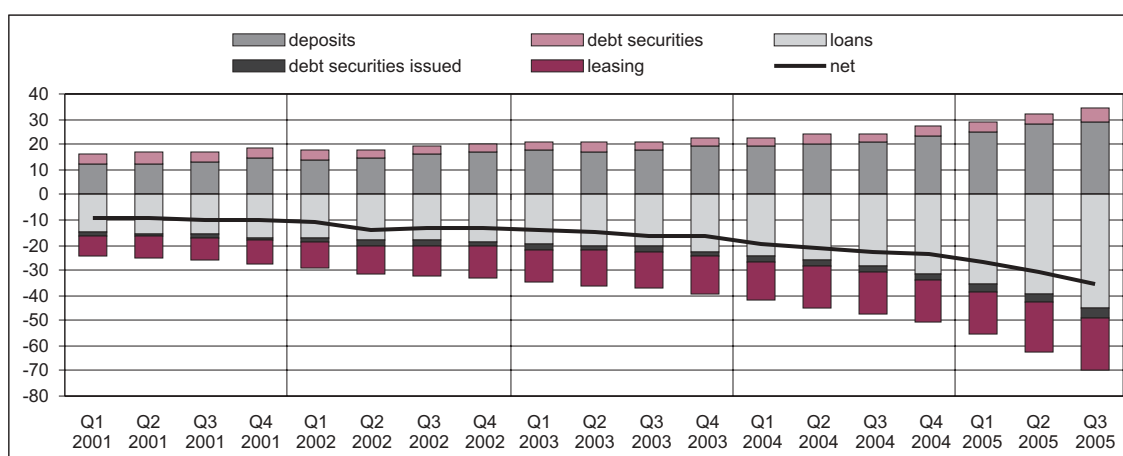


## II FINANCIAL BEHAVIOUR OF COMPANIES AND HOUSEHOLDS AND THEIR RISKS

### ■ Companies

#### Financial Position and Saving

Exceptionally high loan demand since the second half of 2004 entailed the weakening of the corporate **net position of domestic financial assets and liabilities** (see Figure 2.1). Although the growth rate of deposits reached its highest level of the last five years in the second and third quarters of 2005, it still remained below the average loan growth indicator of the period.



**Figure 2.1. Corporate financial assets and liabilities to domestic banks and leasing companies (EEK bn)**

The annual growth rate of corporate **deposits** rose high (41%) in April 2005 when minority shareholders received funds from the sales of Hansapank's shares. The outflow of funds was not that large later on, thus keeping the deposit growth rate fast because of lower comparison basis. Excluding transactions with Hansapank's shares, the dynamics of corporate deposits did not change significantly: within the first nine months the growth rate of deposits remained nearly the same, compared to the previous year. However, based on the aggregate data of the domestic financial sector it remains unclear whether the structure of corporate financial assets actually changed after the sales transaction of Hansapank (i.e. in favour of deposits) or whether the growth of total financial assets remained stable.

#### Corporate Debt

**Corporate debt growth** started accelerating in the first half of 2005, being partly affected by the previous year's lower base level. At the end of June, the annual debt growth reached 22%, which is the record level of the past five years. Financing through domestic loans and leasing experienced a strong increase, whereas growth in foreign borrowing continued to slow down (see Figure 2.2).

