5	152.2	158.2	99.8
Net trading income	352.8	359.5	374.9	412.7	428.6
Other operating income (net)	-140.4	-142.1	-150.2	-134.3	-119.9
Operating profit	**1,677.6**	**1,704.9**	**1,742.8**	**1,786.2**	**1,819.7**
Net profit	**1,704.0**	**1,153.2**	**1,260.3**	**1,247.5**	**1,319.0**

** on annual basis*

Unlike interest income, **service fees** have grown consistently. Apart from the fees charged for issuing loans and redrawing loan contracts (about a third of the overall service fee income) incomes have also been supported by the cash flow generated through increased utilisation of fee-charging electronic channels (primarily fees from card payments). The latter are important for the banks since they generate non-interest sensitive income. A certain stabilisation has occurred in administrative costs, which are mainly higher during the periods when bonuses are paid out.

The operating profit still turned out to be substantial due to modest write-down of claims. In the third quarter the banks managed to recover loans earlier written charged into expenses since solutions were worked out for several major problem loans during the year.

The third quarter profit underpinned growth in return on assets and capital. By September the spread between interest-bearing assets and liabilities fell to 3.23% (see Table 3.2). The **spread** in the banks' largest and fastest-growing loan category – housing loans – had by September fallen by 1.06 percentage points from the first quarter – to 3.5% (see Figure 3.13).

Table 3.2. Key efficiency ratios

	Q1 2002	Q2 2002	Q3 2002	Q4 2002	Q1 2003	Q2 2003	Q3 2003
Net interest margin	4.03%	3.92%	3.88%	3.77%	3.61%	3.50%	3.25%
Return on assets	2.49%	2.43%	2.39%	1.55%	1.62%	1.54%	1.56%
Return on equity	19.30%	18.86%	18.56%	12.18%	12.95%	12.51%	12.90%
Spread	4.02%	3.89%	3.85%	3.73%	3.58%	3.47%	3.23%

[2] With the assumption that the share of non-interest income (income from service fees, financial transactions) in the profit does not change considerably.

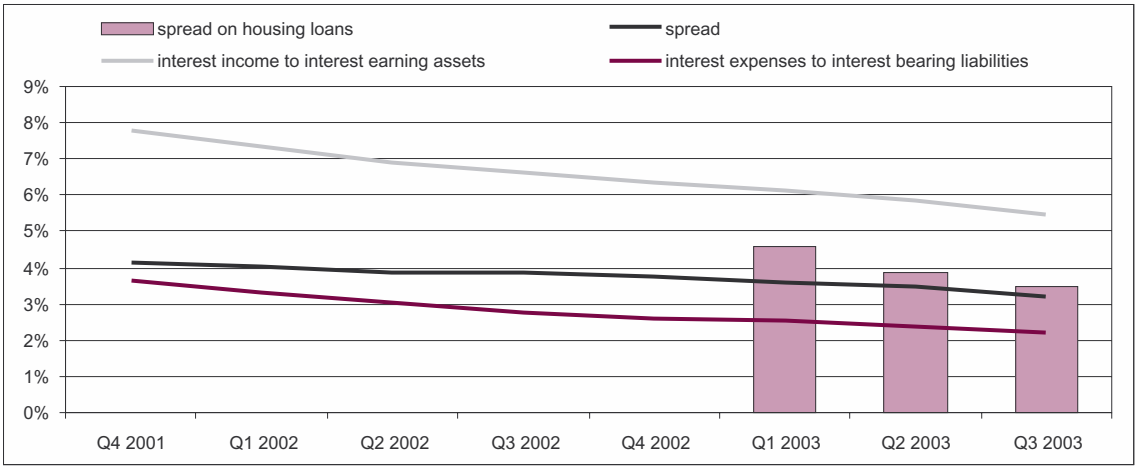

Figure 3.13. Spread

Consolidated Profitability

The growth in the consolidated profitability of banks slowed down in the third quarter, even though the net profit for the first nine months – 2.08 billion kroons – outpaced the respective indicator for the same period in 2002 by nearly 20%. Based on the gliding annual average, the consolidated profit of the banking groups stood at 2.66 billion kroons in the third quarter, which is an all-time high, regardless of the comparatively modest growth in that quarter. A principal contributor to the more modest result was interest income that remained smaller than in the second quarter. A robust rise in service fees under which increased fees on investment services contributed to balancing off the decline in interest-sensitive revenue entries[3].

Besides expansive growth mainly in the neighbouring markets, also the **management of group administrative** expenses has become significantly more efficient. Even though portfolios have increased, administrative expenses have been reduced nominally. The ratio of administrative costs to assets has declined from 3% to 2.5% in a year. Considering that the average indicator in the banking sector in the EU is 1.6%, there is still sufficient room for development in order to raise efficiency. Among acceding countries, Estonia is just behind Czech Republic (2.4%) and outpaces most of the other countries, including Latvia (4.7%) and Lithuania (3.4%).

The rise in profitability in 2003 has been restricted by increased write-downs in claims (see Table 3.3). Along with the amortisation of the portfolio or the seasoning effect, moderate growth in loan losses might

Table 3.3. Key revenue and expenditure items (on group basis)*

	Q3 2002	Q4 2002	Q1 2003	Q2 2003	Q3 2003
Net interest income	4,304.1	4,392.4	4,467.9	4,528.7	4,529.8
Net fee income	1,578.4	1,657.1	1,736.0	1,838.3	1,920.2
Overheads	3,165.5	3,234.5	3,167.9	3,142.6	3,149.3
Structural profit	2,717.1	2,815.0	3,036.1	3,224.5	3,300.7
Provisions	-284.8	-207.9	-272.1	-431.7	-520.4
Net trading income	606.5	612.9	623.7	720.7	759.5
Operating profit	3,038.7	3,220.0	3,387.7	3,513.5	3,539.8
Net profit	2,076.3	2,319.3	2,520.4	2,604.3	2,661.1

** on annual basis*

[3] In the profit aggregates of the banking groups an important role is played by the fact that the share of foreign subsidiaries amounts to nearly a third.

be sustained also in the future. On the other hand, apart from service fees, profits have been underpinned by consistently growing earnings from financial transactions, which are related to the revival of the financial markets (including the stock markets) in Estonia and abroad.

Profitability ratios, too, reflect good profit indicators. A growing share of the higher-profitability leasing portfolio boosts general profits. Even though the difference between the interest margins of the leasing portfolio and the banking portfolio has consistently decreased, it still stands at more than 4.5 percentage points (see Table 3.4). The primary reasons behind the narrower interest margin of banking operations are the low-interest housing loan portfolio and maintenance of the liquidity portfolio whose profitability is considerably smaller than that of the customer portolio, but which is needed for the group at large. While soaring assets restrained growth in return on assets to a certain extent, the return on equity has remained high – more than 20%. The more than 4% spread still secures a sufficient risk margin and a profit buffer, even though a decline in the margin is expected also in the fourth quarter of 2003. If interest sensitivity is compared on a solo basis and within the group, there is somewhat more room for manouvering on the group level, though a decline in the interest rate of more than 2.5% in the balance sheet positions is a critical line here, too.

Table 3.4. Key profitability indicators (on group basis)

	Q3 2002	Q4 2002	Q1 2003	Q2 2003	Q3 2003
Net interest margin (leasing)	9.65%	9.22%	8.87%	8.47%	8.11%
Net interest margin (banking)	4.09%	3.99%	3.80%	3.61%	3.31%
Return on assets	2.05%	2.21%	2.31%	2.30%	2.24%
Return on equity	19.13%	20.45%	21.26%	21.07%	20.65%
Spread	4.67%	4.58%	4.43%	4.30%	4.11%
Overheads to total assets	3.12%	3.08%	2.90%	2.77%	2.65%

The net interest margin of Estonian banks is on the average level among the countries joining the EU. The banking sectors in Hungary and Poland are working at the highest margins (see Figure 3.14). In the Baltic countries, the margin in Lithuania was wider than in Estonia in 2002, while in Latvia the indicator was narrower due to a large number of banks. Also the net interest margins in Czech Republic, Slovenia and the Nordic countries are wider than the average of the member countries of the European Union. This is probably related to the size of the market – returns to scale are smaller than in major European countries. Also, proceeding from the return on equity comparison, the risk margins of Estonian banks are appropriate for our environment and the consistent decline in interest margins is justified in the medium term perspective (3–5 years) in the course of further market development and stabilisation.

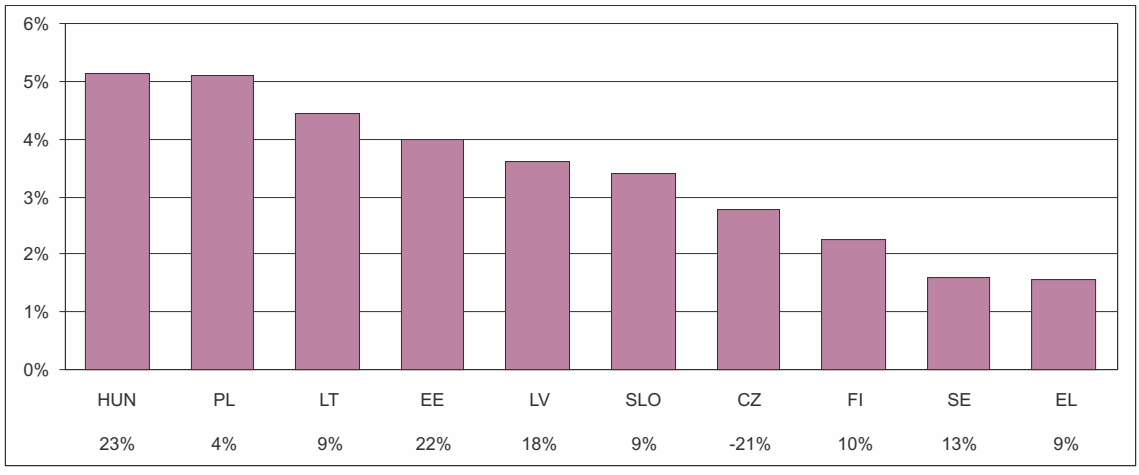

Figure 3.14. Net interest margin (left scale) and return on equity (below) in European banking as of end-2002

Source: BankScope

The high profitability of Estonian banks is conspicuous also in the European banking market. The aggregate return on equity posted by Estonian banks was bigger than the EU average and it also outpaced the respective Finnish and Swedish indicators. Thus, the interest of the Nordic banks in the Estonian market is in every respect justified. In the acceding countries the profitability was very diverse: while Czech banks were working at a loss, the return on equity in Hungary was the biggest among the acceding countries – 23%.

Liquidity

Interest Environment and Foreign Confidence

Estonia's banking sector is open to the impacts of external environment, much like the country's economy at large. From the liquidity point of view the environment has remained expansive since 2001. A supplementary effect comes from the pressure towards easing liquidity restrictions due to the rise in confidence related to the upcoming accession to the European Union, as well as active financing by the parent banks.

Changes in Euribor have affected **deposit and loan interest rates** differently during the past 4–5 years. While foreign currency deposit rates have followed the trend of Euribor, the interest rates on kroon deposits have consistently declined even during the periods that Euribor has risen (see Figure 3.15). In crediting the decline has followed Euribor, yet remaining more modest if compared to kroon deposits. As for loan interest rates, aside from Euribor, the stabilisation in loan interest rates after the Russian crisis in 1999–2000 played a significant role along with structural changes in the banking sector.

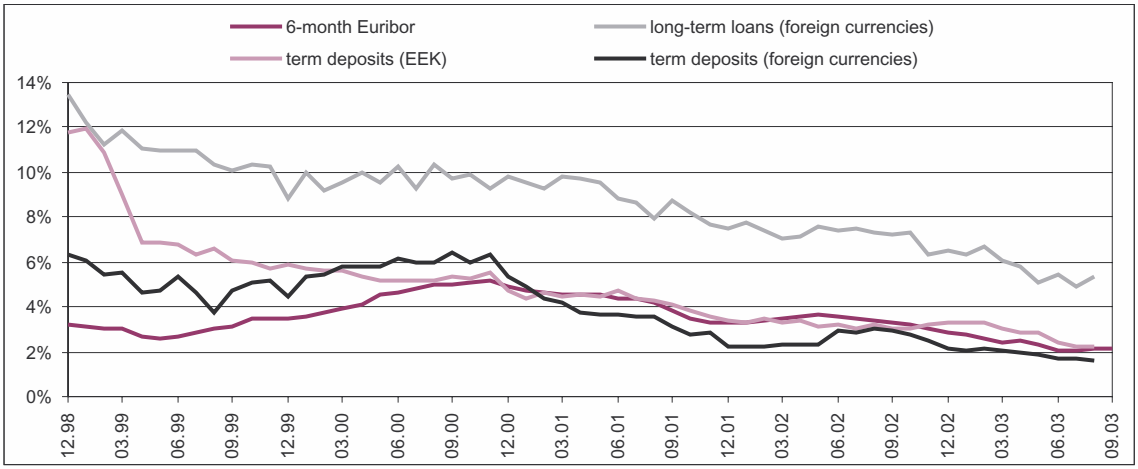

Figure 3.15. Interest rates on deposits and loans

Financing the Banks

Foreign borrowing that has been picking up since the second half of 2002 continued also in the first three quarters of 2003 (see Figure 3.16). When in 2002 foreign loan resources accounted for an average of 22% of the liabilities, then in September the threshold of 30% was reached. In the banks at least a half of the resources on average originate from parent banks. The environment continues to be favourable also for attracting funds from the market.

