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Bank of Estonia

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SUMMARY

MACROECONOMIC AND EXTERNAL ENVIRONMENT

The growth rate of the global economy remained favourable in the first half of 2006. This created preconditions for continuing a stricter interest rate policy in several major economic regions. The Euribor rates have risen by 1.3–1.6 percentage points within the year since the beginning of the upward cycle of interest rates in autumn 2005. Except for the sudden temporary drop of share prices in May and June 2006, the development of the global interest environment has not entailed any other significant changes in the risk behaviour of investors, the volatility of markets or risk premiums.

In the first half of 2006, the **Estonian economy** grew at the rate of nearly 12% and was influenced by growth in domestic rather than in external demand. The exceptionally rapid economic expansion has mainly been stimulated by the robust development of the real estate and construction sectors. Although economic growth is presumed to start slowing down gradually soon, according to estimates it will nevertheless remain quite high for the next two years. Therefore, the economic environment remains favourable for the financial sector both in terms of development as well as risks.

CORPORATE FINANCIAL BEHAVIOUR AND RISKS

The investment demand of companies increased due to the favourable economic environment. The growth rate of corporate **debt** has remained high (26% in June 2006), whereas the indebtedness rose to 66% of GDP by the end of June 2006. An increase in financial leverage causes higher vulnerability of the corporate sector.

Borrowing for real estate purposes is gaining more popularity besides financing primary activities of non-real estate enterprises. This, however, may undermine the corporate sector's competitiveness. Moreover, the rise in loan-servicing costs amplifies already higher operating costs and adversely affects the profitability of companies.

FINANCIAL BEHAVIOUR OF HOUSEHOLDS AND RELATED RISKS

The economic environment has fostered the growth of household incomes and this has created favourable conditions for rising optimism. Expectations about the continuation of current developments have played a key role in increasing the loan demand and risk appetite of households. The **loan growth rate of households** remained very high during the first nine months of 2006 (over 60%), whereas the growth in indebtedness has increased even more in ratio to GDP and disposable income compared to the end of 2005.

High price levels in the **housing market** have started to hinder the demand for housing loans. Apartment market activity has declined and so has the growth rate of prices. Unless any unexpected shock takes place in the near future, it is safe to presume that the real estate market is steadying. If this year's rapid price boost does not repeat itself, the further developments in the real estate market will be in line with the general economic development.

Along with rapid economic expansion the volume of **consumer credit** has also shown robust growth (105% in September 2006). Although, for the most part, the growth and structure of consumer credit may be explained by developments in the real estate market, the positive correlation between housing wealth and the consumption of Estonian households proved to be rather weak. This may be explained mainly by the negligibility of speculative effects in the housing market so far.

Since the volume of loans, as well as key interest rates, has increased, households' **loan-servicing costs** have also risen. However, the increasing net incomes of households have successfully offset the negative impact of the rise in interest rates.

Sustained income growth prospects have increased the risk appetite of households even though long-term loan contracts with floating interest rates are generally exposed to interest rate risks.

In line with favourable macroeconomic developments the current situation and growth forecasts of households' financial buffers may be considered relatively good. In 2006, the growth rate of **deposits** has been one of the fastest in recent years (over 30%), although the net financial position of households continues to deteriorate.

BANKING MARKET

Measures taken this year by Eesti Pank in order to hedge risks have caused the growth of banks' capital buffers, as expected. Among other things also the changes in banks' intra-group financing schemes have contributed to the improvement of capital adequacy ratios. The channelling of resources to non-resident subsidiaries by local banks has abated. Yet, the domestic banking sector is still strongly related to parent banks through the great share of resources intermediated by the latter. The role of parent banks in managing the local operations of groups has also become more substantial.

The growth rate of financing Estonian residents has not slowed down remarkably. **As for credit risk**, risks related to the developments of the real estate sector have increased even further – the quality of banks' loan portfolios increasingly depends on the real estate sector's development both in terms of corporate as well as household loans. So far, the quality of banks' loan portfolios has remained good, as income growth has enabled customers to cope with rising loan-servicing costs. Regarding credit risk, however, it is ever more important that banks consider the future loan-servicing capability of a borrower more significant than the current market value of the collateral involved.

The **share of liquid assets** in the banking sector's total assets without respect to changes in banks' intra-group financing schemes has remained at approximately 17%, i.e. at about the same level as half a year ago. As of 1 September 2006, a new higher reserve requirement came into force; thus also the share of highly liquid assets acceptable for meeting the reserve requirement has risen.

The rise in key interest rates is also reflected in banks' **profitability** indicators, since in Estonia the majority of bank loans have been granted with a floating interest rate and liabilities largely consist of demand deposits that depend less on the interest cycle. However, the profitability of banks has this year been influenced more by lower dividend income by subsidiaries – the profits were retained in the subsidiaries and not paid as dividends. The growth of fee and commission income has also slowed slightly, which partially stems from changes in accounting principles.

SECURITIES MARKET AND OTHER FINANCIAL INTERMEDIARIES

The number of securities traded in the **securities market** increased, while the growth of the bond and stock markets declined. The primary **bond market** and capitalisation grew in volume thanks to the increase in the volume of issues by resident banks. The secondary market expanded owing to a remarkable boost in the bond turnover of the non-financial sector.

The most influential events on the **Tallinn Stock Exchange** in the past half-year were the correction in the global stock markets in spring/summer and the listing of the shares of two new companies (AS Eesti Ehitus and Olympic Entertainment Group) on the primary list of the stock exchange. As the value of share prices decreased substantially owing to a decline in the stock markets, the year-on-year growth of the Tallinn Stock Exchange index OMXT reached only 7% by the end of October.

The correction in various European stock markets also affected other parts of the financial sector –

investment and pension funds – and the **insurance sector**, whose yields shrunk considerably. The yield of money market funds, on the other hand, was affected positively by the rise in key interest rates. Although two more new stock funds were added to the list of investment funds, growth in the volume of investment and pension fund assets decelerated substantially owing to stock market developments and the high basis of fund assets.

The development of the **non-life insurance market**, which has been growing steadily during recent years, has been primarily influenced by loan growth and the generally favourable economic environment. On the other hand, growth in the **life insurance market** decreased to the year-ago level in the third quarter. This confirms that what happened in between was a one-off event.

PAYMENT SYSTEMS

According to the overseer, failures in the settlement systems of Eesti Pank did not endanger the sustainable operation of the systems or financial stability.

In the **Real-Time Gross Settlement system (RTGS)** the main change was the elimination of the limit on large-value payments. In order to improve the efficiency of the **Settlement System of Ordinary Payments (ESTA)** the settlement day was extended by three hours and the settlement cycle was made more frequent. Instead of the former three times, beneficiary banks are informed of received payments nine times a day, i.e. on every full hour. Consequently, payments made from one bank to another usually reach the beneficiary in no later than in an hour and a half.

In order to incorporate the EP RTGS system managed by Eesti Pank with the euro area's payment settlement system **TARGET** and adopt the euro in Estonia, the European System of Central Banks assessed the compliance of the EP RTGS system and the securities settlement systems operating in Estonia with the requirements of the Eurosystem. Based on the results of the assessment, these systems were deemed eligible for the Eurosystem and the connection of the EP RTGS with the TARGET system on 20 November 2006 was approved.

No major changes have **occurred in the environment of retail payments** within the past year. According to a survey conducted by TNS Emor on payment habits, the usage of non-bank channels for payments has decreased further. One-third of households pay for purchases in cash, while two-thirds use payment cards.

CONCLUSION AND FINANCIAL STABILITY RISKS

Within the past half-year, no such events or developments have occurred in the condition or behaviour of the Estonian financial sector that would change the financial stability assessment rating of "good", which was conferred on Estonia in spring.

According to forecasts, the rapid growth of Estonia's economy will start to decelerate gradually and moderately over the next two years. Therefore, no significant problems with financial stability are to be expected, at least in the near future. The capitalisation and liquidity of the banking sector are sufficient under current economic conditions and the banking sector's short-term risks are well managed with the support of parent banks. Strong economic expansion secures strong income inflow for households as well as companies.

The capability of households and companies to withstand long-term risks, however, has deteriorated due to the rising debt burden. Though the peak of economic growth should be at hand or even over, there are no signs of a sudden deceleration in the accumulation of long-term loan-servicing risks yet. Neither are there any signs of a significant decrease in borrowing activity. Moreover, signals that might have changed borrowers' attitudes as expected (e.g. rises in interest rates, signs of stabili-

sation in the apartment markets of major cities, the postponement of the adoption of the euro, suspicions about the overheating of economy, etc.) have not reduced the optimistic future expectations. This may be caused by the strong inertia in the behaviour of borrowers, which shows especially clearly in the case of companies initiating new real estate development projects as well as households planning to take a housing loan.

The excessive share of financing real estate development and investment in the loan portfolio of banks might become the main threat to the banking sector. So far, this has offered creditors an excellent combination of risks and return and has enabled them to increase their revenue base rapidly. However, high dependence on the development of only one market segment (the real estate market) increases banks' vulnerability to the possible negative trends of that market.

The growth potential of the loan market is not infinite. For instance, growth might slow down faster than expected due to changes in the international liquidity environment. As an unexpected and unpleasant surprise, the loan market may be struck by a sudden drop in investors' confidence. Households that have borrowed during the past few years are most likely to face solvency problems should the abovementioned events occur. These are often the households that have purchased real estate at the highest market price and taken loans to the ultimate limit of their financial capabilities. Thus, after the present peak of economic growth is over, borrowers as well as creditors should review their current optimistic attitudes and adjust their future savings, investment and loan decisions to meet the needs and risks of the future economic cycle.

Measures taken by Eesti Pank in 2006 (increasing the risk weighting for housing loans to 100% in calculating the capital adequacy and raising the reserve requirement to 15%) and a strong fiscal policy have helped to increase the credibility of Estonia's economic policy in the eyes of external experts and investors. During the three-year transition period within the framework of the new capital adequacy accord (Basel II), which takes effect in 2007, Eesti Pank decided to preserve the 100% risk weighting for housing loans in calculating the floor for the capital adequacy ratio and adhere to the current 10% capital requirement as regards credit risk as a whole for the three-year transition period.

I GLOBAL ECONOMY AND ESTONIAN ECONOMY

EXTERNAL ENVIRONMENT

Global economic cycle

Some discrepancies in the **economic growth** in different regions emerged in the second quarter of 2006. While in the euro area growth accelerated in the second quarter from the first quarter (from 2.2% to 2.7%), then in the United States and Japan it slowed down instead (from 3.7% to 3.5% and from 3.6% to 2.5%, respectively). Industrial production indicators in the euro area confirmed the above trend: the year-on-year growth reached 5.4% in August, being the fastest in the past six years (see Figure 1.1). Industrial production showed an upward trend also in the United States and Japan, posting a faster than 5% annual growth in August and September.

Inflation in the United States and in the euro area took its cue from oil price developments, picking up speed until the end of the second quarter and declining in the third quarter. As a result, annual consumer price growth in the United States accelerated to 4.3% in July before slipping back to 3.8% in August (see Figure 1.2). In the euro area, it remained at 2.5% from April through June, and then slowed down to 1.7% by September. The US and euro area core inflation indices excluding energy and food prices did not yet react to the fall in oil prices in the third quarter and in places rose to the highest levels in recent years: to 2.8% (the highest in then years) in the United States in August and to 1.5% (the highest in the past year) in the euro area in September. In Japan, the year-on-year rise in consumer prices accelerated to 0.9% in August. Unlike in other major economic areas, the inflation-reducing impact of falling oil prices did not reflect at least in the August data yet.

Finland's GDP growth amounted to 5.9% in the first half of 2006. The Finnish central bank expects

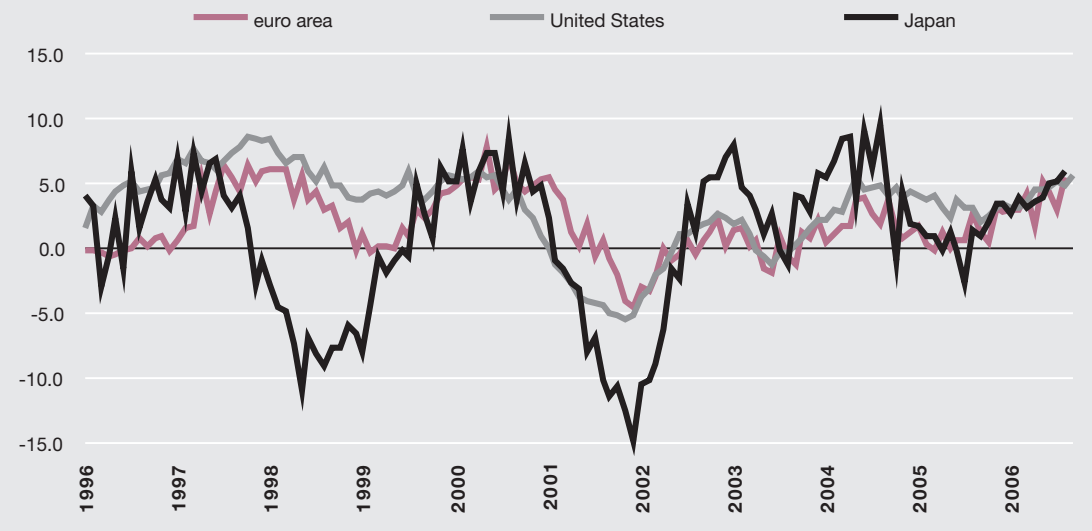

Figure 1.1. Annual growth in the industrial production of the euro area, the United States and Japan (%)

Source: EcoWin

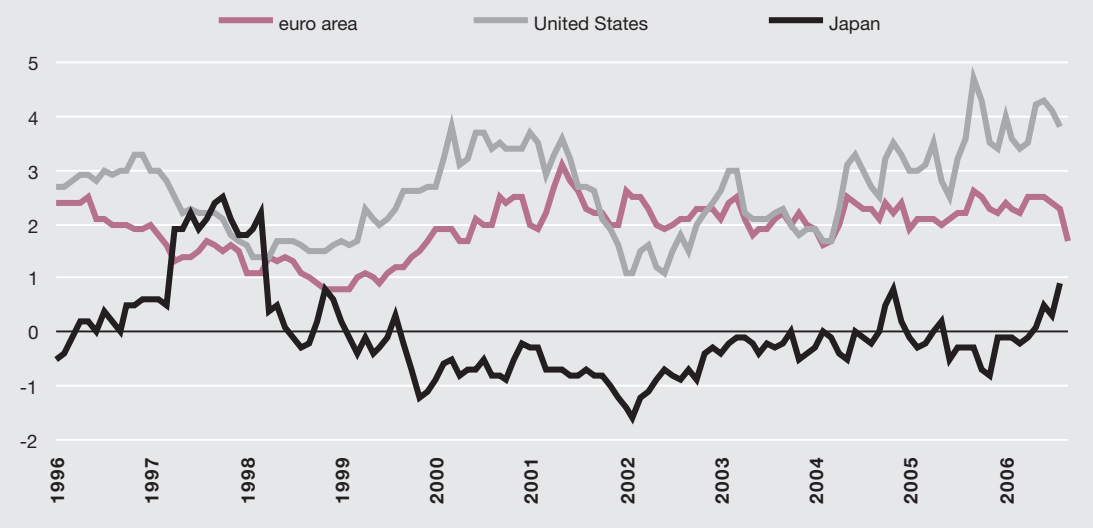

Figure 1.2. Consumer prices in the euro area, the United States and Japan (%)

Source: EcoWin

a 5.4% growth rate in 2006 and 3.2% in 2007. The fast growth in the first six months of the year was partly affected by the low comparison basis with last summer (last year, there was an extensive strike in the paper industry). As a result, also manufacturing saw fast growth in the first half-year, amounting to 10%. Moreover, export growth exceeded 12% in the first half and the annual growth rate is expected to be 12%. Private consumption and investments have increased briskly as well.

Regardless of fast economic growth, the inflation rate has not gone up considerably. The harmonised index of consumer prices (HICP) stood at 1.3% in August. Inflation was mostly affected by growing fuel prices, but also by the rise in housing costs and food prices. Meanwhile the prices of entertainment electronics and phone calls fell.

Sweden's gross domestic product grew 5.5% in the first and 3.5% in the second quarter. In the first quarter, growth was underpinned by rising exports and investment. In the second quarter, private consumption and investments increased faster than expected. Export growth, however, slowed down to 6.6% in the second quarter. Even though the year-on-year growth in industrial production was volatile in the first six months of the year, it amounts to an average of 4%, which considerably outpaces the 1.5% indicator in 2005. Further growth prospects are good and domestic demand continues to expand. The Swedish central bank expects a 4.3% growth in 2006 and 3.1% in 2007.

In the second quarter, inflation accelerated to 1.9% but slowed down again in the third quarter. The HICP amounted to 1.6% in August. Similarly to Finland, Sweden's inflation is also being affected most by fuel and energy prices and housing costs.

International financial markets

In major **stock markets**, the most significant event was the extensive sell-off of stocks in May and June, which is why stock prices decreased considerably during these months (see Figure 1.3). This was affected by the rise in monetary policy interest rates in advanced economies, complemented by the prospect of the US growth slowing down and the threat arising from inflationary pressures that the US Federal Reserve might raise

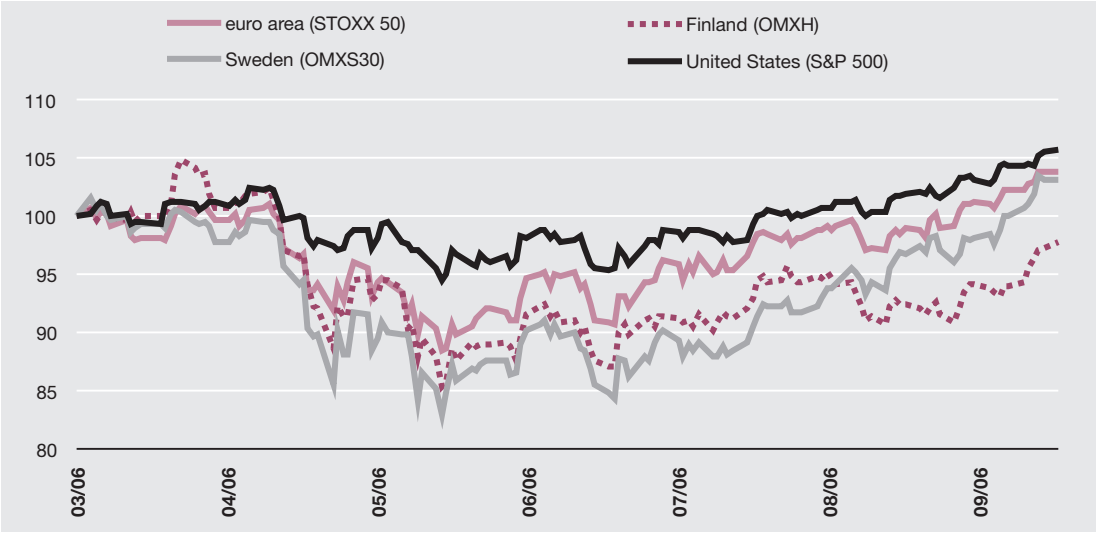

Figure 1.3. Stock indices in the United States, the euro area, Sweden and Finland (30 September 2005 = 100)

Source: EcoWin

the key interest rate more than expected. In mid-June the stock prices started to rise again, which was also facilitated by reduced inflationary risk. Hence, all in all, the changes in the stock markets in the United States, the euro area and Sweden remained positive.[1]

Bond market development was supported by relatively high economic activity, though a slight slowdown could also be observed (primarily in the United States). Therefore, major central banks tightened their monetary policy even further. In half a year (second and third quarters), the European Central Bank has increased the key interest rates three times, each time by 25 basis points, while the US Federal Reserve and Sweden's central bank have increased rates twice and the Bank of England and Japan's central bank once. As a consequence, short-term interest rates (3-month Libor) increased in Sweden and the euro area by nearly 70 basis points and in the United States by 40 basis points (see Figure 1.4). Long-term interest rates rose until July but started to decline then because of the combined effects of reduced inflationary risk and a slowdown in global economic growth (see Figure 1.5). All in all, the interest rates increased relatively little in these markets.

In **foreign exchange markets**, the US dollar depreciated against most major currencies, except the Japanese yen. The euro slightly strengthened against the dollar in the third quarter while still trading the range of 1.25–1.30 dollars per euro (see Figure 1.6). The dollar depreciated largely as a result of the slowdown in the US economic growth and the resulting decrease in the interest rate spread with other countries. The yen-dollar exchange rate went up in April and May but altogether changed little over the whole review period. The weakness of the yen was still caused by Japan's low base rate, which is why the yen largely retained its status as a lending currency.

[1] The US S&P 500 index increased 5.7%, the euro area Stoxx 50 index 3.9% and Sweden's OMXS30 index 3.2%. Finland's OMXH fell 2.2% during the given period.

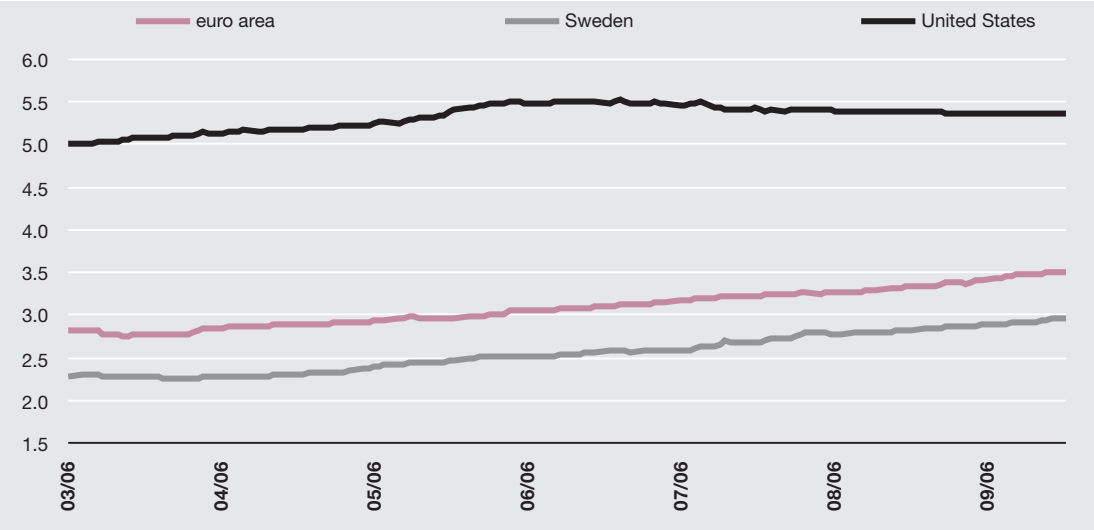

Figure 1.4. 3-month interest rates in Germany, Sweden and the United States (%)

Source: EcoWin

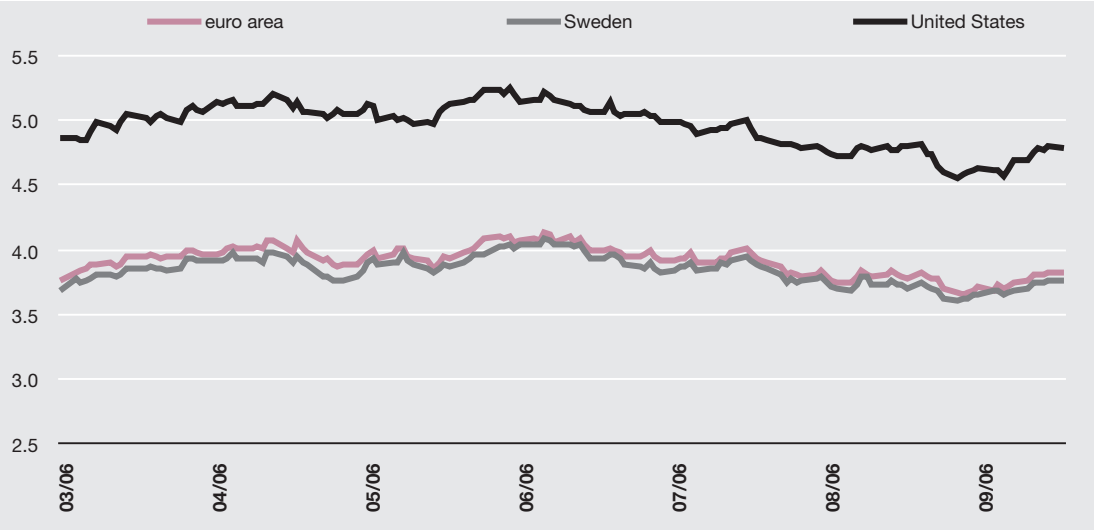

Figure 1.5. 10-year interest rates in the euro area, Sweden and the United States (%)

Source: EcoWin

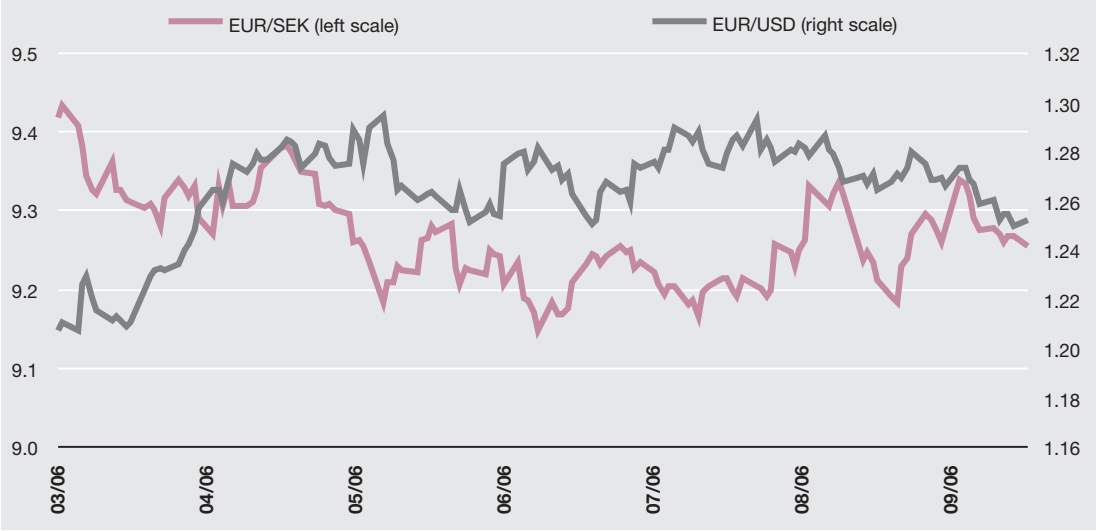

Figure 1.6. Exchange rate of the euro against the Swedish krona and the US dollar

Source: EcoWin

ESTONIAN ECONOMIC GROWTH AND MACROECONOMIC RISKS

Economic growth, external balance and inflation

Estonian **economic growth** remained very fast in the first half of 2006. Real GDP growth amounted to 11.7% both in the first and second quarters (see Figure 1.7). However, considering the extraordinary fast economic development, neither external nor internal balance has improved: the current account deficit has not decreased and the inflation rate has stayed high.

Domestic demand increased faster than incomes in the first half of 2006. Meanwhile **private consumption** posted the fastest increase, amounting to 17.6% at current prices and to 14.6% at constant prices in the second quarter. The growth in private consumption was underpinned by strong confidence of residents and rapid increase in incomes.

Investment activity was high also in the second quarter of 2006. Together with stock building, investments took up 36.7% of the nominal GDP. Residential construction projects remained popular investment targets. Also the general government sector made large investments, some of which were financed by foreign funding. The utilisation rate of corporate production capacity increased (again over 80% in the second quarter). This shows a consistently high need for additional production capacity.

The extremely strong economic growth also brought along fast growth in **general government** revenue and the collection of most taxes exceeded expectations. By the end of September, the State Treasury had collected 80.4% of the revenues for the central government budget. Compared to the first nine months of the previous year, the revenues grew by an average of 18.4%. Despite the cost-enhancing supplementary budget, the government budget surplus should be larger than in 2005.

Owing to improved **external demand**, goods and services exports increased fast in the first half this year, although slowing down slightly compared to the preceding half-year (from 26.9% to 23.6% at current prices). However, since imports of goods

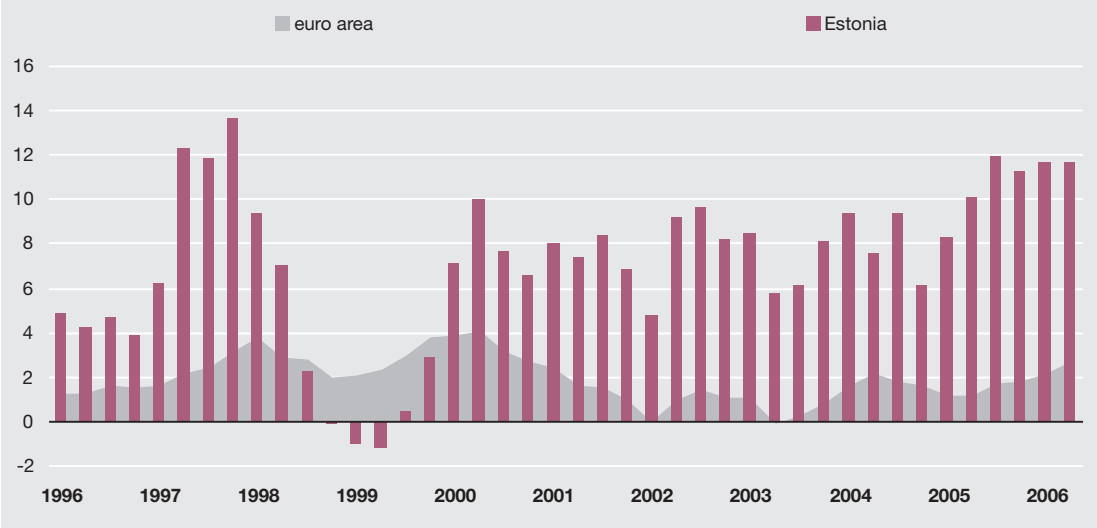

Figure 1.7. Real GDP growth by quarters (%)

Sources: Statistical Office of Estonia; Eurostat

and services meanwhile increased because of a robust growth in domestic demand, the contribution of **net exports** to economic growth was again negative. The **current account deficit** was 11.2% of the GDP of the last four quarters (see Figure 1.8). The deficit in the goods and services account increased from 6.5% in the second quarter of 2005 to 8.2%. External balance probably deteriorated further in the third quarter: according to July data the balance of trade deficit stood at 4.2 billion kroons (over 20% of the expected GDP), which is the worst result after May 2004.

While the rise in **consumer prices** somewhat slowed down in the fourth quarter of 2005, this year the rise has been faster than average and also steadier: consumer prices increased at the rate of 4.4% in all three quarters (see Figure 1.9). Monthly fluctuations again mainly stemmed from the oil price developments. The difference compared to the euro area inflation rate was approximately 2 percentage points.

Even though the weight of motor fuel in the consumer price index (CPI) has not decreased this year and high fuel prices prevented inflation from slowing down, stronger core inflationary pressures began to play a bigger role in shaping the inflation. **Core inflation** accelerated to 3.8% in the third quarter. The underlying reason was the rise in housing costs with the prices of construction materials as well as rental and renovation services increasing significantly. The growth in food prices has also accelerated significantly (to 6.1% in the third quarter), generally following the trends in the euro area. Moreover, inflation was boosted by the rise in the expenses related to leisure activities as well as faster price growth of clothing and footwear.

Corporate business situation

Confidence

The **economic confidence index** calculated by the Estonian Institute of Economic Research rose by 10 points in the first half of 2006, year-on-year. Meanwhile, in the middle of the year the consumer confidence as well as construction, trading and manufacturing companies' confidence indicators stood at the historically highest level (see Figure 1.10).