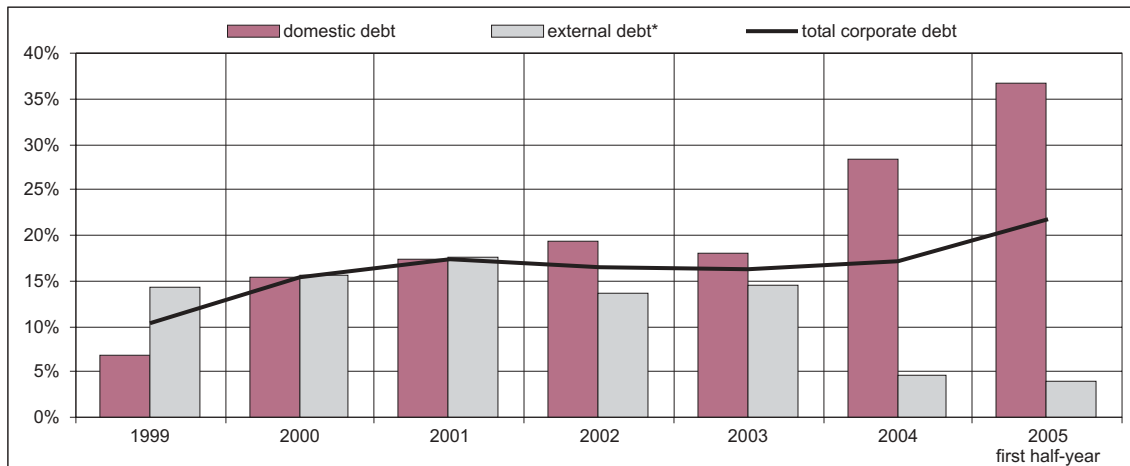


Figure 2.2. Corporate debt growth

\* intercompany claims subtracted

Rapid acceleration of debt growth brought about an **increase in corporate debt**. Corporate debt rose to 67% in ratio to GDP in the middle of 2005, increasing by 5 percentage points within a half-year (see Figure 2.3). At the same time, the external indebtedness has remained stable, having even decreased in retrospect. The behaviour of cross-border groups did not change substantially. Although local companies have recently increased lending to their foreign subsidiaries, the difference between intercompany financial claims and liabilities has remained almost unchanged over the past four years.

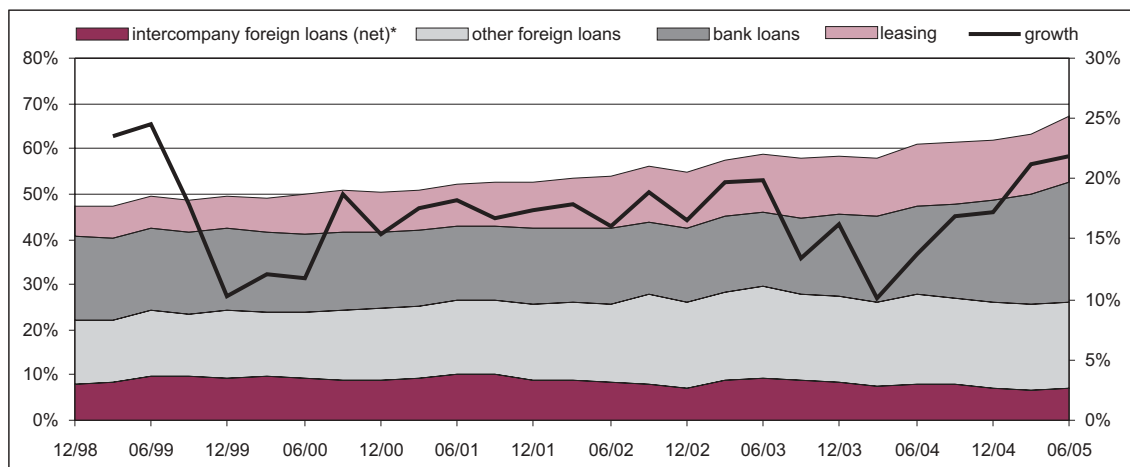
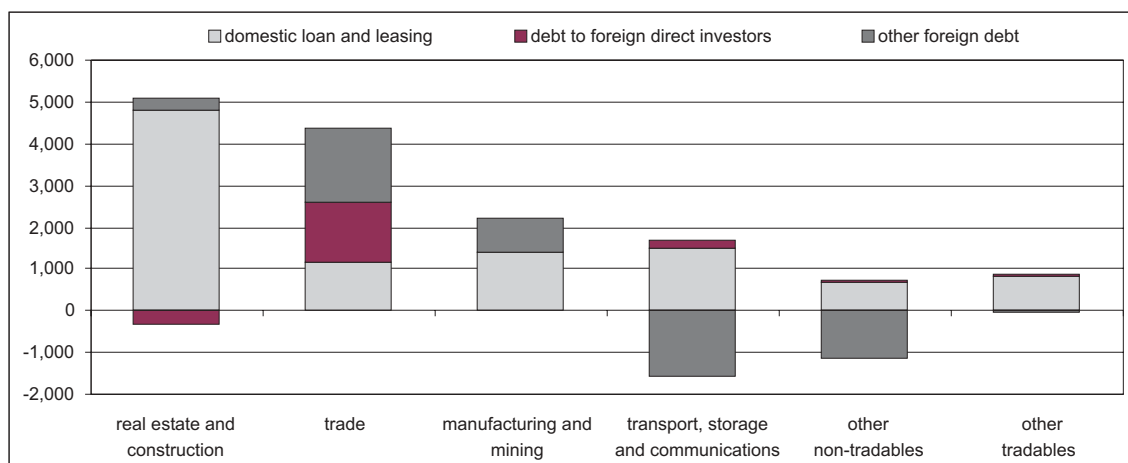