Apart from the rapid growth in the volume of foreign loans also the **maturity of loans** has gone up. If a year ago long-term loan resources accounted for less than a third of the foreign debts, then prior to the last quarter of 2003 the respective figure stood already at more than a half. Longer average maturities of the volatile rapidly growing loan resources give the banks more security while increasing interest sensitivity of the liabilities. Assuming that the resources attracted predominantly at low fixed interest rates will continue to

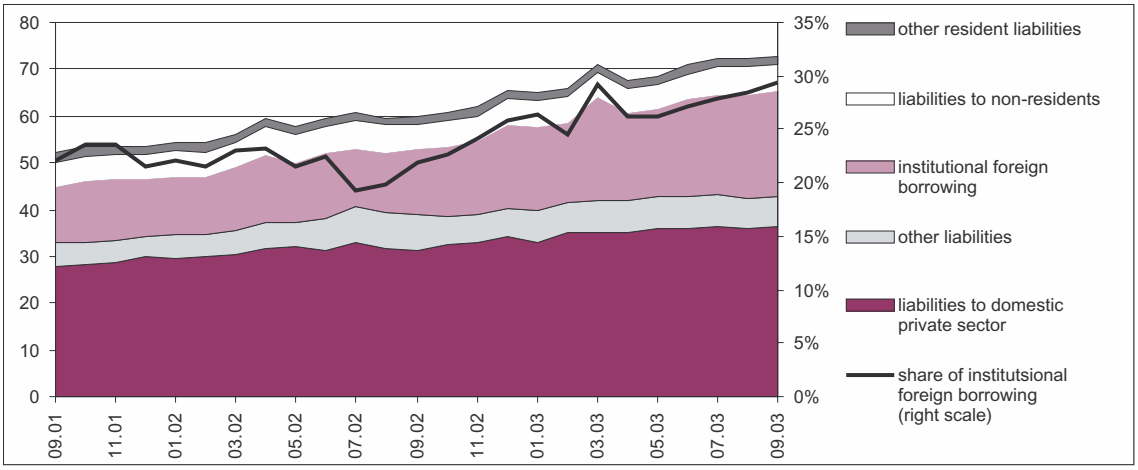

Figure 3.16. Banks' liabilities (EEK billion; left scale) and share of institutional foreign borrowing (right scale)

be favourable after anticipated changes in market rates, the longer maturities of the resources are unlikely to pose a significant risk.

Slower growth in deposits in the context of extensive loan demand has led to active external borrowing. Average annual loan growth has remained between 24 and 26%, while the respective figure for deposits stands at just 12% (see Figure 3.17). Therefore, loans exceed deposits by 25%. If we look at just domestic banks (with the exception of the branch of a foreign bank), the **loans-to-deposits ratio** in Estonia stood at 1.17 in September 2003.

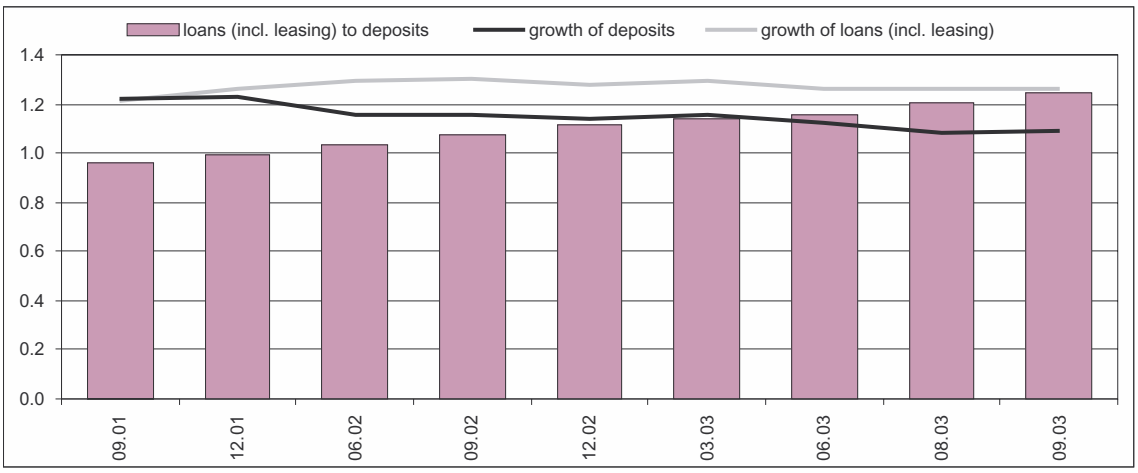

Figure 3.17. Loans to deposits ratio and annual growth rates of loans and deposits

Comparing the loans-to-deposits ratios in European banks, it becomes evident that, in the EU acceding countries, the funding of banks is to a considerably larger extent based on deposits than in the European Union on average. Thereby, the Nordic countries differ from the EU average by an even higher share of market-based resources. **Among the acceding countries, Estonia has the highest loans-to-deposits ratio**, which approaches the EU average (1.22; see Figure 3.18). Above all, the higher loans-to-deposits ratio shows the level of financial deepening and the development of financial markets. Since Estonia lacks an active domestic financial market, most of the market-based funding is related to foreign countries, including the parent banks of local banks. The rise in Estonia's confidence index and the stability of the environment establish a foundation for further funding through means other than deposits, though the structure of external funding could be more diverse both regionally and regarding instruments.

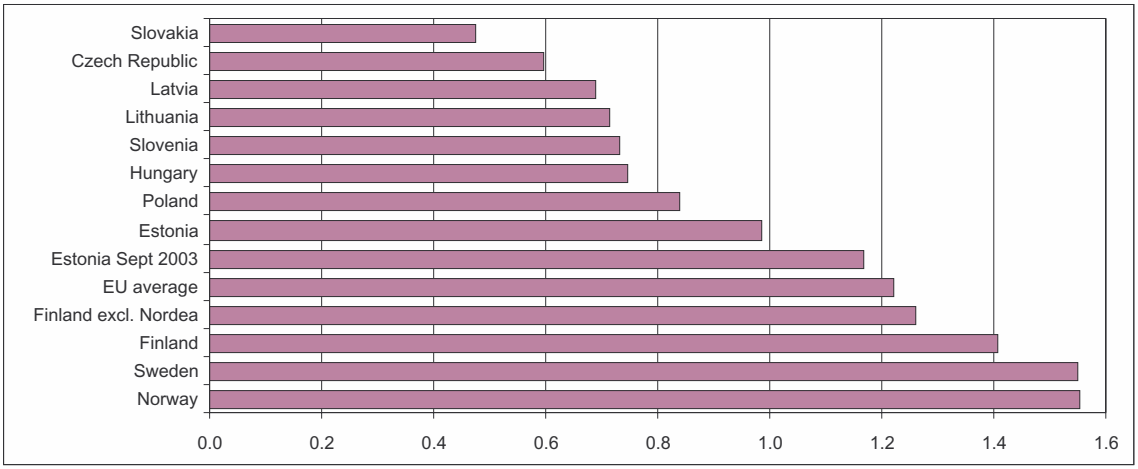

Figure 3.18. Loans to deposits ratio in European banking in 2002

Source: BankScope

Liquid Assets

In line with vanishing liquidity constraints and consistent stabilisation of the sector the banks have reduced **the share of liquid assets** to a certan extent. In 2003 the reserve requirement was covered by liquid assets by an average of 1.3 times, while in 2002 the respective indicator was 1.5. The underlying reason was the change in calculating the reserve requirement in March, as well as a comparative decline in liquid assets. Around half of the liquid assets are made up of the deposits placed in the A-zone countries (including the revolving repo deals that are based on them).

The broad liquidity aggregate also includes tradable securities that do not meet the liquidity portfolio criteria acceptable for meeting the reserve requirement and other short-term assets with maturities up to a month. The ratio of broad aggregate to total assets has also decreased. In 2002 liquid assets accounted for some 30%, while the average of the nine months in 2003 stood at 27.5%. However, it has to be noted that the decline has mainly occurred at the expense of less liquid instruments (short-term loans), while the share of more liquid and market-based (bonds) instruments has remained unchanged.

The net positions of liabilities and claims are still becoming longer. The seasonal growth in demand deposits in summer boosted the short net position to a third of the balance sheet. The demand position has also been influenced by the decline in liquid assets, which has somewhat contributed to making the position

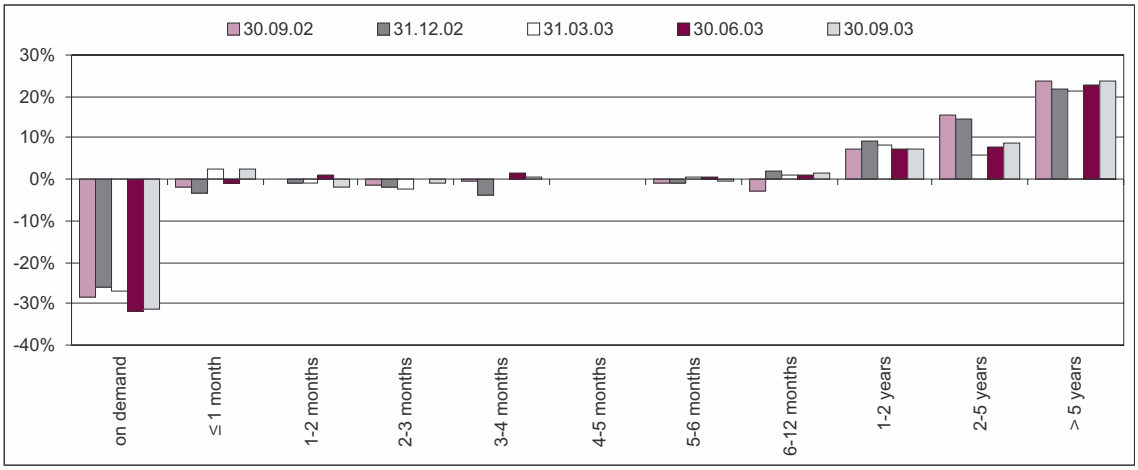

Figure 3.19. Banks' net liquidity position (% of assets)

longer. Rapid growth in long-term loans, particularly housing loans, consistently supports the increase in over 5-year net positions. The gap between long and short positions has been somewhat balanced by liabilities becoming more long-term. This development has above all been related to the shortening of the 2–5-year position (see Figure 3.19).

Money and Securities Market

Money and Capital Market

Money Market

The share of residents in short-term kroon loans' transactions in the kroon market went up in the second and third quarter of 2003, mainly due to more active borrowing by other financial institutions. Of non-residents the overwhelming majority in the third quarter were Danish (33%), Finnish (13%) and Swedish (11%) credit institutions, whose mutual proportions fluctuate greately on a quarterly basis. Non-resident credit institutions participate in the Estonian kroon short-term loans market primarily through risk-hedging transactions conducted on behalf of their clients.

Because of the expansionary decisions taken by the European Central Bank, the **interest rate** on uncollateralised short-term kroon loans has fallen to its lowest level historically. The money market quotations of the Estonian kroon remained relatively stable: the spread between Talibor and Euribor has stabilised on the level of 0.5–0.6 percentage points in the second half of 2003 (see Figure 3.20).

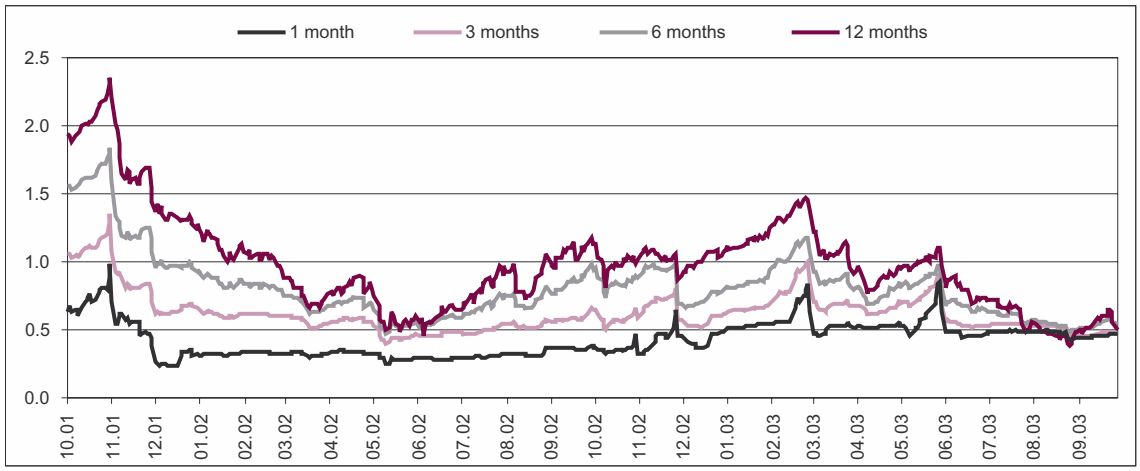

Figure 3.20. Difference between money market interest rates of the Estonian kroon and euro (percentage points)

The **turnover** of the Estonian kroon **derivative contracts** has diminished in recent years because of the decline in the activity of non-residents. Since the end of 2002, trading in the short-term kroon loans' market has been even more active than in the currency derivatives market. The underlying reason has been the growing credibility of the Estonian kroon that has reduced the need for foreigners to hedge the exchange rate risk of the kroon positions through the Estonian kroon derivate market. The high credibility of the Estonian kroon is also reflected in the forward difference between the euro and the kroon, which declined to 0.4–0.5% in summer regarding up to one-year maturities (see Figure 3.21).