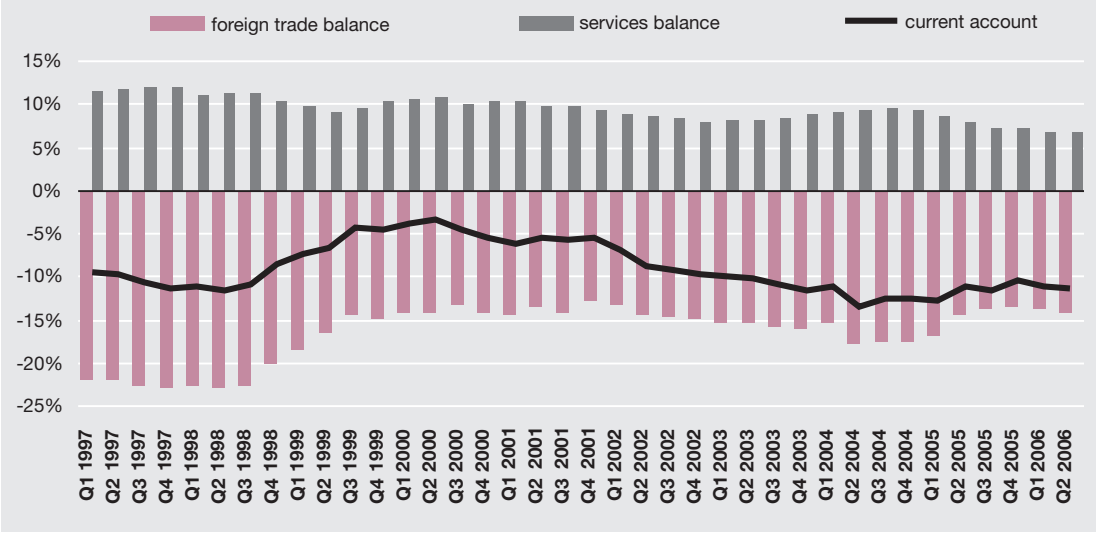

Figure 1.8. External trade account, services account, and current account balance in ratio to GDP (4-quarter average)

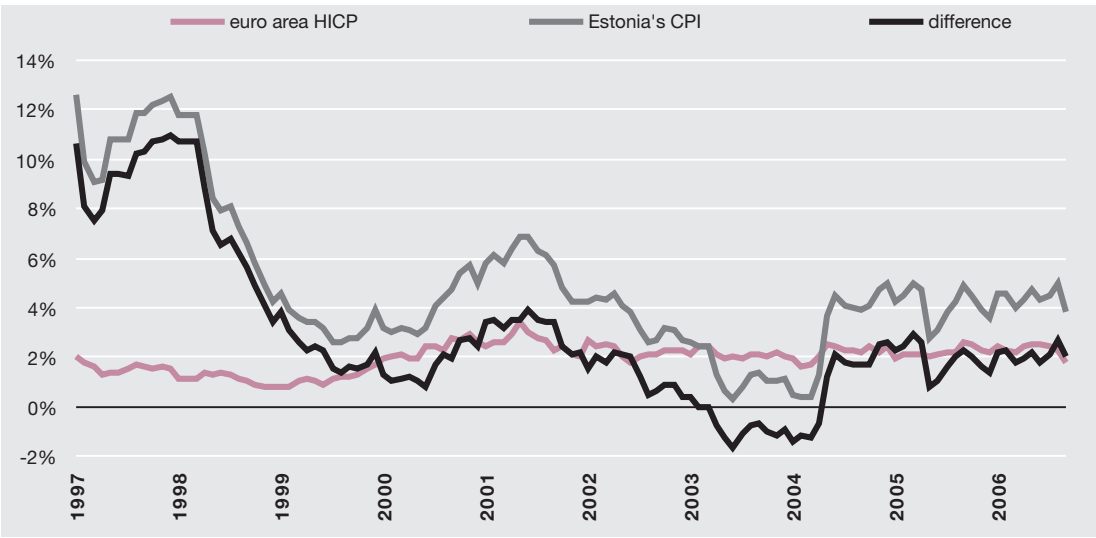

Figure 1.9. Annual consumer price growth in Estonia and the euro area

Sources: Statistical Office of Estonia; Eurostat

Figure 1.10. Confidence indicators of Estonian companies

Source: Estonian Institute of Economic Research

The situation in the **construction market** remains very good. According to the Statistical Office of Estonia, in the second quarter of 2006 construction companies built 34% more in Estonia and in foreign countries than in the second quarter of 2005. The last time the construction volumes increased that fast was at the beginning of 1998. The weight of the added value of the construction and real estate sector in the GDP structure increased from 19.2% to 20.1%, year-on-year.

According to the Estonian Institute of Economic Research, in the second quarter of 2006 contracts guaranteed work for 5.7 months (4.2 months in the second quarter of 2005). According to construction companies, 88% of the production capacity was utilised, which is the highest level of spring periods throughout 12 years of monitoring. Construction companies mentioned lack of qualified labour as the main factor hampering development, whereas the problem seems to be aggravating (last year the factor 67% of the companies identified it as a problem while in June 2006 this figure was as high as 77%).

The confidence of **manufacturing companies** remained strong in September and exceeded the year-ago indicator by 8 points (see Figure 1.11). Estimates concerning the volume of exports orders improved and satisfaction was expressed also regarding domestic orders. As regards factors inhibiting development, lack of qualified labour and inflation have been mentioned ever so often. According to the Estonian Institute of Economic Research, the utilisation rate of production capacity has remained high (80% at the beginning of the third quarter), which indicates increasingly large corporate investment needs.

Industrial sales

During the past year and a half, external demand has been the main driving force for Estonia's economic growth. Compared to the imports of our major trading partners, the growth in the **exports** of Estonian goods and services was very fast, which means that the market position of our companies improved further. However, compared to the second half of 2005, growth slowed down slightly, particularly regarding the exports of traditional goods (see Figure 1.12).

Figure 1.11. Demand for the production of manufacturing companies and confidence indicator

Source: Estonian Institute of Economic Research

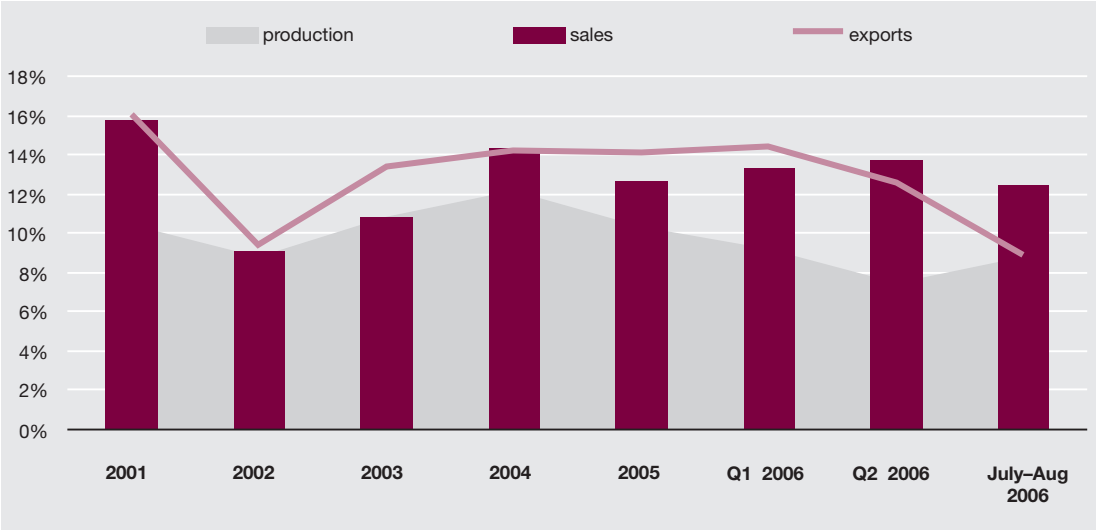

Figure 1.12. Production and sales indices of manufacturing

Source: Statistical Office of Estonia

Manufacturing **sales** grew faster in the second quarter compared to earlier periods as a result of higher sales in the domestic market, which accelerated from 11.9% in the first quarter to 15.2%. The growth was largely facilitated by increased food, timber and clothes manufacturing and sales of construction materials and electrical equipment.

New companies and bankruptcies

The registration of **new companies** has picked up even more speed. During the first nine months of 2006, 30% more enterprises were registered, year-on-year (see Figure 1.13). Unlike in 2005, the number of companies established has increased across nearly all fields of activity, except for manufacturing where the respective figure has slightly decreased. Similarly to earlier years, nearly half of the newly established companies are trading companies. The share of real estate, renting and business services companies has remained close to 25% while the share of construction companies in total companies established during the period has risen to 10%.

In parallel to the increase in the number of new companies, the number of **bankruptcies** has consistently decreased. During the first nine months of 2006, 109 companies went bankrupt, which is 30% less than during the same period the year before. 39% of the bankrupt companies were operating in the trade sector and 18% in manufacturing.

Corporate investment and economic indicators

According to the business statistics compiled by the Statistical Office, the **net sales** growth of companies increased 22% in the second quarter, year-on-year (see Table 1.1). The turnover increased in all fields of activity, except for forestry where it declined 8%. The turnover was the largest in construction, real estate, renting and business services as well as in energy companies. The **added value** increased very fast also in the first half of 2006 (27.1% at current prices). Even though the growth in **costs** sped up, it was outpaced by the turnover. Hence the growth in **total profits** accelerated nearly 40% and **total profitability** 8%.

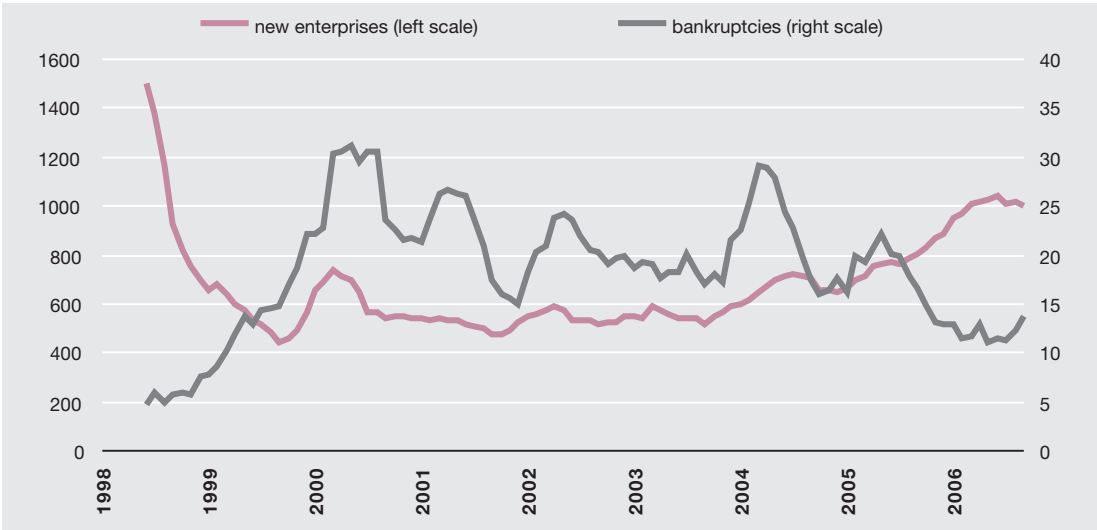

Figure 1.13. New enterprises entered in the commercial register within a month and bankrupt enterprises (6-months moving average)

Source: Estonian Enterprises Register

Table 1.1. Corporate indicators (%)

	All fields of activity			Manufacturing		
	2004	2005	2006 I pa	2004	2005	1 h/y 2006
Growth of net sales	13.7	20.3	22.4	13.8	15.3	17.1
Growth of total costs	14.8	19.4	21.1	15.1	14.3	16.6
Growth of total profit	0.1	32.8	39.5	0.6	27.0	22.4
Total profit to net sales*	6.8	7.6	8.0	8.0	8.8	8.8

Source: Statistical Office of Estonia

According to the statistics on corporate economic indicators, **investment growth** picked up to 44.9% in the second quarter (see Figure 1.14). While investment in energy, gas and water supply as well as in transport, storage and communications grew faster, the growth rate of investment in manufacturing, trade and hotels slowed down.

Investments were mainly channelled to constructing and reconstructing buildings and civil engineering works as well as to machinery and equipment. The biggest investors were real estate, renting and business services companies, whose share in total corporate investment stood at 27%.

Economic situation of households

Confidence and household budget surveys

According to the consumer survey compiled by the Estonian Institute of Economic Research, **household confidence** remained strong during the first nine months of 2006 (see Figure 1.15). Fear of unemployment decreased and also saving prospects were estimated to be higher.

Labour market

Strong economic growth in the first half of 2006 also boosted **employment** growth significantly (see Figure 1.16). The employment rate of persons

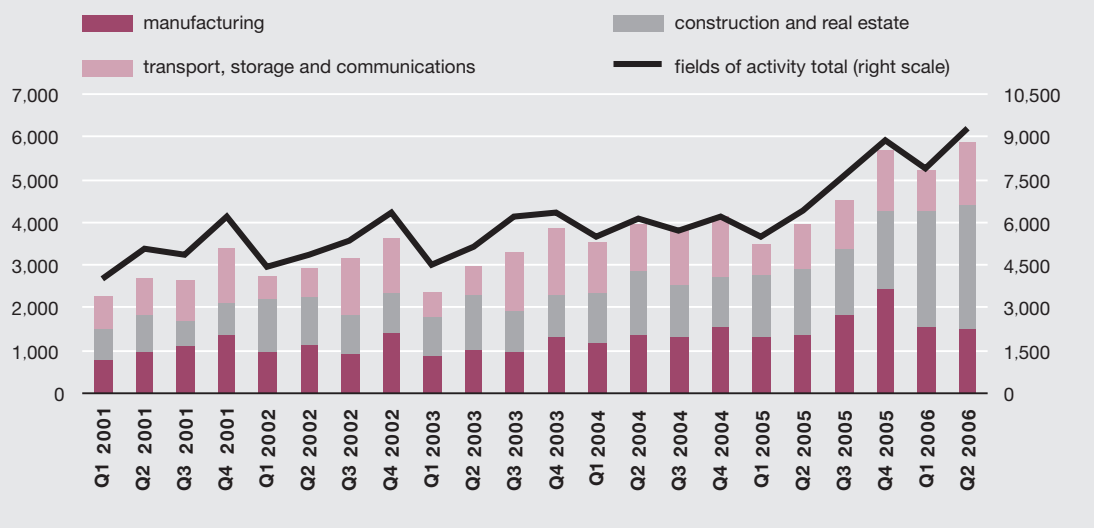

Figure 1.14. Corporate fixed investment (EEK m)

Source: Statistical Office of Estonia

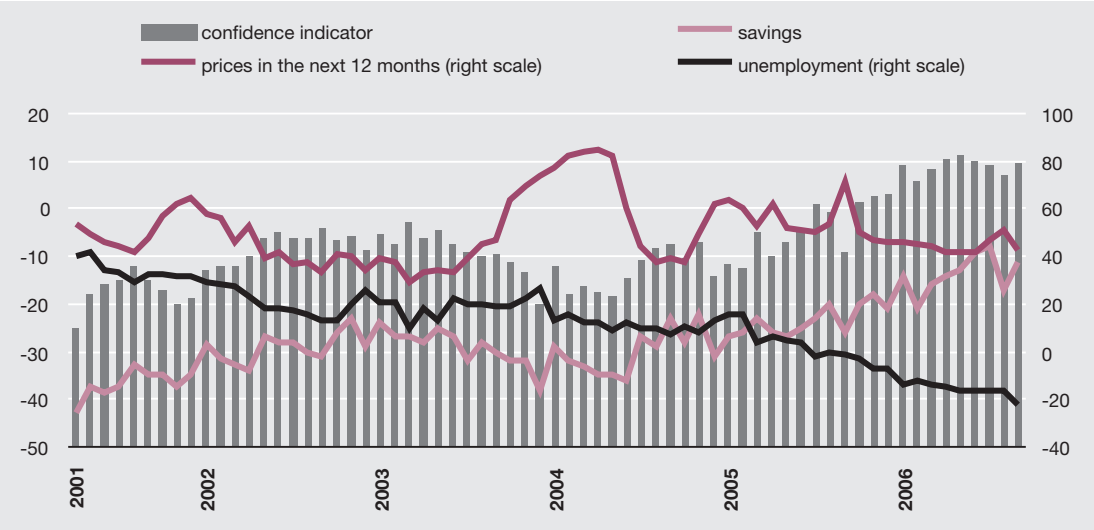

Figure 1.15. Consumer confidence indicators

Source: Estonian Institute of Economic Research

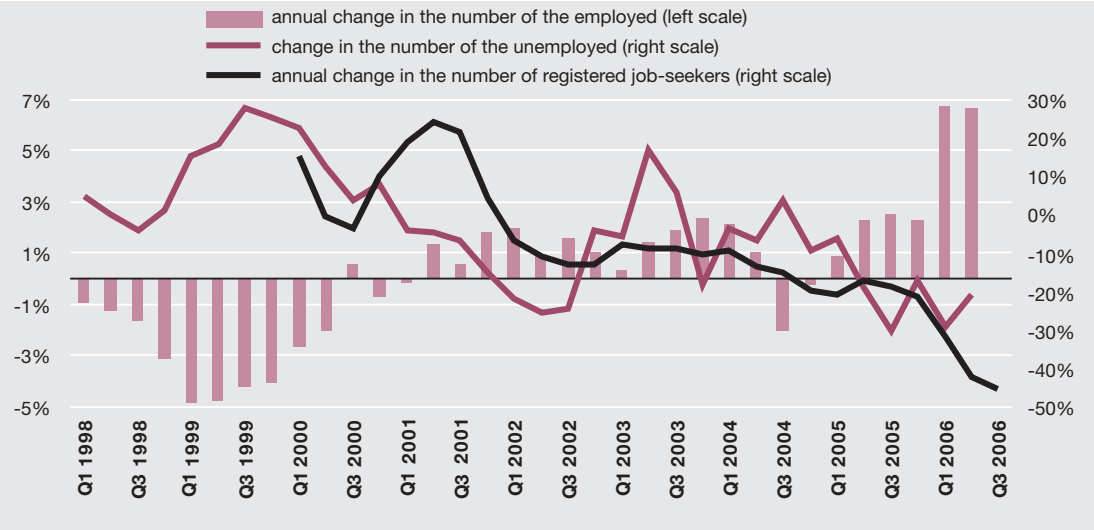

Figure 1.16. Annual change in the number of the employed and the unemployed and registered job-seekers

Source: Statistical Office of Estonia

aged 15 to 74 years increased to 61.2% (57.4% in the first half of 2005). Employment increased above all in the services sector, including 13% in trade, 12% in transport, storage and communications and 28% in construction. This shows that along with increased income, domestic demand has grown, the situation in the real estate sector remains very good and also the number of those working abroad has probably increased fast.

The **unemployment** rate fell to 6.2% in the second quarter. The total number of the unemployed stood at 42,800, i.e. at 20.7% less year-on-year. Also the number of the registered unemployed is consistently declining, standing at 12,690 as at 1 October 2006 which is 40% smaller than the year before.

The **labour participation** rate of people aged 15 to 74 increased from 62% in the first quarter to 66% in the second quarter. It went up mainly in Southern Estonia and the Ida-Viru County, where the respective rate is lower than in Northern Estonia. As for the reasons behind the inactivity, the number of the discouraged and those inactive because of retirement age decreased the most.

Wages

The growth in average **gross monthly wages** accelerated further in the first half of 2006, amounting to 15% in the second quarter (see Figure 1.17). Based on the successful receipt of social tax, wage growth did not presumably slow down in the third quarter either.

Average **net monthly wages** outpaced gross wages by approximately 1.5 percentage points due to the reduction of the income tax rate and the rise in non-taxable income threshold to 2,000 kroons per month.

Similarly to 2005, wage growth in the first half of 2006 was again mainly driven by the private sector. Wages grew fast in agriculture (23%), but the average wages also went up fast in trade (21.5% as a six-month average), construction (18.1%) as well as real estate, renting and business activities (17.4%).

Since inflation did not accelerate as fast as wages, the **real growth in average gross monthly wages** increased over 10% in the first half of 2006. The real growth in labour productivity remained in line with the real wage growth. The share of wage fund in GDP, i.e. the **real unit labour costs**, decreased by the end of the second quarter of 2006 by 0.7 percentage points year-on-year, amounting to 45.6% of GDP together with the social tax.

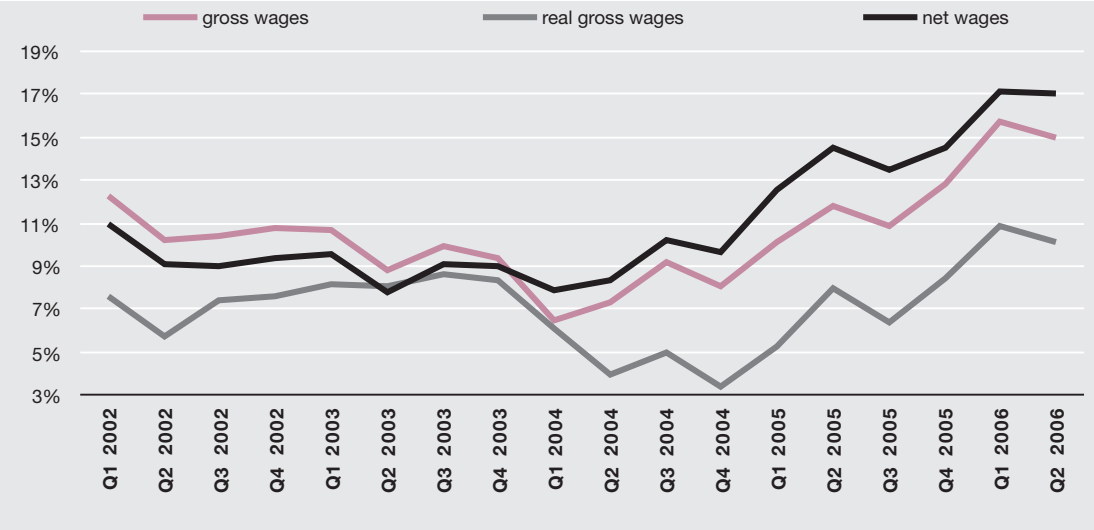

Figure 1.17. Average annual wage growth

Source: Statistical Office of Estonia

II FINANCIAL BEHAVIOUR OF COMPANIES AND HOUSEHOLDS AND THEIR RISKS

COMPANIES[1]

Financial position and savings

Contrary to last year's final quarter, in the first half of 2006 corporate financial liabilities outpaced assets. Thus, the negative volume of **net financial assets** grew by 3.6 billion up to 190.3 billion kroons within a half-year. However, as in the last two quarters corporate financial liabilities grew less than nominal GDP, the negative net financial position of companies in ratio to GDP improved from 108% in late December 2005 to 101% by the end of June 2006 (see Figure 2.1).

In the first half of 2006, companies increased the volume of almost all existing **financial assets** except for stocks and shares, which decreased due to the drop in market value resulting from the stock market correction that occurred in the second quarter of 2006. The growth of companies' cash and deposits has remained rapid (48% in the second quarter of 2006). The volume of cash and deposits held by companies increased by nearly 3 billion kroons in the first half of 2006, i.e. as much as during the same period the year before. The volume of loans granted by companies has also continued to climb, mainly due to financing the operations of non-resident subsidiaries.

The year-on-year growth of **domestic corporate deposits** has decelerated slightly compared to the rapid pace achieved late last year and at the beginning of 2006, but nevertheless exceeds 40% (see Figure 2.2). The share of time deposits, which rose along with the dynamic growth of corporate deposits in the final months of last year, has dropped again. At the end of September, time deposits comprised only 27% of all corporate deposits. The share of overnight deposits has continued to increase, indicating a rising interest of companies in investing liquid assets more productively.

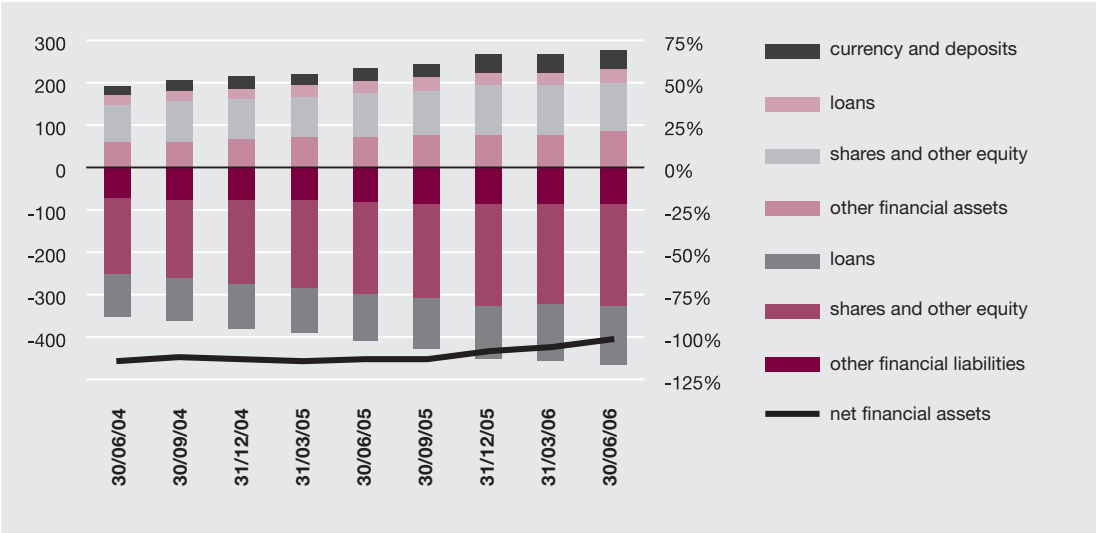

Figure 2.1. Corporate financial assets and liabilities (EEK bn; left scale) and net financial assets (% of GDP; right scale)

[1] In this chapter, "companies" refer to non-financial companies.

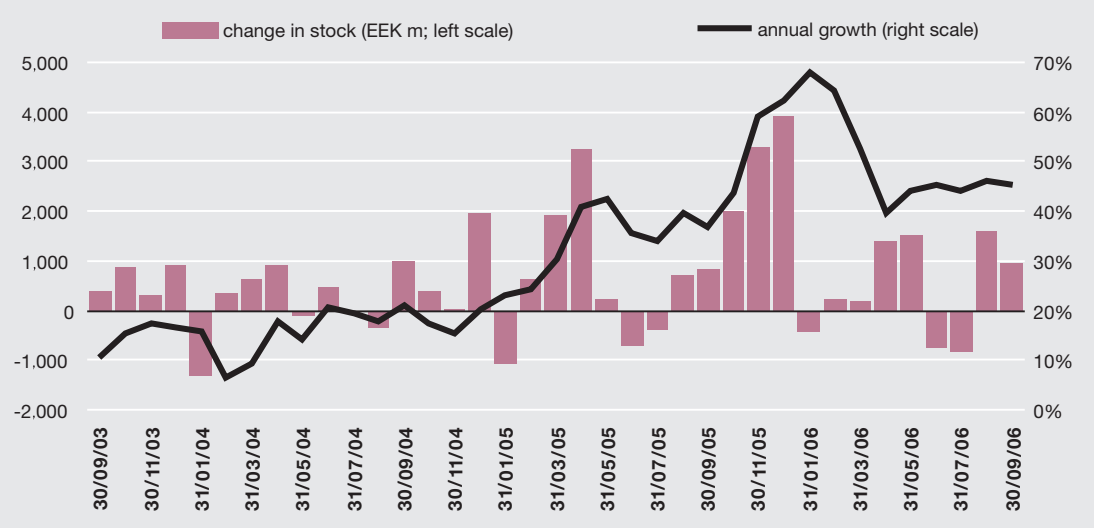

Figure 2.2. Corporate deposit growth

While in the first half of 2006 the total growth of **financial liabilities** was lower compared to last year, the volume of loans granted to companies experienced record growth in the second quarter of 2006. Meanwhile, the share of own funds in the structure of financial liabilities shrunk, owing to a decrease in the market value of shares listed (similar to financial assets).

Due to an increase in loan commitments and a decrease in own funds, the corporate **debt-to-equity ratio** (bond and loan commitments divided by share and equity commitments) has been rising rapidly since the end of last year, climbing 7 percentage points up to 61% within a half-year (see Figure 2.3).[2] At the same time, the **coverage of corporate loan and bond commitments by liquid financial assets** (cash, deposits, securities and granted loans) has decreased due to the modest increase in liquid financial assets. Compared to the end of last year, it shrunk by 2 percentage points to 53% by June 2006.

Based on financial account data, the debt-to-equity ratio of the Estonian non-financial corporate sector is lower than that of 18 other European Union Member States and the coverage of debt liabilities by liquid assets is respectively higher (see Figure 2.4).

Corporate debt

The corporate demand for external funds has remained intense. The **growth rate of corporate debt** decreased slightly at the beginning of 2006, reaching 26% in the second quarter (see Figure 2.5). This was brought about by a decline in the stock of foreign resources, which reached only a tenth of the total volume in the same quarter. Meanwhile, the growth rate of loans granted by banks and leasing companies increased by 2 percentage points up to 48% compared to the end of last year.

[2] The impact of decreasing own funds arising from the declining market value of share prices may have partially caused that, but this was not the only reason for the weakening of the debt-to-equity ratio.

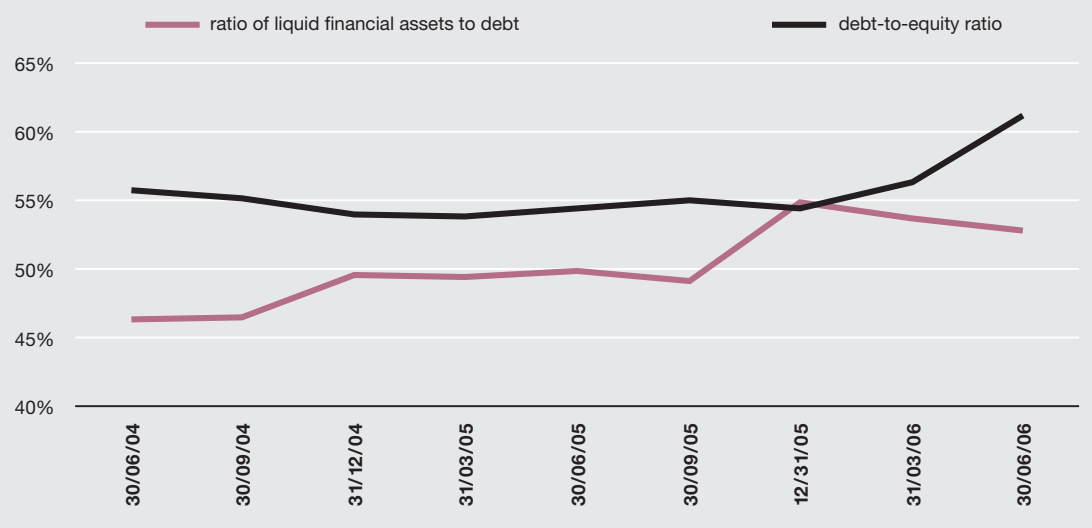

Figure 2.3. Corporate debt-to-equity ratio and ratio of liquid financial assets to debt

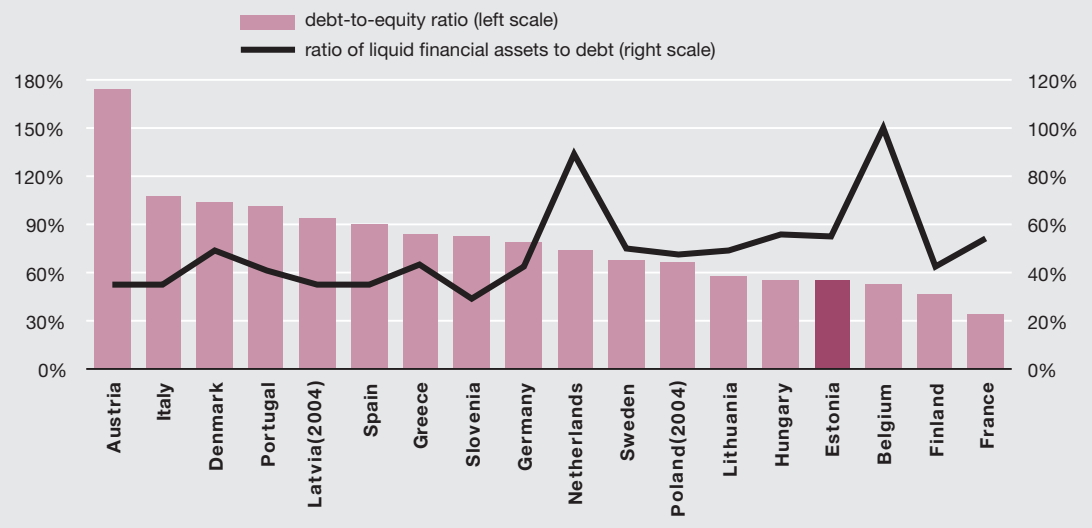

Figure 2.4. Debt-to-equity-ratio and ratio of liquid financial assets to debt of EU companies at the end of 2005

Source: Eurostat

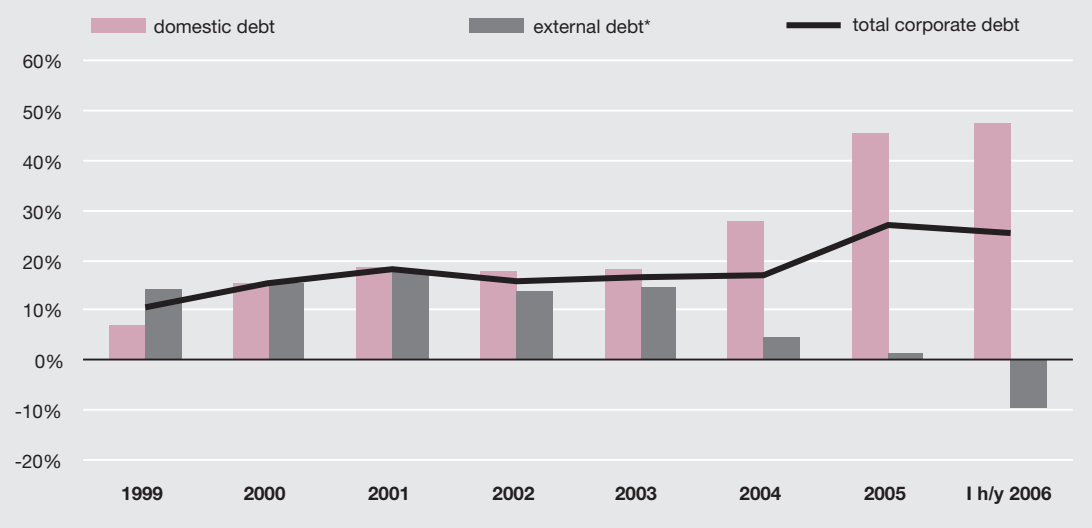

Figure 2.5. Growth rate of corporate debt (%)

* external debt calculations include intra-group claims

The stock of debt capital attracted from abroad started to shrink since the beginning of 2006. This reflects the continuation of structural changes, as the share of foreign borrowing is decreasing. In addition to a drop in the interest margins of domestic loans and the greater availability of loans, external borrowing is also increasingly affected by companies' operations abroad and their financing, because the stock of loans granted by companies to intra-group subsidiaries has grown too (see Figure 2.6).