Figure 2.3. Corporate debt (% of GDP; left scale) and growth rate (right scale)

\* intercompany claims subtracted

By **fields of activity**, real estate and construction companies were again the most active to attract debt capital in the first half of 2005 – their debt increased by 4.7 billion kroons (see Figure 2.4). The debt growth of trading companies was also remarkable, whereas the increase in trade credit accounted for nearly 58% of that. Transport, storage and communications companies attracted debt capital rather modestly in the first half-year.

As regards the financing structure, virtually all fields of activity preferred domestic loans and leasing. Meanwhile, the use of intercompany funds for financing the industrial sector, which so far has been quite customary, even decreased.



**Figure 2.4. Net borrowing of corporate sector in the first half of 2005 by fields of activity (EEK m)**

The financial situation of Estonian companies shows no signs of deterioration despite rapid debt growth. Growth of financial assets accelerated at the end of 2004 as well as at the beginning of 2005. The share of own funds in the structure of financial liabilities has also increased, indicating an improvement of the debt-to-equity ratio.

## Debt Intermediated by Domestic Financial Sector

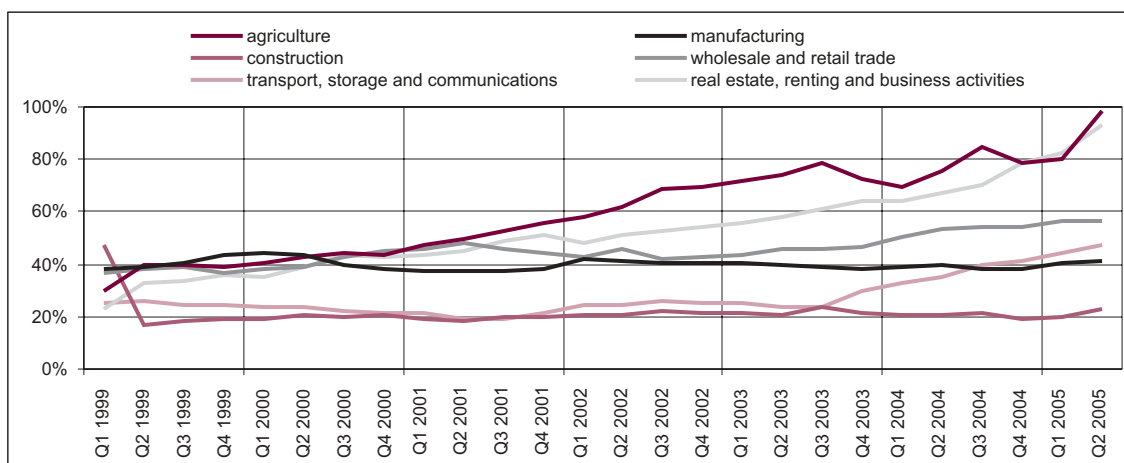
The **annual debt growth** intermediated by the Estonian local banking and leasing sector reached 40% in September 2005, considerably exceeding the previous year's indicator (28%). The nominal volume of domestic corporate debt increased by approximately 15.8 billion kroons in the first nine months.