The decline in the activity of non-residents in the short-term loans and swap markets has to a certain extent been compensated by the rise in the activity of local financial institutions both in 2002 and 2003. The latter is probably related to the growth in the volumes of investment funds, which has also increased the funds' needs to manage their kroon liquidity. Estonian banks' **open off-balance sheet foreign exchange position** between the kroon and the euro has remained long (ie the off-balance sheet claims of Estonian credit

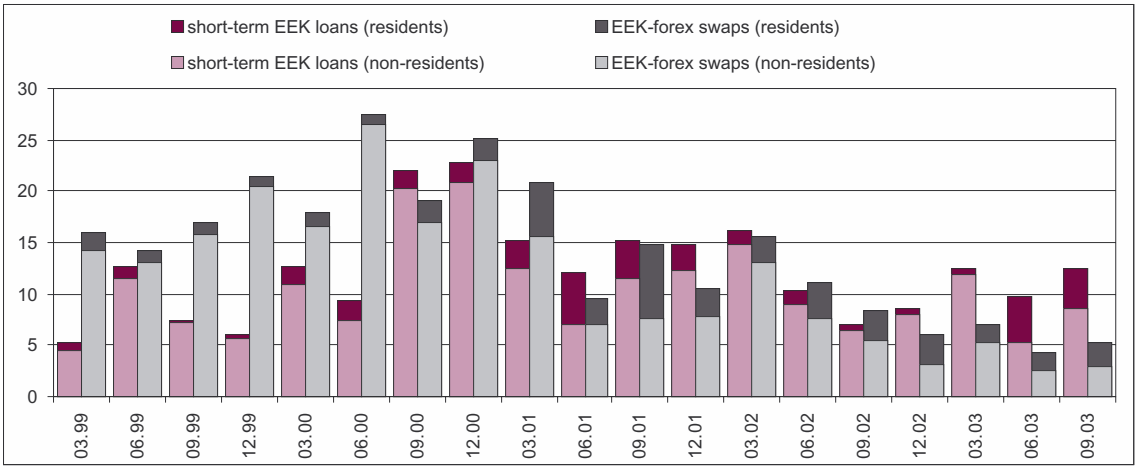

Figure 3.21. Turnover of EEK loans vs turnover of EEK-forex swap transactions (EEK billion)

institutions exceed their off-balance sheet liabilities). Thus, Estonia's money market has remained stable and there have been no failures in the kroon liquidity of the financial sector.

BACKGROUND INFORMATION

MAIN FEATURES OF THE ESTONIAN MONEY MARKET

The components of the Estonian kroon money market are:

- short-term (with maturity up to 12 months) deposit and loan transactions denominated in Estonian kroons;
- transactions in short-term bonds issued in the Estonian kroon;
- currency derivative transactions against the Estonian kroon[4].

Differently from most other countries, there are no short-term government bonds issued in local kroon money market since the government has not issued bonds denominated in kroons.

Monetary policy signals reach the banking sector through the money market. In Estonia such **transmission mechanism** is represented by the impact of the interest rate decisions made by the European Central Bank that are transmitted to our money market through the money market interest rates in the euro area. In the money market the liquid resources of the financial sector are redistributed between market participants. The market is more efficient with a bigger number of participants and larger turnovers. If the money market is liquid, the interest level in the market determines the base interest rates of deposits and loans in the real sector. However, the Estonian kroon money market does not have such a significant impact on the interest rates in the real sector, since liquidity management of Estonian credit institutions is mainly carried out outside Estonia. Thus, the interest rates in the real sector are directly more influenced by the developments in the euro money markets (see Figure 3.22).

[4] Transactions with currency derivatives are usually handled as separate foreign exchange market transactions; but, due to Estonia's currency board based monetary system, the foreign exchange market is the main liquidity management channel for the banks. Therefore, in Estonia's case, foreign currency transactions should be treated as a part of the country's money market.

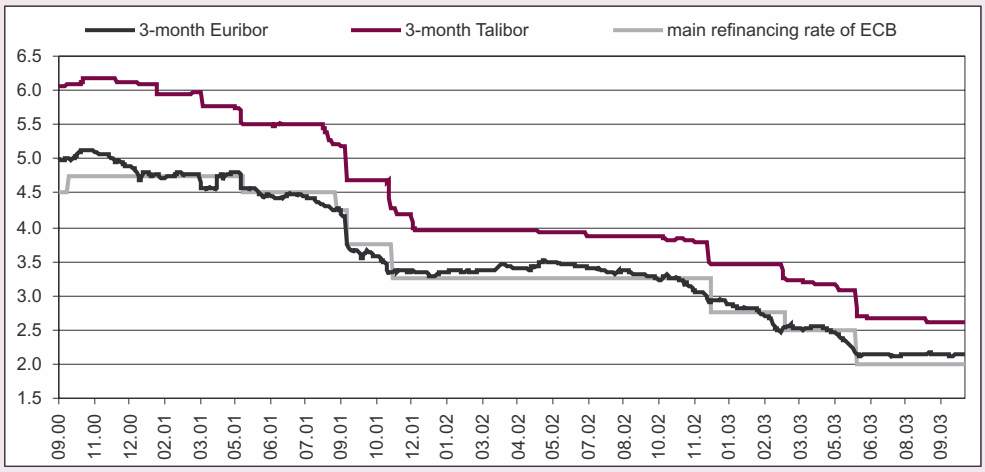

Figure 3.22. Money market interest rates of the Estonian kroon and euro (%)

Another peculiarity of the Estonian money market is that the deepest and the most traded segment has been, and still is, the foreign exchange market. The turnover of the derivative contracts' market between the Estonian kroon and foreign currencies has usually been bigger than that of short-term money market loans, or has been at least comparable. The underlying reason is that, due to the small size of the Estonian kroon money market, local credit institutions cannot always rely on short-term kroon loans from the local money market when managing their liquidity. Therefore, in organising the day-to-day liquidity management of the banks, the foreign assets of the banks, which can be quickly exchanged into Estonian kroons, play an important role. Besides, Estonian banks can also engage short-term foreign liabilities into managing short-term kroon liquidity. In recent years, this has been done primarily through parent banks (see Figure 3.23).

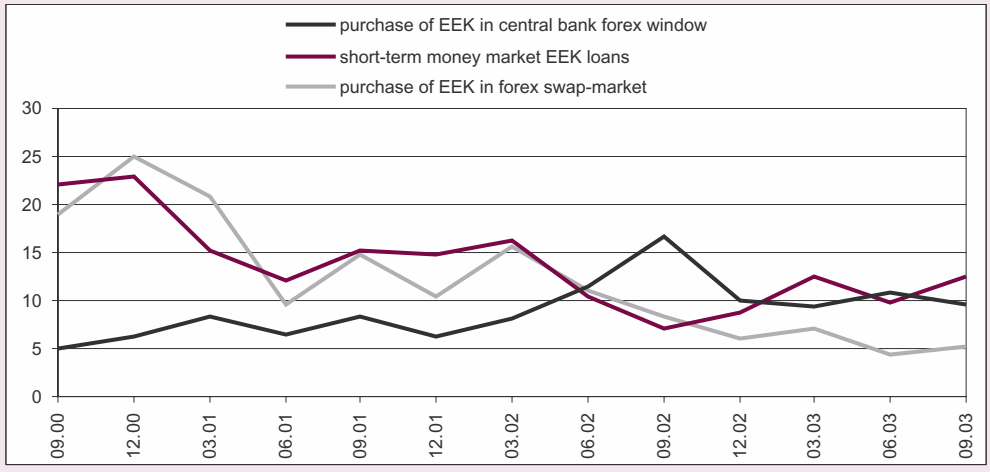

Figure 3.23. Supply of EEK liquidity in Estonian money markets (quarterly turnover, EEK billion)

Such a structure of the Estonian money market means that the short-term kroon loans and Estonian kroon derivative transactions market is an important source for managing kroon liquidity (and also hedging the kroon risk) for local non-banking institutions and non-residents. Local banks mostly use **the forex window of the central bank** to manage their liquidity,

which, under the Estonian currency board system, offers credit institutions a facility to sell or purchase Estonian kroons against the euro without any exchange rate spread or transaction fee. Most likely it is the existence of the forex window that has promoted the development of the market in swap deals between the Estonian kroon and the euro besides short-term money market loans.

Compared to the respective money market segments in the euro area countries, the Estonian kroon money market is comparatively **low in liquidity**. In recent years, the average quarterly turnover of unsecured short-term kroon loans has been around 10 billion kroons. In 2003, the turnover of short-term kroon loans has been slightly bigger than it was in the second half of 2002.

Bond Market

The key words that have shaped the bond market during the past year are shrinkage of the primary market and low average interest rates. The previous major issuers in the local bond market, the strategic non-resident owners of the largest banks in Estonia, began to withdraw from the primary market at the beginning of 2002 and were replaced by resident financial and real sector companies (see Figure 3.24). The volume of bonds issued by the real sector companies has not increased in 2003, but the three largest banks have boosted financing through domestic bond market instead. Since the volume of resident issues is smaller than that of non-residents, the capitalisation of the bond market had by the end of September shrunk to 3.0 billion kroons, ie to 2.6% of the GDP (the average in 2002 was 3.6 billion kroons, or 3.1% of the GDP).

Alongside with a certain decline in the issues by real sector companies, some new and smaller real sector firms have entered the primary bond market during the past six months, whose bonds offer investment possibilities with higher yields and risk level.

The average interest rate level in the bond market has dropped due to the decline in the money market interest rates. Even though the low level of average interest rates and a prospective outlook for a rise in the interest rates in the medium run have supported longer maturities of new issues, some 85% of the bonds that have been issued are still short-term.

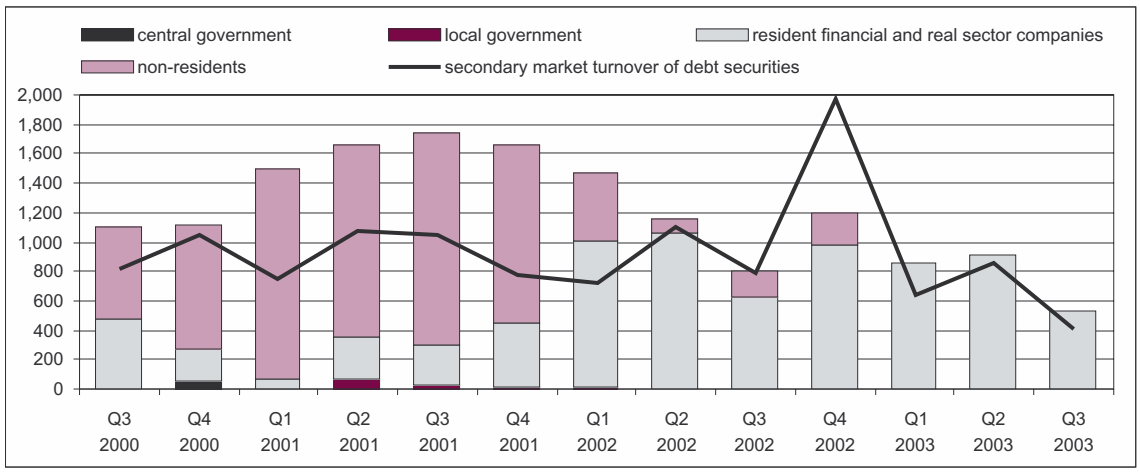

Figure 3.24. Volume of quarterly issued debt securities and secondary market turnover (EEK m)

Trading in the secondary market has also slowed down to a certain extent, in line with the decline in the volume of issues. The average secondary market turnover in the first nine months of 2003 amounted to

224 million kroons (against 291 million kroons at the same time in 2002). Since major issuers dominate the primary market, secondary market activity has also mainly been targeted at them. The most traded bonds in the market are those of larger resident real sector companies and banks (see Figure 3.25).

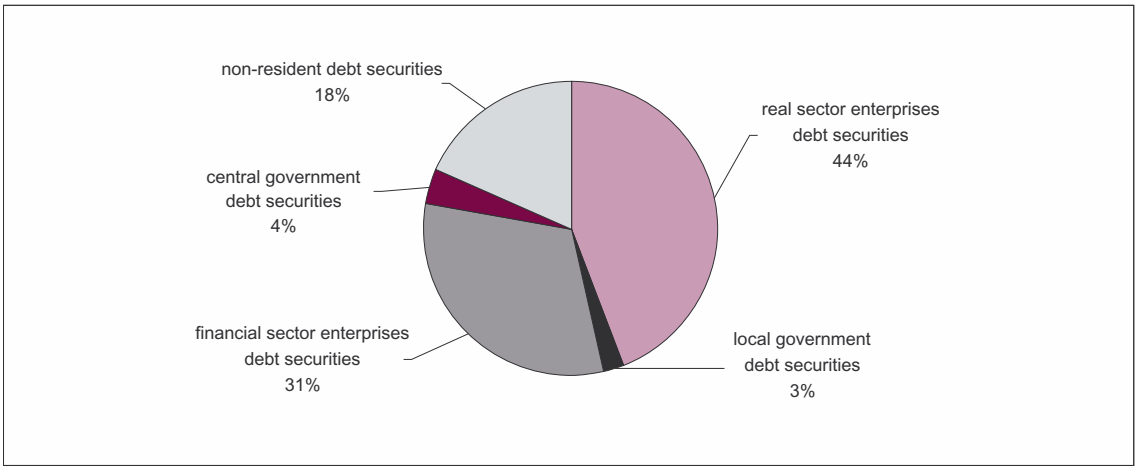

Figure 3.25. Structure of debt securities secondary market turnover during the first 9 months of 2003

In 2003, long-term bond placements by three companies (the Port of Tallinn, Eesti Post and Hansa Capital) have been added to the list of bonds of the Tallinn Stock Exchange. So far trading in the bonds quoted on the stock exchange has been very modest. Since April 2003, an average of two transactions per month has been made, while the average turnover has amounted to 6.6 million kroons. Bond trading on the stock exchange has been limited mainly because the issuers are mostly large companies familiar to the participants in the financial market, while the range of potential investors is small, which is why most transactions are carried out over-the-counter.

Stock Market

Similarily to 2002, the stock markets in the countries about to join the European Union have seen rapid growth in 2003 (see Figure 3.26). Therefore, share prices in a number of countries have reached a level where justifying this by the positive impact the accession is to have on the profits earned has become questionable.