The continuing rapid **growth of corporate debt** has increased the corporate debt by 3 percentage points to 66% of GDP, i.e. to a new record level within the year.[3] According to the financial account data of 2005, Estonian companies' debt liabilities in ratio to GDP slightly exceed the average of 18 other European Union Member States, ranking between Finland and Sweden (68% and 105% of GDP, respectively; see Figure 2.7).

Regarding developments across economic sectors, debt capital was directed toward real estate and construction companies even more than last year. These sectors received 64% of the total external funds attracted by non-financial companies, whereas contrary to last year the stock of debt capital received from abroad has also been elevated (see Figure 2.8). To give an example of a positive tendency, one can mention that compared to the year before manufacturing and mining enterprises also included more resources in the first half of 2006.

As the year-on-year growth of resources gained from domestic banks accelerated to 51% in the third quarter of 2006, the growth of total corporate debt presumably sped up even further in the third quarter.

Real estate financing by domestic banks

Similarly to corporate debt capital, the share of loans taken from domestic banks with the aim of purchasing real estate increased. At the end of September 2006, **debt capital used to acquire real estate** amounted to 42.7 billion kroons, i.e. 58% of funds acquired by companies from domestic banks, which is 4 percentage points more than a year ago. **Real estate companies** were in turn

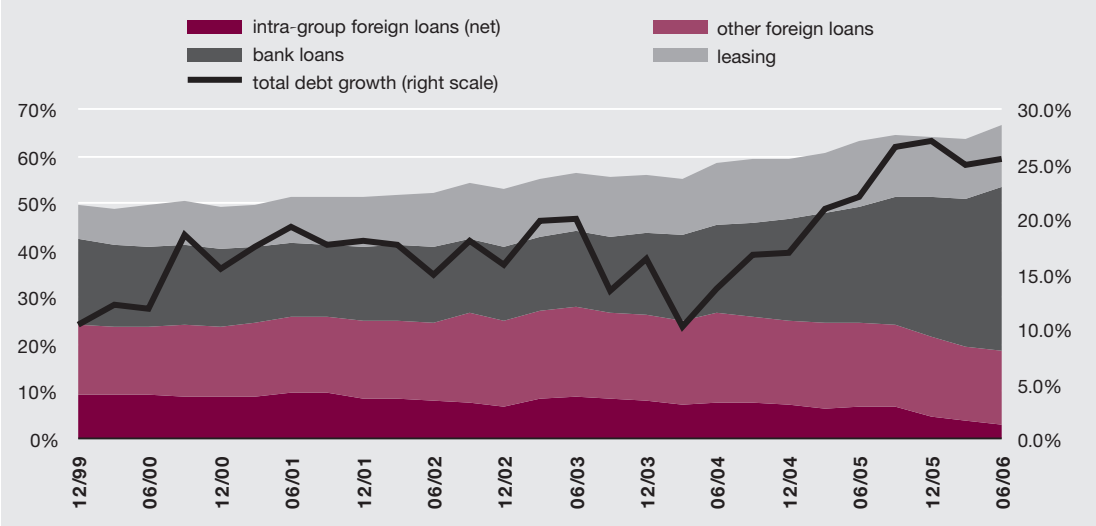

Figure 2.6. Corporate debt (% of GDP)

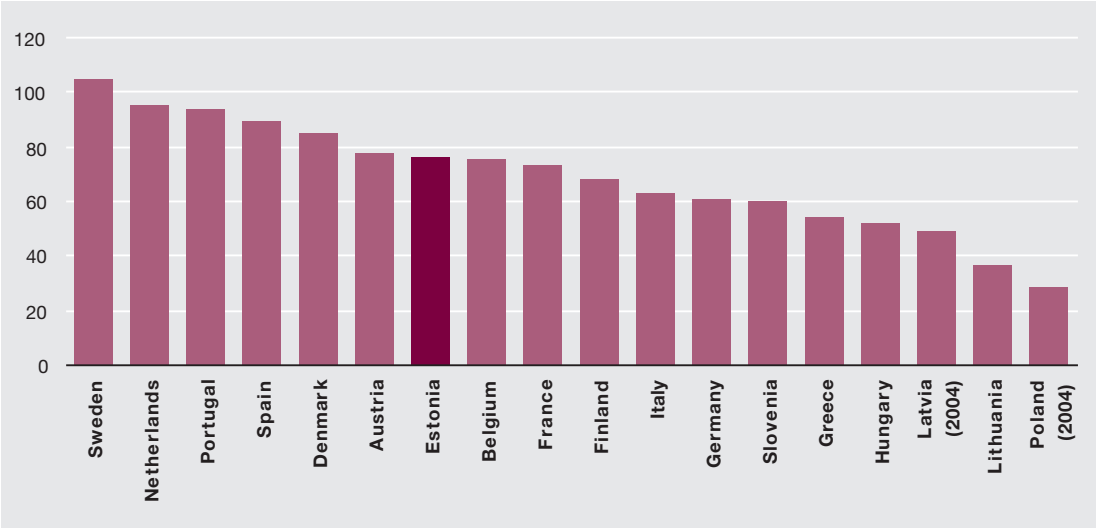

Figure 2.7. Debt-to-GDP ratio of EU companies at the end of 2005 (%)

Source: Eurostat

Figure 2.8. Corporate net borrowing of companies in the first half of 2006 (EEK bn)

responsible for 56% of the total loans taken by enterprises for financing real estate.

In **other sectors**, borrowing to acquire real estate has increased. The volume of such loans has grown by 63% within the year up to 18.6 billion kroons. Hence, by the end of September 2006, their share in the total volume of loans taken by other sectors rose by 3 percentage points to 41%. Construction and trade enterprises have been particularly active in borrowing to finance real estate, having respectively tripled and doubled the volume of funds intended for that purpose (see Figure 2.9).

The improvement of corporate loan terms and conditions has ground to a halt since the final quarter of last year due to the rise of the Euribor. By September 2006, the **average interest rates on long-term loans** rose to 5.0%, i.e. to the level previously reached in mid-2004 (see Figure 2.10). Although at the end of last year the average interest margin of corporate loans also rose slightly from its lowest level, no clear turn in the trend of interest margin development may be perceived yet.

HOUSEHOLDS

Financial position and savings

This year, many signs of a remarkable improvement in the **economic situation of Estonian households** have appeared. In macro data this is mainly reflected by the rapid growth of net incomes. Furthermore, this improving position is confirmed by decreased unemployment and improving employment (see Chapter 1, "Economic situation of households"). Low interest rates and the growing housing wealth have favoured private consumption, while the increase in disposable income has reinforced the improvement of savings capabilities.

The rising optimism of households is also confirmed by assessments on the micro level. The F-monitor survey conducted by TNS Emor in August-September 2006 indicated that 35% of households considered their economic situation better than a year ago and 34% of households also expected the same tendency to continue next year (see Figure 2.11). Among those who have obtained housing loans a slight majority (55%) believed that their economic situation has improved and these

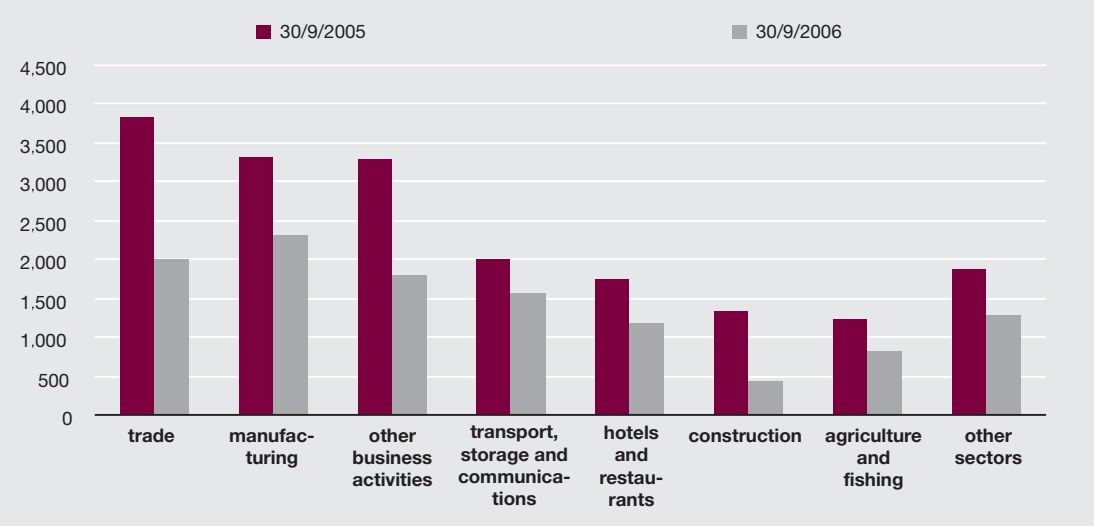

Figure 2.9. Bank loans taken by non-real estate companies for acquiring real estate (EEK m)

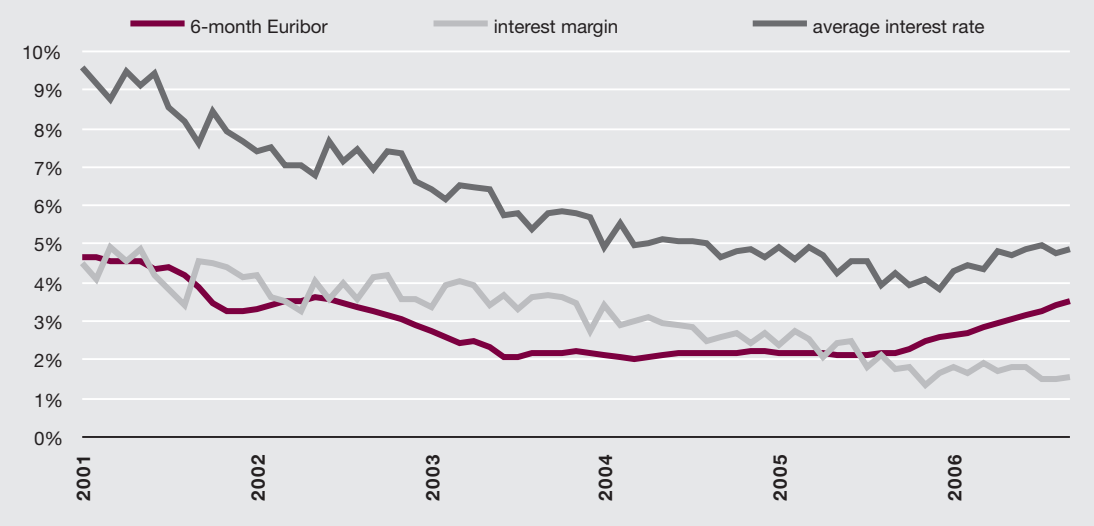

Figure 2.10 Average interest rate, key interest rate and average interest margin on long-term corporate loans (%)

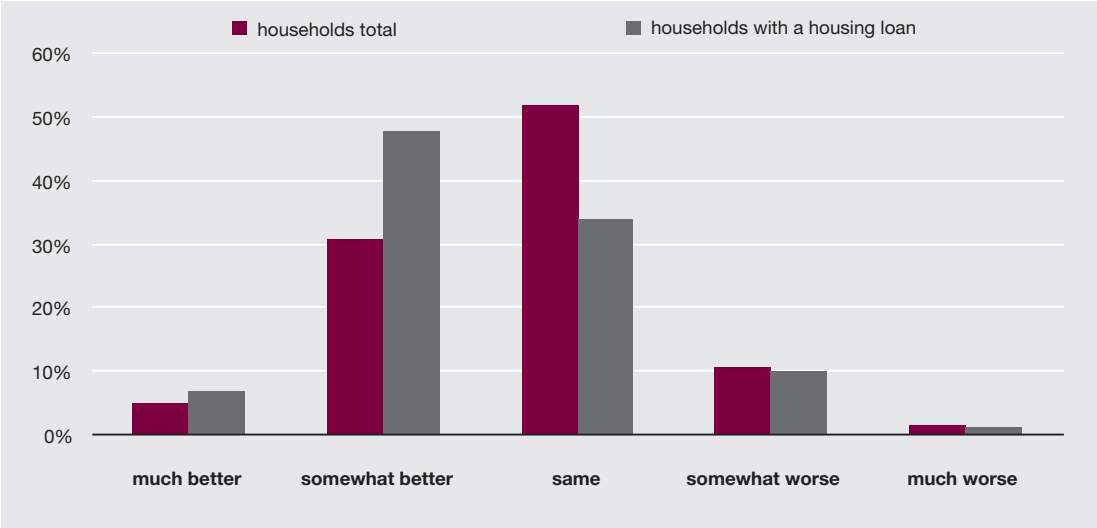

Figure 2.11. Household's economic situation compared to previous year (% of households)

Source: TNS EMOR, F-monitor, August-September 2006

families were also more optimistic about the forthcoming 12 months.

The good economic situation of households has improved savings as well as borrowing abilities. Nevertheless, borrowing outpaced savings, which is why the **net financial position** of households deteriorated by over 5 percentage points down to 13.5% of GDP within the past 12 months (see Figure 2.12). In light of the continuing loan growth it may be presumed that the net financial position also kept weakening in the third quarter of 2006: in the third quarter, households' stock of loans and leasing increased by 8.4 billion kroons, while savings grew (partially due to seasonal effects) by only 1.8 billion kroons.

The growth of households' financial assets has accelerated during recent years, supported mainly by the faster deposit growth. The increase in deposits that exceeded 30% in the final quarter of 2005 remained rapid even after the withdrawal of the base effects in April-May (see Figure 2.13). In the structure of **deposits**, demand deposits have prevailed during the past two years (approximately 60%), but since the middle of 2006 the growth of time deposits has also accelerated in line with the increasing deposit interest rates. As a more profitable alternative to demand deposits, households have started to opt for short-term depositing: at the end of September, the stock of overnight deposits comprised 1.6 billion kroons (year-on-year growth of 91%) and the stock of deposits with maturities up to a month amounted to 2.4 billion kroons (year-on-year growth of 93%).

Besides time and demand deposits, this year has also witnessed the rising popularity of deposits with return rates connected to the yield of the stock market. Having increased by more than twice within the year with a stock of 1.6 billion kroons, these "investment deposits" still comprised only a minor share (4%) of the total stock of household deposits at the end of September 2006 (see Figure 2.14).

Regarding the development of other financial assets, steady growth in **pension savings** is worth mentioning. In late June 2006, the pension assets of households amounted to nearly 6 billion kroons, which is about 5% of the total volume of financial

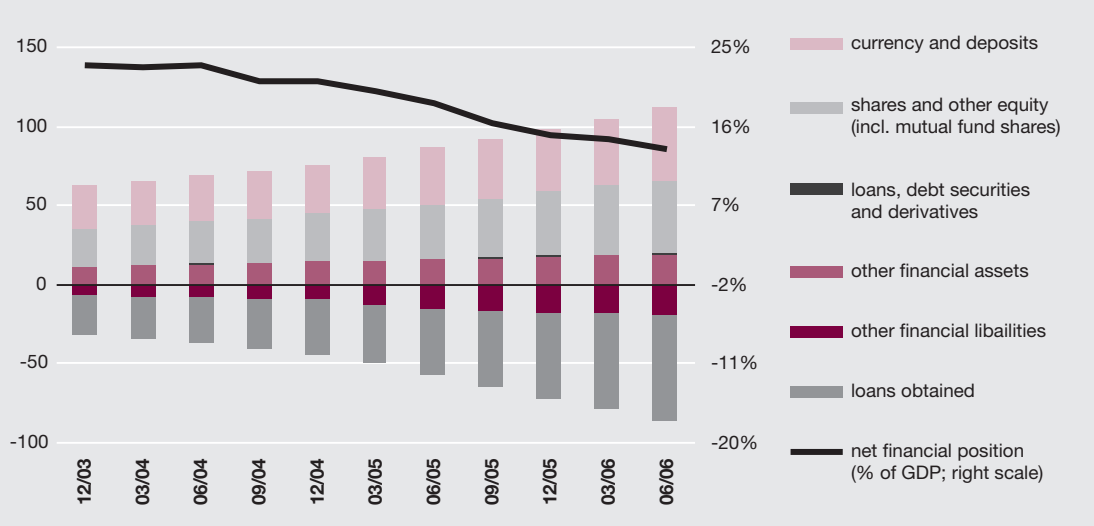

Figure 2.12. Household financial assets and liabilities (EEK bn and % of GDP)

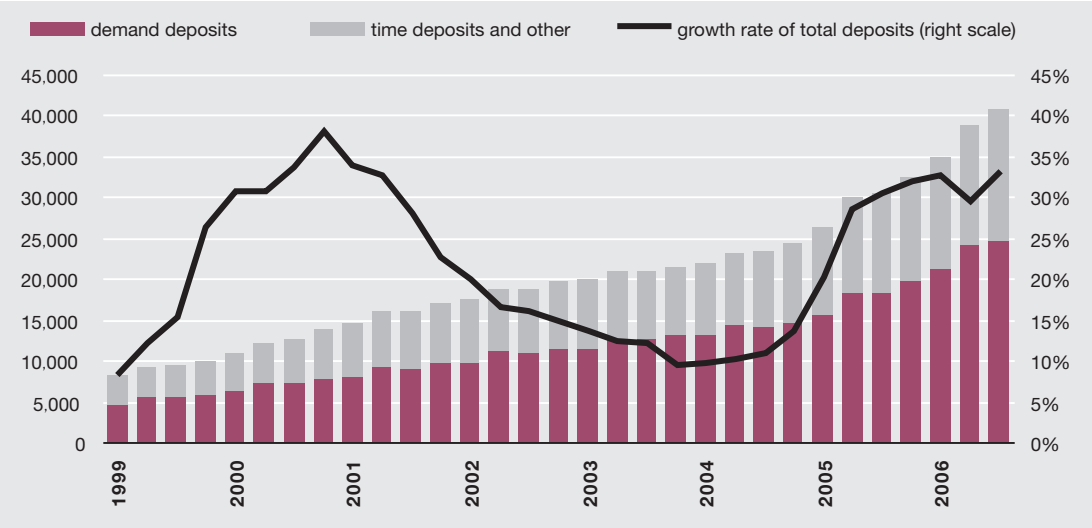

Figure 2.13. Household deposits in domestic banks (EEK m) and deposit growth

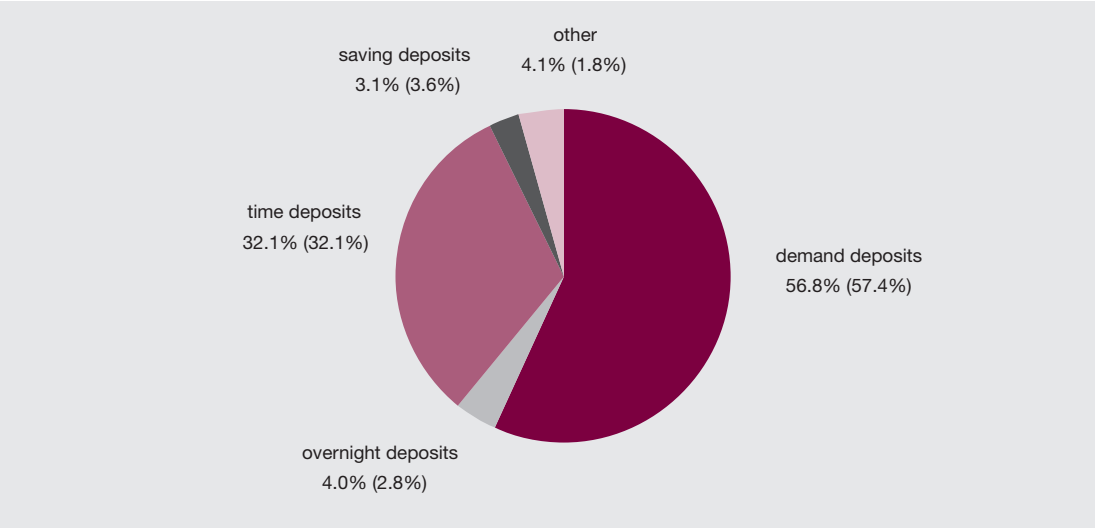

Figure 2.14. Structure of household deposits as at 30 September 2006 (in brackets as at 30 September 2005)

assets (see Chapter 5, "Pension funds and insurance"). Meanwhile, households owned approximately 5 billion kroons worth of **shares listed on the stock exchange and investment fund units**. According to the F-monitor survey conducted by TNS Emor in the autumn of 2006, 5.6% of families owned listed shares or investment fund units and within the year their number has grown by 1.8% (by over 10,000 households).

Real estate investments as savings

Together with the rapid and steady growth of real estate prices, year-by-year real estate is increasingly perceived as one of the main savings opportunities besides financial assets. According to the abovementioned F-monitor survey, 14% of households would prefer the acquisition of real estate to save as their first or second choice (in 2005, their share amounted to 10% and in 2004 7%). The high share of property owners also refers to the preference for real estate. 86% of those households interviewed owned at least one immovable property. 23.5% of all households owned more than 2 immovables (incl. a second residential property, land, cottage, etc.). One tenth of those families have rented out their otherwise idle property. According to the survey, the number of households living in rented spaces was 12%, although over 30% of them also own various real estate objects; usually these are a cottage, land or a future home.

Although the value of household assets has shot up due to the increase in real estate prices, the real estate market's high price level and great loan burden hinder making new investments. According to the survey, the impact of the high activity in the real estate market during the past 12 months is also reflected in the savings behaviour of households. It may be presumed that as most households have already bought their homes within the past 12 months regardless of high prices, the number of families saving to purchase real estate or to fund construction (incl. loan down payments) has decreased from 12% to 8%. As for families living in rentals, their number is significantly greater: 28% are saving up for their own home[4].

[4] Renting an apartment is relatively more common among Tallinn's young and small households, in the higher income group (net monthly income of 5,000–7,000 kroons per household member) and among skilled and blue-collar workers.

Household debt and loan-servicing capability

Level and growth of debt

Households' **loan and leasing growth** reached a record level (62.4%) in March 2006 and remained over 60% until late September (see Figure 2.15). Rapid loan growth was facilitated by the strong demand for housing loans. The dynamic growth of other loans (incl. consumer credit) is characterised by the fact that their share in the debt portfolio of households has virtually remained unchanged at 22% during the last year.

The growth of household indebtedness accelerated even further during the first nine months of 2006. Compared to last year's respective indicator, indebtedness rose by 10 percentage points in ratio to GDP and by 19 percentage points in ratio to disposable income, reaching 38% of GDP[5] and 70% of disposable income by the end of September (see Figure 2.16). The indebtedness of Estonian households is still very different compared to most developed European countries.[6] At the same time, the remarkable growth rate of financial deepening in Estonia indicates a steady decrease in this difference (see Figure 2.17).

Housing loans

At the end of September 2006, the **stock of housing loans** reached 58.3 billion kroons, having grown by 22.2 billion kroons, i.e. 61.3% within a year. By the end of September, banks had concluded over 115,000 housing loan contracts (incl. to purchase housing, fund construction and for repairs). Compared to the end of September 2005, the number of **housing loan contracts** has increased by over 24,200. As there may be more than

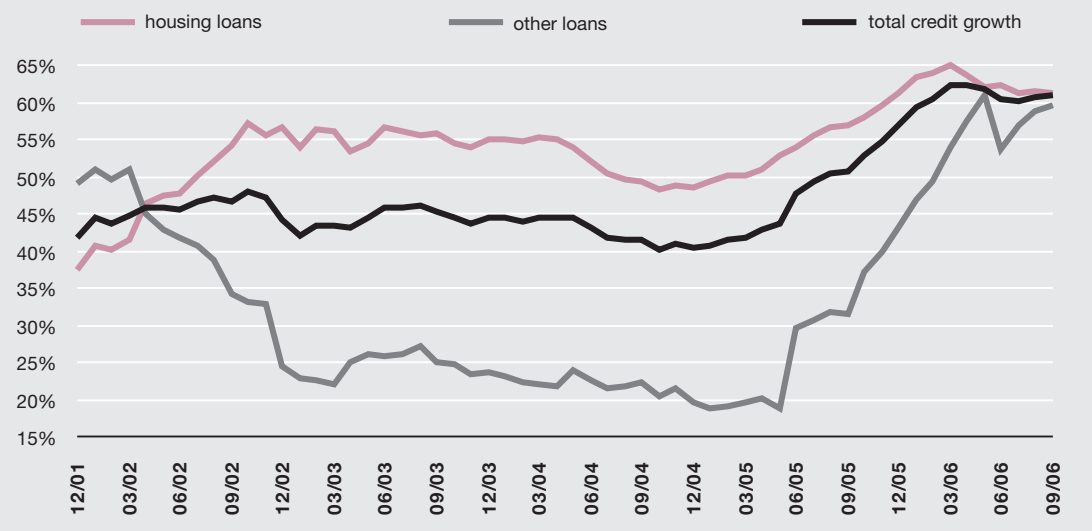

Figure 2.15. Annual growth of domestic credit to household sector

[5] The renewed methods of revising the GDP calculation in the Statistical Office decreased the indebtedness indicators in ratio to GDP. For example, the ratio of household debt to GDP shrunk from 32.1% in 2005 to 30.6%.

[6] As at the end of 2005, the ratio of debt to disposable income reached an estimated 234% in Denmark, 179% in Norway, 133% in Sweden and 89% in Finland. The ratio of debt of Estonian households to disposable income in September 2006 was equal to the Finnish indicator at the end of 2002.

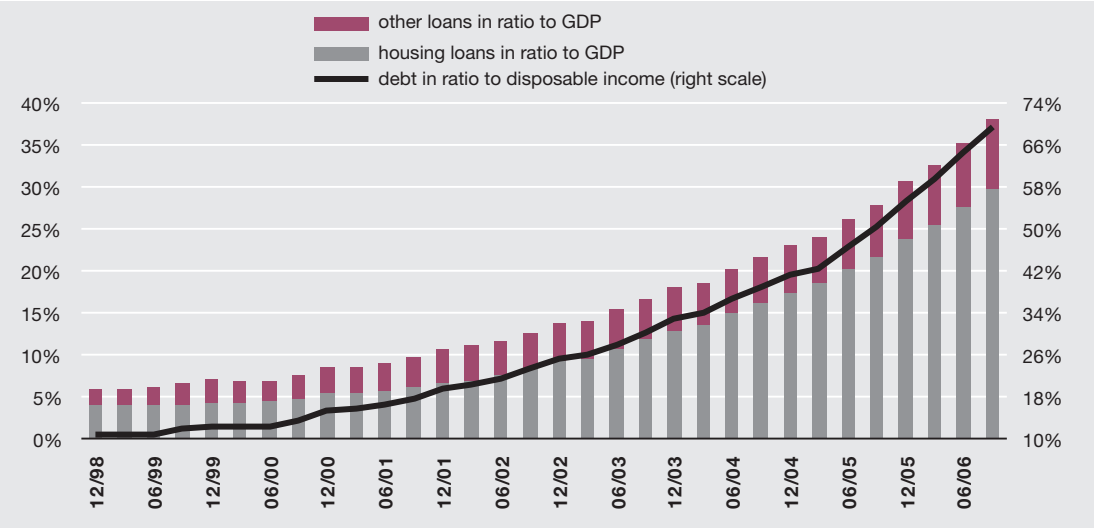

Figure 2.16. Household indebtedness

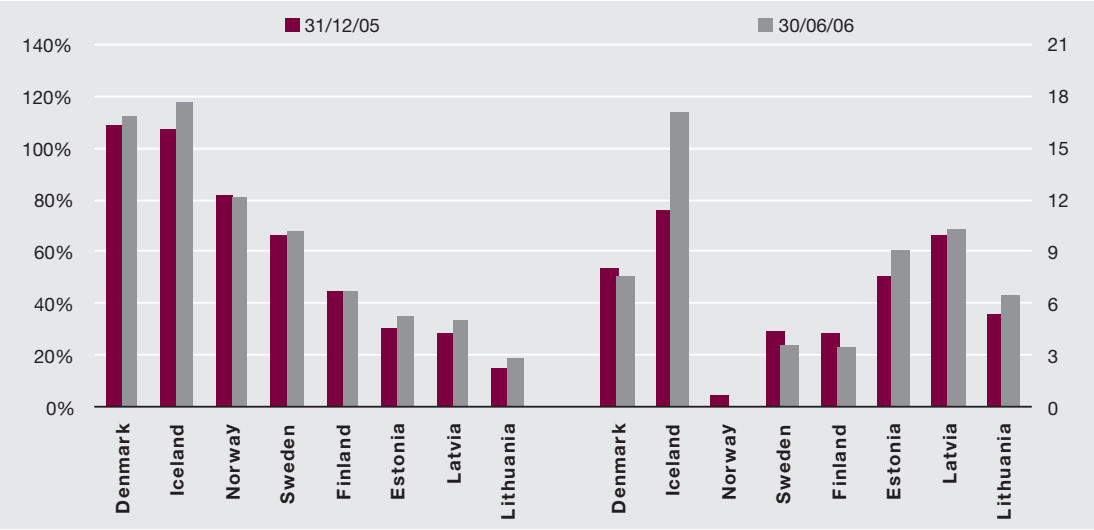

Figure 2.17. Household indebtedness in ratio to GDP (left scale) and annual growth rate (pp; right scale) in Nordic and Baltic countries

Sources: national central banks

one such contract per household, this indicator does not enable one to determine the number of households with housing loan commitments precisely enough. Based on the F-monitor survey conducted among households in August-September 2006 by TNS Emor, housing loans had been obtained by 19.1% of households. 10% of all families had borrowed to purchase housing or to fund construction. Although according to bank statistics, the growth rate of new loan customers slowed slightly, the housing loan market's activity recovered quickly and in August and September banks already concluded 16% more loan contracts than the year before. Considering the high price of real estate there are more new housing loan customers than expected.

The questions of whether the share of households that have obtained housing loans (over 19%) is great or small and what is the growth potential of that indicator are not easy to answer. Due to different housing policies, income levels and differentiation, financial market structures, and cultural and economic policy factors among countries, international comparison offers no adequate basis. As for growth potential, evaluating the share of loan customers by income brackets may be more informative. The F-monitor survey conducted by TNS Emor in autumn 2006 also emphasised that from among residents with higher incomes, less than a third of households have obtained a housing loan. Excluding loans for repairs from housing loans, less than 20% of families with higher incomes (net monthly income of over 5,000 kroons per household member) have borrowed to purchase or construct housing (see Figure 2.18).

In the longer perspective, all income groups with suitable incomes for borrowing still have enough room for housing loan growth. However, the attitudes of households concerning borrowing next year have become much more careful. According to the survey of TNS Emor, during the next 12 months 14,000 households (i.e. 2.4% of all families) wish to obtain a loan to purchase or construct housing. 24% of the households who plan to borrow for these purposes already have such a loan commitment. Thus, the number of loan customers will presumably increase less than in the previous year.

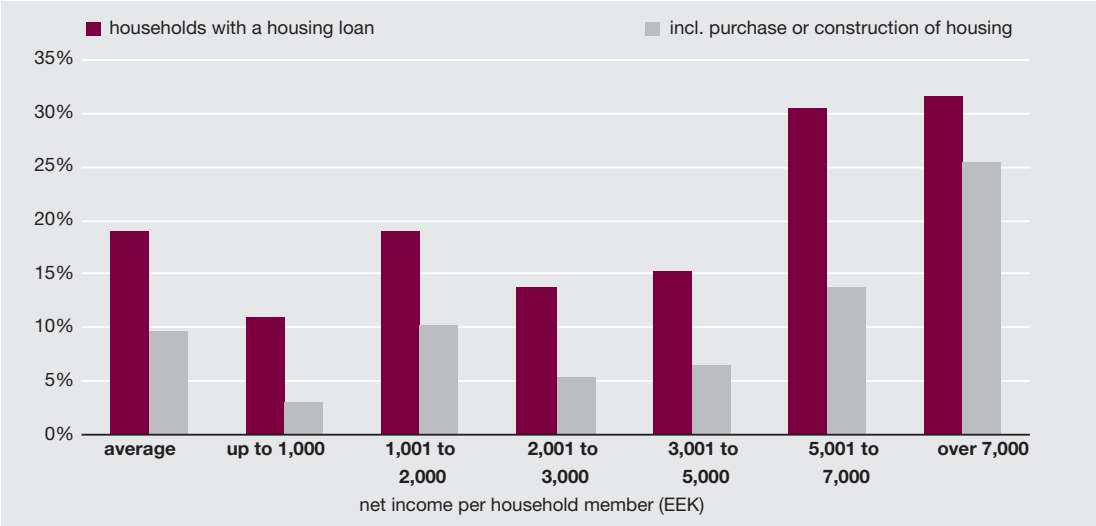

Figure 2.18. Households with a housing loan by income brackets

Source: TNS EMOR, F-monitor, August-September 2006

In addition to the growing number of borrowing households, the loan portfolio's growth pace is also substantially influenced by the development of **real estate prices**. Compared to last year, at the end of September the average value of housing loans was over 31% larger. Had the price increase been more modest and the average loan value grown by 20%, for instance, the growth of housing loans would have decreased to the level of 52% with other conditions remaining the same. Had the average loan value grown by 10%, the growth rate of housing loans would have even shrunk to 39%. Along with this telling though robust estimation, however, one has to consider the factors that caused the appreciation of real estate prices and the rising number of borrowers (incl. the growth of incomes and changes in loan terms and conditions).