Besides usual economic activity factors, the high domestic loan demand also reflects a certain substitution effect on account of external debt growth deceleration, i.e. preferring domestic loans and leasing to foreign borrowing, and to a lesser extent the growing volume of EU subsidies that has induced demand for bridge financing and loans for required self-financed contribution of the subsidised investment projects. However, the role of the latter factor in loan growth is relatively modest. According to estimates, the credit volume related to structural subsidies exceeded 1 billion kroons (approximately 2.2% of the corporate loan stock) at the end of 2004 and it may increase up to 1.7 billion kroons by the end of 2006. However, as the corporate loan and leasing portfolios mainly consist of loans to the real estate sector (approximately 35%), rapid loan growth in the whole corporate sector can still be explained by high demand in the respective field of activity.

The indebtedness of real estate companies and agricultural companies (the latter being affected by EU subsidies) has grown the most over the past few years. While at the end of the second quarter of 2005 the domestic debt-to-GDP ratio of the whole corporate sector was 40%, the indicators for real estate and agriculture were 93% and 99%, respectively (see Figure 2.5).<sup>1</sup>

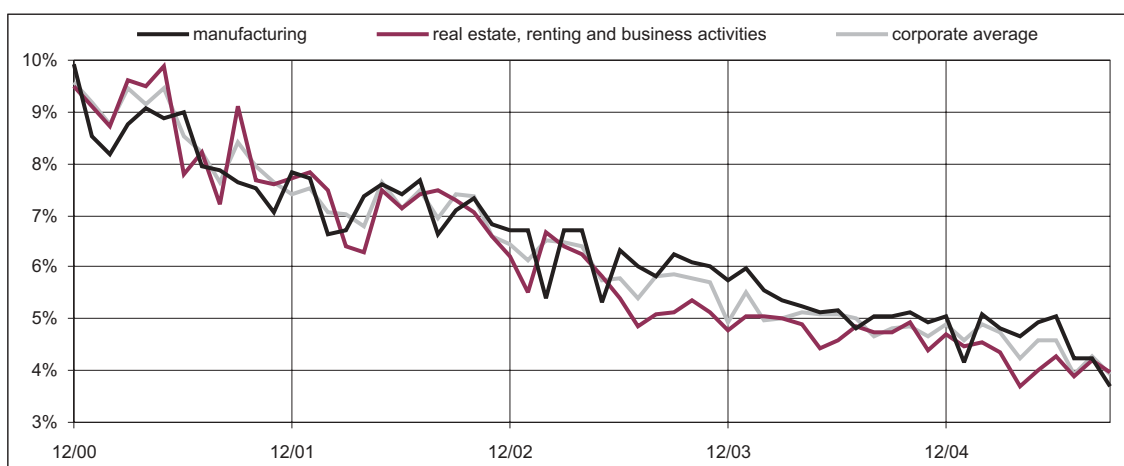
Strong debt growth has been facilitated by improved credit conditions. For instance, the **monthly average long-term corporate interest rate**, which has remained below 5% since the second half of 2004, reached an average of 4% in the third quarter of 2005 (see Figure 2.6). In addition to the fact that EURIBOR has remained low for quite a while, the interest margin on corporate loans has also declined significantly, amounting to an average of 1.9% in ratio to the six-month EURIBOR in the third quarter.

<sup>1</sup> In fields of activity where financing relies more on external funds, the ratio of debt to value added has been underestimated in the above calculation. Including also foreign borrowing, the debt of real estate and agriculture is still the largest.