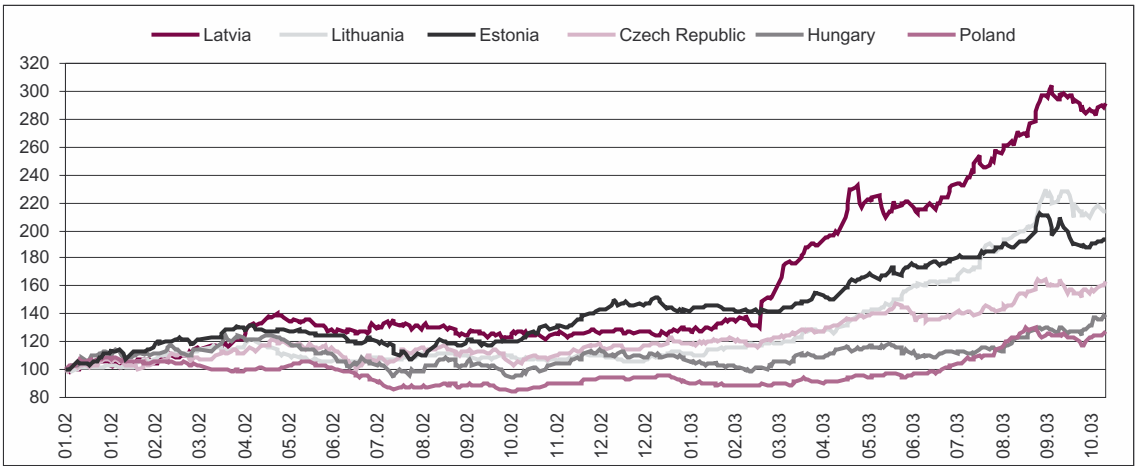

Figure 3.26. Dynamics of stock exchange indices of EU acceding countries (points, 1 January 2002 = 100)

In line with the stock markets in the other acceding countries, share prices have continued to soar on the Tallinn Stock Exchange in 2003, which boosted the stock exchange index by 28.9% during the first nine months (see Figure 3.27). Due to the increased market value of the shares, the stock market capitalisation has soared by 15 million kroons in a year – to 40 million kroons –, while its relative importance to the GDP has grown from 28 to 40%. The share prices are deemed to have gone up because of foreign investors' buying interest; at the same time, the rate of foreign ownership in the stock exchange capitalisation has not increased, amounting to 80%. The underlying reason probably is that the rise in the prices has also been proportionally underpinned by the purchasing interest of local investors and a comparatively large share of the shares quoted on the stock exchange has been obtained by long-term investors. Therefore, deals in a small number of shares circulating in the market cannot significantly affect the share of foreign ownership in the overall capitalisation. The remaining one fifth of the stock market capitalisation has been divided between resident companies and households.

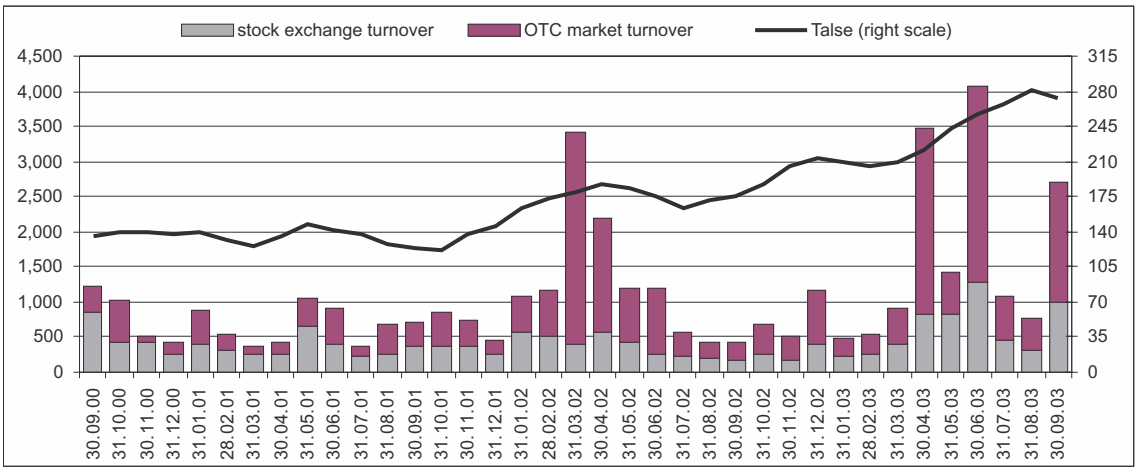

Figure 3.27. Monthly turnover of shares in the Tallinn Stock Exchange and OTC market (EEK m) and Tallinn Stock Exchange index TALSE (points, right scale)

Along with rising share prices, the activity in the secondary stock market has gone up in 2003. The average daily turnover of the stock exhange has soared to 25 million kroons during the past 12 months, outpacing the respective figure for 2002 by a half. The turnover still depends on the main shares (the transactions in the shares of Hansabank and Eesti Telekom account for some 90% of the turnover), even though the overall price rise during the past 12 months has led to an increased turnover also in other shares. The shares quoted on the stock exchange are also very actively traded over-the-counter: during the past year an average of 65% of the transactions have been concluded over-the-counter. This reflects the consolidation of the right to trade in the shares listed on the stock exchange into the hands of a few securities brokers. Of the 12 members of the stock exchange the majority of transactions are carried out by six banks and investment companies, of whom two (Hansabank and Suprema Securities) make 85% of the transactions.

Other Financial Markets

Investment Funds

Investment funds have been characterised by a rapid growth during the past year, which has boosted the market value of funds' assets by 1.8 billion kroons in 12 months – to 6.1 billion kroons (see Figure 3.28). Due to their large share the bulk of the growth accounted for the assets of money market (+1.1 billion kroons) and interest funds (+0.5 billion kroons), which has boosted the aggregate assets of funds to 6.2% of the GDP and 13.6% of bank deposits. This shows the increasing role that fund units play alongside with the deposits both in the structure of the financial investments of the companies in the real sector, as well as in the savings portfolio of households. Besides the rapid growth in money market and interest funds, the volume of stock

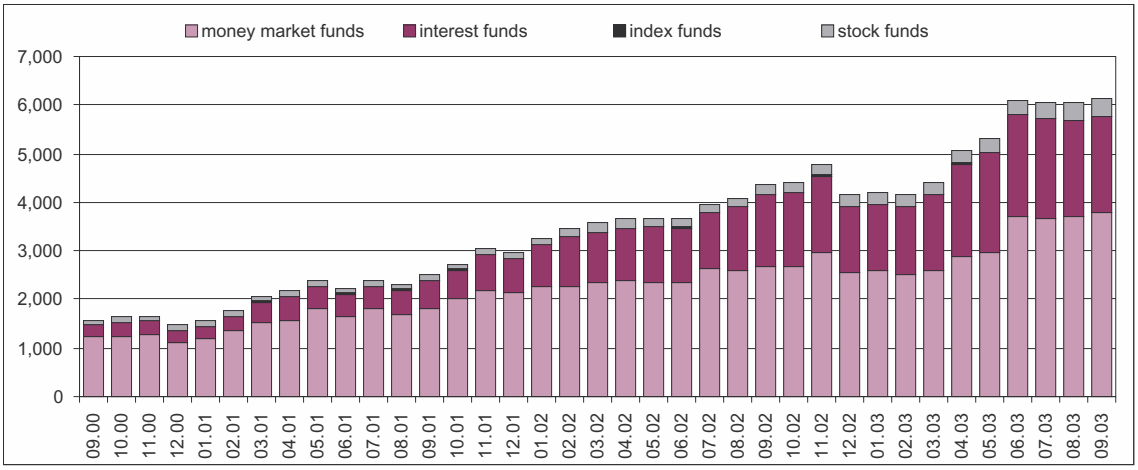

Figure 3.28. Volume of investment funds assets (EEK m)

market funds has almost doubled during the past 12 months, but due to their small size their share (some 4%) and impact on the fund market remain modest.

When in 2002 a rapid rise in the relative importance of interest funds at the expense of money market funds was seen, during the past six months the share of money market funds has started to grow again. The rise might be related to more active trading in the units by companies and affluent individuals alike, which has been underpinned by the launch of special products combining deposits and fund unit ownership by the banks and their subsidiaries acting as management companies. Since the terms of settlement upon purchasing and selling money market fund units[5] are more flexible than these of interest funds, it is convenient to use money market fund units for liquidity management.

The rapid growth of investment funds has occurred hand in hand with the decline in the **average return of the funds** arising from the fall in money market interest rates. The average annual yield of money market funds has dropped to 2.3% from 3.0% at the same time in 2002. The average annual yield of interest funds has slightly increased – from 3.5% to 3.7%. Regardless of the revival in the main stock markets during the past six months, the average return of stock market funds during the past 12 months has been lower than at the same time in 2002. This arises from the fact that many stock market funds are focused on the markets of the Baltic States and the other EU acceding countries from Central and Eastern Europe, where a bigger rise in share prices was recorded in 2002.

Based on the net asset value, some 60% of the units in interest and stock market funds are held by resident financial and real sector companies, even though during the past two years the share of households among unit-holders has increased. The average 12-month net asset value of the interest and stock market fund units held by households amounts to 527 million kroons, ie to 29% of the net value of the funds. The share of non-residents among the holders of interest and stock market fund units has also grown during the past year, but still remains comparatively small (some 11% of the net asset value of the interest and stock market funds).

In line with the growth in money market and interest funds, **the share of time deposits and short-term bonds in the assets of the funds** has inceased at the expense of shares and long-term bonds. The average 12-month volume of term deposits held by investment funds stood at 760 million kroons, of which nearly 90% are deposits kept at local banks. The share of foreign assets in the overall assets of the funds has been maintained at 47% during the past year. In the foreign assets portfolio the positions of shares and long-term bonds increased in the second quarter of 2003 at the expense of reduced short-term bonds. The

[5] While the value dates of the transactions in interest fund units range from T+3 to T+5 due to the registration of unit ownership rights with the Estonian CSD, money market units do not have to be registered with the CSD, which is why, under certain conditions, the value date of such sales and purchase transactions can even be T+0.

foreign assets have mainly been invested into the instruments of the current and future Member States of the EU (60 and 28%, respectively). Meanwhile, the relative importance of Swedish and Finnish instruments decreased in the second quarter of 2003 and the positions were spread between the instruments of several other EU member countries (see Figure 3.29).

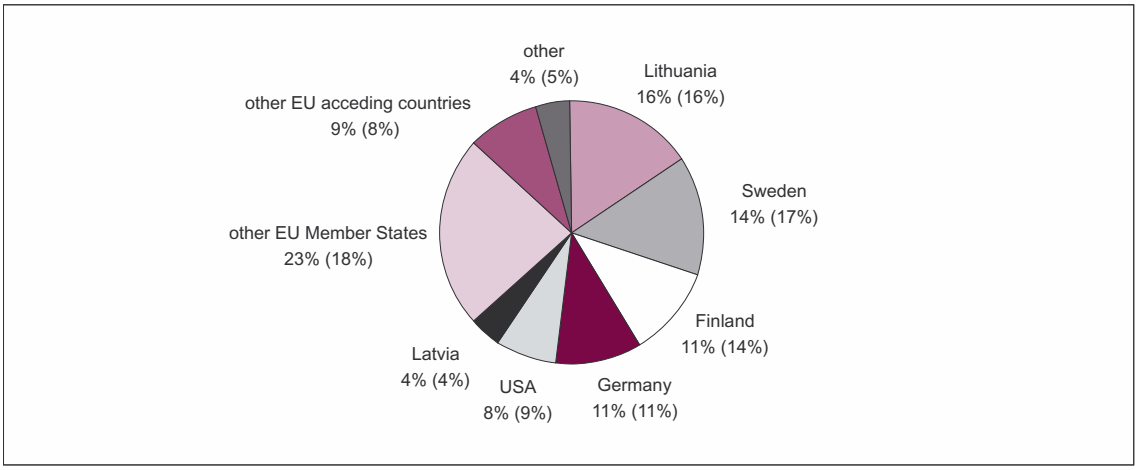

Figure 3.29. Foreign investments of investment funds as of 30 June 2003 (in brackets as of 31 March 2003)

Pension Funds and Insurance

After the successful launch of the pension reform, active signing up with the mandatory funded pension system has continued in 2003. When in 2002, during the first and second sign-up wave, 207,200 people concluded contracts with the II pillar pension funds, then, by the end of the third stage (31 October 2003), the number of those who had joined the mandatory funded pension system had risen to 350,000, ie to 60% of the employed, which outpaced the predictions of the government and market participants.

The **volume of the II pillar funds** of the funded pension system soared by 650 million kroons in the first nine months of 2003 to 770 million kroons and should reach some 970 million kroons, ie 0.9% of the GDP, by the end of the year. Assuming that the average gross income of those who will sign up is equal to that of the people who joined the system in 2002, II pillar pension funds should receive some 110 million kroons a month from the beginning of 2004, instead of the current 65 million kroons. In this case the volume of the assets in the II pillar pension funds should soar to 2.3 billion kroons or 2% of the GDP by the end of 2004.

The assets of the second pillar pension funds have been predominantly invested into bonds and units in other funds (60 and 18%, respectively), but share positions have also been increased in 2003 at the expense of liquid assets, which is why these accounted for 15% of all assets at the end of September. Of the assets in the funds that have adopted the riskiest investment strategies around 20% have been invested into shares, which is still far from the limits set by the law, but their share positions may actually be larger because of their holdings in other funds.