The positive effect of loan terms and conditions on the growth of housing loans is about to become exhausted. With the rise of the Euribor, **housing loan interest rates** have also started to climb. The average interest rate (4.4%) on housing loans granted in September 2006 was 1.2 percentage points higher than the year before (see Figure 2.19).

Meanwhile, as the Euribor also rose nearly 1.4 percentage points higher this year than last year refers to the fact that banks have reduced their interest margins due to tight competition. This change may certainly not be regarded as remarkable or sudden. The average interest margin of housing loans has remained quite steadily in the range of 88–95 basis points, approaching the average of the euro area. The low interest margin level expresses the continuing confidence of international markets in the Estonian economy, which, in case of any adverse developments accompanied by loss of market confidence, may entail an abrupt turn in the interest margin.

Besides the development of interest rates, a second important factor that influences borrowing abilities (but also enables the brisk growth of real estate prices) is the lengthened loan maturities. The gradual extension of the **average maturity of housing loans** also continued in 2006. In September, 59% of new housing loans were granted with maturities of over 25 years (40% of granted loans); a year ago their share amounted to 41% (27% of granted loans; see Figure 2.20).

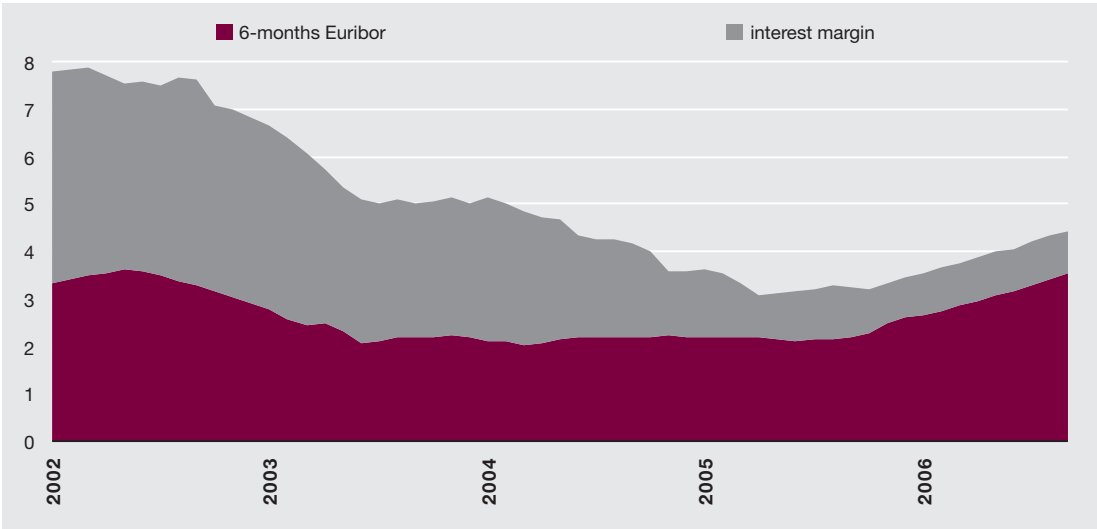

Figure 2.19. Dynamics of housing loan interest rates

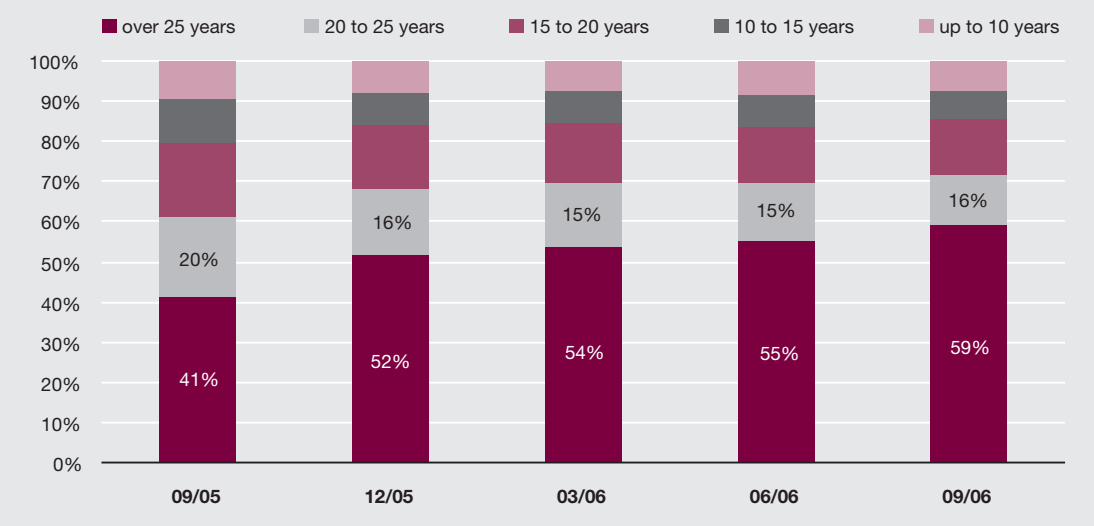

Figure 2.20. Maturity structure of new housing loans

As for the state's role in the housing market, thanks to favourable loan terms and conditions and greater access to loans, the state's intervention in the Estonian housing loan market's development is no longer necessary. The share of loans guaranteed by **KredEx** has dropped significantly. While in 2001, loans guaranteed by KredEx comprised 29% of all granted loans, in 2003 they amounted to 18.5% and in 2006 only 2.8%. During the first eight months of 2006, 797 young families and specialists had purchased homes with loans guaranteed by KredEx (loans in the sum of 582 million kroons).[7]

The **income tax refund** on the housing loan interests paid in 2005 comprised a total of 202 million kroons, growing by a modest 3% compared to the previous year (see Figure 2.21). In light of the increasing activity in the housing loan market, this development was mainly caused by a drop in the income tax rate last year and the reduction of the income tax refund limit to 50,000 kroons per declaration. Furthermore, as loan interest rates were also at a record low in 2005, the average interest refund decreased from 3,200 kroons in 2004 to 2,700 in 2005.

Consumer credit

Rapid economic expansion has also favoured the growth of **loans not directly related to the financing of housing**, as expected. The annual growth rate of the respective loan and leasing stock accelerated to 60% at the end of September 2006. While the year-on-year rise in car leasing reached 35% and that of study loans stood at 5%, the year-on-year growth of the rest of the consumption credit portfolio[8] amounted to 105%.

Consumption as well as obtaining consumer credit has been somewhat influenced by the surge in real estate prices. As their increase var-

[7] Source: KredEx.

[8] According to the common definition, consumer credit includes loans that are granted to households to purchase commodities and services, as well as credit card loans. Besides, car leasing and study loans may also be classified as consumer credit.

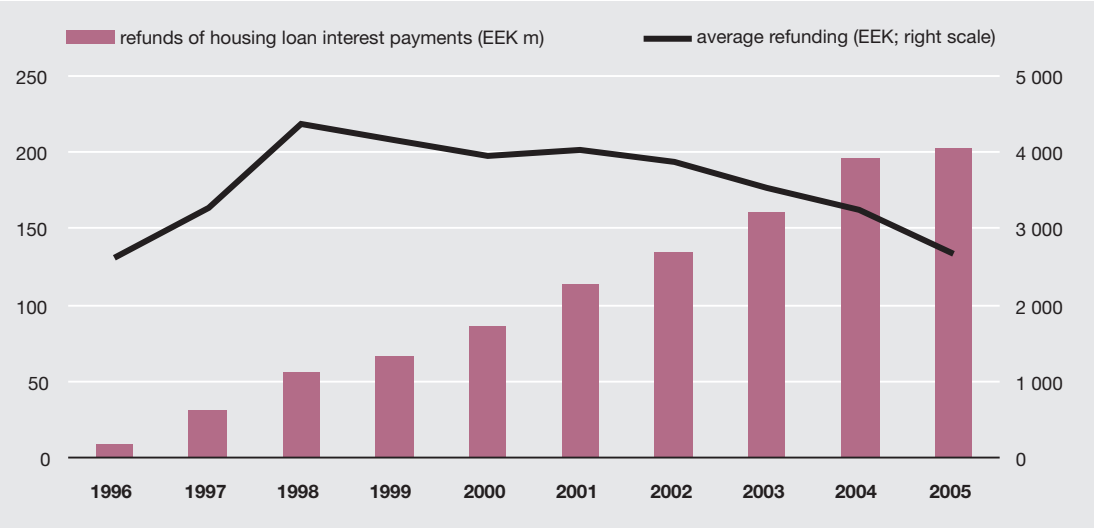

Figure 2.21. Refunds of income tax calculated on housing loan or finance lease interest payments

Source: Estonian Tax and Customs Board

iously affects owners, tenants and households with intentions of purchasing a home, the aggregate impact is not very substantial. Compared to several other developed countries, the correlation between the real estate wealth of Estonian households and their consumption is much weaker. One of the main causes for this may be the relatively lesser importance of the speculative real estate market (see background information "Does the increase in real estate prices affect private consumption?").

The **volume of consumer credit** reached 7.2 billion kroons by the end of September 2006, comprising nearly 4% of GDP (see Figure 2.22). With car leasing and study loans, however, the stock of consumer credit amounted to 13.7 billion kroons, which is rather high in ratio to nominal GDP (7% of GDP)[9]. According to the F-monitor survey carried out by TNS Emor in August-September 2006, 28% of households have obtained consumer credit (see Figure 2.23). Although leasing statistics do not indicate remarkable growth, according to the survey the number of families that opted to borrow or lease in order to purchase a vehicle has climbed substantially (10% of households; 7% a year ago). It is interesting to note that leasing is preferred in nearly half of the cases and loans were obtained by 24% (incl. 10% guaranteed by real estate). Purchasing other durable goods with a loan or through leasing has decreased compared to last year.

Interest rates on different consumer credit products have remained relatively stable during the year and have followed the rise in the euro area money market interest rate only to some extent (see Figure 2.24). The risk margin has been low-

[9] E.g. the average consumer credit level of the euro area rose to 6.9% of GDP by July 2006 (source: European Central Bank, "Financial Stability Review", December 2006). Non-euro area EU Member States, such as Sweden, the United Kingdom and Malta, stand out with over 10% (source: European Central Bank, "EU Banking Structures", October 2005). However, the definitions of consumer credit may vary greatly across countries.

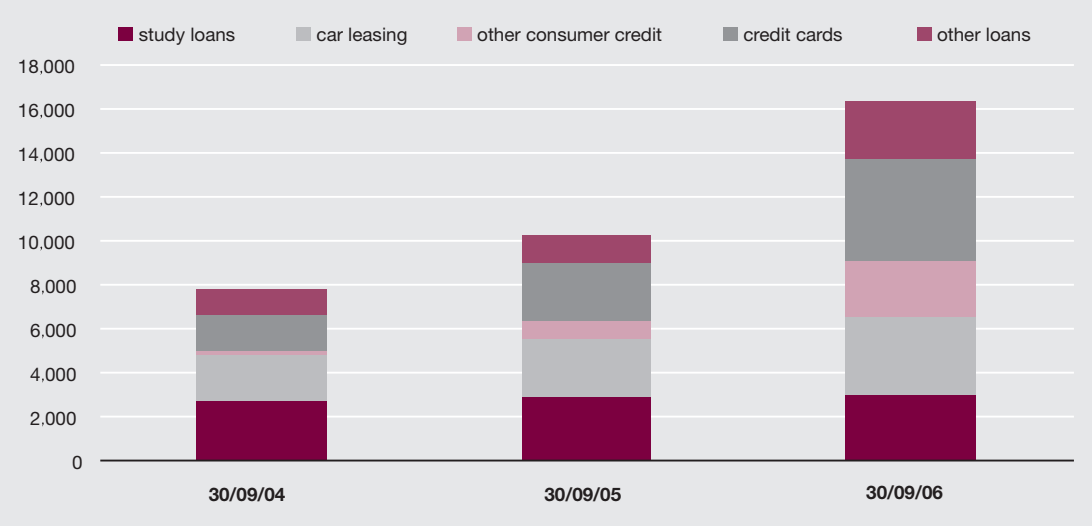

Figure 2.22. Stock (EEK m) and structure of non-housing household loans/leasing

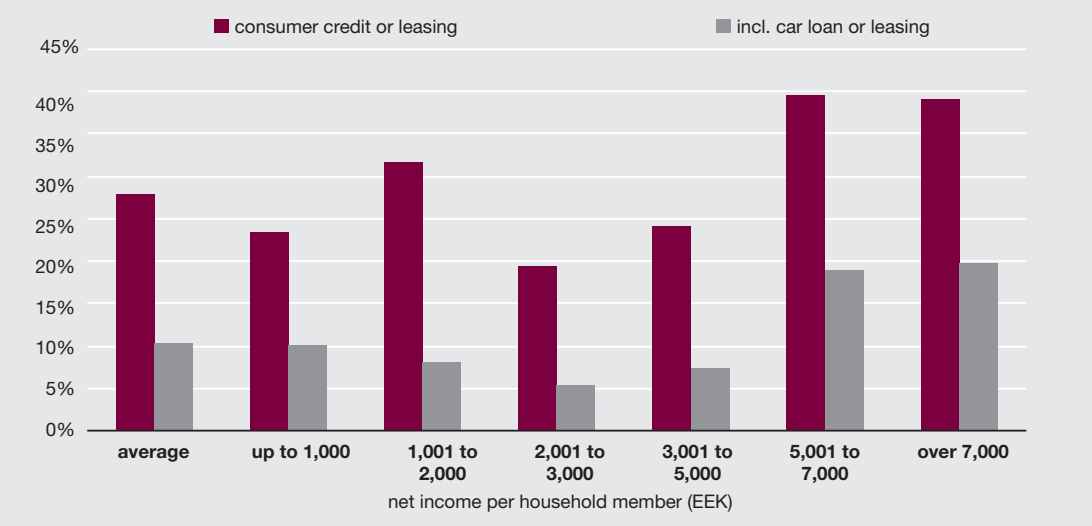

Figure 2.23. Households with consumer loan by income brackets

Source: TNS EMOR, F-monitor, August-September 2006

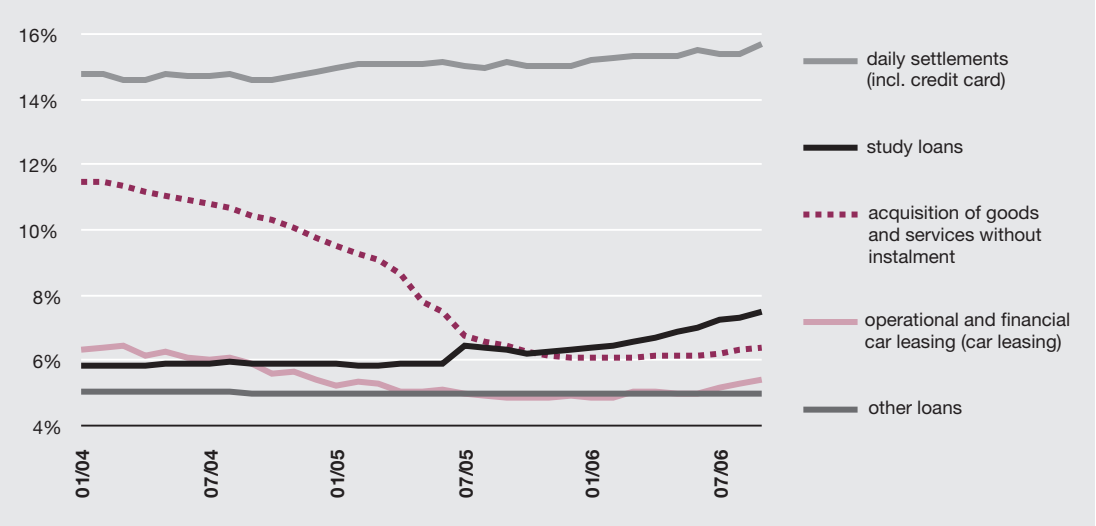

Figure 2.24. Consumer loan interest rates

* without the data of BIG

ered mostly by the increasingly frequent use of mortgages as loan guarantees (see Chapter 3, "Quality of assets"), but tightening competition among banks has probably played a part in the interest rate dynamics as well.

DOES THE INCREASE IN REAL ESTATE PRICES AFFECT PRIVATE CONSUMPTION?[10]

In recent years, real estate prices in Estonia as well as advanced European economies and the US have increased quite rapidly. Changes in real estate prices or values[11] may influence private consumption in various ways. For instance, based on Ludwig and Slok (2002)[12], the potential impact channels may be divided as follows.

1. **Realized wealth effect** – the growth of real estate prices increases net wealth and consumers thus may either sell their existing real estate or obtain a loan for consumption and/or investments guaranteed by real estate.
2. **Unrealized wealth effect** – the growth of real estate prices might not influence consumers towards selling their real estate or increasing their loan burden but they may

[10] This approach is based on the research paper written in spring 2006, "Does the increase in housing value influence private consumption in Estonia" (A. Paabut and R. Kattai), Working Papers of Eesti Pank, 2006, in publication.

[11] As the amount of real estate has remained approximately the same during recent years, changes in real estate prices may also be regarded as an increase in real estate value.

[12] L. Slok, "The Impact of Changes in Stock Prices and House Prices on Consumption in OECD countries", International Monetary Fund Working Paper Series, WP/02/1, 2002.

save less because of it, as their discounted net wealth has increased.

3. **Budget constraint effect** mostly concerns those who rent living spaces: rising real estate prices may entail an increase in rental prices, which in turn means greater pressure on the budgets of families that rent housing.
4. **Liquidity constraint effect** is related to the operation of the financial market and the existence of respective loan products. If a consumer is not able to take a loan, changes in consumption arising from price changes may be modest or even non-existent.
5. **Substitution effect** is related to consumers who are planning to purchase housing. Higher real estate prices mean greater down payments and higher repayments in the future. Hence, potential real estate owners need to limit their consumption in order to save more for loan down payments and future loan repayments.

It is very complicated or even impossible to distinguish between the impacts of these effects upon empirical assessment. However, in cases of a rise in real estate value the overall impact of these effects on private consumption can be observed.

The amount of marginal propensity to consume out of wealth[13] (MPC) deriving from total wealth depends on the division of households' wealth among different components (financial wealth, real estate wealth and holdings in enterprises), the planning horizon as well as the different liquidity of wealth components. Usually, the impacts of changes in real estate wealth are assessed by a consumption equation. Studies based on micro data have found the MPC stemming from wealth to be 5.4–8.2 cents per euro of wealth value; the respective indicator of MPC deriving from real estate wealth is somewhat smaller, i.e. 2–6.2 cents per euro of real estate value. By assessing the macro data it has been found that MPC deriving from wealth is 3–16 cents per euro of wealth value and the MPC stemming from real estate value remains within the range of 1.3–7.5 cents per euro of real estate value. The greatest indicator (i.e. 7.5 cents per euro of real estate value) was found in Germany, but this is exceptional – usually it remains within the range of 1.3–4 cents (see Figure 2.26).

The consumption function was evaluated by using the macro data of **Estonia** (during the period 1997–2005) and the long-term propensity to consume out of wealth due to real estate wealth was found to be **1.1 cents per kroon of real estate value** (see Figure 2.27). Compared to other countries this indicator is significantly smaller and may derive from the abovementioned effect. In Estonia, acquired real estate or real estate in the process of being purchased is primarily used for living and the increased number of real estate transactions within recent years indicates households' desire to improve their living conditions rather than an interest in speculation. Additionally, here the development of the financial market is an important factor: loan standards require a 10–40% loan down payment from households, which may significantly hinder the possibilities of many households to obtain a loan in the near future. Meanwhile, the growth of real estate prices has increased the rate of self-financing in cases of real estate acquisitions. Thus it may be said that **in Estonia, these effects offset**

[13] Marginal propensity to consume out of wealth (MPC) indicates how many cents are consumed from every euro/kroon added to the value of wealth.

each other sufficiently and the impact of the rising value of real estate on private consumption has remained modest.

In conclusion, the increase in real estate value in Estonia does affect private consumption, but to a much smaller extent than in other developed countries. However, there is no reason to believe that changes in real estate wealth should affect private consumption less – in other countries real estate wealth also plays an increasing role in affecting private consumption.

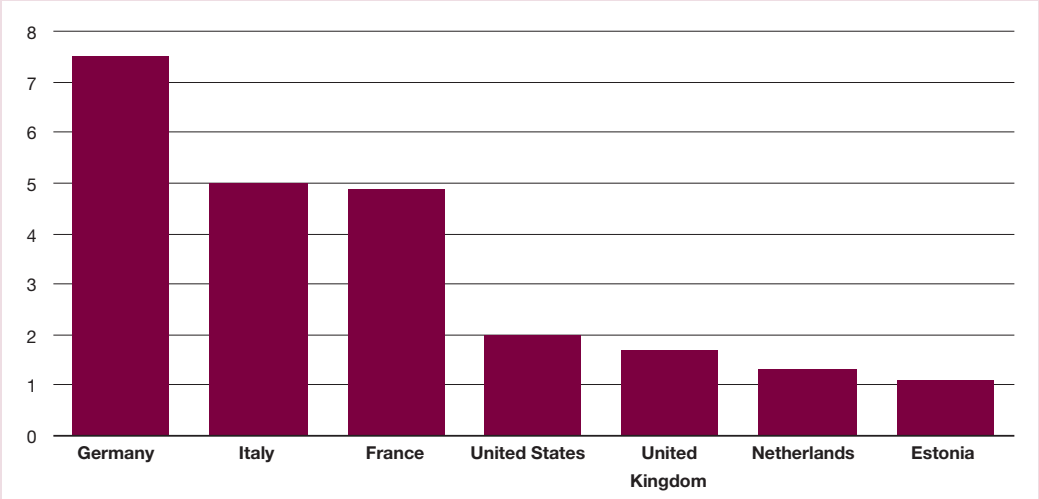

Figure 2.25. Marginal propensity to consume out of housing wealth in selected countries (%)

Sources: Altissimo et al. (2006) "Wealth and asset price effects on economic activity"; Paabut, Kattai "Does the increase in housing value influence private consumption in Estonia?" (2006)

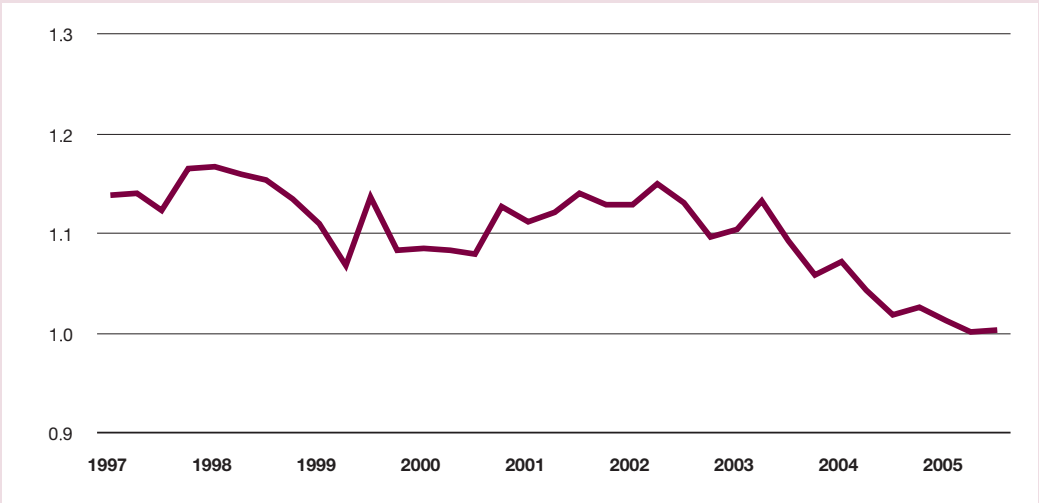

Figure 2.26. Marginal propensity to consume out of housing wealth in Estonia (%)

Source: Paabut, Kattai "Does the increase in housing value influence private consumption in Estonia?" (2006)

Households' loan-servicing capability and risks

Within the first nine months of 2006, the loan servicing costs of households have shot up drastically. By late September the **interest burden**[14] of households had already reached 3.8% (see Figure 2.25). While in previous years, it grew mainly due to a remarkable increase in loan volumes, the past 12 months have also shown the influences of rising interest rates. For instance, had the average loan interest rate remained at the previous year's level, the interest burden ratio would have stood at 3%. In comparison: in Nordic countries where the debt burden is much higher, the interest burden of households is not much higher than in Estonia (at the end of 2005, the respective indicator in Sweden amounted to 3.4%, in Denmark 4.3%, in Norway 4.4% and in Iceland 11.3%)[15] and in the euro area it amounts to an average level of 4%.

The interest burden ratio will probably also keep growing rapidly next year. Presuming that the relatively fast growth of loans and rise in interest rates continue, while the growth of households' net incomes will probably diminish. The growth of the interest burden is fostered by households' uncovered interest rate risks. Although since the autumn of 2005, the attitude of loan customers towards **fixing interest rates** has started to change, this opportunity has still been used quite modestly. After the eagerness for interest rate fixing faded slightly during the summer months, in autumn banks again started advertising interest volatility protection, which is also reflected in a slight growth of borrowing with fixed interest rates. Meanwhile, as interest rates in housing loan contracts with fixed interest rates are higher by an average of 0.5–0.75 percentage points depending on the duration of the contract, households consider fixing interest rates unprofitable at the present time.

The **total cost of loan-servicing** in the household sector (i.e. interest payments with loan repayments) has also increased remarkably, although the continuing extension of loan maturities has somewhat

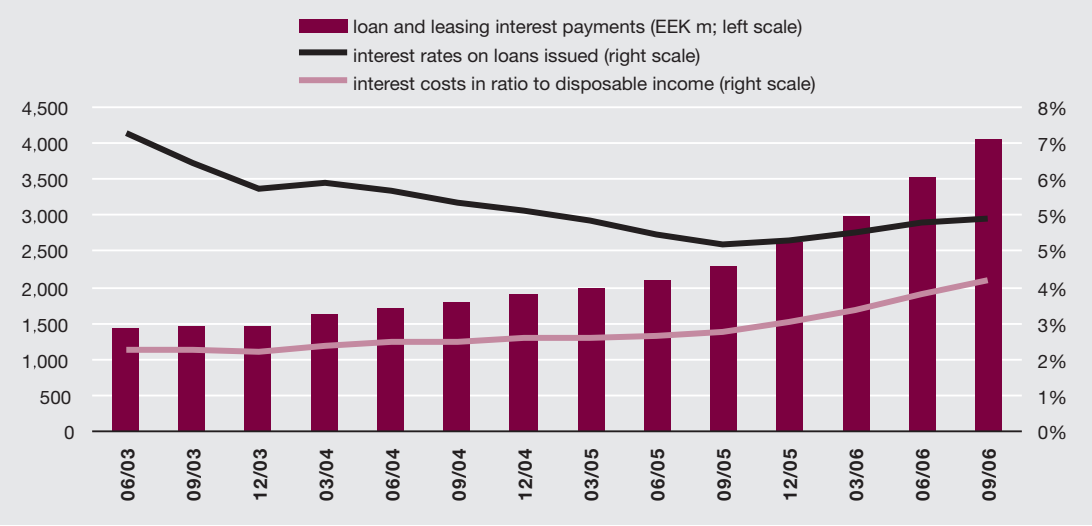

Figure 2.27. Households' loan and leasing interest payments during a year, interest rates on outstanding loans and interest expenditure costs in ratio to disposable income

[14] Interest rate burden is the ratio of interest payments to disposable income.
[15] Source: national central banks and European Central Bank, *Financial Stability Review.*

alleviated the negative impacts of increasing real estate prices on the ability of households to service their loans. According to the F-monitor survey conducted by TNS Emor in 2006, the average monthly loan repayment comprised 24% of the households' monthly net incomes (19% a year ago and 18% two years ago). At the same time, the share of households who have to pay over 30% of their net income to service the loan has shrunk, making up 10.5% (see Figure 2.26).

In conclusion, the high quality of the housing loan portfolio refers to the ability of households to service their loan commitments successfully so far. Although the interest burden of households has grown, the rise of the Euribor has not substantially reduced the ability to service loans, because the climbing net wage has been able to offset the negative impact of the interest rate rise. However, it is important that households' optimistic expectations about growing incomes do not prevent them from assessing and, if necessary, hedging their risks adequately.

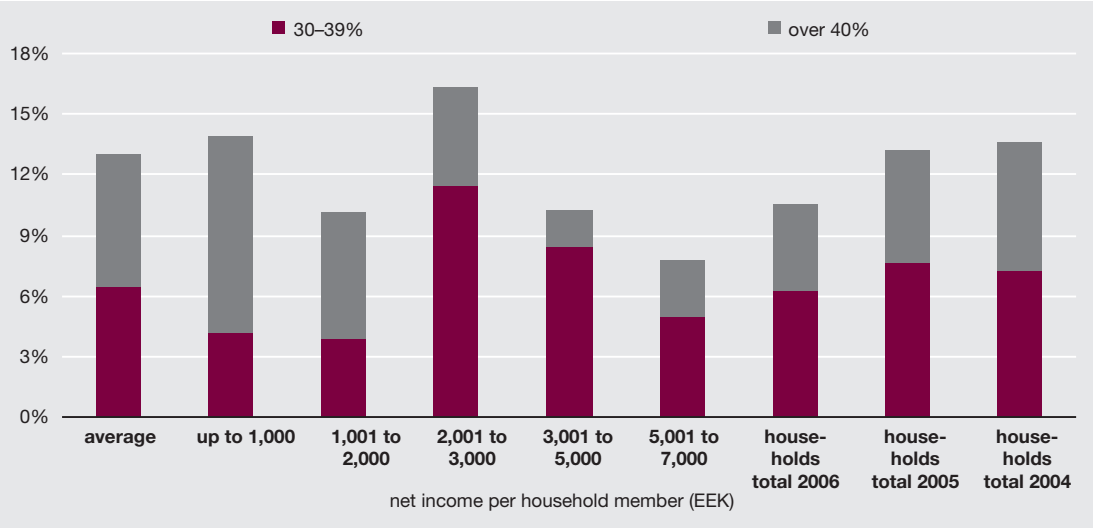

Figure 2.28. Households with financial liabilities where loan-servicing costs in ratio to household's net income exceed 30%

Source: TNS EMOR, F-monitor, August-September 2006

ASSESSING THE DEVELOPMENT OF THE FINANCIAL SECTOR AND FINANCIAL DEEPENING

Financial sector plays an important role in the economy, which is why its development has primarily been explored from the aspect of promoting economic development. In order to study the financial sector's impacts on economic development, one has to determine the indicators characterising the development of the financial sector. However, as there is no common method to assess the financial sector's ability to fulfil its tasks, the question arises which indicators would be most suitable for that purpose. The aim of this background information is to discuss the indicators suggested in the literature and used for measuring the financial sector's development and the problems related to them.

The following are generally regarded as the main tasks of the financial sector: a) acquiring information about potential investments b) monitoring and evaluating investments after a positive investment decision, c) facilitating risk diversification and management, d) mobilising and allocating savings, and e) facilitating the exchange of trading goods and services. Accordingly, the role of the financial sector is to reduce market failures that occur in the course of financing the economy due to the acquisition of information, enforcement of contracts and transaction costs. The assessment of the financial sector's development should thus be based on how well it can perform the abovementioned tasks. However, as unambiguous assessment is complicated, if not impossible, various indicators have been used for this purpose in the literature.

The basis for literature dealing with the relationship between the financial sector and economic growth was laid by Schumpeter (1911), who claimed that financial intermediaries are essential from the viewpoint of technological innovation and economic development. Goldsmith (1969) and McKinnon (1973) were next to demonstrate the positive correlation between the financial sector and economic growth, drawing attention to the positive viewpoint of the financial liberalisation from the viewpoint of economic development. However, some studies also claim that economic development promotes the financial sector, not vice versa, or even question the existence of any correlation between the development of the financial sector and economic growth as such.

Goldsmith and McKinnon also proposed the first indicators that characterise the development of the financial sector. Goldsmith measured it by the ratio of financial intermediaries' assets to GDP; McKinnon measured it by the ratio of money supply to GDP. Indeed, the development of the financial system is most frequently assessed through financial deepening, which is generally regarded as the increase in the volume of financial intermediation in ratio to GDP. In order to assess the impact of the liberalising of financial markets, real interest rates were also used to describe financial development.

Further studies also tried to take into consideration that the role of the financial sector be fulfilled by delegated financial intermediaries and that savings intermediated by the financial sector reach the private sector, which is essential from the aspect of economic development. Thus, the following indicators were added to the ratio of financial intermediaries' assets or monetary aggregates to GDP: a) loans granted by banks divided by the sum of their and the central bank's domestic assets and b) the private sec-

tor's loans divided by GDP. The ratio of financial intermediaries' assets or monetary aggregates to GDP and private sector loans divided by GDP have remained the most frequently-used indicators by which financial deepening and the financial sector's development are described.