**Figure 2.5. Ratio of domestic corporate debt to value added by fields of activity**

Source: Statistical Office of Estonia



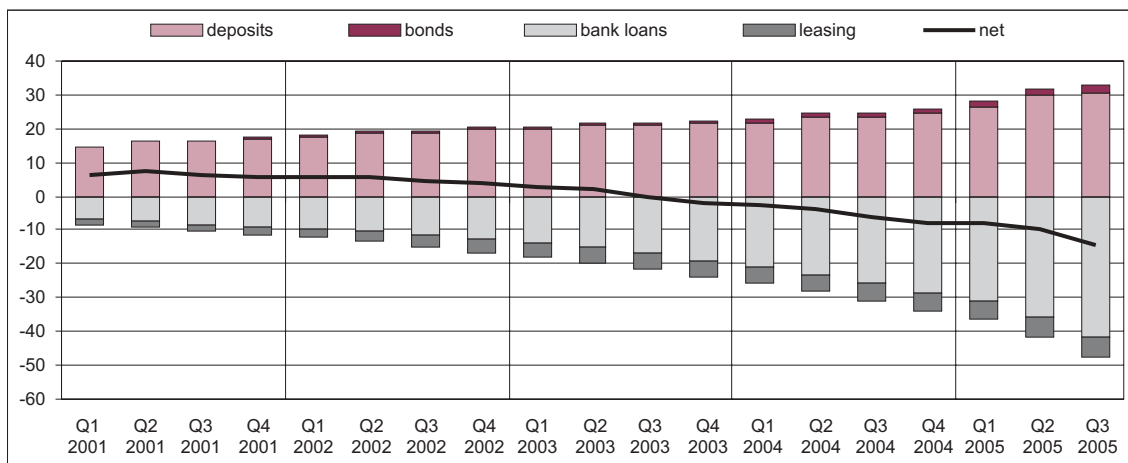
**Figure 2.6. Long-term corporate interest rates**

Considering the positive economic outlook of Estonia and optimistic corporate forecasts, further rapid growth of corporate (domestic) loans can be expected in the near future. In the coming years, this may be decelerated by increasing loan interest rates and the completion of processes in financing schemes in recent years (i.e. preferring domestic loans and leasing to foreign borrowing).

## ■ Households

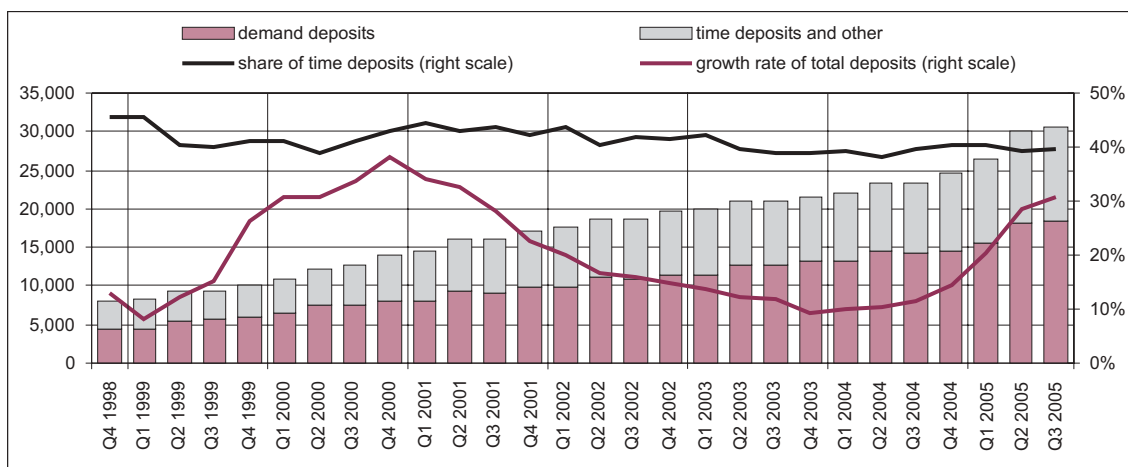
### Financial Position and Saving

Although the growth of financial assets accelerated significantly, the net position of households' financial assets and liabilities kept deteriorating also in 2005. At the end of September 2005, financial liabilities exceeded financial assets to the domestic banks and leasing companies by 14 billion kroons (see Figure 2.7). As financial liabilities increased mostly due to purchasing real estate, the wealth of households has continued to grow in light of rising residential property prices.