The number of people who have concluded contracts for purchasing **supplementary funded pension** units and insurance amounts to 57,600, ie some 9.8% of the employed. In the first nine months of 2003 the number of people that signed up with the third pillar amounted to 75% of the overall number in 2002. Since most of the signing-up activity falls into the fourth quarter due to the idiosyncrasies arising from income tax incentives, one might expect that more people will join the supplementary funded pension system in 2003 than in 2002. The aggregate assets of the III pillar of the funded pension system amount to 620 million kroons or 0.5% of the GDP, whereas supplementary funded pension contracts have been clearly concentrated into life insurance companies, whose clients account for 95% of all people who have joined the III pillar of the pension system and whose pension insurance reserves amount to 87% of the consolidated assets of the supplementary funded pension system.

Partly because of the attention captured by the II pillar funds of the funded pension also III pillar funds have attracted increased interest. Fund management companies have responded to this by diversifying supplementary pension insurance products[6]. In the conditions of increasing competition more profitable investment opportunities are sought: fund managers have doubled the share of stock positions in a year. Shares account for 35% of the assets and such growth has come at the expense of cutting the share of bonds as well as liquid assets.

The aggregate second pillar pension funds' index EPI has been rising since March 2003 after the recovery in the main stock markets. During the third quarter, the average year-on-year rise in the aggregate index amounted to an average of 7%, but differently from 2002 the funds that partly invest in shares have been growing faster during the past 6 months. **The average supplementary funded pension funds' yield** during the past 12 months has been in excess of 8%, though lower than the same indicator in 2002. Similarly to the stock market funds under the mandatory funded pension system the average yield of the III pillar pension funds has grown during the past six months (see Figure 3.30).

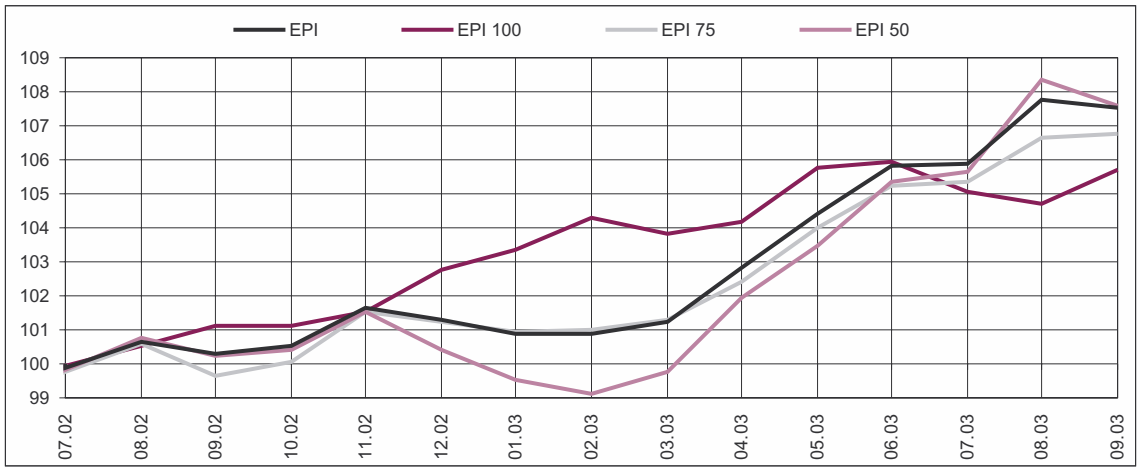

Figure 3.30. Indices of mandatory pension funds EPI, EPI 100, EPI 75 and EPI 50 (points, 1 July 2002 = 100)

Insurance

Life Insurance

The growth rate of the life insurance market has clearly accelerated during the past 12 months, amounting to an average of 24% (18% at the same time in 2002). And in the third quarter the rate amounted to as high as 31% (see Figure 3.31). Besides faster growth in pension insurance also more premiums have been collected from other main types of life insurance products. During the past 12 months, life insurance companies have collected 535 million kroons in gross premiums, of which an estimated 50% has been attracted due to supplementary funded pension insurance contracts subject to income tax incentives.

Life insurance liabilities to policyholders amounted to 1.1 billion kroons at the end of June 2003 (approximately 5% of the financial assets of households). An estimated half of these liabilities accounted for supplementary funded pension insurance reserves. The aggregate profitability of life insurance activities rose significantly in the first half of 2003. This mainly resulted from the growth in net investment income arising from the increasing market value of investments and profits derived from realising such investments. The rise in the market value of investments was brought about by regulative changes in the accounting principles of the financial investments of insurance companies.

[6] AS Hansa Investeerimisfondid informed of setting up two different risk level III pillar pension funds besides the currently operating one pension fund under the supplementary funded pension system.

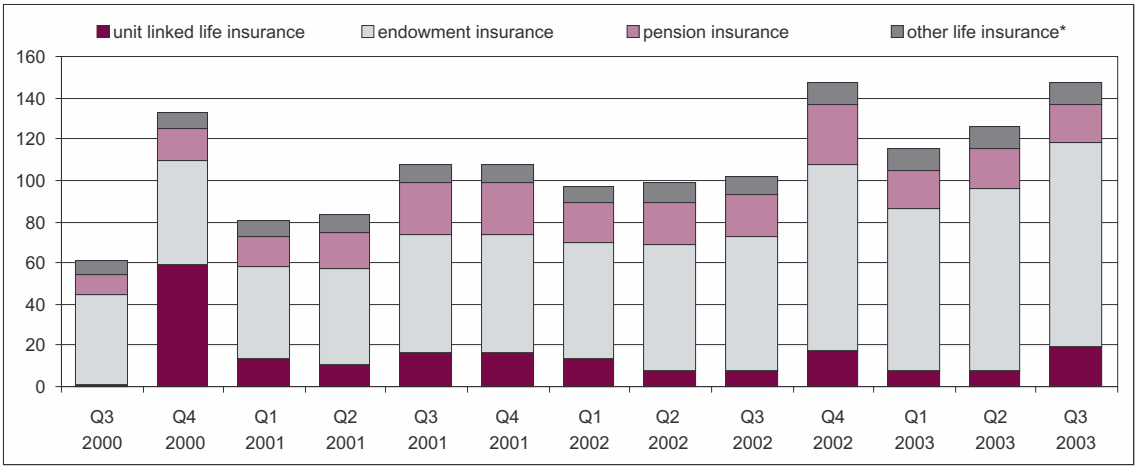

Figure 3.31. Gross premiums collected by life insurance companies (EEK m)

** incl birth and marriage insurance, term and whole life insurance, supplementary insurance and other life insurance*

Non-Life Insurance

The non-life insurance market has been marked by certain redistribution of market shares and stable growth. During the past 12 months, non-life insurance companies have collected 1.9 million kroons in gross premiums (see Figure 3.32), while the average annual growth in gross premiums stood at 18.5% (17.5% at the same period in 2002).

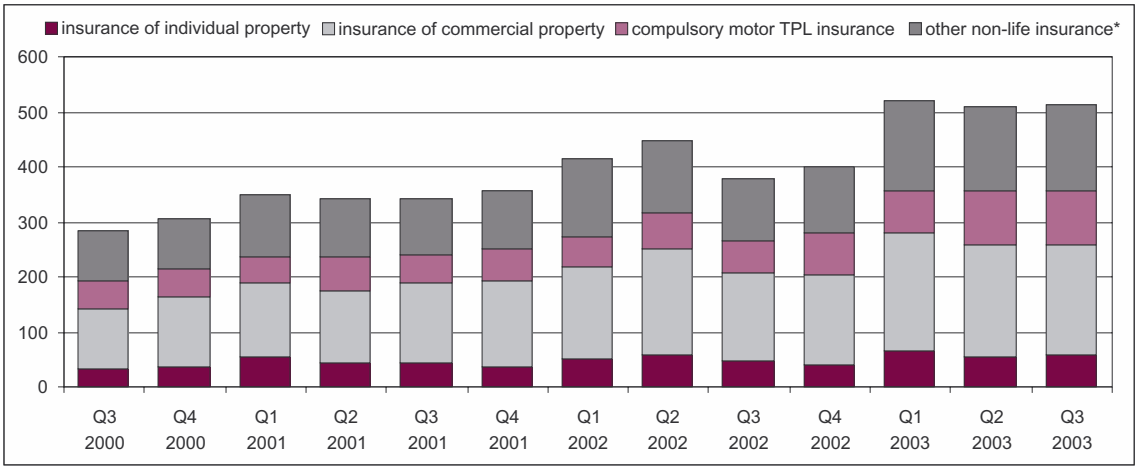

Figure 3.32. Gross premiums collected by non-life insurance companies (EEK m)

** incl accident and sickness insurance, travel insurance, insurance for pecuniary loss, goods in transit insurance and other non-life insurance*

In the non-life insurance market a certain redistribution of market shares has occurred arising from the takeover of the portfolio of Nordika Kindlustus by Nordea Kindlustus and the exit of Zürich Kindlustus from the market, which is manifested in the continued concentration of the market into the hands of larger companies backed by stronger circles of owners (foreign insurance groups) executing more powerful marketing strategies.

Market restructuring has boosted the profitability of insurance companies. This results from increased efficiency (reduced net operating costs, increased reinsurance and net investment incomes). Besides, investment incomes of non-life insurance companies have grown due to regulative changes in the accounting principles of the financial investments of insurance companies.

IV
PAYMENT SYSTEMS

Settlement System of Interbank Payments

The settlement system of interbank payments[1], launched at the beginning of 2002, is based on two subsystems – Real Time Gross Settlement System (RTGS) used for processing large-value and urgent interbank payments, and Designated Time Net Settlement System (DNS) used for processing retail interbank payments. The settlement system of interbank payments is used for payments in case the settlement accounts of the payer and the payee are in different credit institutions. Besides settlements of bank customers' payments, the RTGS system also settles payments between different credit institutions, payments related to the central bank and net balances sent by the managers of the net settlement systems for final settlement.

One indicator of the importance of the settlement systems for the national economy is the value of payments settled through these systems. Considering the high concentration of the Estonian banking sector, the majority of payments are intrabank payments. For example, in the second and third quarter of 2003, only 15% in terms of the total volume and 35% in terms of the value of domestic payments were settled through the settlement system of interbank payments (RTGS and DNS systems total).

The total turnover of payments settled in the RTGS system in 52 days equals the annual GDP of Estonia. The RTGS turnover to GDP ratio is relatively small in Estonia compared to other countries, since the level of financial deepening is low and the banking sector is highly concentrated (see Figure 4.1).

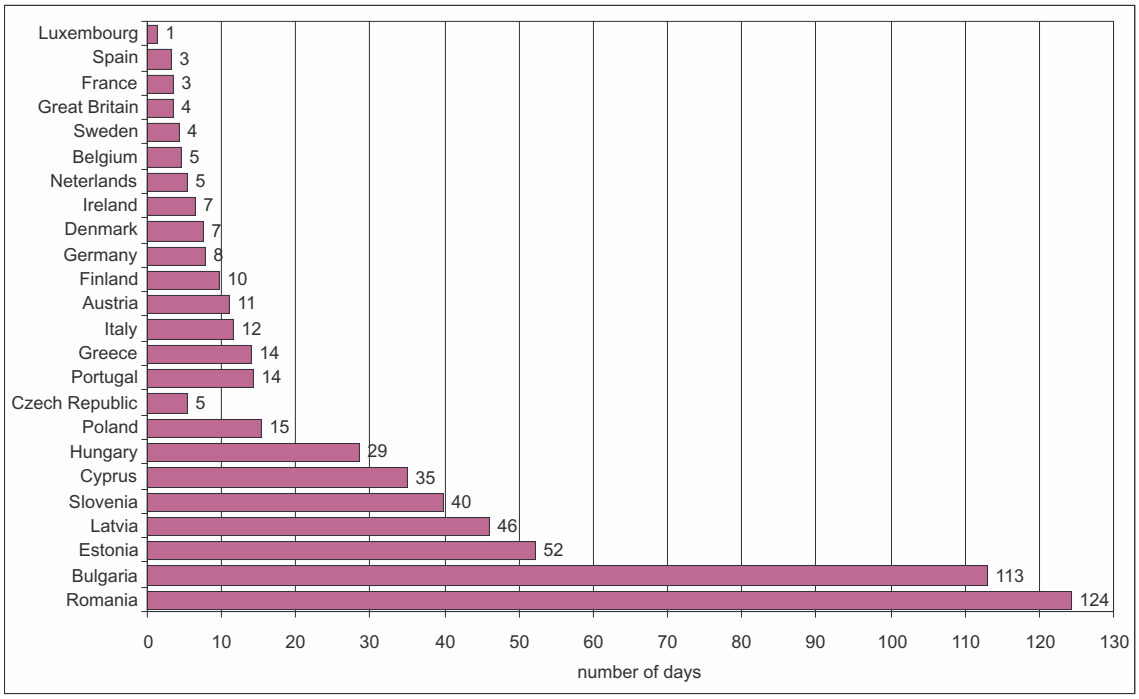

Figure 4.1. The settlement time of the payments in value of annual GDP executed in real-time gross settlement systems in selected countries in 2001 (Estonia in 2003)

Sources: ECB, Eesti Pank

[1] See also the 2001 and 2002 Annual Report of Eesti Pank and *The First Year of the New Interbank Settlement System* by Kadri Martin in Kroon & Economy No 1, 2002, pp 38–42, or at http://www.eestipank.info/pub/en/dokumendid/publikatsioonid/seeriad/

An average of **119 transactions per day** were settled in the **RTGS system** in the second and third quarter of 2003. Year-on-year, the number of payments was up 42% (see Figure 4.2). The number of payments in the RTGS system increased, first of all, due to **customer payments,** which account for 66% of all real-time payments.