In addition to the volume growth of financial intermediaries, the development of the financial sector is also characterised by the improvement of efficiency and the availability of financial services. In addition, it has been found that the financial sector's ability to fulfil its tasks is also influenced by the financial market's structure and competitive ability, liberalisation of financial markets, institutional environment, economic convergence, and monetary policy. The financial sector's improvement in efficiency has been described by the loan-deposit spread, and the ratio of the monetary base to bank deposits. The availability of financial services has been proxied by the ratio of population to the number of banks. In addition, indices reflecting financial development have been constructed, which have also tried to capture the qualitative characteristics of the financial sector with the help of expert opinions.

For international comparison of the financial system's development, or more specifically, financial deepening, mainly indicators based on the domestic banking sector have been used. As an alternative (or in addition) to those, indicators reflecting the stock market's volume and turnover have also been employed. These measures aim to determine the financial sector's ability to fulfil its tasks by the volume of the financing of the economy that occurs through the domestic financial sector. This approach, however, focuses narrowly on only one or a few financing components of the economy and is inadequate from the aspect of the modern financial system, as the financial markets' integration deriving from globalisation and structural differences between the domestic financial sectors of various countries are not taken into consideration.

As a result of the integration of financial markets, the borders between financial sectors have become ambiguous. If there are no restrictions on the movement of capital between countries, foreign borrowing can play an important role besides the funds intermediated by the domestic financial sector. Similarly, the financing of the private sector may occur through other financial intermediaries besides banks or securities markets (e.g. leasing companies). For example, within the European Union, there are economies that are 100% financed by banks as well as economies that are about half-financed by other funds (incl. foreign loans; see Figure 2.29). However, if there are no restrictions on capital movement, neither the physical location nor form of the financial market is essential from the perspective of financing. From the aspect of financing the economy, what matters is the access to finance regardless of from where or through which channels it is provided.

The drawbacks of using only one or two components of the total borrowing of the private sector to describe financial deepening appear especially clear in the cases of countries where great institutional and structural changes are taking place that may significantly influence the development of different components of borrowing. Consequently, one may draw the wrong conclusions based on a borrowing component's development that is undergoing structural changes. Hence, an adequate assessment of financial deepening requires the usage of indicators that cover the total borrowing of the economy.

In conclusion, there is no common understanding or agreement on how to describe and assess the capability of the financial sector to ful-

fil its given tasks. Various indicators have been used for that purpose and no common approach has been found as of date. Indicators based on the domestic banking sector or securities market are often applied in order to describe financial deepening, but they do not take the integration of financial markets or international structural differences of financial markets into account. If financial deepening indicators are to be used, one has to apply indicators reflecting the total borrowing of the economy in order to draw informative conclusions.

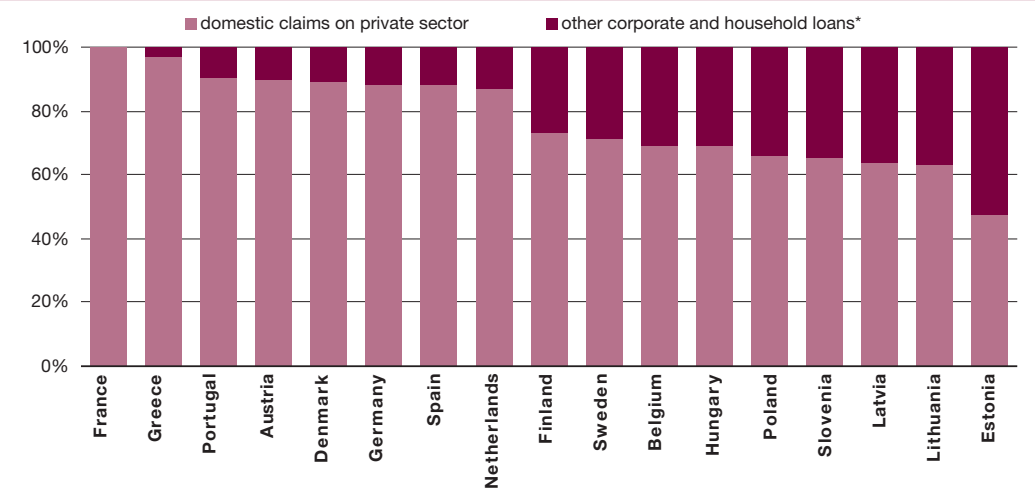

Figure 2.29. Structure of loans taken by non-financial corporations and households in EU countries at the end of 2004

* leasing and foreign loans
Sources: Eurostat; IMF, International Financial Statistics, August 2006

III BANKING SECTOR STABILITY AND RISKS

STRATEGIC DEVELOPMENT OF THE BANKING SECTOR

Seven companies licensed as credit institutions in Estonia and branches of seven credit institutions licensed in another European Union Member State were operating in Estonia at the end of September 2006. Four foreign credit institutions had representative offices in Estonia and over 120 foreign credit institutions had submitted applications to provide cross-border banking services.

The market shares of banks have not changed significantly in light of tough competition. Over 95% of the stock of loans and leases granted in Estonia is still divided among four major market participants. The same credit institutions also hold over 95% of the deposits in Estonia.

Although the year-on-year growth of the aggregate loan portfolio of banks licensed in Estonia and branches of foreign banks operating here exceeded 50% also at the end of the third quarter, the banking sector's assets increased by only a third within 12 months owing to the rearrangement of intra-group financing schemes[1] (see Figure 3.1). Thus also the share of loans issued to residents in banks' total claims has risen again. From among the claims against non-residents, those to German credit institutions comprised the greatest share at the end of September, followed by subsidiaries in Latvia and Lithuania (see Figure 3.2). However, total claims against non-bank non-resident customers remain relatively moderate, namely less than 5 billion kroons. Claims against Russian enterprises form the greatest share of this – approximately 1 billion kroons.

The rapid growth of the financing portfolios has been mostly supported by funds received from parent banks. In addition, deposit growth (which has remained over 30% despite the late summer slowdown) has contributed to the increase in banks'

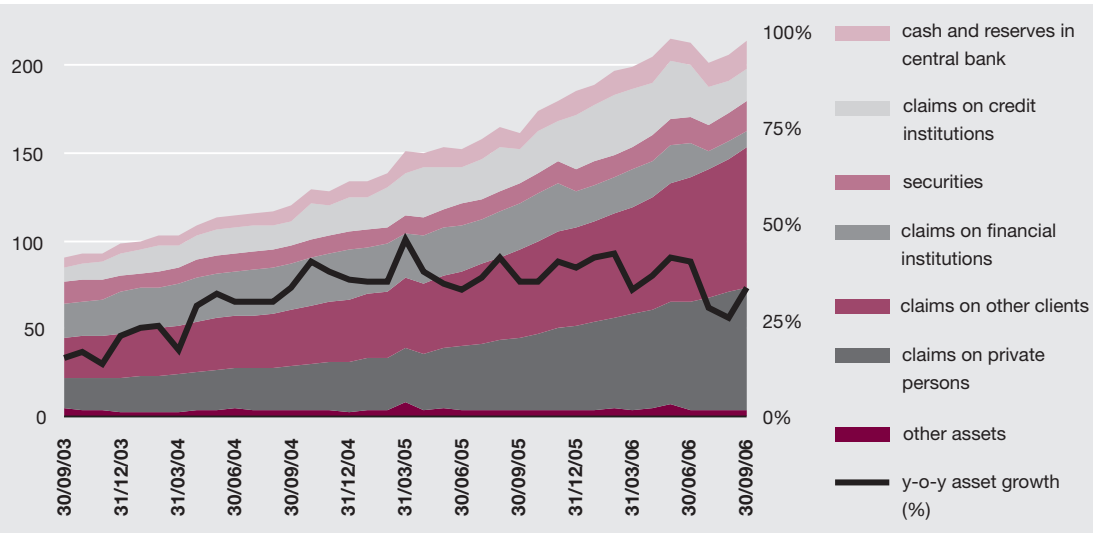

Figure 3.1. Banking sector assets (EEK bn)

[1] The intermediation of funds to subsidiary banks was reduced.

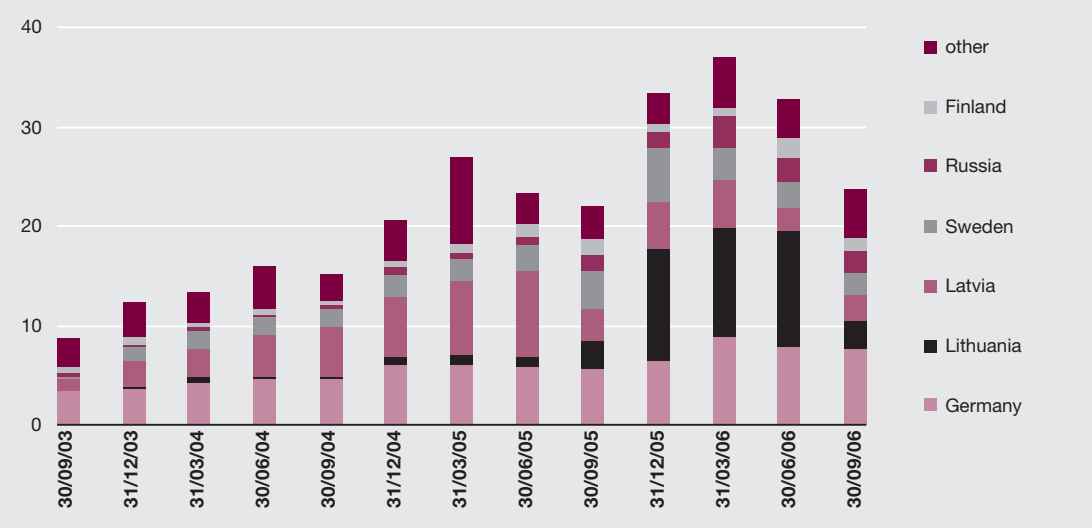

Figure 3.2. Banks' aggregate loans by client's residence (incl. MFIs; EEK bn)

financing portfolios. Thus, institutional foreign borrowing[2] comprised 39% of banks' liabilities at the end of the third quarter. The share of customer deposits has again risen to approximately 55% (see Figure 3.3).

Hence, due to rearrangements in financing schemes, direct links in between the balance sheets of non-resident subsidiaries with the local banking sector have weakened slightly. Yet, the banking sector is still heavily dependent on parent banks via management systems as well as the importance of parent bank funding.

QUALITY OF ASSETS

On the one hand, the risk level of the banking sector's loan portfolios may be regarded as diminished during recent periods, as the share of collateralised loans has risen. On the other hand, the concentration of risks is continuing. Therefore, it is increasingly important that the future loan-servicing capability of loan customers be considered more essential than the current market value of the collateral pledged and that the banks' own funds are sufficient enough to enable them to cope also with higher share of problematic loans than there currently is.

The annual growth rate of loans and leases issued in Estonia still exceeded 50% at the end of the third quarter of 2006, the total volume approaching 183 billion kroons. While the annual growth rate of corporate loans remained below 50% during the last half-year, the volume of outstanding household loans kept rising more rapidly. In early summer annual growth slowed slightly, but still remained over 60%. During the past six months the volume of household loans has increased by over 16 billion kroons.

The share of loans for the acquisition, development or renovation of real estate in banks' loan portfo-

[2] Deposits and loans, issued securities and subordinated liabilities from other banks.

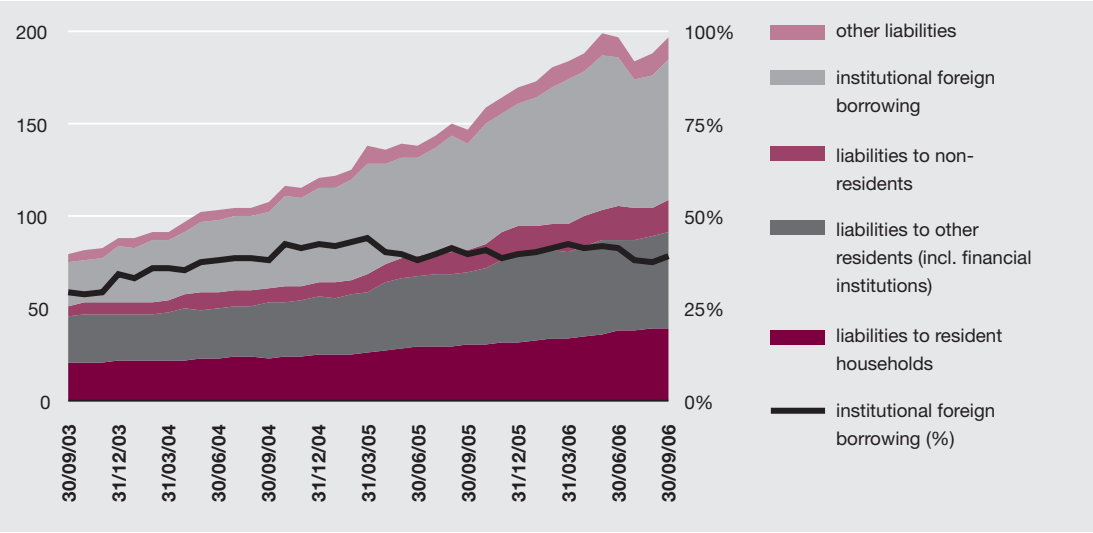

Figure 3.3. Liabilities of credit institutions (EEK bn)

lios has risen further (see Figure 3.4). The share of household loans taken to purchase or renovate real estate exceeded 32% at the end of the third quarter. The share of lease and loan financing of commercial real estate increased to 17%. The importance of using real estate as collateral for bank loans has also grown: at the end of the third quarter almost 80% of loans were collateralised by pledges of buildings or mortgages. Loans without collateral comprised less than 6% of all bank loans (see Figure 3.5). The share of (consumption) loans granted to households without collateral has increased to 2.7% within the past half-year. An estimated third of household consumer credit is collateralised by real estate.

Despite increased loan-servicing costs[3], the **loan-servicing capability of loan customers has been supported by favourable economic conditions** (see Figure 3.6). The share of **loans overdue by more than 60 days** among loans issued to the non-financial sector has remained at the average annual level, i.e. 0.3% on an aggregate basis. The ratio of the stock of allowances for uncollectible claims has diminished slightly[4], but the coverage of overdue loans with provisions has still remained at a relatively high level. At the end of the third quarter, the stock of provisions for loan losses exceeded the volume of loans overdue by more than 60 days by 40%, i.e. by nearly 200 million kroons.

As for sectoral breakdown, the share of overdue consumer credit has increased along with the surge in the volume of consumer credit. At the end of September, the share of consumer credit overdue by more than 60 days reached nearly 2% on an aggregate basis[5] (see also Figure 3.7). The slight decline of the quality of consumer credit is

[3] The majority of bank loans in Estonia are issued with floating interest rates and thus, interest payments have also increased due to higher key interest rates.
[4] Among other reasons, due to changes in the accounting principles.
[5] The aggregate of "other household loans" is lower owing to the better quality of study loans.

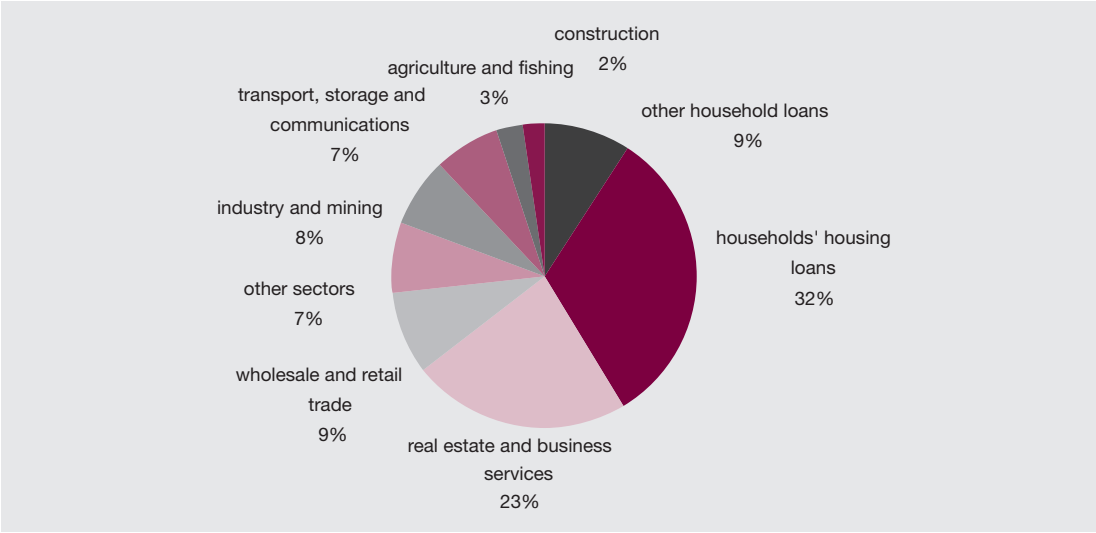

Figure 3.4. Financing by banks and leasing companies (as at 30 September 2006)

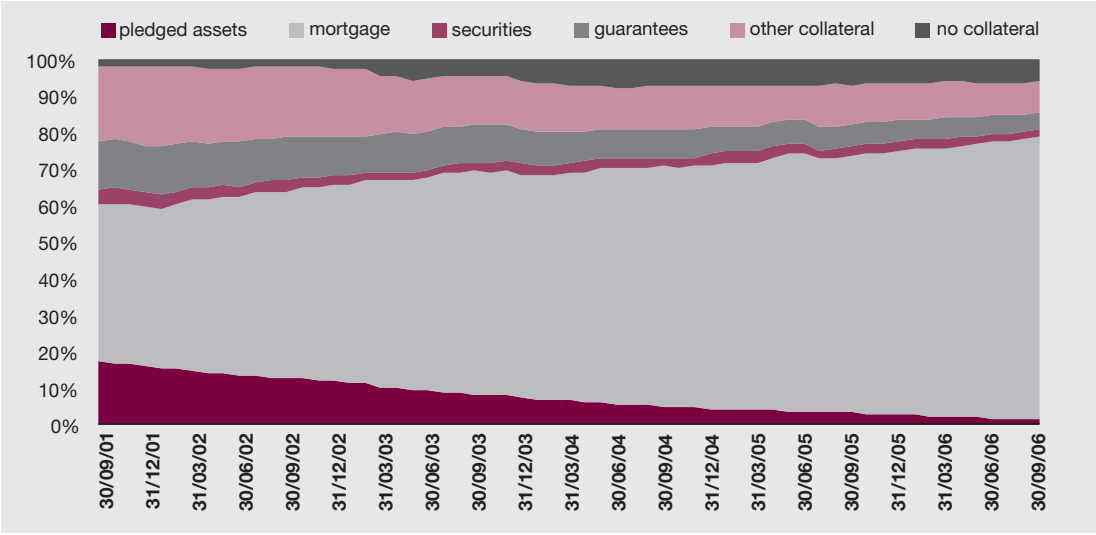

Figure 3.5. Loan collaterals by type

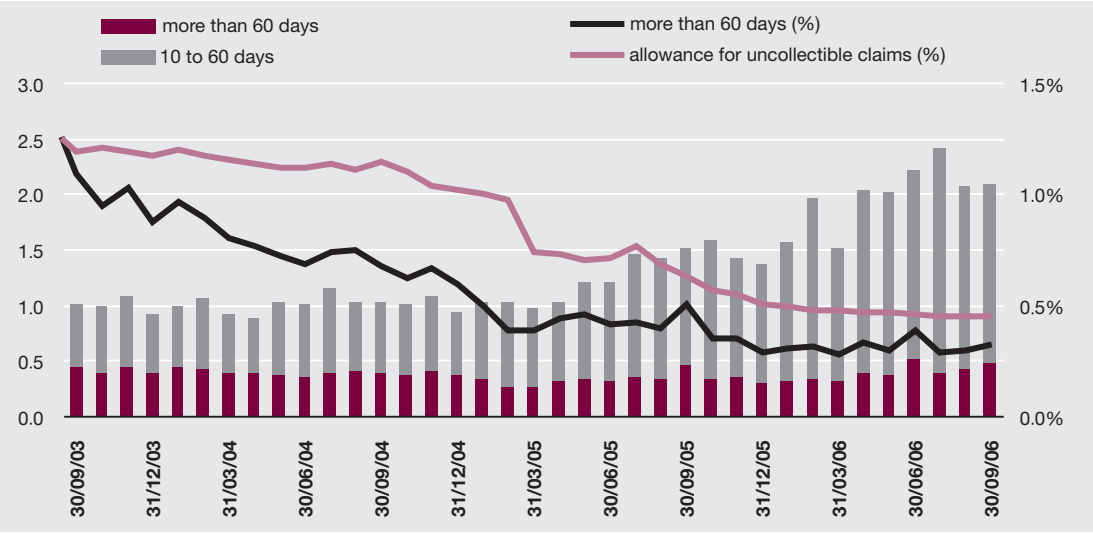

Figure 3.6. Volume of overdue loans (EEK bn; left scale) and share of overdue loans and allowance for uncollectible claims in banks' loan portfolio (right scale)

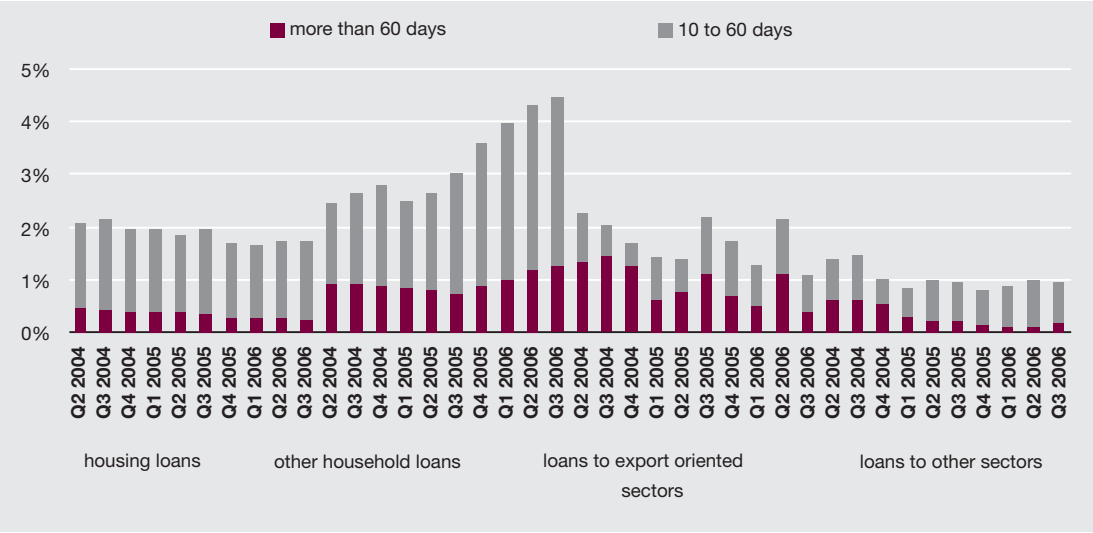

Figure 3.7. Overdue loans by economic sectors (3 months average)

also reflected in banks' assessments of uncollateralised household loans. At the end of September, banks classified 96% of all household loans without collateral as "in order" (almost 1 pp less than six months ago). Regarding the total loan portfolio, however, banks' assessments have become slightly more positive during the past half-year.

CAPITAL ADEQUACY

As of 1 March 2006, the central bank decided to increase the risk weight for housing loans issued to Estonian residents in calculating the risk weighted assets from 50% to 100%. As expected, this has brought along a rise in the capitalisation of banks. The higher capitalisation, however, is not a reflection of a slowdown in the growth of loan portfolios, but rather of the rearrangement of intra-group financing schemes and the inclusion of additional own funds.

Although financing has kept growing rapidly, since the end of the first quarter **banks' risk weighted items have increased** by only 15 billion kroons (about 10%) up to 166 billion kroons. During the past six months, **own funds** taken into account in the calculation of banks' capital adequacy have increased by 25%, i.e. by 4.6 billion kroons up to 23.4 billion kroons (see Figure 3.8).

However, the **structure of risk weighted items** has not changed significantly during recent quarters – nearly 98% of the risk weighted items still stem from credit risk weighted on- and off-balance-sheet items. Meanwhile, the **structure of banks' own funds** has changed – the share of Tier 2 own funds has increased (see Figure 3.9). In September last year, subordinated liabilities (which fall under Tier 2 own funds) comprised approximately 10% of Tier 1 own funds, whereas in September 2006 this indicator exceeded 40%. The possibilities for a further increase in the share of subordinated liabilites are limited due to the legal provision pursuant to which the sum of subordinated liabilities and preferred shares included in Tier 2 own funds may not exceed 50% of Tier 1 own funds. Furthermore, major banks have already included an essential part of the current period's profits in own funds. Therefore, banks' possibilities to increase own funds by auditing the current period's profit and thereafter including it in own funds are limited.

On an aggregate basis, the capitalisation of banks and their ability to absorb loan losses

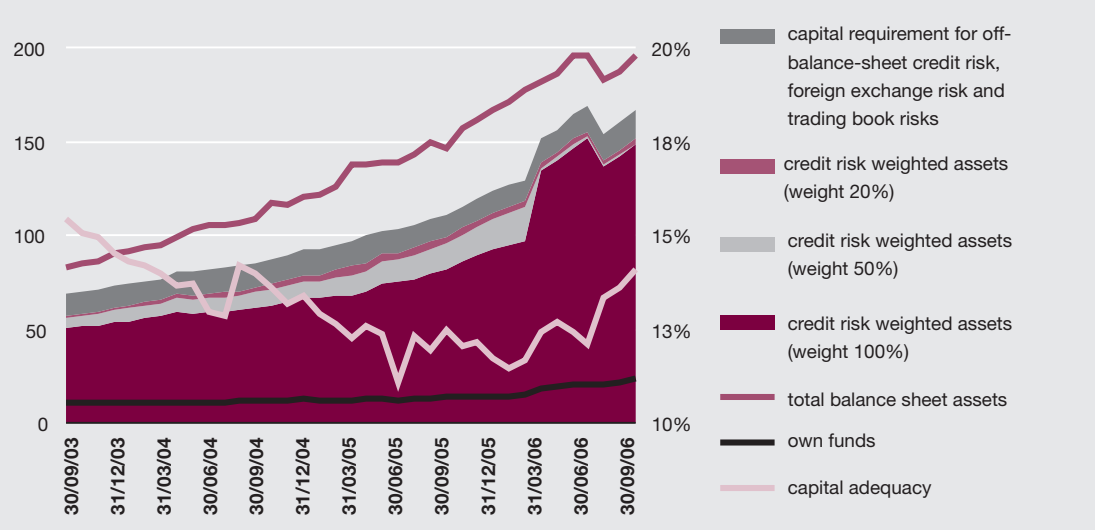

Figure 3.8. Structure of banks' aggregate risk weighted items and own funds (EEK bn)

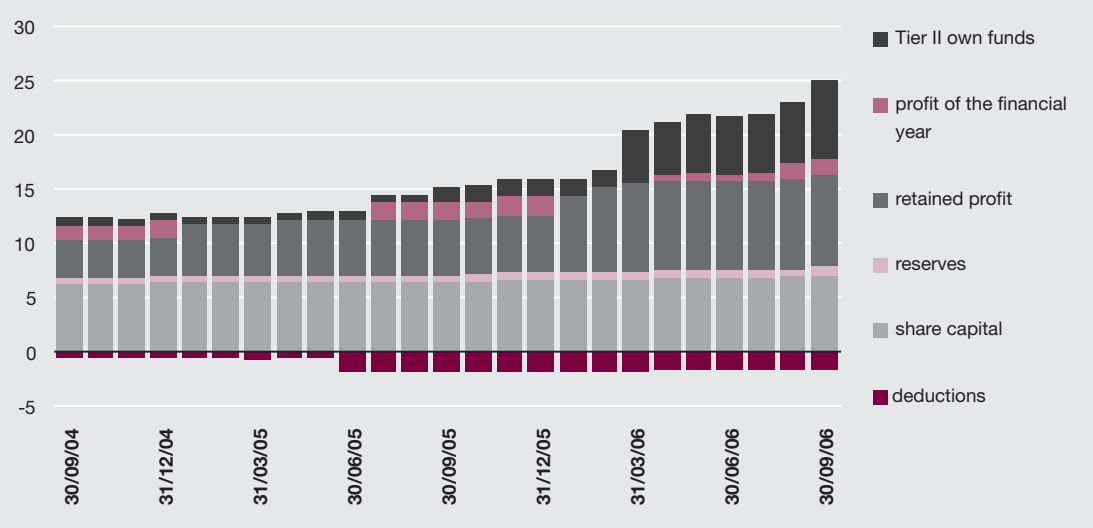

Figure 3.9. Structure of banks' own funds (EEK bn)

has continued to grow, reaching 14.1% by the end of September (12.4% in late March). On the other hand, the capitalisation rate of banks varies greatly: the lowest rate among banks at the end of September was 10.7% (see also background information "Capitalisation of banks").

As for future developments, one may nevertheless presume that non-resident parent banks are still interested in investing own funds in Estonia as long as the return on own funds in the Estonian market exceeds the return on alternative investment opportunities and they find the local risk-return ratio acceptable.

CAPITALISATION OF BANKS

Although in recent periods, the annual net write-downs of loans of banks as well as banking groups have remained below half a percent, it is important for the future sustainable operation of the banking sector that banks be able to cope with the impacts of a more unfavourable economic environment than today.

The banking sector data for the end of the third quarter of 2006 indicate that compared to the first quarter of 2006 banks' ability to absorb loan losses on an aggregate basis had improved, but the capitalisation rates varied greatly bank by bank. While at the end of the first quarter, meeting the capital requirement would have become problematic for the banking sector on an aggregate basis in the event of an over 4% additional write-down of loans, at the end of the third quarter the sector's aggregate would have fallen below the required minimum level (10%) in the event of an over 6% write-down. Meanwhile, the first bank whose capital adequacy indicator stood at 10.7% in late September would already have encountered problems in the event of a 1%

one-off additional write-down. The normative indicator of the next bank would decrease below 10% in the event of a more than 2% additional write-down.

The strength analysis of the housing loan portfolio recently carried out by banks indicated that the influence of a 1–2 percentage point key interest rate rise on the quality of banks' housing loan portfolios would be more severe than that of unemployment growth up to the highest level of the recent few years. The analysis also showed that the probability of becoming impaired is 1–2 times greater in the cases of loans granted within the past year than in the cases of loans issued earlier.

LIQUIDITY

Funding of banks

Banks' funding structure has been affected by rearrangements in intra-group financing schemes as well as by the inclusion of additional own funds owing to capital adequacy regulation amendments and the rapid growth of risk weighted assets.

In the first half of 2006, the share of **liabilities received from foreign banks** in the banks' structure of liabilities increased even further. With the rearrangement of intra-group financing schemes, the financing of subsidiaries through the Estonian banking sector was significantly reduced.[6] Therefore, in June and July 2006, liabilities to foreign banks decreased by over a fifth (see Figure 3.10). The impact of these changes on the banking sector may be regarded as positive as it ties the banking sector's funding more explicitly to the domestic economy and decreases the risks related to neighbouring countries.

Hence, despite the ongoing active borrowing the share of **institutional foreign borrowing** in total liabilities was also not much greater at the end of September 2006 compared to the same period last year. It has remained at a similar level of 39%. After effecting the changes, however, the volume of liabilities to parent banks has begun to increase again.

Customer deposits have continued to provide a favourable source for funding banks' lending. Their annual growth has decelerated compared to last year's fourth quarter and this year's first quarter, but still remains over 30%. The growth of customer deposits has not been accompanied by an increase in time deposits. Although the share of customer deposits has increased, the same cannot be said about time deposits. Their share accounts for less than a fifth of all customer deposits.

The volume of loans granted to the non-financial sector has grown faster than customer deposits. This has entailed steady growth in the **loan-deposit ratio**[7], which reached the level of 1.35 in September 2006 (see Figure 3.11). Thus, lending to the non-financial sector is less and less funded by customer deposits.

[6] The total volume of the redirected financing of subsidiaries amounted to about 20 billion kroons, half of which reached non-resident subsidiaries directly while the rest went through loans granted to intra-group financial institutions by banks. Since then, the funding of non-resident subsidiaries has been continued to some extent by offering short-term liquidity as well as long-term funds. At the end of September, claims against Latvian and Lithuanian banks comprised nearly 2% of the total assets of banks.

[7] Unlike in the previous issue of the Financial Stability Review (May 2006), loans granted to financial institutions have been excluded from loans, as financial institutions are increasingly funded directly by their group's parent banks.