**Figure 2.7. Financial assets and liabilities of households to domestic banks and leasing companies (EEK bn)**

**Deposit growth**, which clearly started an upward trend at the beginning of 2005, continued at an accelerating pace until the end of June. In summer months, saving slowed down for a while, but continued again in September. At the end of September, deposit growth reached the highest level of recent years (31%; see Figure 2.8). It is also worth mentioning that the share of time deposits in total deposits still remains close to 40%, indicating persistence in saving habits.



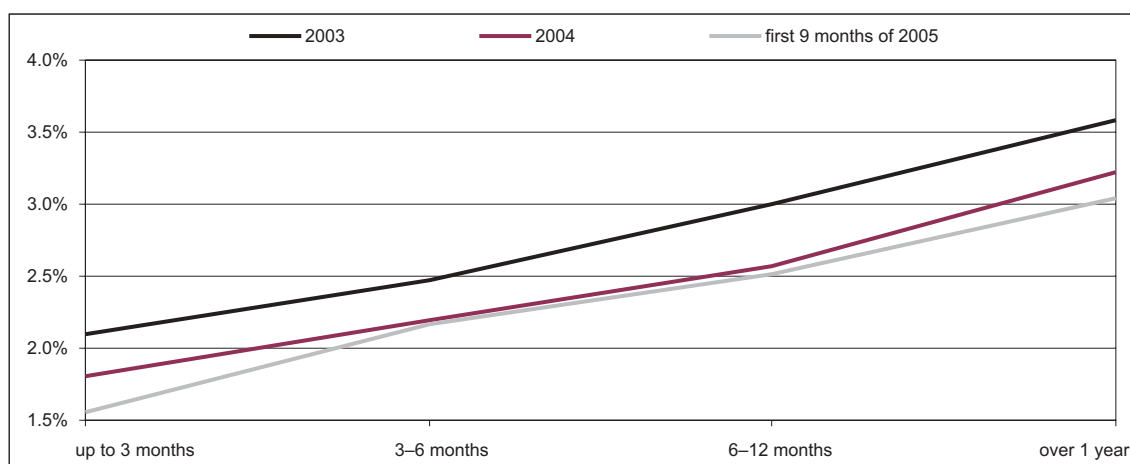
**Figure 2.8. Household deposits in domestic banks (EEK m) and deposit growth**

Household deposits increased especially fast for reasons similar to corporate sector developments. Analysing short-term factors, the impact of the sales of Hansapank on the growth of household deposits was two-three times weaker compared to the corporate sector, but the effect of this event will probably reveal itself in a longer perspective. Unlike corporate deposits, household deposits continued growth also in the third quarter.

The fact that it was not merely a one-off event (stemming from banks' campaigns) but clearly an attitude towards saving, reflects in the consumer confidence barometer of the Estonian Institute of Economic Research as well as in TNS Emor's survey on households' financial behaviour. TNS Emor's 2005 survey showed that the share of households with financial savings has increased by 5 percentage points up to 59% within a year, whereas for the first time in several years saving is motivated by long-term goals. In forecasting

the housing market's activity it is important to mention that households have started to save more for the sake of purchasing residential property or other kinds of real estate. According to the survey, in autumn 2005 41,000 households, i.e. 12% of all families, had savings.

Households have mainly preferred short-term bank deposits, whereas the demand for long-term deposit products has remained modest. The decrease of interest rates has been most significant in short-term kroon deposits (see Figure 2.9).



**Figure 2.9. Yield curve of household time deposits**

In addition to bank deposits, **pension savings** continue to be collected steadily. By the end of September 2005, funds channelled to pension savings made up 5.6 billion kroons, increasing 89% year-on-year (see Chapter V, "Pension Funds and Insurance"). The ratio of pension savings to household deposits has increased from 13% to 18%, year-on-year.

## Household Debt and Loan-Servicing Ability

### *Level and Growth of Debt*

The **annual loan and leasing growth** of households that decelerated in the second half of 2004 started to pick up pace in the first months of 2005. During spring and summer months the growth rate accelerated further and exceeded 50% by the end of September (see Figure 2.10). Rapid loan growth was initially brought about by high demand on the housing loan market where the growth rate again reached the highest level in recent years (55–57%). The growth rate of other loans (incl. consumer credit) decreased until the early summer of 2005. In June, the growth rate increased rapidly, caused by a sudden rise in car leasing<sup>2</sup> and more active credit card use.