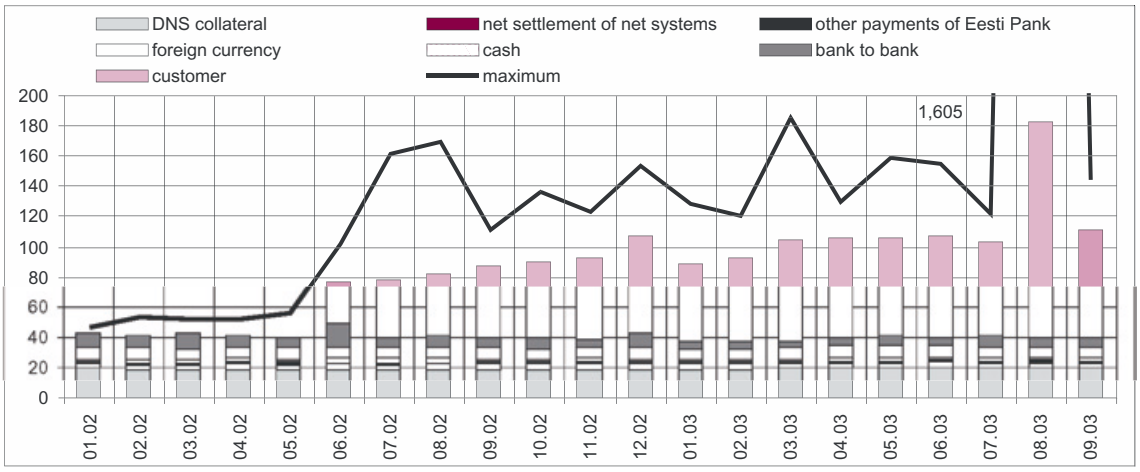

Figure 4.2. Volume of daily payments processed in RTGS (monthly average)

In the second and third quarter of 2003, the average daily turnover of the RTGS system was **2.2 billion kroons.** The majority of this (61%) was made up of collateral transactions of the DNS system. Year-on-year, the turnover of payments settled through the RTGS system decreased by 4%, since the turnover of bank-initiated payments and foreign exchange transactions fell. At the same time, the turnover of the cash lag of the securities net settlements has increased by 60%, suggesting an enlivenment on the Estonian stock market (see Figure 4.3).

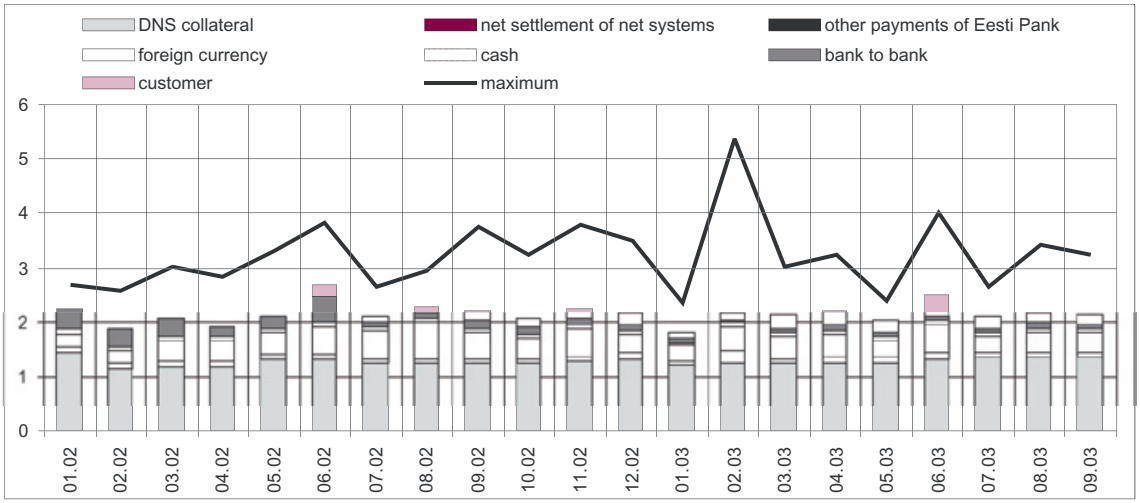

Figure 4.3. Value of daily payments processed in RTGS (monthly average, EEK billion)

Considering all transaction types, the average size of a payment in the RTGS system amounted to 18.3 million kroons. The average volume of payments was down 37% as compared to the second and third quarter of 2002.

In the second and third quarter of 2003, **the DNS system** settled an average of **63,000 payments per day** with the **total value of 616 million kroons**. Year-on-year, the number of payments increased by 15%. As

high-value payments[2] are settled in the RTGS system, the turnover of the DNS system increased relatively small – by only 2%. As a result, the average size of payments settled in the DNS system decreased as well – in the fist half of 2002, when there was no possibility to settle customer payments through the RTGS system and no limit for high-value payments was applied, the average size of payments amounted to 11,600 kroons. In the second and third quarter of 2003, the average payment was 17% smaller or 9,700 kroons (see Figure 4.4).

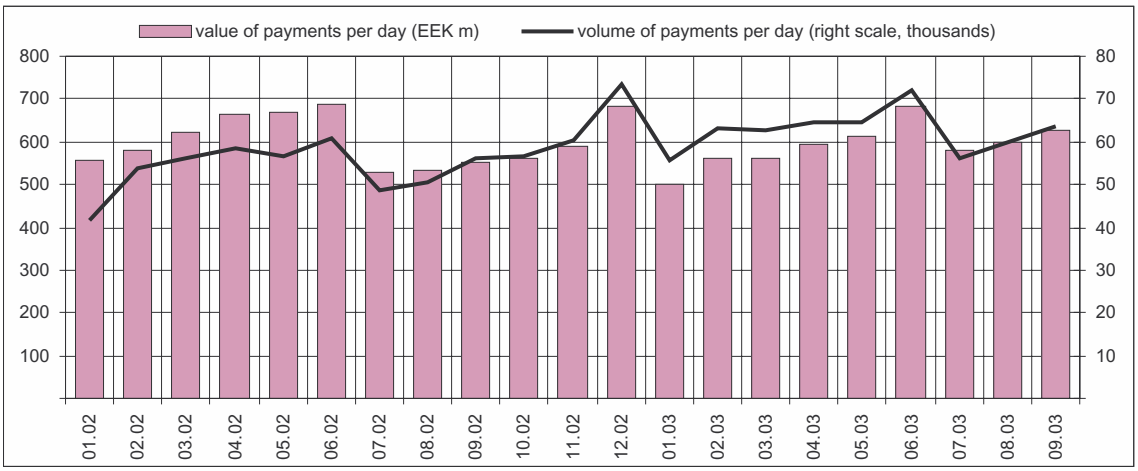

Figure 4.4. Value and volume of payments processed via DNS

Since interbank settlement systems play a significant role in the smooth functioning of the money circulation, high **operational availability requirements** have been set on the settlement systems managed by Eesti Pank. To guarantee the required processing standards, it is important to find out possible disruptions, to analyse them and then eliminate both the disruption and its cause.

Over the three quarters of 2003, the DNS system had two and the RTGS system seven serious failures that affected all participants of the system. These failures were overcome within a reasonable period of time and they posed no danger to Estonia's financial stability. A computer virus clogging the IT system of one participant of the settlement system in the second half of August 2003 can serve as an example of operational failures. As a result of the failure, 1,500 interbank retail payments had to be settled through the RTGS system.

Evaluation of the Settlement System of Interbank Payments

Since both the RTGS and DNS system are important for the sustainable functioning of the Estonian financial system, Eesti Pank operates as well as oversees the systems, proceeding from the central bank's settlement systems oversight framework[3] as well as from international standards and best practices.

The settlement systems important for the financial system are evaluated using the principles[4] applied on these systems and the following evaluation of the RTGS and DNS system is based on the same standards.

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[2] Large-value payments are payments with the value of 15 million kroons and more.
[3] See Appendix, p 61.
[4] Bank for International Settlements 2001, *Core Principles for Systemically Important Payment Systems.* See also http://www.bis.org/publ/cpss43.pdf

Risk Management

Hedging of **legal risk** in the RTGS and DNS system is guaranteed by legal acts regulating settlements in Estonia and by the final settlement of payments in the RTGS system. Legal relations are regulated by Eesti Pank Act, Credit Institutions Act, the Law of Obligations Act, Settlement Rules established by the Governor of Eesti Pank, Basic Documentation of the Payment Systems of Eesti Pank and accession contracts[5] between system participants (Eesti Pank and credit institutions and the Estonian Central Register of Securities), which include the principles concerning settlement finality.

Accession contracts define the procedure and time of joining the settlement systems, the rights and obligations of the participants, the principles of determining the transaction limits and collateral funds and the responsibility of the participants in case of a breach of the contract. Thus, the participants of the RTGS and DNS systems have an overview of the risks involved in the functioning of the respective system.

In the RTGS system the probability of legal risks has been reduced to the minimum by settling payments individually in real time.

To reduce **operational risks** a contingency plan has been worked out within the framework of the technical requirements of the systems. This plan refers to all participants of the settlement system and is applied according to the character of the disruption of the system. The technical solutions and procedures of the systems are secure and aimed at minimising financial risks. In the three quarters of 2003, the availability[6] of the RTGS system was 99.84% and that of the DNS system – 99.99%. Smaller probability of the operational and legal risks in turn mean smaller credit and liquidity risks.

Credit and liquidity risks are hedged by notifying the payee participant of the system only of already settled payments. Participants can use all their funds on accounts held in the central bank for settling their payments. For settling payments credit institutions are allowed to use all funds held at the central bank in line with the minimum reserve requirement[7]. In case a commercial bank needs additional liquidity, it may borrow funds from the interbank money market, sell foreign currency or securities accepted by the central bank to Eesti Pank.

In the **DNS system, the financial risks** are hedged by the cash collateral paid by each participant of the system, which, at the same time, is the limit of its net liabilities. The purpose of the cash collateral is to ensure settlement also in case some participant lacks the necessary funds on its account.

Efficiency of Settlement Systems

The RTGS and DNS systems have been developed to function together and are kept in operation using the same resources. The operational costs of the systems are covered by transaction fees paid by the participants. The central infrastructure of the systems supports the growth of competition and financial stability (reduction of risks).

Based on the satisfaction survey carried out by the operator of the systems, it can be said that the range of services provided is appropriate and sufficient, considering the interests of both system participants and the end consumers of the payment mediation service.

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[5] Separate contracts have to be signed for joining each of the settlement systems and participants have to observe the existing general and technical requirements and stick to the price list.
[6] The processability is measured as a ratio of the normal functioning of the system to the time the system is supposed to be operating.
[7] Credit institutions have to keep at least 50% of their reserve requirement on accounts at the central bank and the rest can be made up of liquid foreign assets.

Access to the Systems

Persons entitled to membership in the respective system (RTGS, DNS) are defined by Eesti Pank's basic documentation on payment systems (general terms and conditions, technical requirements) and accession contracts. In addition, Eesti Pank has the right to decide on the eligibility of the person to join the system, proceeding from the aspect of maintaining financial stability. For greater transparency, a framework has to be created in addition to existing legislation, which would guarantee fair access for all institutions with justified interest in the use of the systems.

Management of the Systems

In accordance with the basic contracts and general terms and conditions, both the RTGS and the DNS system are managed by Eesti Pank, which means that the central bank has the role of operator as well as overseer and creator of the legal framework for both the RTGS and the DNS system. System participants can use the RTGS and the DNS systems only on terms determined by Eesti Pank. The central bank uses these systems also for settling its own payments. Maintaining the operation of the settlement systems is the task of Eesti Pank's Clearing and Settlement Department, the oversight function is carried out by the Financial Stability Department and the modernisation of legal acts and system development is done in cooperation with market participants. To improve the work of payment systems and solve disputes the Council of Payment System Experts (EMEN)[8] was set up in early 2002, comprised of settlement experts from Eesti Pank and credit institutions.

Short Summary

From the point of the financial system as a whole, the minimisation of the likelihood of systemic risks is the most important aspect of a settlement system. However, this is only possible when we are aware and able to prevent other risks that can occur in settlement systems. **The legal framework of the settlement system of interbank payments managed by Eesti Pank, its functional and technical solutions and procedures are secure and modern. The evaluation and management of the risk that can occur in the settlement system is done proceeding from internationally acknowledged principles and good practices.** The framework concerning access to the system is being improved and will be made available to the general public.

BACKGROUND INFORMATION

KEY ISSUES CONCERNING RETAIL PAYMENTS

It does not suffice to have just an efficient settlement system of high-value payments to guarantee the effectiveness and stability of a country's financial system. A well-functioning settlement system of retail payments is equally important for the smooth daily money circulation, since it contributes considerably to the effectiveness and stability of the financial system.

In order to guarantee efficiency and safety of settlement systems both for high-value and retail payments, a report of the Bank for International Settlements[9] (BIS) points out activities supporting achieving these goals for central banks as well as other relevant institutions.

[8] The Estonian Council of Payment System Experts includes the business processes work team and the technical work team made up of experts of the respective fields.
[9] Policy Issues for Central Banks in Retail Payments, BIS 2003.

Although the activities of central banks in this area vary somewhat across countries, these are mainly aimed at achieving the general goal – efficiency and safety of retail payment systems – through:

- elaborating the legal and regulatory framework supportive of market development;
- fostering competitive market conditions and behaviours;
- supporting the development of standards and infrastructure arrangements;
- providing central bank services in the most effective manner.

In order to achieve their aims in the area of retail payments, central banks monitor the market and cooperate with both the private and the public sector. Market monitoring involves identification of legal impediments to improving the efficiency and safety of these systems, monitoring of developments and behaviours related to retail payment instruments and services used in retail payments, monitoring of developments in security and operating standards and infrastructure arrangements as well as assessing their significance. Cooperation with private and public entities is important mostly for guaranteeing the correspondence of the legal framework to changing circumstances, fostering competitive market conditions and encouraging standards and infrastructure arrangements necessary for improving market performance. BIS recommends monitoring and cooperation with private and public entities for all central banks as minimum actions to improve the efficiency and safety of retail payment systems.