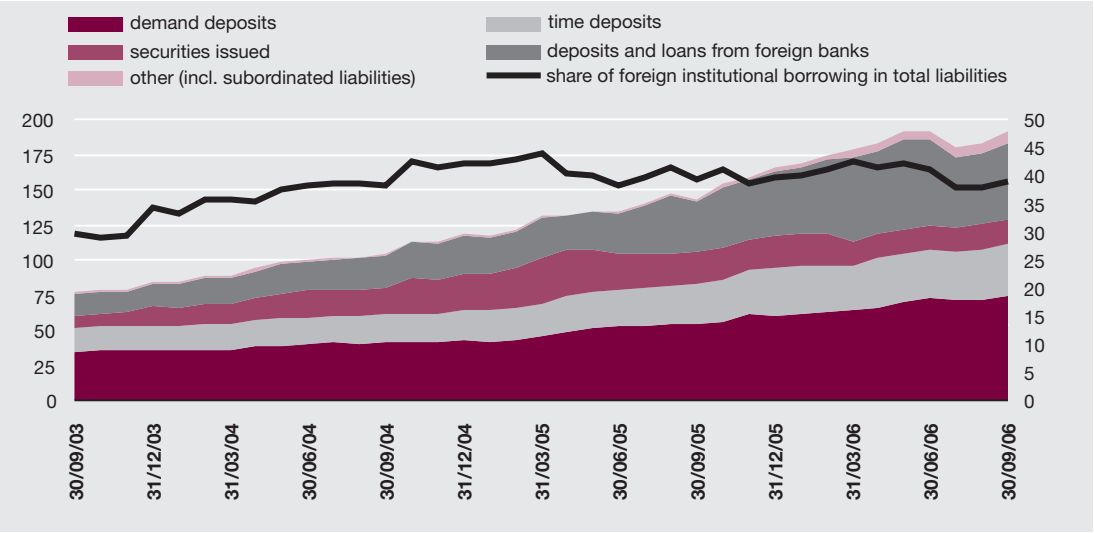

Figure 3.10. Structure of liabilities (EEK bn; left scale) and share of foreign institutional borrowing in liabilities (%; right scale)

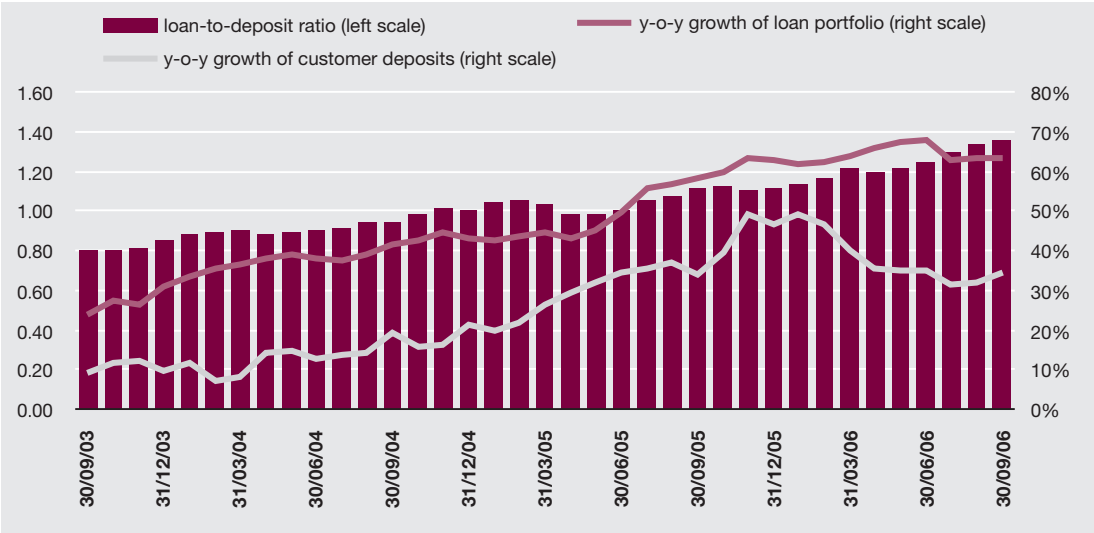

Figure 3.11. Loan-to-deposit ratio and annual growth of loan portfolio and customer deposits

Due to the capital adequacy regulation amendments and in order to alleviate capital needs accompanying the high lending activity, banks have increased **subordinated liabilities**. Their share of total liabilities has increased from 1% the year before to 4% by September 2006.

Together with the key interest rates of the European Central Bank, all average interest rates on funds included by banks have also risen (see Figure 3.12). Among other things, banks have continued to raise the interest rates on time deposits. Compared to other funds, the **average interest rate of funds** received from other banks has grown at a slower pace. Moreover, since the second quarter of 2006 it has been even slower than the average interest rate of customer deposits that was so far considered the cheapest.

Liquid assets

Banks' liquidity position has also been largely affected by changes in intra-group financing schemes. While at the end of last year, the **share of liquid assets in total assets** grew considerably owing to an increase in claims related to banks' financing of subsidiaries; in June 2006 claims against foreign banks decreased and the share of liquid assets diminished to 18.6% (see Figure 3.13). Excluding claims related to financing subsidiaries, liquid assets comprised approximately 17% of total assets at the end of September 2006 and as a 12-month average. This means that their volume remained relatively stable in relation to total assets.

Changes in liquid assets have also influenced the **coverage of current liabilities by liquid assets**. Excluding claims related to financing subsidiaries, it has nonetheless remained quite steady at the average level of the past 12 months, i.e. at 33% (32% in September 2006). Thus, the liquidity position of banks has not deteriorated compared to last year.

On 1 September 2006, Eesti Pank raised the **reserve requirement** of banks from 13% to 15%. This means that instead of 13%, banks have to hold 15% of their required reserve base in the central bank or own highly liquid securities. Based on the data for September 2006, banks have reduced their so-called voluntary liquidity buffers simultaneously

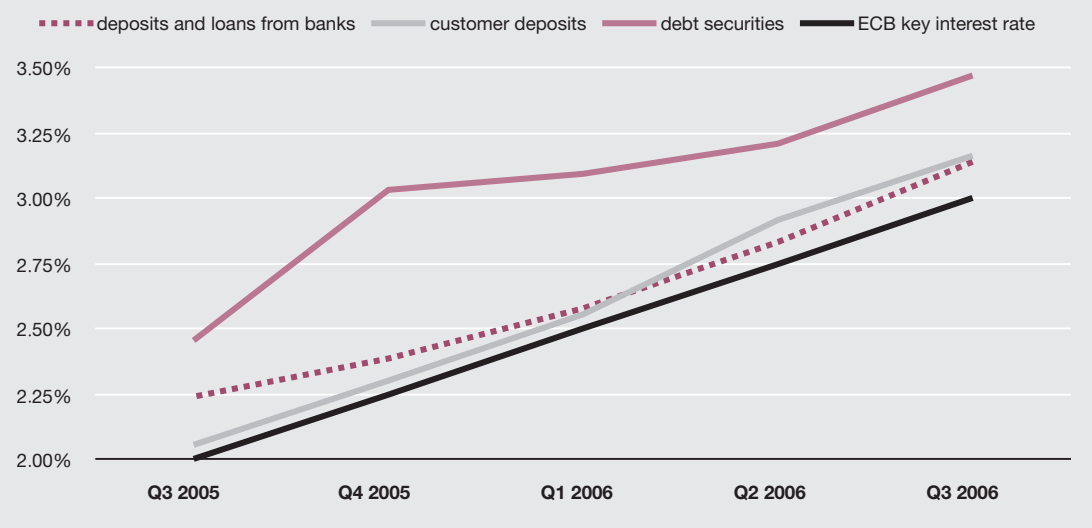

Figure 3.12. Structure of liquid assets (% of total assets) and ratio of liquid assets to current liabilities

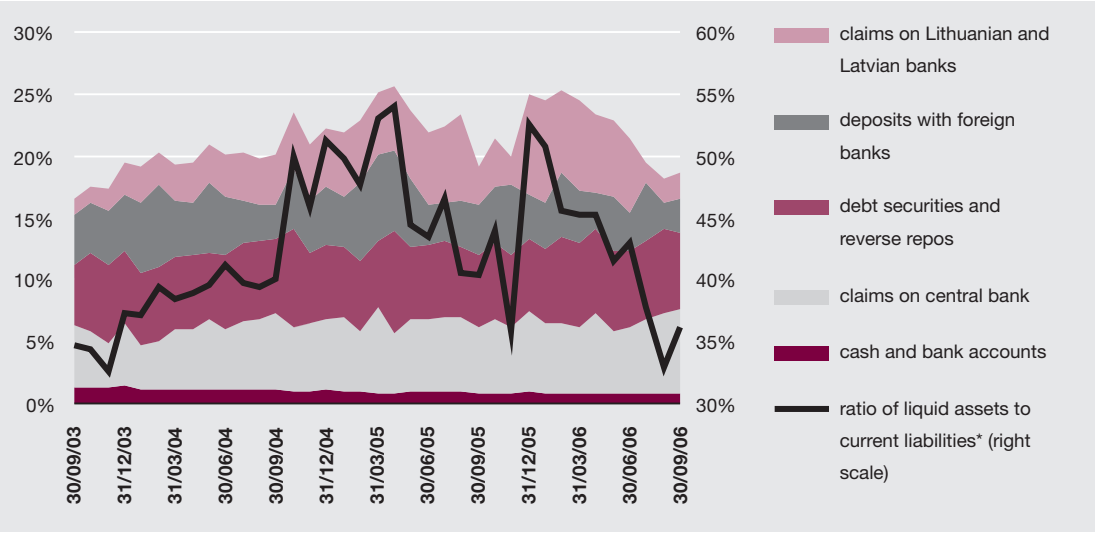

Figure 3.13. Structure of liquid assets and their share in current liabilities (% of total assets)

* current liabilites – remaining maturity of up to one month

with fulfilling the new reserve requirement. Thus, although the share of highly liquid assets in the structure of liquid assets has increased, total liquid assets have grown less than the reserve requirement.

EFFICIENCY AND PROFITABILITY

The **banking sector's profitability indicators** again reflect the importance of the share of profits earned from subsidiaries in the revenues of the banking sector (see Table 3.1). Namely, the profitability of banks has decreased[8] since the second quarter of 2006 primarily due to lower dividend income from subsidiaries than in earlier years.[9] The increase in key interest rates, on the other hand, has had an expectedly positive influence on the profitability of the banking sector, as the majority of bank loans in Estonia have been granted with floating interest rates. Thus, the **average interest income on interest-earning assets** has increased in 2006. Although the **average interest paid on interest-bearing liabilities** has also risen, this increase did not match the income growth. This is reflected in the growth of the **spread** and the **net interest margin** during this year (see Figure 3.14).

While the growth of **net interest income** accelerated, the growth rate of **net fee and commission income** earned by banks has decelerated. In addition, the ratio of fees and commissions to assets has slightly declined. The ratio of fees and commissions to interest income has decreased from its peak of 54% in the third quarter of last year to 42% in the third quarter of 2006, while the ratio of net fee and commission income to average assets declined from 1% to 0.9% (see Figure 3.15). The slowdown in the growth of fees and commissions may have been partially caused by changes in the accounting principles[10], but this does not explain the decrease fully.

[8] As the average aggregate ratio of four consecutive quarters.
[9] Contrary to earlier volumes, subsidiaries did not pay out earned profit as dividends.
[10] The reason for that is the application of an effective interest rate principle according to which a significant part of loan fees and commissions is spread out over the entire loan period and reflected as interest income.

Table 3.1. Banks' profitability on solo basis (%)

	2002	2003	2004	2005	Q1 2006	Q2 2006	Q3 2006
Asset utilisation	9.3	7.9	7.4	6.7	6.4	6.0	6.2
Return on assets	1.6	1.7	2.1	2.0	1.9	1.5	1.6
Profit margin	16.8	21.7	28.8	29.4	30.3	25.5	25.7
Equity multiplier	7.3	7.9	8.8	9.9	10.1	10.5	10.6
Return on equity	14.7	14.1	20.0	21.0	21.3	17.1	18.0
Cost-income ratio	61.6	53.0	45.8	45.6	45.0	49.6	48.4
Net interest margin	3.6	2.9	2.4	2.0	2.0	2.0	2.1
Spread	3.4	2.8	2.3	1.9	1.9	1.9	2.0

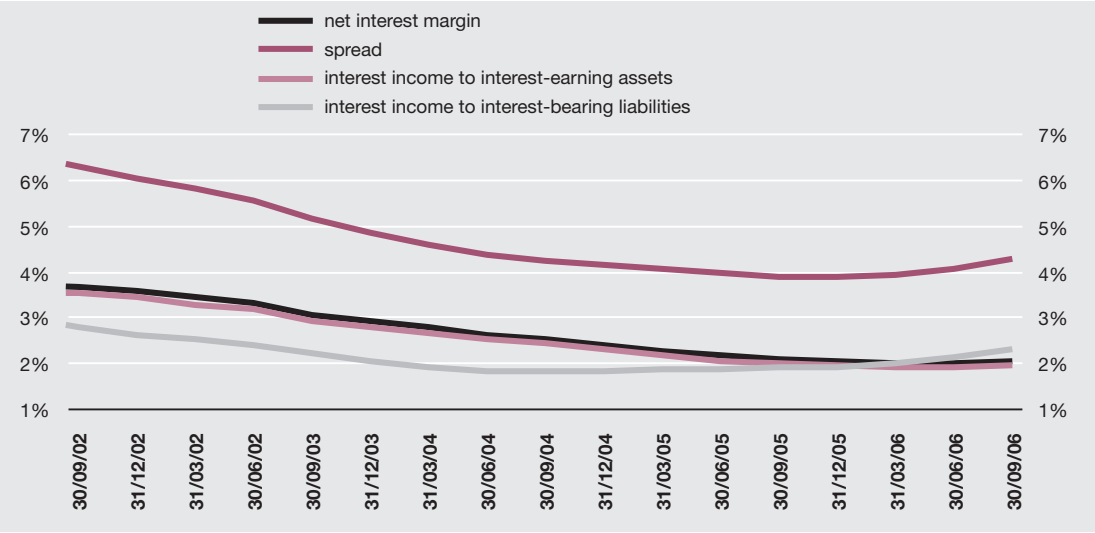

Figure 3.14. Banks' aggregate net interest margin and spread

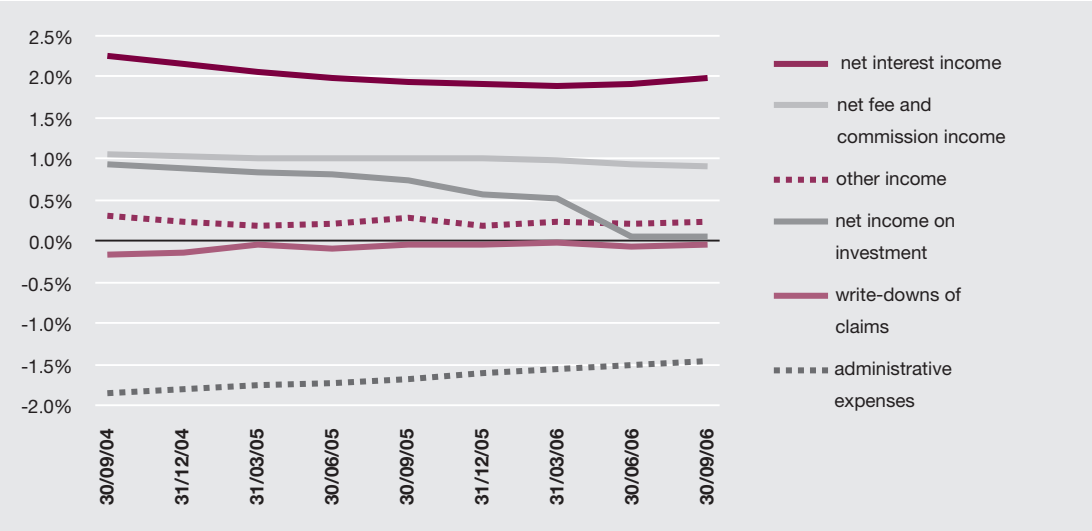

Figure 3.15. Income and expense items by type (% of total asstes)

In addition to a growth in interest margins the banking sector's profitability has continuously been supported by keeping the increase of costs under control as well as the good quality of assets. Though in the last two quarters the **cost-income** ratio of the banking sector was higher than in the respective period last year, the ratio of costs to total assets has kept on shrinking. The Estonian banking sector's cost-income ratio (48% in the third quarter of 2006) is lower than the average indicator of European banking sectors (60%). A comparison with Nordic countries, however, suggests that our banking sector's cost-income ratio (1.5%) may not have reached its potential minimum level yet (e.g. 1% in Sweden and Denmark in 2005)[11].

Regarding the future profitability of banks, it may be presumed that should the increase in key interest rates continue it would also be manifested in the growth of net interest margins. Especially considering that despite tough competition in the banking sector there does not appear to be much room left for a further decrease in loan interest margins. The dynamics of interest costs, at the same time, largely depend on the price asked for funds by parent banks. Although customers' loan demand may decrease if interest rates continue to rise (this may be reflected in the income earned on issuing loans), at the same time the appreciation of key interest rates may increase customers' interest in changing loan terms and conditions. In regard to fee and commission incomes, the possibilities of enhancing incomes from payment intermediation and investment services may not be exhausted yet either. Future dividend incomes from subsidiaries, however, greatly depend on the development of those markets where the subsidiaries are operating and on their potential need for additional capital. Moreover, international comparison shows that the possibilities for a further decrease in the cost-asset ratio may not yet be exhausted.

[11] Source: "EU banking sector stability" (2006).

IV MONEY AND SECURITIES AND MONEY MARKET

MONEY MARKET

Referring to strong inflationary pressures, the European Central Bank has continued its policy of raising interest rates. Since the beginning of 2006, the monetary policy interest rates of the euro area have been raised four times. The last rise occurred in October when the euro area's key interest rate was raised by 25 basis points to 3.25%, making it 1.25 percentage points higher than at the beginning of the upward cycle of interest rates. The elevation of the euro area's key interest rate has also brought about an increase in its money market interest rates. Since September 2005, when the euro area's money market quotations started to increase in anticipation of rising interest rates, the three-month Euribor has climbed by almost 1.5 percentage points (see Figure 4.1).

The Estonian **money market interest rates** have generally remained in line with the interest rate changes in the euro area's money market. As the Estonian money market is not particularly active and the elevation of interest rate quotations in Estonia and the euro area occurred at different times, the difference between the respective money market interest rates turned negative for a while during the weeks preceding the decision to increase monetary policy interest rates. By the middle of October, the difference between money market interest rates across various maturities in Estonia and the euro area amounted to an average of 8–18 basis points (see Figure 4.2).

The small difference between interest rate quotations which form the basis of future Estonian kroon and euro transactions (forward difference) confirms that the exchange rate of the kroon has not been under pressure in the money market. Participation in the exchange rate mechanism ERM2 has gone smoothly for Estonia.

In international financial markets, the **yield of 5-year Estonian Government Eurobonds** has been moving in line with the yields of government bonds issued in the euro area. The difference between the yield of Estonian Eurobonds and German bonds with comparable maturities has remained relatively stable during the second half of 2006 (see Figure 4.3). The small difference between long-term in-

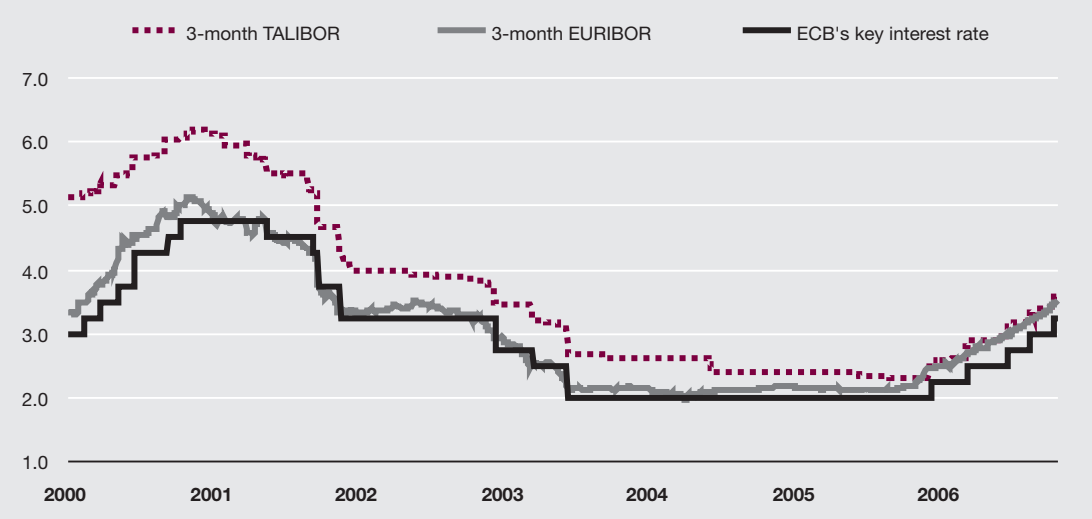

Figure 4.1. Money market interest rates in Estonia and in the euro area (%)

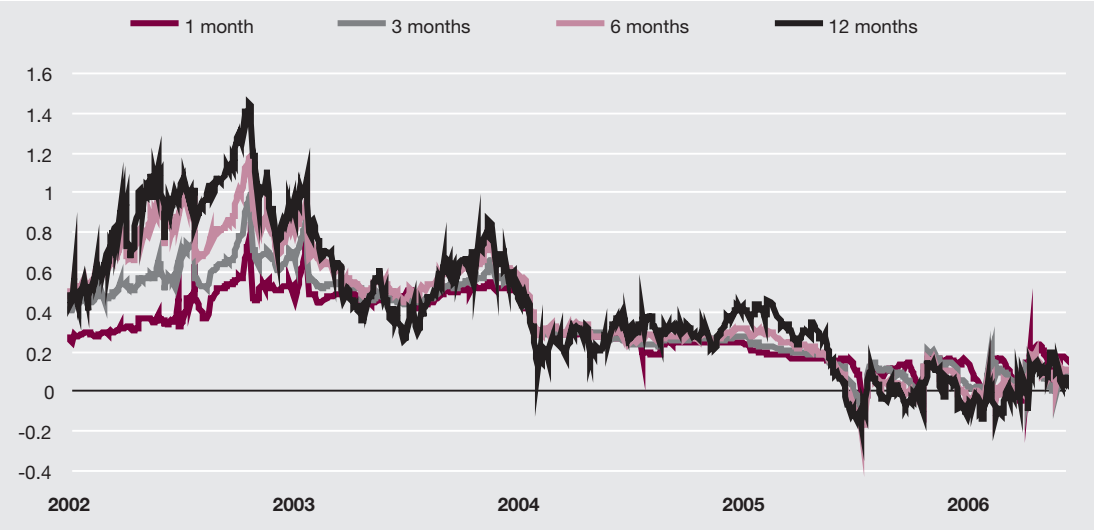

Figure 4.2. Difference between money market interest rates in Estonia and in the euro area (percentage points)

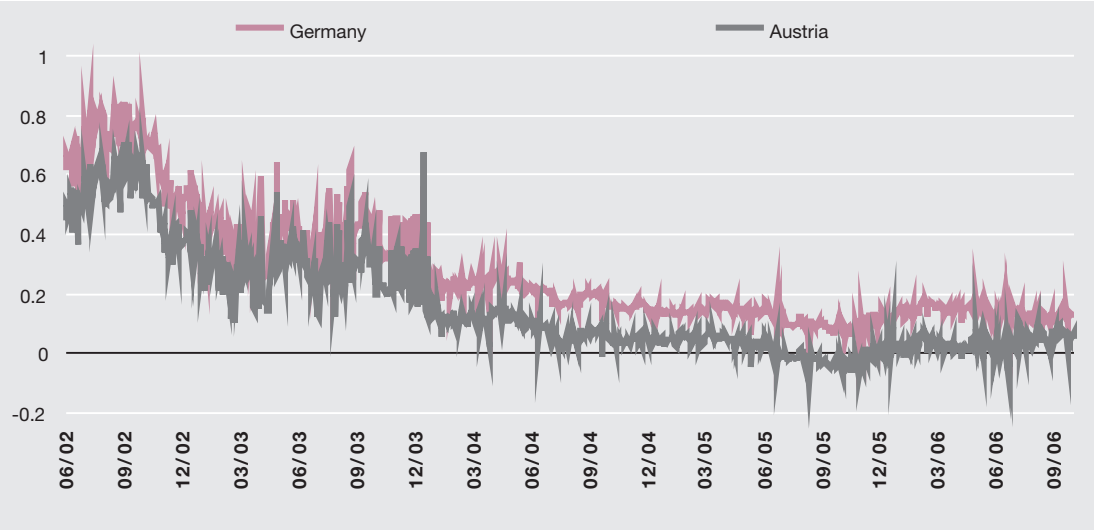

Figure 4.3. Yield difference between the Estonian Government Eurobonds and respective bonds in Austria and Germany (percentage points)

terest rates demonstrates the continuously high confidence of international financial markets in the Estonian monetary and financial system.

The turnover of Estonian kroon denominated money market loans is still strongly influenced by the great turnover of derivatives, which itself stems from large-scale intra-group currency exchange transactions (see also the Financial Stability Review of May 2006). Excluding the aforementioned transactions between parent banks and their subsidiary banks, the turnover of derivatives has remained customary.

The turnover of short-term kroon loans in 2006 was slightly greater than in previous quarters, comprising an average of 35% of the total turnover of money market loans. The transactions of non-residents comprised 90% of the short-term kroon loan market. Swedish and Finnish credit institutions continued to prevail. Meanwhile, the turnover of derivatives in foreign currencies has remained quite steady at the previous year's level.

BOND MARKET

The domestic bond market has revived further owing to the continuously expansive environment, but compared to the spring, market growth has been slightly slower. By the end of September 2006, the **primary bond market** turnover decelerated to 38% (see Figure 4.4). As a result, bond market capitalisation increased by 40% compared to a year ago, reaching 7 billion kroons, i.e. 3.6% of GDP by the end of September. The market expanded primarily due to bond issues by resident banks, which increased by 42%. At the end of September, the stock of bank bonds comprised 36% of the bond market's total capitalisation.

Thanks to the boost in turnover of the primary bond market, the **secondary bond market** also slightly picked up pace. By the end of the third quarter, it had grown by 15% compared to the previous year (see Figure 4.5). The average daily turnover increased from 13.1 million kroons the year before to 15.8 million kroons by the end of September

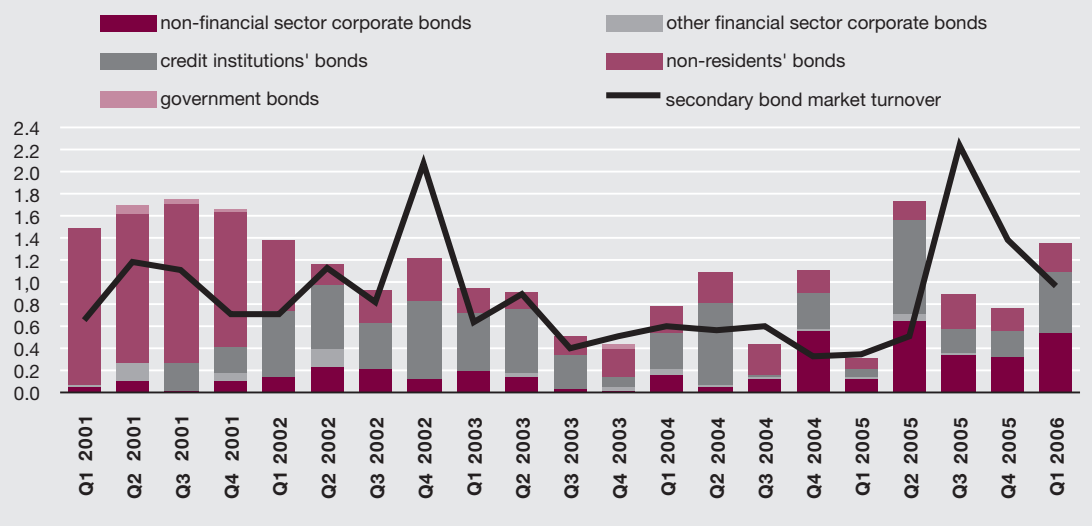

Figure 4.4. Volume of quarterly issued bonds and secondary bond market turnover (EEK bn)

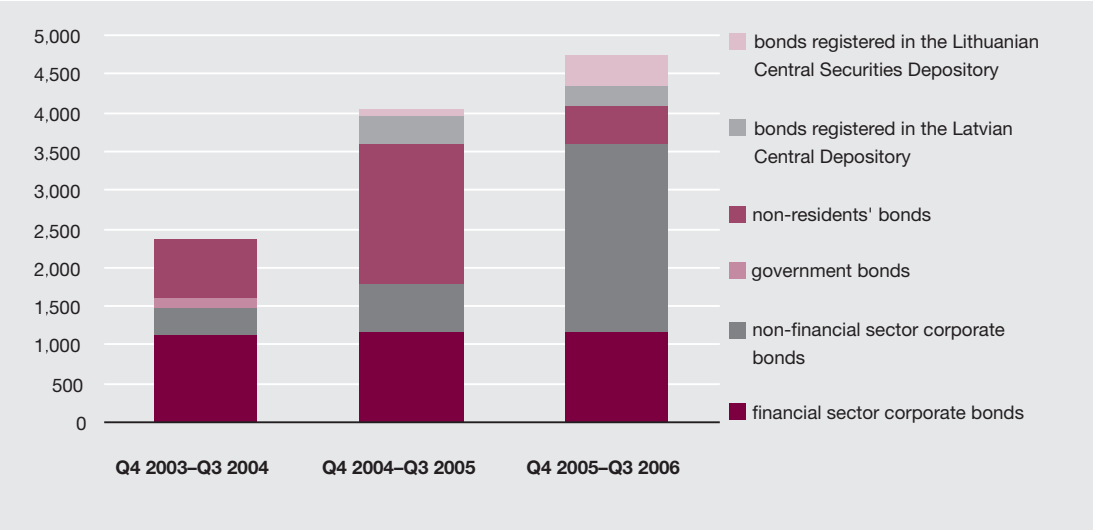

Figure 4.5. Structure of secondary bond market turnover (EEK m)

2006. Most of the transactions originated through the Estonian Central Register of Securities were performed with bonds issued by the non-financial sector (51%). 24% of the transactions executed through the same Register were performed with bonds issued by non-residents. 8% of them were bonds registered with the Latvian Central Depository and 6% with the Central Securities Depository of Lithuania.

Since March 2006, one security was added to the bonds listed on the stock exchange: the bonds of Q Vara OÜ were listed in September. On the other hand, the bonds of AS Eesti Post, AS Fenniger and Sportland International Group AS went unlisted. Hence, at the end of September 2006, the market value of the bonds of the six companies listed on the Tallinn Stock Exchange amounted to 0.7 billion kroons, i.e. 10% of the total bond market volume. Although trading bonds in the over-the-counter market has become more frequent, listed bonds are still mainly acquired for holding. During the past half-year, only one listed bond was traded through the stock exchange (the bond of AS Sampo Pank in the sum of 8.3 million kroons).

STOCK MARKET

In the spring/summer of 2006, stock markets all over the world experienced one of the **greatest corrections in recent years**, which also had a direct effect on important investment regions for Estonian investors. Within a month and a half, stock prices dropped over 30% in the Russian, Hungarian and Polish markets (see Figure 4.6). In other markets, the decline was smaller. In the third quarter, the markets recovered from the correction and most stock prices started to climb in light of the profit expectations of Central and Eastern European stock market companies and interest rate decisions made by leading countries. Since the beginning of the year, the Russian market has grown the most (by 43%). Bulgaria and Poland are next (each by a third). While the index growth of the Estonian stock market reached 7%, the index of other Baltic States dropped by nearly a tenth.

The most significant events on the Tallinn Stock Exchange during the past half-year were the listing of the stocks of the construction company AS Eesti Ehitus and the casino enterprise Olympic

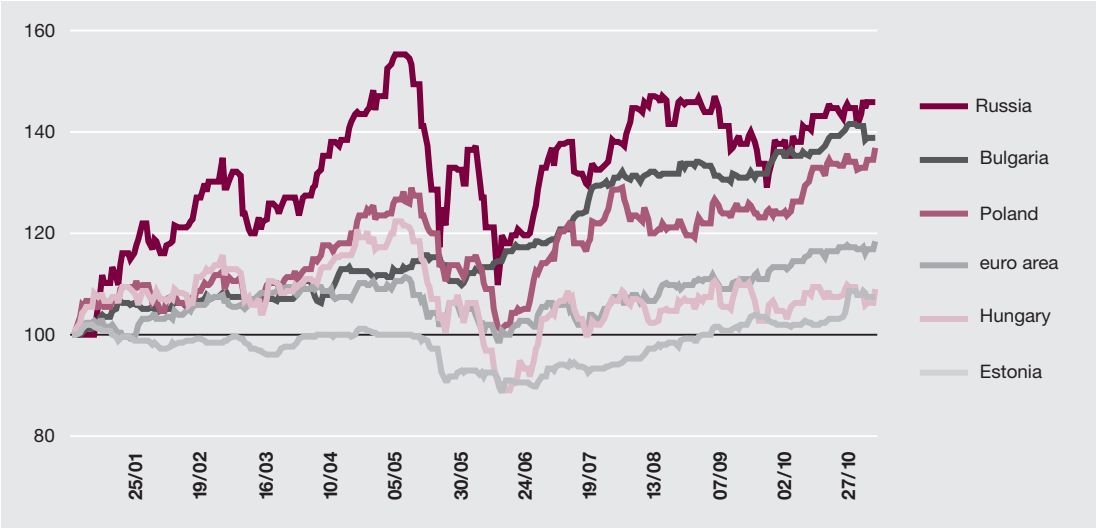

Figure 4.6. Dynamics of stock exchange indices of the new EU Member States, the euro area and Russia (01/01/2006 = 100)

Source: EcoWin

Entertainment Group on the primary list of the stock exchange. As a result, stock market capitalisation increased by about 3% and 13%, respectively (see Figure 4.7). Furthermore, for the first time in the history of the Baltic securities markets, public trading of the Olympic Entertainment Group's stock took place simultaneously in Estonia, Latvia and Lithuania.