Payment Instruments

Like in developed countries, the structure of retail payment possibilities has changed in Estonia, too, over the past few years. First of all, these changes are characterised by the **rapid increase of the number of electronic payment channels and broadening of the use of effective payment instruments.** At the same time, the number of less efficient payment channels, such as bank offices, has decreased considerably (see Figure 4.5).

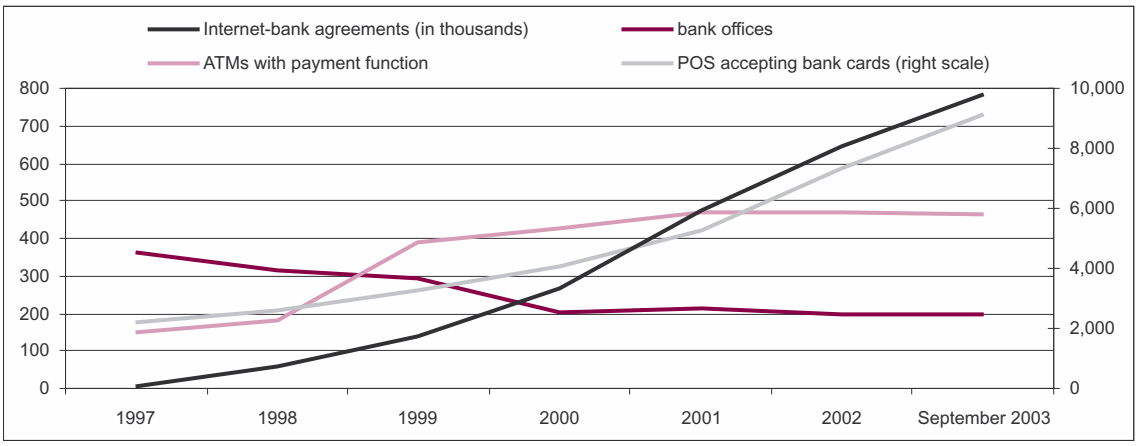

Figure 4.5. Banks-related channels for retail payments in Estonia (end-of-period figures)

Alongside the growing popularity of electronic payment channels, the **share of cash** in payments has been constantly dropping. According to a survey by Emor, the share of cash has decreased in incomes as well as shopping and payment of bills. The survey indicated that 30% of respondents received wages and pensions in cash (34% in 2002), other benefits and income was received in cash by 25% of the respondents (33% in 2002). Only cash was used to pay for daily purchases by 46% of families (52% in 2002) and 59% of families used cash for regular payments (69% in 2002). While paying in cash or through a post office for regular

payments is decreasing among Estonian families, the use of credit institutions to make regular payments is constantly increasing. A total of 79% of families questioned paid their bills through credit institutions. According to the survey, **payments through the Internet as well as standing orders and direct debits** still had the highest growth potential among payment instruments (see Figure 4.6). Regarding **bank cards**, the development has been both extensive and intensive so far, but further growth of card payments would probably be based on intensification – cards would be used for payments more often.

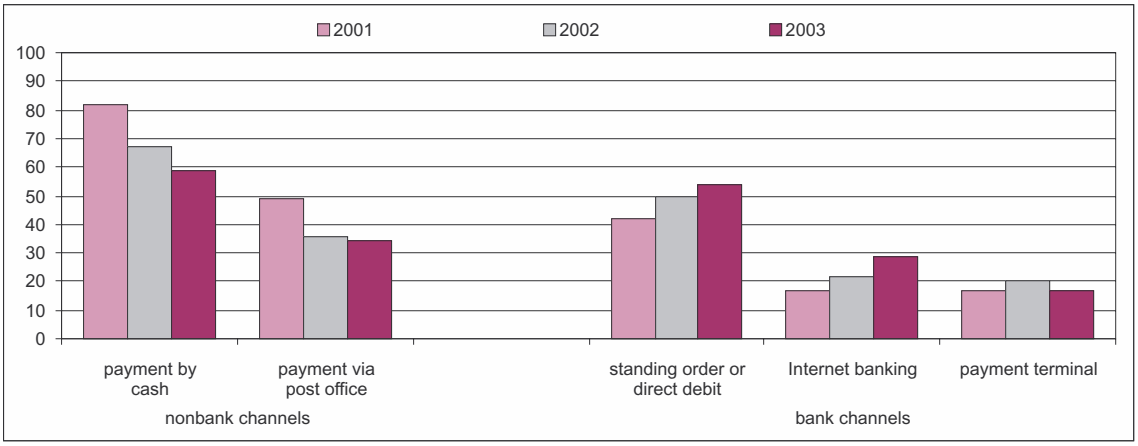

Figure 4.6. Channels for execution of regular payments (% of households)

Source: EMOR

From April to September 2003 the number of payments made via credit institutions increased by 24% year-on-year, rising from the average of 7.2 million to 8.9 million payments per month. The turnover increased the most – by 14% – in domestic payments. The turnover of international payments remained unchanged for both incoming and outgoing payments.

Payments via Credit Institutions

The most popular payment instruments are still payment cards and credit orders[10], which account for over 90% of payments made via credit institutions.

Due to the growing availability of electronic payment channels[11], the share of electronic credit orders increased to 96% of all credit orders (in 2002, the respective indicator was 94%).

Payment cards, Internet banking and direct debits are being used more often as alternatives to cash and paper-based payment orders, moreover, in the second and third quarter of 2003 their use increased by 30–40% (see Figure 4.7). The most preferred payment instruments are characterised by efficiency expressed, first of all, through the speed, convenience and cost of making the payments.

For credit institutions, the increase in the number of payments, particularly card payments means growing **income from service charges.** It is estimated that credit institutions earn nearly a third of their service charge income from card transactions. This income consists of fixed charges (monthly and annual fees[12])

[10] Credit orders cover payment orders through the Internet bank, telebank, phone bank, paper-based and standing orders.
[11] By the end of September 2003, Estonian banks had concluded nearly 784,000 contracts with customers on the use of the Internet bank (according to the data of the Baltic News Service).
[12] The monthly maintenance fee of debit cards is 10–15 kroons, hire-purchase cards have no monthly fee and the annual fee of fixed repayment date credit cards is usually 300 kroons.

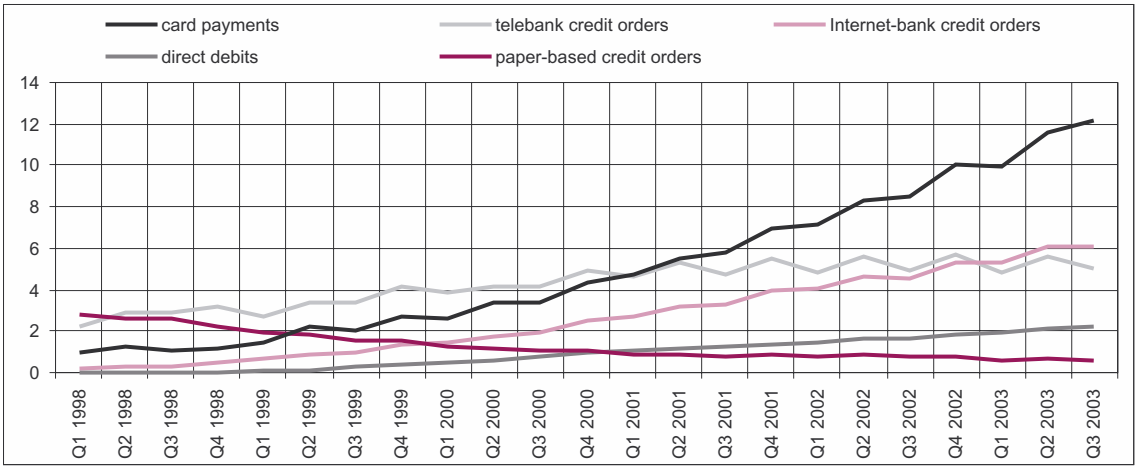

Figure 4.7. Widely used payment instruments by number of payments (million)

and transaction charges[13]. In view of card payments becoming more an more frequent (as indicated by the 2003 survey by Emor), as well as the development of recent years and the growth potential as compared to developed countries, the annual increase of income from card payments could amount to more than 15% (approximately 37 million kroons)[14].

Compared to other countries, Estonia's use of non-cash payment instruments is most similar to that of Finland and Sweden where bank cards and credit orders are the most widely used non-cash payment instruments. Also, the use of direct debits is on the increase. Like in Finland, Sweden, Latvia and Lithuania, no cheques are used for payments in Estonia. Although the structure of Estonian non-cash payment instruments is similar to that of the Nordic countries, there is still room for development in reducing the share of cash. The use of non-cash payment instruments is different in Germany where a large share of payments is made by direct debits. In the European Union as a whole, the share of payment cards and credit and direct debit orders is constantly increasing, whereas the share of cheques is decreasing (see Figure 4.8).

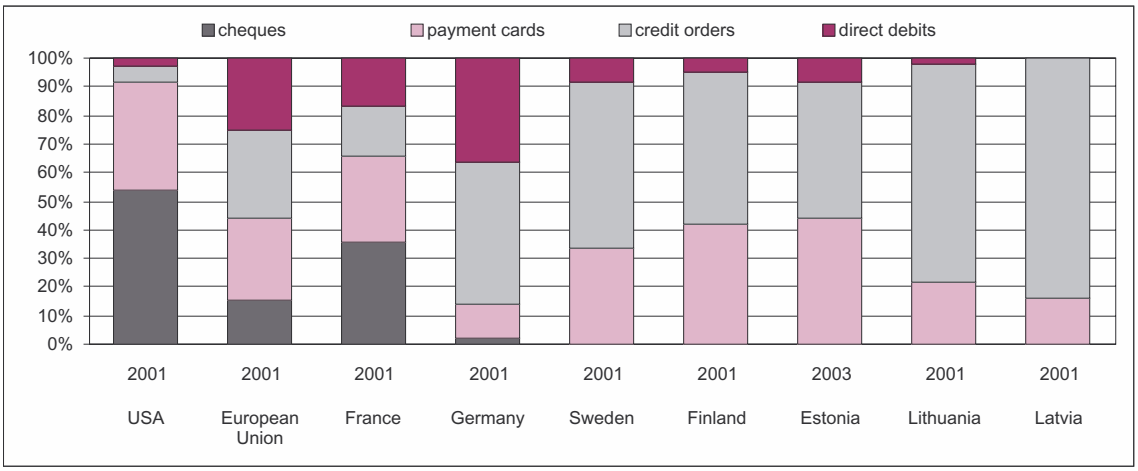

Figure 4.8. Relative importance of non-cash payment instruments in selected countries (as a percentage of payment volume)

Sources: BIS, ECB

[13] Retailers and service providers are charged a minimum of 2.5% on the sum of the transaction, for Hansapank customers making card payments via ATMs costs 3 kroons.

[14] It is presumed that Estonian card payments per capita would probably reach the 2001 average EU level (38 payments per capita) by the end of 2004 and the level of Finland and Sweden (weighted average of 56 card payments per capita) in 3.5 years time. The tendency of card payments via SSTs to decline has also been taken into consideration.

Use of Payment Cards

By the end of September 2003, Estonian credit institutions had issued nearly 1.2 million payment cards, of which 16.6%[15] were the so-called passive cards with which no payments were made (see Figure 4.9).

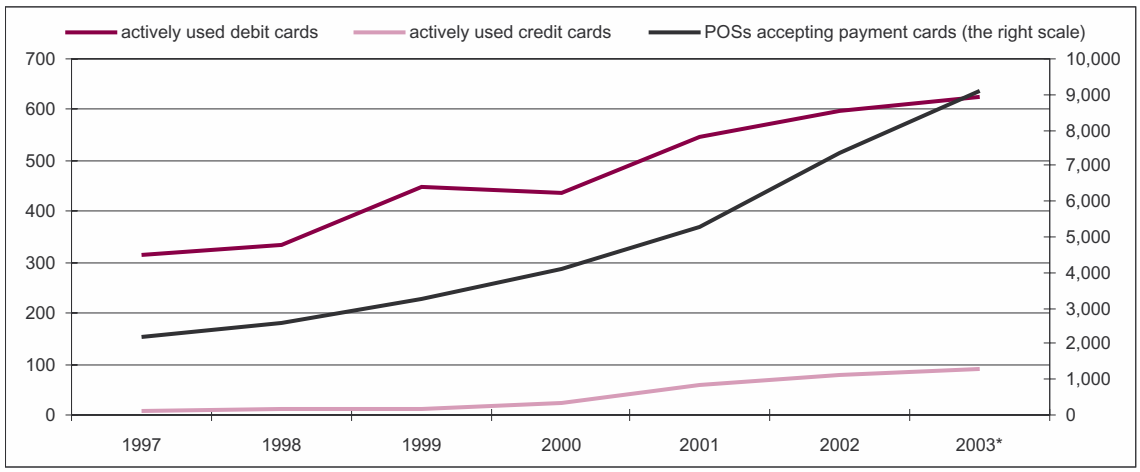

Figure 4.9. Number of payment cards per thousand inhabitants and number of POSs at the end of a year

** as of end of September*

Over the past six months more than 25,000 **debit cards** and over 17,000 **credit cards** have been issued. The share of credit cards has continued to grow – from 13% at the end of September 2002 to 15% at the end of September 2003.

At the end of September 2003, Estonia had over 0.7 actively used payment cards per capita. Among active cards, the share of debit cards increased faster until the end of 1999, but in recent years the share of credit cards has been growing more rapidly. The increasing number of actively used cards suggests growing consumption and financing of daily purchases through short-term loans. According to the Emor survey, credit cards or hire-purchase cards are used by 7% of the people who pay for their daily purchases with a card.