As the value of stocks decreased during this spring/summer due to a decline in global stock markets, stock market capitalisation remained at the level of 47 billion kroons just like the year before, despite the listing of new companies on the stock exchange, dropping to 24% in ratio to GDP. While the general stock market decline brought the stock index OMXT to last year's level by June, by autumn it had, similarly to previous autumns, again reached a record level with 720 points and posted a year-on-year growth of 7% (see Figure 4.8).

Mainly due to the listing of new stocks on the stock exchange, in the past half-year the average daily turnover of transactions reached 39 million kroons. Compared to the previous year's average, however, this is still nearly a tenth smaller. The main driving forces on the market were the shares of Tallink Grupp and AS Eesti Telekom – the transactions of their shares made up 23% of the stock exchange's turnover. Other more liquid securities during the same period were the shares of AS Merko Ehitus and AS Tallinna Vesi, both comprising 10% of the total turnover.

40 stock exchange members are entitled to act as brokers. Due to the integration of the Baltic and Nordic securities markets, the number of foreign stock exchange members has increased recently. Their number has reached 33, accounting for over three-quarters of all members. Although the transaction turnover of international stock exchange members is on the rise, most of the transactions were still brokered by local members. By the end of September, transactions brokered by AS Suprema Securities and Hansapank made up the majority, i.e. 86% of the total value of transactions on a rolling year basis.

Since the end of 2005, the percentage of non-residents' investments in the capitalisation of shares

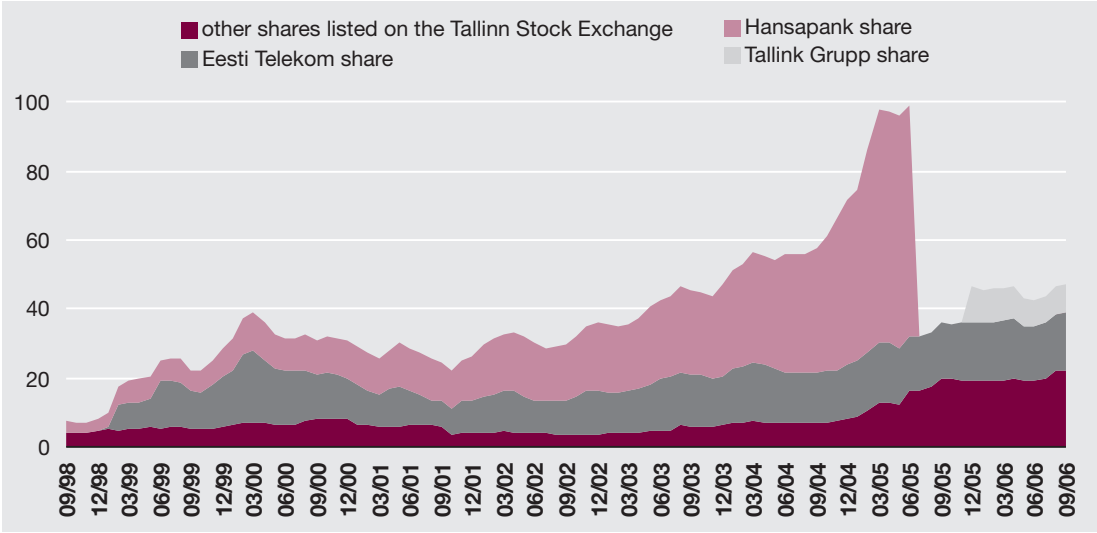

Figure 4.7. Market capitalisation of shares listed on the Tallinn Stock Exchange (end of month; EEK bn)

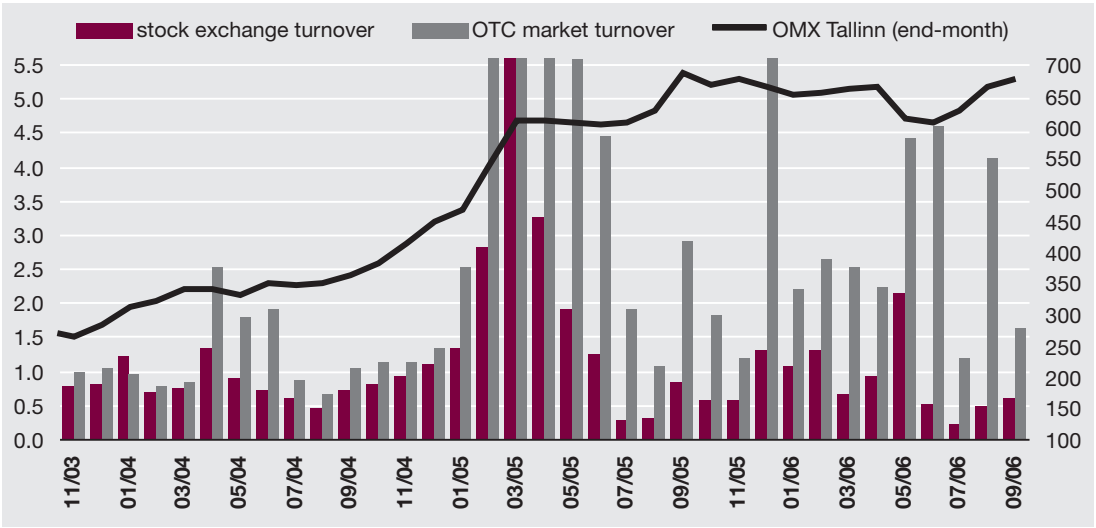

Figure 4.8. Stock turnover on the Tallinn Stock Exchange and OTC market (EEK bn; left scale) and Tallinn Stock Exchange index OMX Tallinn (points; right scale)

listed on the stock market has remained steady at 59% (see Figure 4.9). In nominal terms, during the first nine months of 2006, investors from the USA, Latvia and the United Kingdom increased their investments in the listed shares most actively (by 2.5 billion kroons). At the end of September, the percentage of investments made by resident companies in shares on the stock market amounted to 34%, i.e. the same as in spring. The percentage of private investors rose to 4.5% of the total value of shares on the stock market.

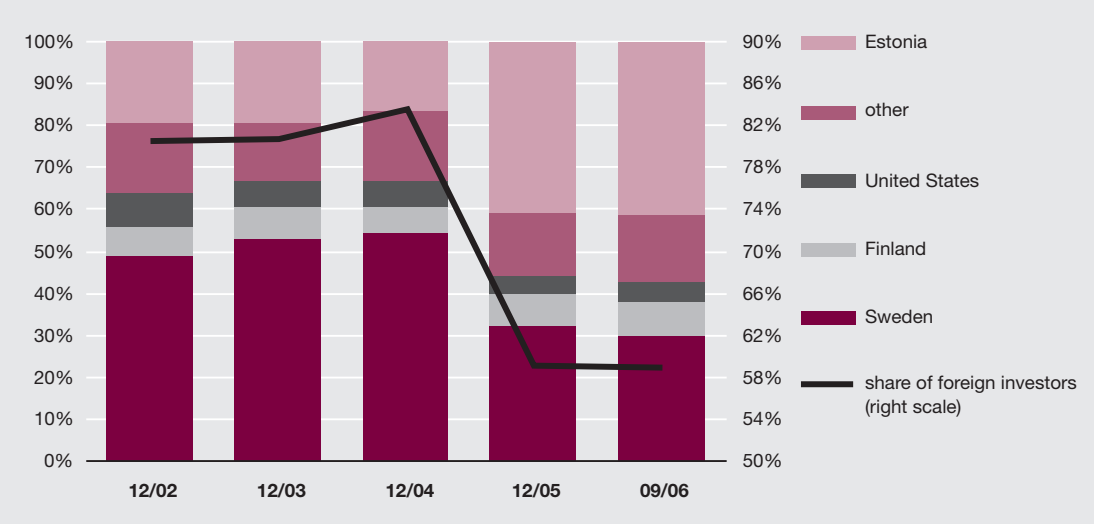

Figure 4.9. Structure of investors by residency and share of foreign investors of shares listed on the Tallinn Stock Exchange (%)

V OTHER FINANCIAL MARKETS

INVESTMENT FUNDS

Since the end of March 2005, the **yield** of investment funds has been mainly influenced by the increase of key interest rates and the greatest correction in recent years in the stock markets (see Figure 5.1). It primarily affected the yield of stock funds, which decreased by 15% as a moving average. The rise of key interest rates increased the average yield of money market funds, which stood at 2.1% at the end of September.

Owing to the high comparison basis on the one hand and the correction of stock markets on the other, the **asset growth of investment** funds that had lasted for several years **slowed down**, reaching a year-on-year result of nearly 37% by the end of September (see Figure 5.2). However, the asset growth of investment funds reached a record 16.8 billion kroons at the end of September. The correction had the strongest impact on stock funds as their volume growth decelerated five-fold within the half-year – down to 54%. The annual volume growth of money market funds accelerated to 30% owing to the rise of key interest rates, while the assets volume of interest funds has shrunk by a fifth during the year.

Similarly to the first quarter of 2006, the **share of foreign assets in the assets of funds** also decreased in the third quarter. At the end of September it encompassed 78% of the total (see Figure 5.3). The share of foreign assets has diminished mainly because investments in the shares of residents' and domestic deposits have shrunk. Investments in the markets of the EU rose to 65% of foreign assets by the end of the period (see Figure 5.4). During the past half-year, the greatest increase was experienced by investments in the markets of Russia and EU member states, particularly Austria, Luxembourg, France and Hungary, where 85% of the volume of new investments was channelled. The total volume of instruments issued to the Estonian stock, bond and fund markets continued to equal approximately 2.9 billion kroons, i.e. 12% of the assets of the investment and pension funds registered in Estonia. In nominal terms this is slightly over a tenth more than at the end of March

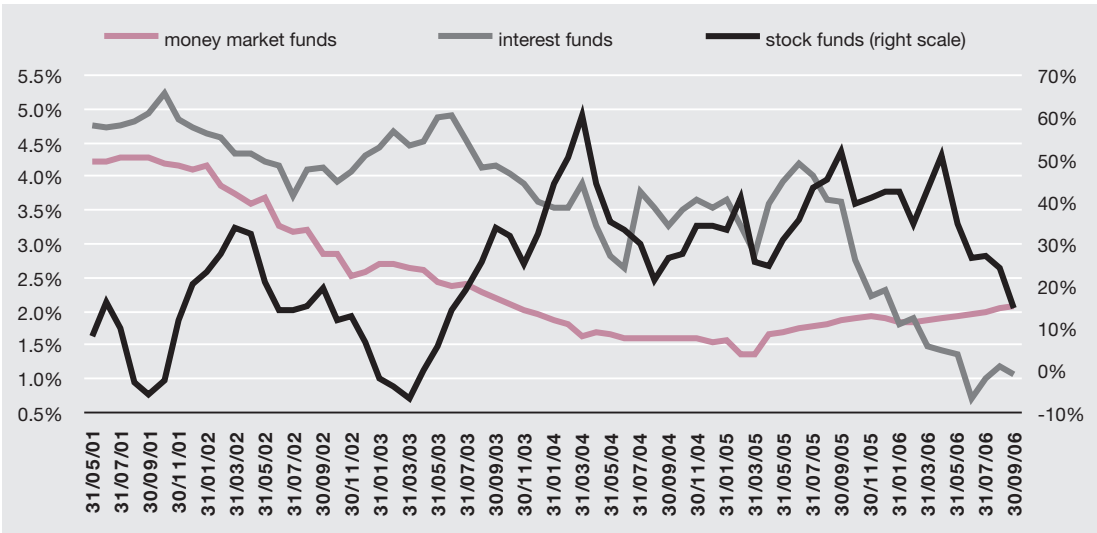

Figure 5.1. Average yield of investment funds (%)

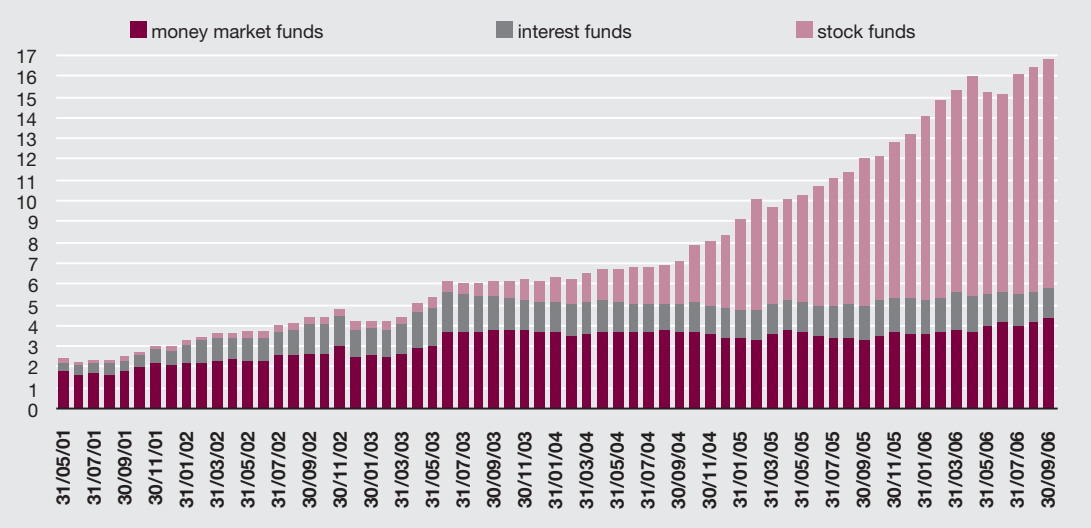

Figure 5.2. Volume of investment fund assets at end-month (EEK bn)

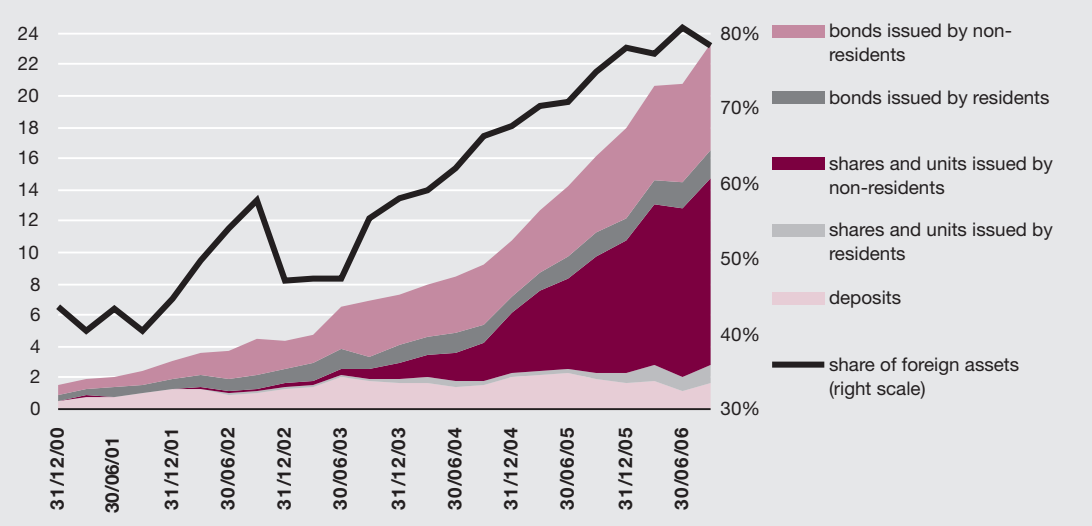

Figure 5.3. Structure of investment and pensions fund assets (EEK bn) and share of foreign assets (%)

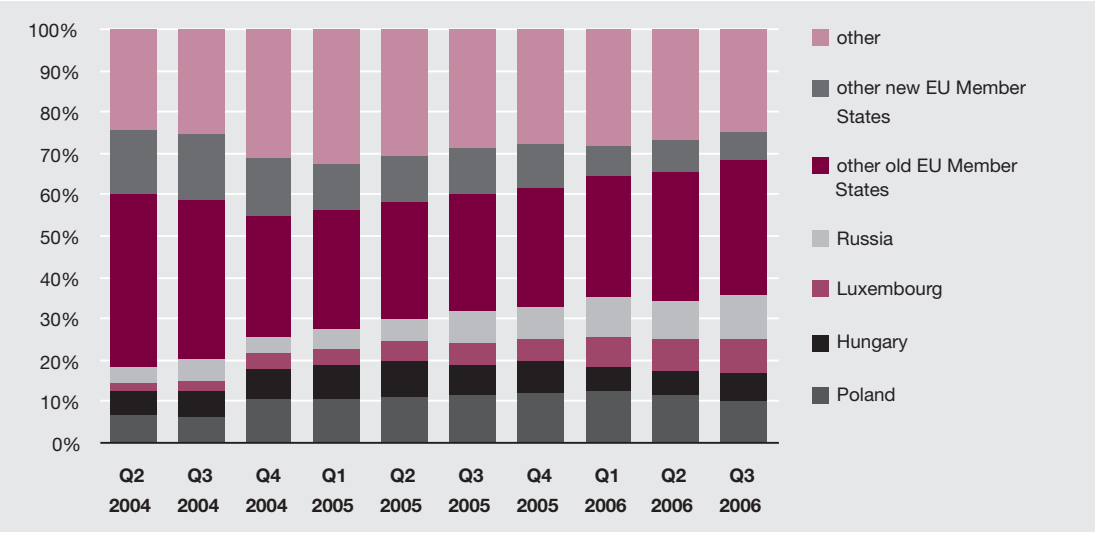

Figure 5.4. Foreign investments of investment and pension funds by residency at end of period

2006. As the number of securities listed on the stock exchange has grown recently, investments in domestic stocks and shares have increased by a quarter, exceeding 1.1 billion kroons at the end of September.

In the past half-year, **two new stock funds** were added to mutual funds – Hansa Central Asia Equity Fund and Hansa Eastern Europe Real Estate Equity Fund. At least 50% of the assets of the Hansa Central Asia Equity Fund will be invested in Central Asian[1] stocks or similar tradable rights, with the rest invested in the deposits and money market instruments of issuers from the same region. The assets of Hansa Eastern Europe Real Estate Equity Fund will be allocated to the securities of Central and Eastern European[2] countries, including at least 50% to the real estate sector. The base currency of both funds is the euro.

By the end of October, 113 funds providing services all over the Baltic States had joined the **Baltic Fund Centre, a fund information environment created in the spring of 2006 and administered together by the stock exchanges of the Baltic States**[3]. In addition to the funds registered in the Baltic States, the Fund Centre also provides access to data concerning 33 funds registered in Luxembourg and 27 funds registered in Finland. The Baltic Fund Centre was created in order to provide information in comparable form and on common grounds about funds that publicly offer investment fund units in the Baltic States.

PENSION FUNDS AND INSURANCE

At the end of October 2006, the number of subscribers to the **second pillar of the pension system** amounted to approximately 517,000 persons, i.e.

[1] Incl. Kazakhstan, Azerbaijan, Russia, Georgia, Uzbekistan, Armenia, Kyrgyzstan, Tajikistan and Turkmenistan.
[2] Incl. countries that joined the European Union in 2004 as well as the current and future candidate countries.
[3] For further information, see http://www.baltic.omxgroup.com/market/?pg=funds.

about 64% of the labour force. The total volume of the second pillar's funds increased by 58% (by 2.4 billion kroons) within the past year and stood at 6.6 billion kroons at the end of September. At the end of the third quarter, the total volume of the second pillar's pension funds comprised 27.6% of the financial assets invested in investment funds by households (compared to 25% a year ago; see Figure 5.5).

The number of subscribers to the **third pillar** reached nearly 100,000 persons by October 2006, comprising approximately 12.3% of the labour force. The year-on-year growth of the third pillar funds was 75%, i.e. 251 million kroons (in September 2005, it was 140% and 195.6 million kroons, respectively). Including pension insurance, by the end of the second quarter of 2006 the volume of the third pillar was nearly 2.2 billion kroons, of which pension funds comprised 25%. The share of pension insurance is on the rise again – half a year ago it constituted 70% of the third pillar's structure (see also Figure 5.6).

The **structure of pension fund assets** has changed slightly within the year. The share of investment fund shares and units in the asset structure of the second pillar pension funds has increased remarkably. A year ago they comprised 26%, while this year 35% of assets have been invested in the funds. Meanwhile, the importance of stocks and shares, as well as bonds, has decreased but compared to earlier periods, the percentage of residents' stocks and shares has increased.

As at the third quarter, the importance of investment fund stocks and shares had also increased in the investments of third pillar pension funds – from 33% to 50%. They gained primarily on the account of bonds, the importance of which decreased by 14% compared to the same period last year. Furthermore, the importance of stocks in the structure of assets decreased by 5%.

Similarly to second pillar investments, investments in resident stocks, shares and bonds have also increased in the third pillar. This was caused by recent issues in the domestic stock and bond market. To compare, in September 2005 the total volume of residents' stocks, shares and bonds

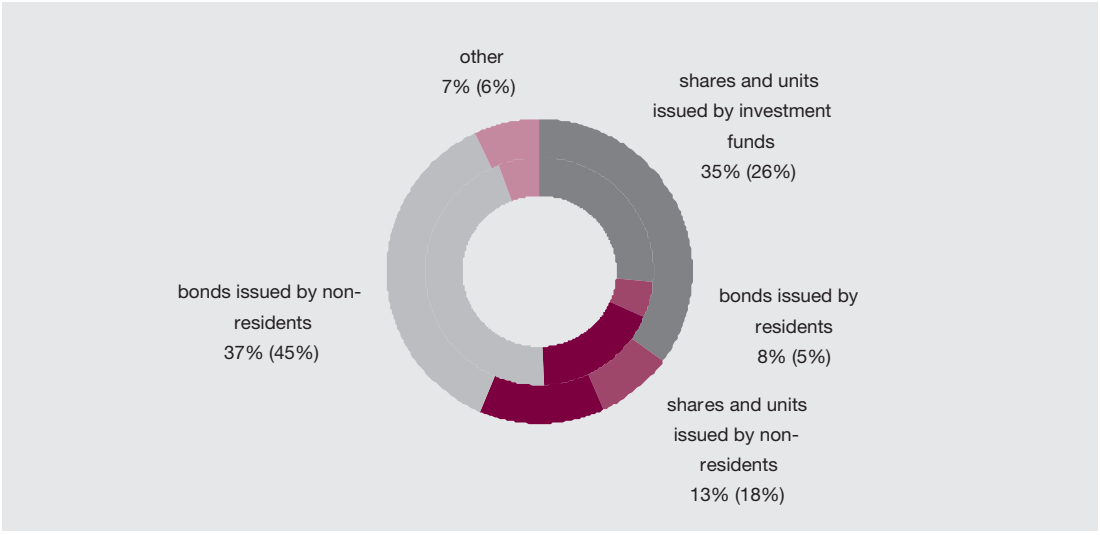

Figure 5.5. Structure of II pillar pension fund assets as at 30 September 2006 (position on 30 September 2005 indicated in brackets)

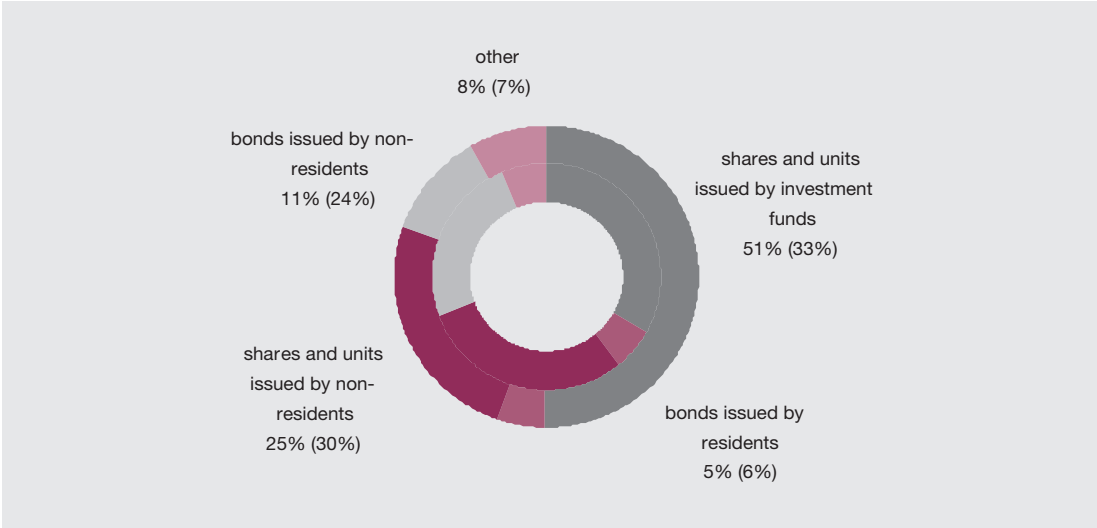

Figure 5.6. Structure of III pillar pension fund assets as at 30 September 2006 (position on 30 September 2005 indicated in brackets)

in the third pillar pension fund assets amounted to 39 million kroons, while in September 2006 it reached 85 million kroons (incl. the stocks and shares of domestic investment funds). The share of Western Europe in the investments of third pillar pension funds continued to rise, increasing from 39% a year ago to 51% by the third quarter of 2006.

As expected, the correction of stock markets in May exerted the greatest influence on the changes of high-risk funds and **net values of the shares of supplementary funded pension funds**. However, despite a slight decrease, the net value of the stocks of most funds reached their pre-correction level after four months (see Figure 5.7).

The impact of events in May can also be clearly discerned in the **annual yield** indicators of pension funds. While the yield indicators of low and medium-risk funds that had started to drop in May started to rise again slightly in August, the yield indicators of high-risk and supplementary funded pension funds continued declining as at the end of August (see Figure 5.8).

LIFE INSURANCE

During the past year (from the third quarter of 2005 until the second quarter of 2006), life insurance companies earned a **profit** of 82.8 million kroons, which is half less than the previous respective indicator. The primary cause of this decrease in profits is the stock market correction that occurred in May of this year, which also had a negative impact on the investments of life insurance companies. Owing to this, most Estonian life insurance companies ended the second quarter with a loss. The return on equity of life insurance companies stood at 9% (30.3% at the end of 2005), which is the lowest level since 2003.

The year-on-year growth of **gross premiums** (from the fourth quarter of 2005 until the second quarter of 2006) in the life insurance market stood at 30%. The total amount of collected gross premiums amounted to 1.46 billion kroons (see Figure 5.9). The greatest contribution to their volume growth was made by gross premiums collected by unit-linked life insurance contracts, which had an annual growth of 53%. Meanwhile, it should be mentioned again that this

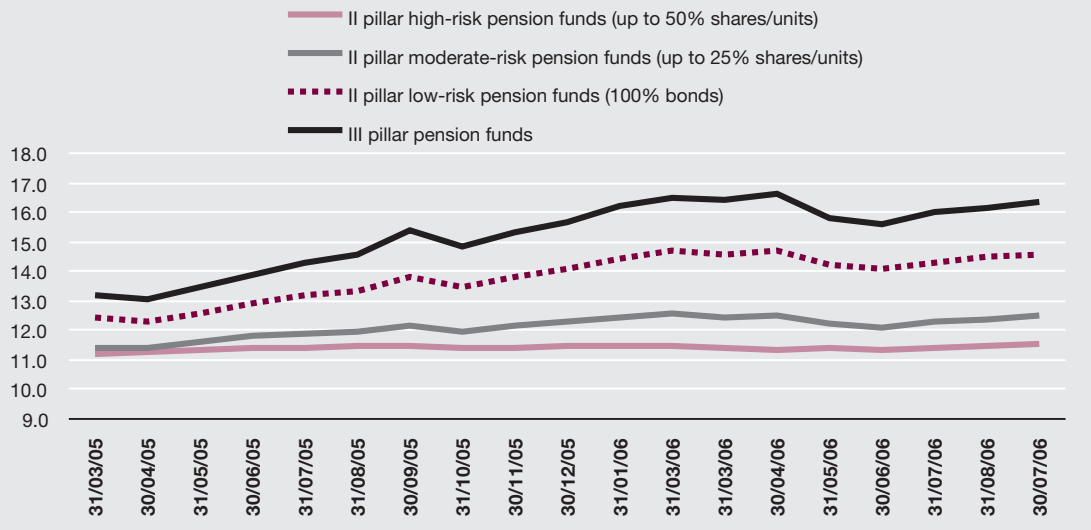

Figure 5.7. Net asset value of pension fund shares and units at end-month

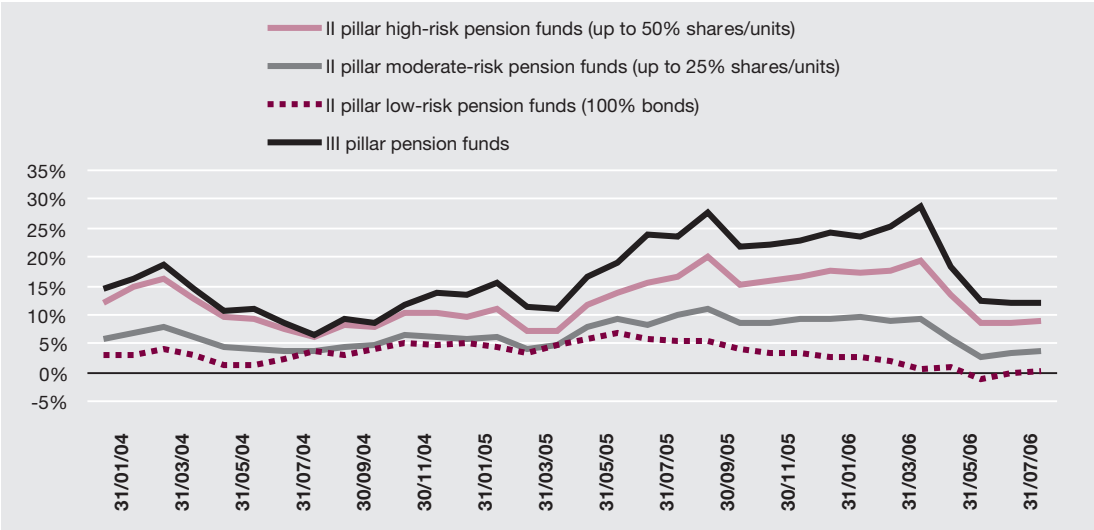

Figure 5.8. Annual yield of pension funds at end-month

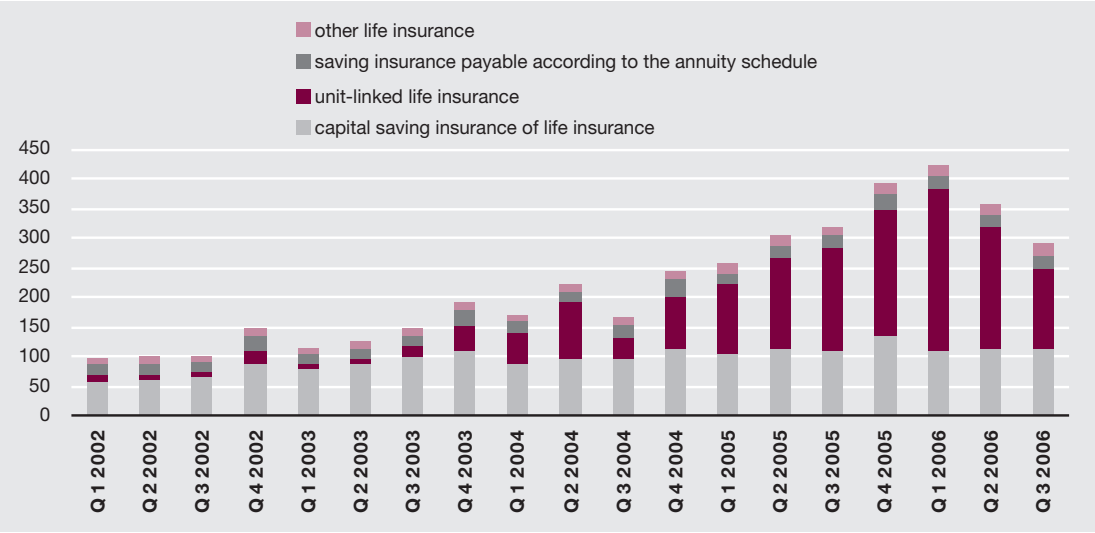

Figure 5.9. Gross premiums collected by life insurance companies (EEK m)

growth stems primarily from the extraordinarily dynamic growth in the volume of gross premiums during the first quarter. While in the previous Financial Stability Review we left the question of whether the sudden increase in volume of gross premiums was an isolated event or a long-term trend unanswered, we can now conclude with certainty that their boost in spring was a one-off event.

The **investments** of life insurance companies are divided into two parts on the balance sheet – the investments of unit-linked life insurance contracts and investments made for covering other insurance contracts (see Figure 5.10). The structure of investments made for covering other insurance contracts has not undergone any significant change during the past several quarters. As at the end of the second quarter of 2006 the total volume of these investments stood at 2.31 billion kroons, which comprised 55.4% of the balance sheet total (as opposed to 69% at the end of the second quarter of 2005). Compared to the respective indicator a year ago the role of stocks and other securities has increased, mainly on account of bonds. However, the share of stocks has started to decrease slightly in the past quarter, which is most probably a result of the stock market adjustment.

At the end of the second quarter, the volume of unit-linked life insurance contract investments comprised 38% of the balance sheet total of life insurance companies (27% in the previous year). Most of the unit-linked life insurance contract investments were channelled into investment fund stocks (84%), followed by shares (9%).

NON-LIFE INSURANCE

A new property insurance provider entered the non-life insurance market in the third quarter of 2006 – Hansa Varakindlustus. According to Hansapank, property insurance is a strategic field which they intend to develop vigorously over the next few years. The primary success factor is the fact that in Estonia, the average volume of collected insurance premiums per resident is twice smaller than elsewhere in Europe, demonstrating that this field is considered to have promising growth potential.

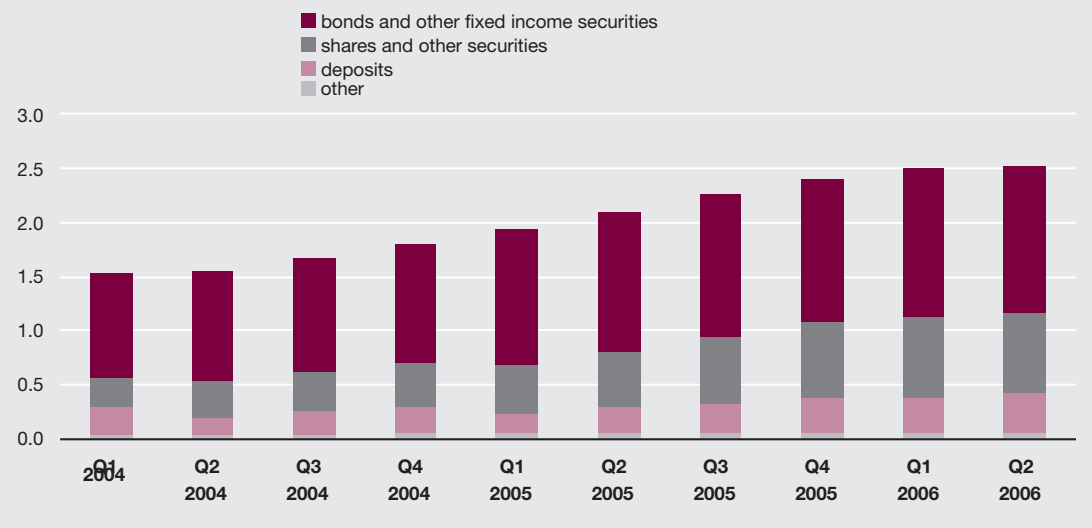

Figure 5.10. Investment structure of life insurance companies (EEK bn)

The year-on-year **profit** of non-life insurance companies in the second quarter of 2006 stood at 625 million kroons, exceeding the previous year's indicator by 40%. Return on equity was 36.6% in the first half of 2006. As the new non-life insurance company has been operating for only a few months, the structure of the non-life insurance market has not changed significantly during the year.

The **gross premiums** collected by non-life insurance companies this year have reached 3 billion kroons. The volume of these premiums has grown by 15.4% compared to the same period last year (see Figure 5.11). As the greatest contributors to the growth of gross premiums were the insurance of land vehicles, private property insurance and third party motor liability insurance, the increase of gross premiums may still be explained by the generally favourable economic situation and the rapidly increasing volume of loans.

At the end of the second quarter of 2006, the **investments** of non-life insurance companies amounted to 3.1 billion kroons, which comprised 87% of the balance sheet's total (84% a year ago; see Figure 5.12). Due to the nature of the operations of non-life insurance companies, their investments are mainly channelled into liquid assets. Based on this line of argument, the share of bonds and other securities with fixed return rates increased even further during the last year. Therefore, the general growth in interest rates is going to have a perceptible negative impact on the non-life insurance companies' profitability and on the yield of their investments.

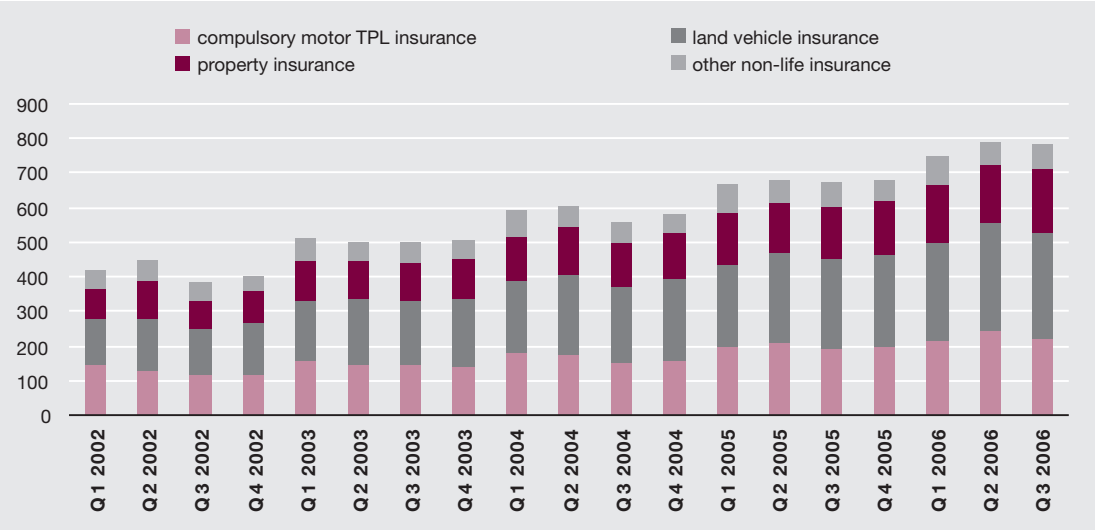

Figure 5.11. Gross premiums collected by non-life insurance companies (EEK m)

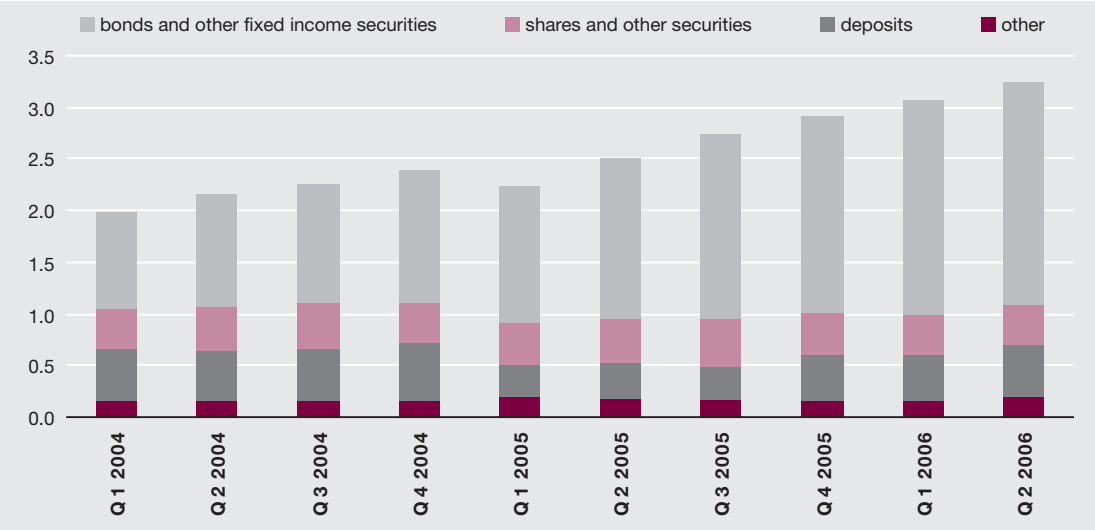

Figure 5.12. Investment structure of non-life insurance companies (EEK bn)

VI PAYMENT SYSTEMS

SETTLEMENT SYSTEM OF INTERBANK PAYMENTS

The number of payments settled through the **Real-Time Gross Settlement (RTGS)** system has fallen 3% year-on-year (see Figure 6.1). The number of customer payments underwent the biggest decline (8%). Behind such a change lie the developments implemented in the Settlement System of Ordinary Payments (ESTA) as of October 2005: the increase in the number of settlement periods and the elimination of the limit on large-value payments.

Changes in the Designated Time Net Settlement (DNS) system have led to yet another structural change in RTGS payments. The sums paid in as collateral for ESTA settlements have decreased. Just a year ago the share of collateral in ESTA's turnover stood at 88%, while currently it stands at 65% as an annual average. The decline in the sums paid in as collateral for ESTA settlements stems from a more even distribution of ESTA settlement volume over the entire day and also from the possibility for a bank to re-transfer all the money paid in as collateral as well as the funds received into the bank's RTGS account after the end of the first settlement period.

The average volume of settlements in the RTGS during the past 12 months was 175 payments per day, of which 72% were customer payments. The average value of the transactions initiated by bank customers was 3.2 million kroons, compared to 2.2 million kroons a year ago (annual growth of 49%). Average turnover increased 13% and amounted to 2.8 billion kroons per day. Banks' ESTA collateral account transactions still accounted for most of the turnover (55%).

The **Settlement System of Ordinary Payments (ESTA)** was launched on 3 October 2005. The ESTA is an updated version of the former Designated Time Net Settlement (DNS) system. For banking customers the implementation of the ESTA has led to two significant changes: the settlement day is three hours longer now and the settlement cycle is more frequent. Instead of the former three times, beneficiary banks are informed of received payments nine times a day, i.e. on every full hour. Consequently, payments made from one bank to

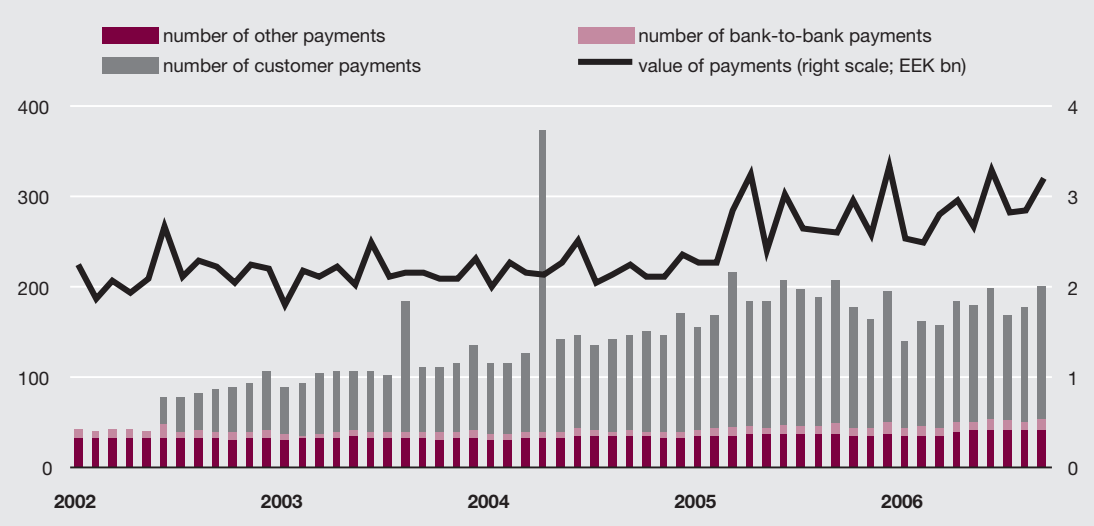

Figure 6.1. Number of payments processed per day in the RTGS system and their average daily value per month

another reach the beneficiary in no later than in an hour and a half.

An average of 77,000 payments a day was settled through the ESTA during the past 12 months, which is 15% more than a year ago (see Figure 6.2). The daily turnover of the ESTA grew rapidly during the past year, having increased 39% year-on-year and for the first time rising above the 1 billion kroon level (average turnover of 1.1 billion kroons). The average value of payments settled through the ESTA was slightly over 14,500 kroons, having increased 23% during the review period.

PAYMENT INTERMEDIATION

Payment environment

No major changes have occurred in the environment of retail payments within the past year. According to a survey conducted by TNS Emor on payment habits, the usage of non-bank channels for payments[1] continues to decrease (from 68% in 1999 to 25% in 2006). 75% of Estonian households handle regular payments through banks by using electronic means of payment[2] and/or paying by paper-based credit orders in bank offices (see Figure 6.3).

In the course of five years the Internet banking and payment cards that we take for granted today quickly attracted new users and the growth trend has also continued in 2006 (see Figure 6.4). Furthermore, the increasingly improved availability of the Internet has enhanced the popularity of Internet banking: today every second Estonian resident aged 15 to 75 uses the Internet regularly[3].

During the year over 147,000 new Internet banking contracts were concluded, raising the total

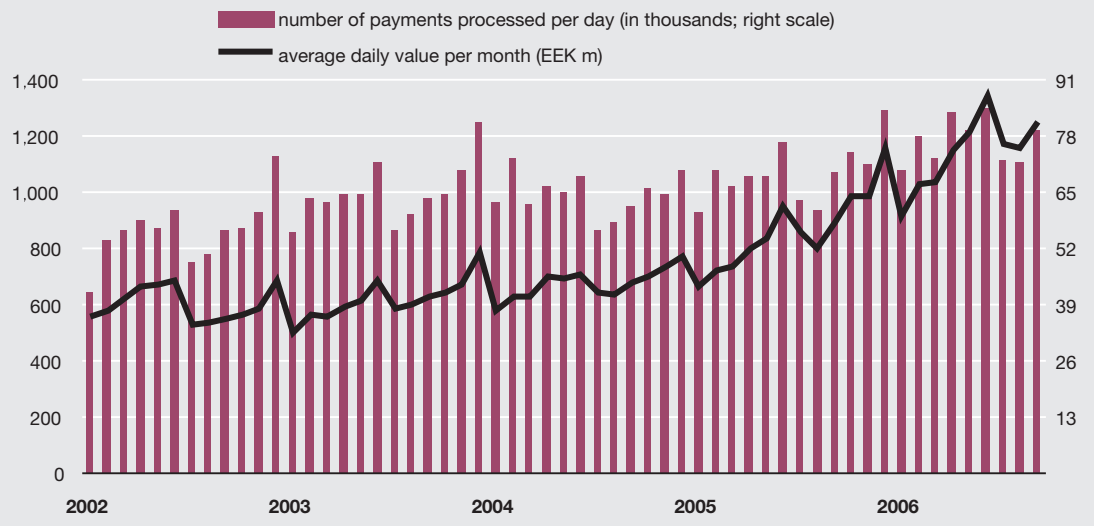

Figure 6.2. Number of payments processed per day in the DNS system and from 3 October 2006 in ESTA and their average daily value per month

[1] Making at least one regular payment per month either in cash or directly to their service providers in their offices or through the post office.

[2] Payment orders made through Internet banking, standing orders, direct debit, card payments to service providers in their offices, payments made through a self-service payment terminal or telephone banking.

[3] Source: TNS Emor e-monitoring.

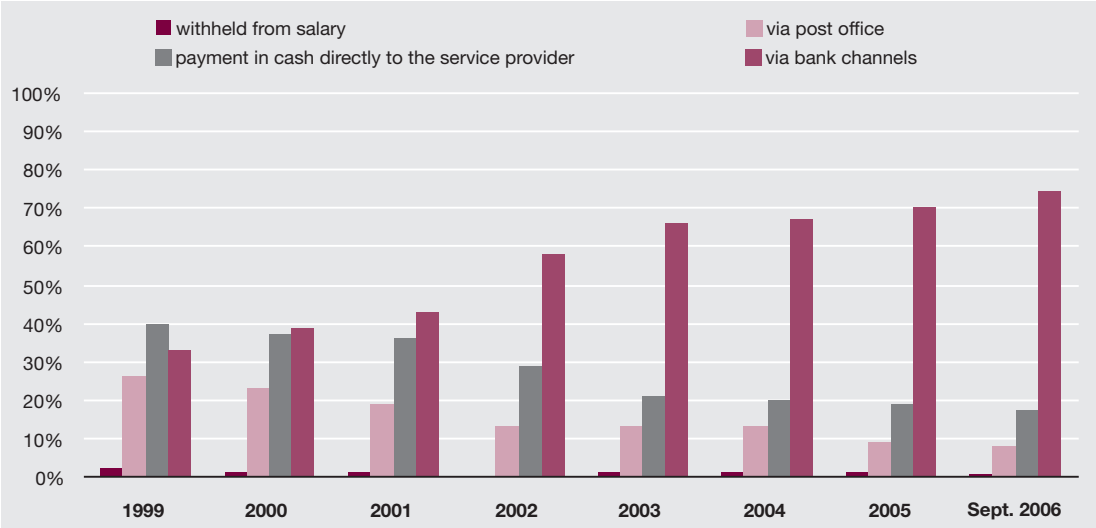

Figure 6.3. Regular payments via bank and other channels (% of all wide-spread regular payments made by households)

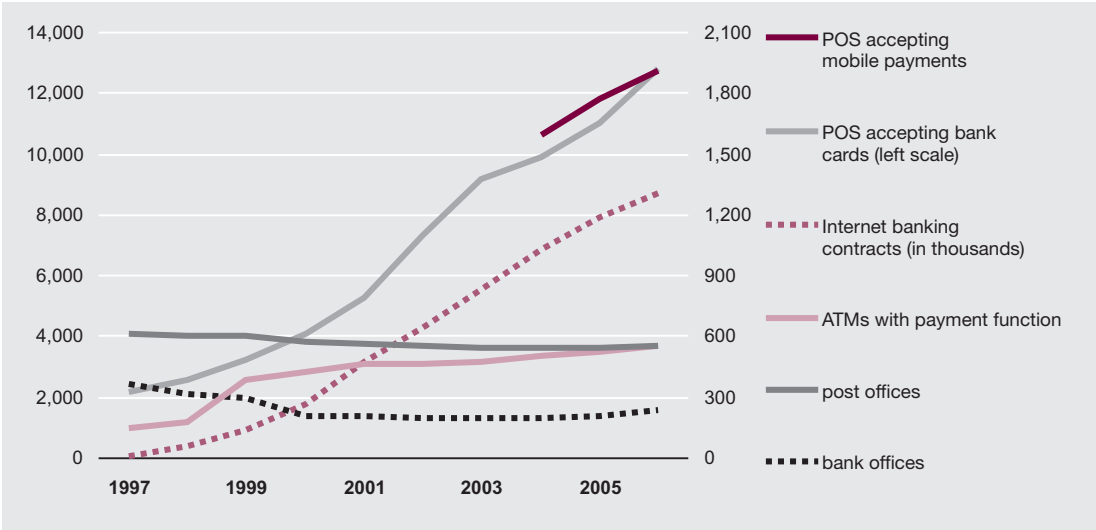

Figure 6.4. Retail payment channels in Estonia (as at end of period)

number to over 1.3 million by the end of the third quarter. However, the rate at which Internet banking contracts are concluded has been slowing down for several consecutive years. This year the pace slowed by 4 percentage points (from 17% to 13%).

The growth in the number of points of sale (POS) accepting payment cards has remained at last year's level of 16%. At the end of the third quarter, there were some 13,000 POS in Estonia. Payment terminal technology has developed further and in the future card payments should become even safer and more convenient as there will be payment terminals using a new type of radio communication, namely the Bluetooth technology.

The number of payments received and intermediated by the Estonian postal company Eesti Post has consistently decreased along with the development of banks' electronic channels. In 2005, the number of payments fell 28% on 2004[4].

Payments via credit institutions

During the past eight years the payment methods used in Estonia have not changed much. However, electronic and more convenient methods of payment are being increasingly preferred to cash, as well as paper-based and telephone bank credit orders. Furthermore, Internet banking is preferred to telebanking. In November 2002 the mobile payment order was introduced. Moreover, customers can also use their mobile phones to make payments at retailers.

As regards non-cash payment methods, card payments (103 million transactions per year; see Figure 6.5) have the largest share (56%). Internet bank credit orders (46 million transactions) have a considerably smaller share (24%) along with tele-

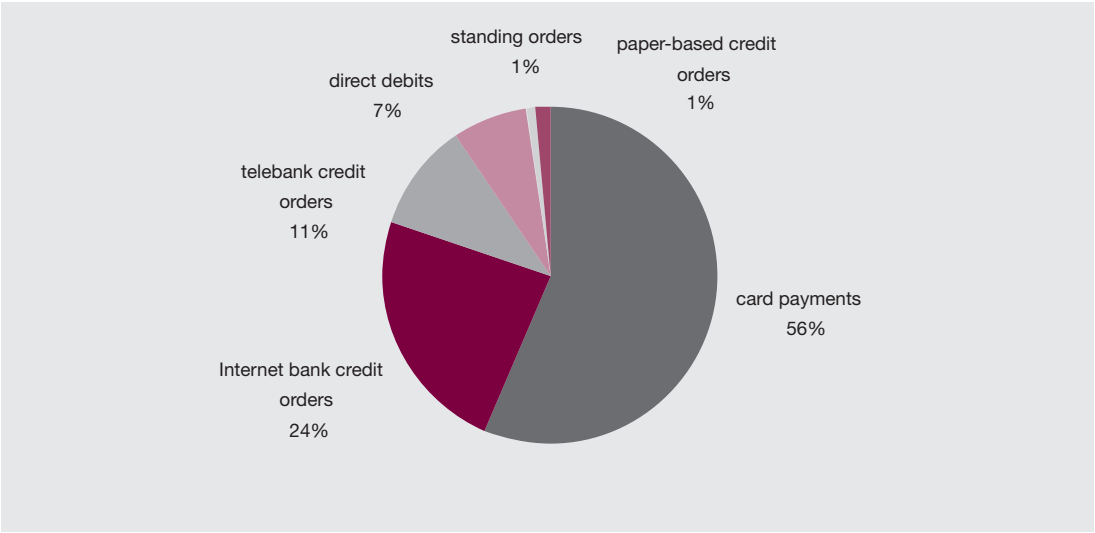

Figure 6.5. Percentage of non-cash payment instruments in Estonia (as at end of Q3 2006)

[4] According to the annual report of Eesti Post for 2005 (http://www.post.ee/failid/aastaraamat_preview_2005.pdf).

bank orders (11%; 23.5 million transactions). More extensive use of non-cash and electronic payment methods is above all possible on account of the residents who use cash the most (the retired, residents of Southern Estonia and small towns, non-Estonians and residents of Ida-Viru County).

The volume of card payments increased 18% year-on-year with the rate of growth remaining at the level of the preceding period (see Figure 6.6). The number of Internet bank credit orders grew 6% during the year and the number of direct debits 8%, with the growth rate thereof slowing by 5 and 2 percentage points, respectively. Meanwhile, the use of mobile payment orders[5] seems to be thriving: the number of transactions increased 51% year-on-year, whereas the total number of transactions is still modest (over 116,000 transactions in 2006). Standing orders are also gaining popularity with a year-on-year growth of 6%, amounting to more than 1.8 million transactions. According to TNS Emor, the popularity of direct debits and standing orders arises from the overall financial freedom and better awareness of banking services, as well as from the wish to make payments more conveniently.

Use of payment cards

According to a survey by TNS Emor, one third of households pay for purchases in cash while two thirds pay with a payment card. The use of payment cards is not limited by the lack of payment possibilities, but rather by general attitudes and preferences. For instance, some people do not have a need for payment cards or they consider them complicated to use.

By the end of the third quarter of 2006, credit institutions had issued over 1.5 million payment cards, of which 76% were active (i.e. at least one payment

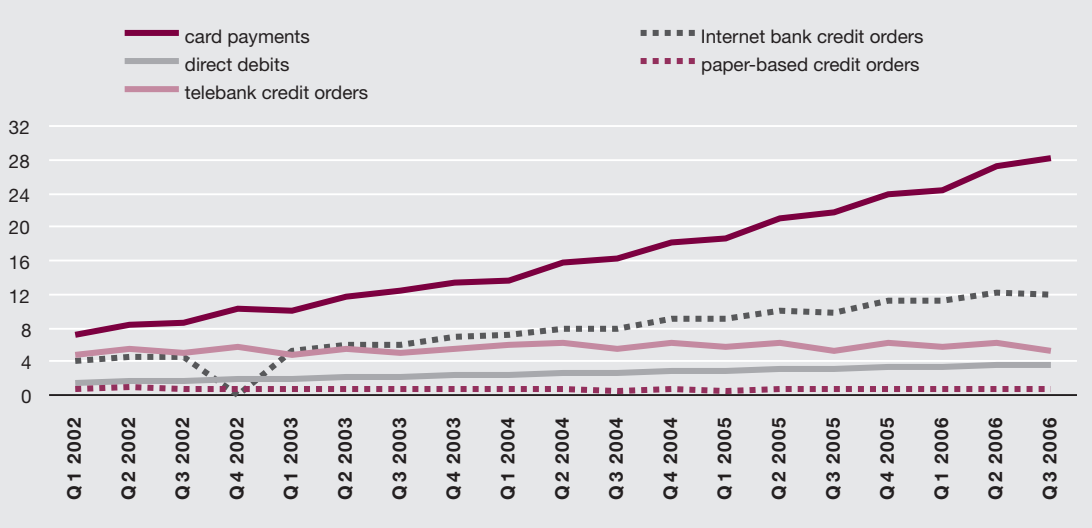

Figure 6.6. Widely used payment instruments in Estonia by number of payments (millions)

[5] A payment order not initiated at a POS that allows mobile phone payments for goods or services purchased to be forwarded by a payer to his/her credit institution via a mobile phone.

transaction per accounting period was made with the card). The total number of payment cards increased 13% during the review period and the growth rate increased by 5 percentage points.

The breakdown of debit and credit cards as of 2004 was as follows: approximately 80% were debit cards and 20% credit cards. 80% of debit card holders and 60% of credit card holders consistently used their cards to make payments at least once a month. The use of credit cards has slightly accelerated since 2004 – the growth in active credit cards has picked up by some 10 percentage points (see Figure 6.7). The use of credit cards has increased both as a result of product campaigns of credit institutions as well as by more active travelling.

Most of the credit cards are instalment cards (42%; see Figure 6.8).[6] More revolving credit cards have been issued during this period than during the preceding period (the growth rate increased by 4 percentage points) while fewer charge cards have been issued (the growth rate decreased by 5 percentage points).

On average, every adult aged 20 to 74 has a debit card while one in five people have a credit card, which they use actively. Also on average, each adult makes use of their credit card 30 times a year to make payments, a rise of seven transactions on last year.

ASSESSMENT BY THE OVERSEER OF THE PAYMENT SYSTEMS

Regarding the oversight of payment systems, the most significant activity of 2006 has been the assessment of the **compliance of Estonia's payments and securities settlement systems with the requirements of the Eurosystem**. In all EU

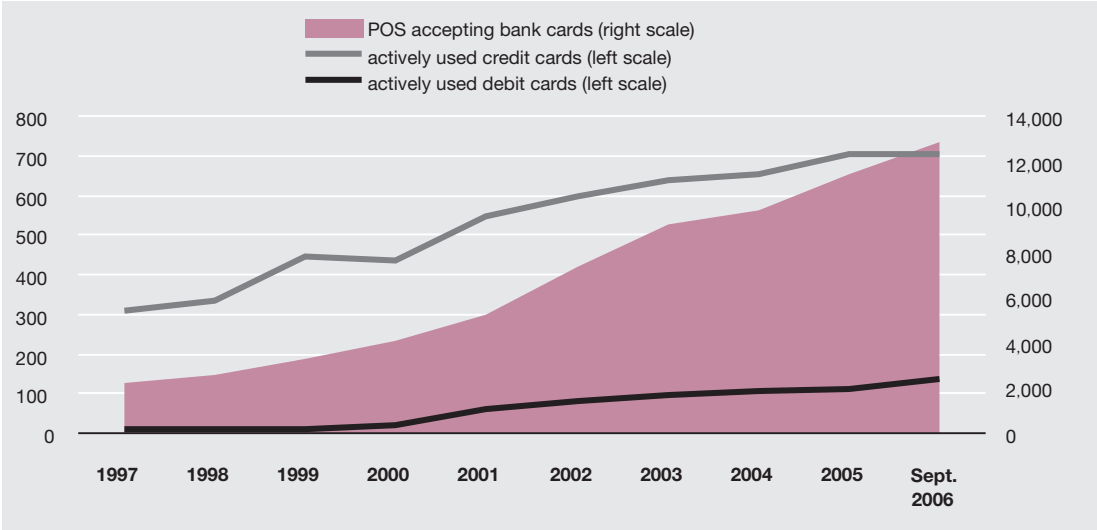

Figure 6.7. Number of payment cards in Estonia per thousand residents and number of POS terminals accepting payment cards as at end of period

[6] *Instalment card* – a payment card with a fixed repayment schedule for the credit generated upon using the card. *Revolving credit card* – a payment card without a fixed date for repayment of the credit generated upon using the card. *Other credit card* – a payment card with several different possibilities of repayment of the credit generated upon using the card. *Charge card* – a payment card with a fixed repayment date of the credit generated.

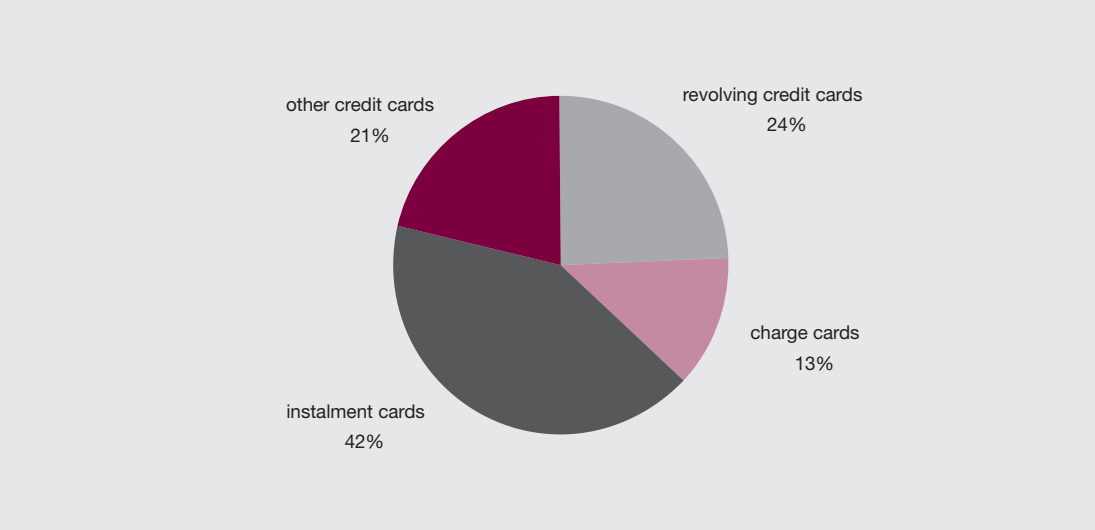

Figure 6.8. Percentage of credit cards in Estonia (as at end of September 2006)

Member States whose currency is the euro or who want to join the euro area, systemically important settlement systems have to comply with the principles of the Eurosystem and these systems must be officially recognised as eligible for the Eurosystem. The settlement systems that belong to the scope of the Trans-European Automated Real-Time Gross Settlement Express System (TARGET), i.e. the Real-Time Gross Settlement (RTGS) systems operating in the Member States, as well as the systems used for the settlement of claims and liabilities arising from central bank's monetary policy operations and liquidity providing transactions, are regarded as systemically important settlement systems.

The European System of Central Banks (ESCB) assessed the following systems: the EP RTGS system managed by Eesti Pank and the securities settlement infrastructures, which, more precisely, is an arrangement created in conjunction with international central securities depositories for concluding transactions between Estonia's central bank and commercial banks, as well as the securities settlement system managed by the Estonian Central Depository for Securities (ECSD). According to the ESCB, **all the above-mentioned systems were eligible for the Eurosystem**.

Regarding the RTGS system managed by Eesti Pank, most attention was paid to the legal basis of the system, its compliance with the security requirements of TARGET and the definition of settlement finality in the system's rules. Proceeding from the assessment given by the overseer, Eesti Pank has made or will soon make all appropriate changes. To date, the system's rules that specify more precisely the principles of settlement finality have been approved. The EP RTGS system has been declared to be a settlement system under the scope of the settlement finality directive[7] and has been included on the respective list.

The **arrangement created for transactions with international central securities depositories**

[7] Directive 98/26/EC of the European Parliament and of the Council of 19 May 1998 on settlement finality in payment and securities settlement systems.

was assessed to be compliant with the standards, but prior to its adoption the Governing Council of the European Central Bank must approve it as a possible arrangement to be used as an exception in the Eurosystem. The assessment report suggests two different options. The first implies the continued use of the arrangement created with the international depositories while being a member of the Eurosystem and at the same time maintaining the current domestic securities settlement system. The other option involves the possibility of using the arrangement created with the international depositories while giving up the current domestic securities settlement system, which, according to the report, implies closing down the domestic securities settlement system entirely. Proceeding from the possibility that in the future the settlement of securities compliant with the requirements of the Eurosystem could be performed through the ECSD either independently or proceeding from the consolidation of the companies in the OMX group, Eesti Pank prefers the first option.

Even though Eesti Pank is not currently using the domestic securities settlement system managed by the ECSD to conduct central bank transactions with securities as collateral, at the request of the ESCD the system managed by the ECSD was also assessed. As a member of the Eurosystem the central bank will only use the securities settlement system managed by the ESCD if it settles securities eligible as collateral for Eurosystem credit operations. According to the assessment, the securities settlement system managed by the ECSD is eligible for the Eurosystem, but there are time limits on conducting transactions for securing intraday settlement finality. Furthermore, in order to be fully compliant with the requirements of the Eurosystem, the ECSD must apply ESCB guidelines in risk management and arising from the operational requirements of TARGET.