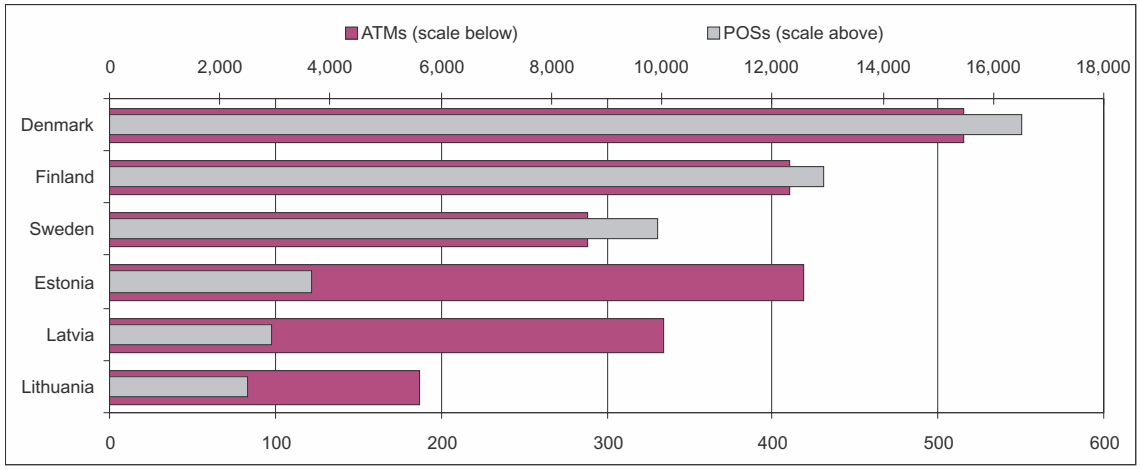

Figure 4.10. Number of ATMs and POSs per million inhabitants at the end of 2001 in selected countries

Source: ECB

[15] At the end of 2003 the share of passive bank cards stood at 18%.

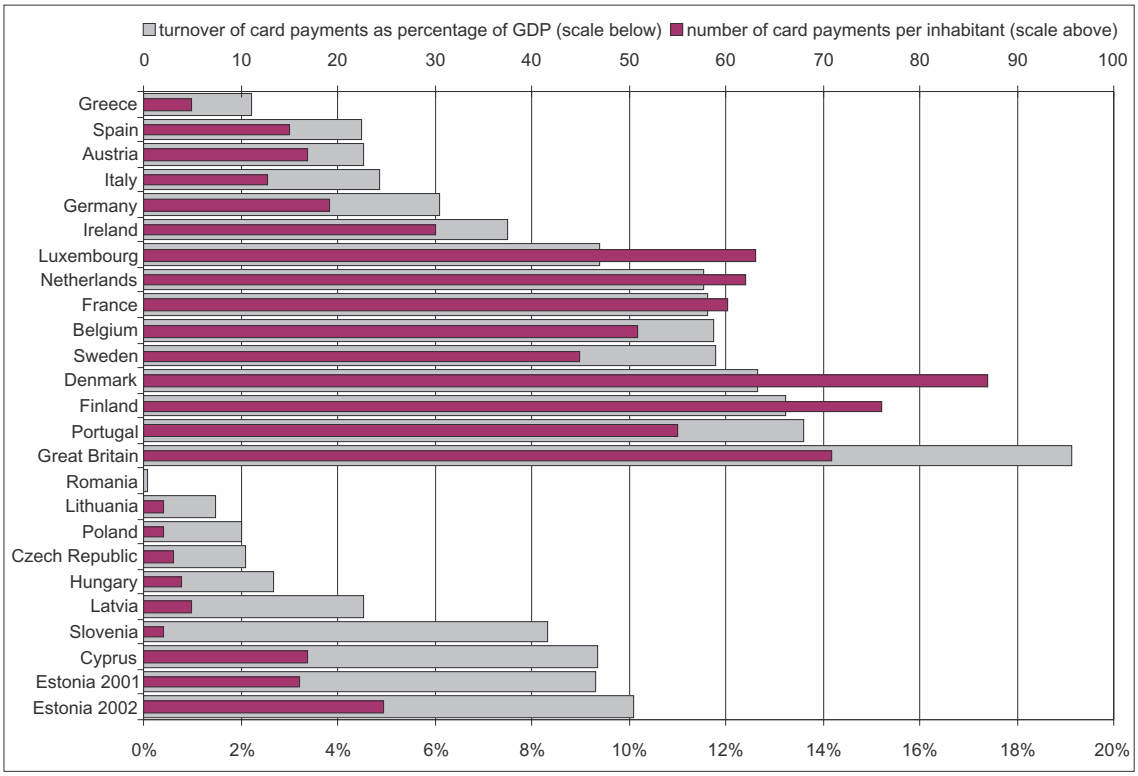

Figure 4.11. Turnover of card payments as percentage of GDP and number of card payments per inhabitant in selected countries in 2001

Sources: ECB, Eesti Pank

Together with the growth of the number of payment cards, also the opportunities for using them have increased – from March to September 2003 the number of ATMs increased by 21 and 1,308 **points of sale** accepting card payments were added.

Considering that the per capita number of ATMs in Estonia is approximately the same as in Finland and even higher than in Sweden, it is unlikely that their number would increase considerably in the next few years. Although the number of points of sale accepting card payments has been constantly increasing in Estonia over recent years, their number is still smaller than in the Nordic countries (Finland, Sweden, Denmark) where the number of points of sale per capita is over three times larger than in Estonia (see Figure 4.10).

Although more bank card transactions per capita (25 in 2002) are carried out in Estonia than in the majority of other EU acceding countries, the Estonian number of card transactions per capita is several times smaller than the respective indicator of most EU member countries. The card payments turnover to GDP ratio is approximately the same as the EU average (see Figure 4.11).

APPENDIX

Oversight of Payment Systems

In modern economic and financial environment the efficiency of a country's financial system depends on the smooth functioning of various payment systems, since all monetary transactions are conducted through some payment system. To secure the smoothness of the financial system, it is necessary to keep various payment systems in line with the country's existing legal framework and to avoid disruptions that could have a negative effect on the county's financial system.

The Essence of Payment Systems

Payment systems mean infrastructure and the related legal framework that enables the settlement of mutual monetary obligations between counterparts. Payment systems include both settlement systems aimed at settling mutual monetary obligations between the participants of the system (hereinafter *settlement systems)*, as well as various instruments used for initiating payments (hereinafter *payment instruments)*.

In Estonia, settlement systems include:

Settlement systems of payments:
- settlement systems of intrabank payments operated by respective commercial banks;
- settlement system of interbank payments operated by Eesti Pank, consisting of two subsystems – the designated time net settlement system and the real-time gross settlement system;
- settlement system of card payments operated by the Card Centre of Banks.

Settlement systems of financial instruments:
- settlement system of securities operated by the Estonian Central Securities Depository.

Payment instruments denote the methods of initiating payments, such as the Internet bank and payment orders initiated through other means.

Purpose of Payment Systems Oversight

According to international standards and best practices[1], central banks have to guarantee that the settlement systems operated by them fully comply with international standards and to oversee important settlement systems operated by the private sector. In addition, oversight of various payment instruments is also a responsibility of central banks. The aim of oversight is to ensure effective, smooth and sustainable functioning of payment systems.

The reasons why the oversight of payment systems has been entrusted to central banks are the following:
- effective functioning of payment systems forms the basis for the stable functioning of the entire economic and financial system;
- central banks are interested in the safe functioning of payment systems, since it increases customers' trust in payment systems, which in turn increases public trust in the local currency;
- to ensure economic and financial stability in the whole country, central banks are interested in eliminating risks in major settlement systems;
- as major settlement systems are used for monetary policy transactions, the central bank oversight of these systems provides additional security to these transactions.

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[1] See *Core Principles for Systemically Important Payment Systems*, BIS 2001 or http://www.bis.org/publ/cpss43.pdf
An Estonian language list of the principles of payment systems relevant to the financial system is given in *Eesti pangandusõiguse alused,* Tallinn 2003, pp 82–83 (by Mark, M., Raa, R., Siibak, K., Tupits, A.).

The above suggests that **oversight of payment systems is one of the key functions of a central bank,** since the smooth and sustainable functioning of these systems is directly related to meeting the main objectives of the central bank, which include:

- implementing effective monetary policy;
- ensuring the stability of the financial system;
- guaranteeing smooth functioning of money circulation.

Achievement of these main objectives in turn ensures **price stability through the reliability of the monetary system and the currency.**

Regardless of the operators of various payment systems – central banks or the private sector – the aims of oversight are the following:

- to assess the safety of various payment systems and their correspondence to market needs;
- to identify the potential risks of major settlement systems;
- to distinguish from settlement systems the systemically important settlement systems and assess their compliance with international standards and best practices.

In EU Member States, oversight of payment systems is regulated by Article 105 of the Treaty establishing the European Community, which says that one of the basic tasks of the European Central Bank and national central banks is to promote the smooth operation of payment systems.

Eesti Pank has been conducting oversight of payment systems for many years already but after accession to the EU and the European System of Central Banks, Eesti Pank will be obliged to formalise the oversight of payment systems.

Eesti Pank's Tasks as Overseer of Payment Systems

Until accession to the EU, Eesti Pank's oversight of payment systems proceeds from Article 2, Clause 1 of the Eesti Pank Act that obliges Eesti Pank to manage the money circulation in Estonia. Under the Memorandum of Understanding signed by Eesti Pank, the Financial Supervision Authority and the Ministry of Finance, Eesti Pank is obliged to conduct oversight of payment systems, which is the responsibility of the bank's Financial Stability Department.

As an overseer of payment systems it is the task of Eesti Pank to monitor the use of these systems and their correspondence to market needs, to direct and monitor the development of the systems and to determine the so-called important and systemically important settlement systems proceeding from certain criteria.

In case a settlement system has been classified as systemically important, Eesti Pank also has to see to it that such a system has clearly understandable written rules, which comply with reality. The central bank also has to check the existence of an action plan for possible failures in the system (continuity plan) and to assess the system's compliance with international standards and best practices (including risk evaluation).

Oversight of payment systems is based on information received directly from operators of settlement systems as well as other relevant institutions (Financial Supervision Authority, central banks of other countries). If necessary, recommendations on eliminating the detected shortcomings will also be forwarded to system operators.

Purpose and Necessity of Different Settlement Systems

Although there are several settlement systems of different types in Estonia, they all serve the common purpose of enabling the system participants to settle mutual claims and obligations.
The necessity of settlement systems lies in the following:

1. Settlement systems of payments allow safe and timely settlement of monetary obligations between participants of the systems:

- for private persons the settlement system is important for receiving wages, benefits, etc, and paying bills;
- businesses use settlement systems for buying and selling goods;
- on the state level, settlement systems are used for collecting taxes and paying out benefits.

2. The settlement system of interbank payments gives bank customers greater freedom in choosing some commercial bank to be their main bank, since customers need not worry about what bank the beneficiary's account is in when making their payments. Thus, the customer can pay more attention to such factors as the availability of suitable services, service charges, quality of services, etc.

3. The settlement system of card payments allows retailers who are customers of one bank to accept card payments of clients whose cards have been issued by some other commercial bank.

4. Settlement systems form a basis for the effective functioning of financial markets – the settlement of securities transactions as well as monetary claims and obligations deriving from the purchase and sale of securities are settled through the respective settlement system.

Settlement System Risks

In Estonia, as well as in any other modern society, the entire financial system is based on settlement systems. Therefore, it is essential to ensure the smooth functioning of settlement systems so as to maintain a stable and smooth financial system of a country. This means, first of all, management and hedging of various risks. Identification, measuring, monitoring and management of risks help to prevent transfer of risks to domestic and international financial markets, which can lead to major financial crises.

Due to a domino effect (also called a systemic risk), the default of one system participant or a technical malfunctioning can cause liquidity or credit problems to other participants of the system. Although the likelihood of a systemic risk is small, it can lead to a major financial crisis.

Risks related to settlement systems:

- Systemic risk or the risk that temporary or constant liquidity problems of one participant of the system could lead to similar problems for some other participant of the system. In other words, the systemic risk concerns the potential chain reaction triggered by the liquidity or credit risk that can lead to an economic and financial crisis in the entire country or a group of countries. Thus, the systemic risk can arise in the emergence of other risks.
- Credit risk or the risk that a participant of the system will be unable to fully meet its financial obligations within the system either when due or at any time in the future.
- Liquidity risk or the risk that a participant of the system will have insufficient funds to meet financial obligations within the system when expected, although it may be able to do so at some time in the future. In other words, this is a situation when a system participant experiences a temporary shortage of settlement assets.
- Operational risk or the risk that the smooth functioning of the settlement system will be disrupted by software or hardware failure, human error or malicious activity, which will cause unforeseeable financial obligations to participants of the system. The realisation of the operational risk could, in turn, lead to the realisation of credit or liquidity risks.
- Legal risk or the risk that poor legal framework or unexpected interpretation of legislation will cause unforeseeable financial losses to the operator or participants of the settlement system. Realisation of the legal risk could, in turn, lead to the realisation of credit or liquidity risks.

- Security risk or the risk that fraud or misuse of the system will harm the functioning of the system.

Risks related to settlement systems of securities:

- All the above-listed risks of settlement systems.
- Custody risk or the risk that the custodian does not keep separate books for its own securities and the securities of its customers. In other words, it is the risk that the custodian would carry out transactions with the securities of its customer without the latter's knowledge.

Classification of Settlement Systems According to Their Importance

The settlement system functioning in Estonia is considered to be **important** if it corresponds to at least one of the following criteria:

- it is the only system of that kind in Estonia;
- it is used for the settlement of balances sent by other settlement systems.

This important settlement system is, in turn, important for the sustainable functioning of the entire Estonian financial system and can thus be deemed **as systemically important** if:

- the share of the average daily turnover of last six months of the important settlement system accounts for more than 10% of the total sum of average daily turnovers of all important settlement systems over the past six months.