**Household indebtedness**, which comprised over 55% in ratio to disposable income, has increased by more than 14 percentage points, year-on-year (see Figure 2.11). Presuming that household debt will increase at the average pace of the past two years (approximately 11 percentage points per year), it is possible that the indebtednesses of Finnish and Estonian households will level off already in four-five years.

<sup>2</sup> The increase in the stock of car leasing is partly related to the fact that three previously excluded leasing companies were now added to the aggregate report.

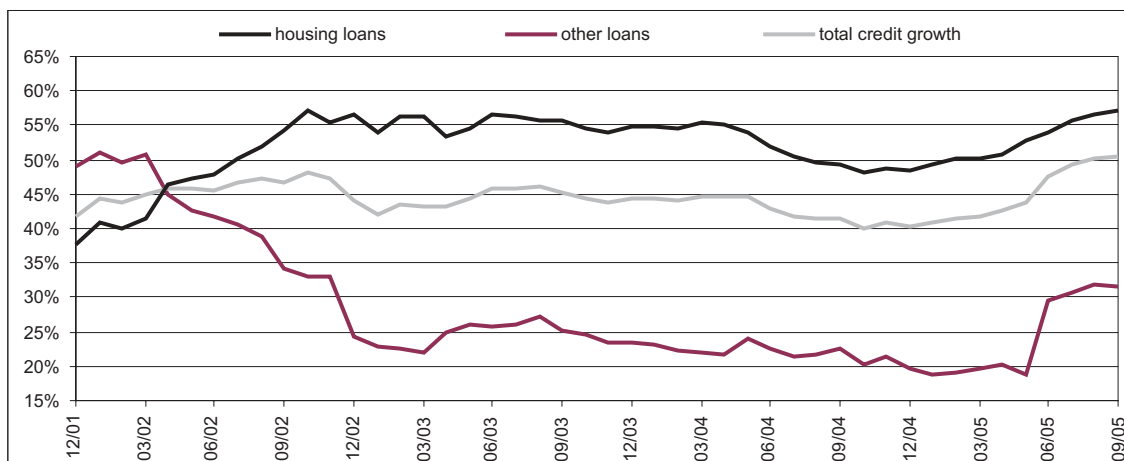


Figure 2.10. Annual growth of domestic credit to the household sector

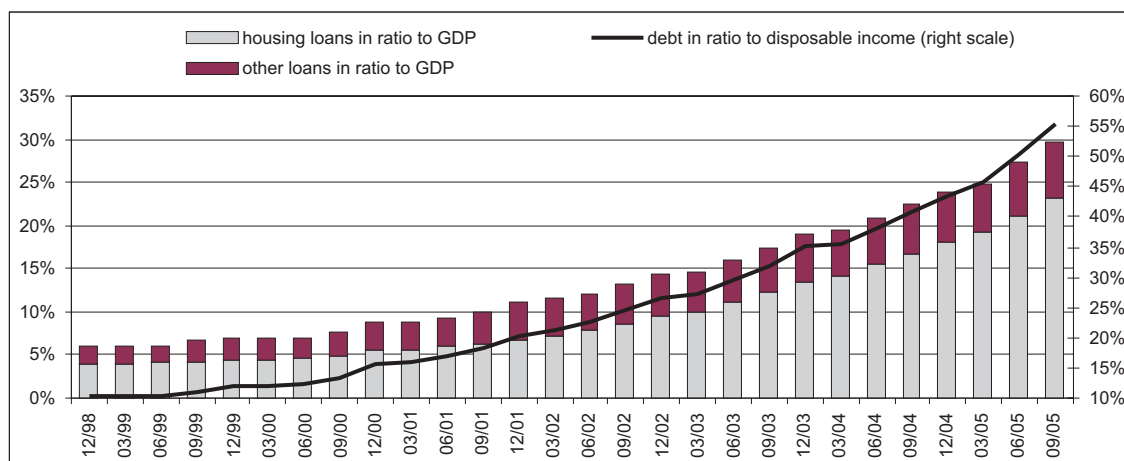


Figure 2.11. Household indebtedness

### Housing Loans

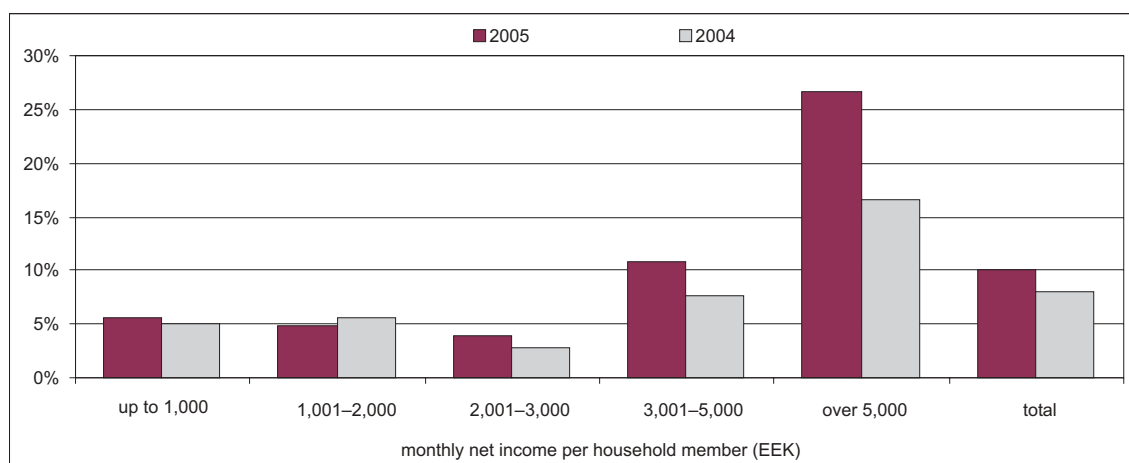
The **stock of housing loans** exceeded 36 billion kroons at the end of September 2005, having grown by more than 13 billion kroons (57%), year-on-year. The stock of housing loans increased approximately 60%, i.e. 8 billion kroons, on account of new loan customers. Like in 2004, the 40% growth in the stock of housing loans in 2005 was contributed by earlier loan customers who used credit for exchanging their previous residential property for a more expensive one or increased loan amounts due to the enhanced market value of the collateral.

The slowdown of the interest rate drop and the expectations of an interest rate rise might affect this process negatively: the opportunity to change contracts in order to apply lower interest rates should soon become exhausted. At the same time, income and residential property prices have increased and loan terms and conditions have improved (e.g. repayment periods have prolonged) so much in the last years that a small interest rate rise might not considerably influence the buffer of a customer's loan-servicing costs.

### Factors influencing demand and supply on housing market

- Market potential.** The housing market increased in 2005 owing to new as well as earlier loan customers. At the end of September, over 91,000 customers had signed a housing loan contract, which amounts to nearly **16% of the total number of households**. Provided that in the fourth quarter the number of new customers remains close to the third quarter figure (approximately 2,000 new customers per month), the share of households who have taken a housing loan may increase by one more percentage point, i.e. up to 17%.

Micro data analysis shows that the housing market has increased mostly on account of households with above average income. According to the TNS Emor's survey F-monitor, which reflects the financial situation and behaviour of Estonian households, the share of households, who have taken a loan for purchasing or building housing, among households with the highest income level (net monthly income above 5,000 kroons per household member) is more than 25%, having increased by 10 percentage points, year-on-year (see Figure 2.12). Meanwhile, the income structure has also evidently changed, supported by a rise in the share of households with higher income in the present survey sample.



**Figure 2.12. Share of households with loans for purchasing/building housing or other real estate by income brackets**

\* loan commitments arising from loans for renovating not included  
Source: TNS Emor, F-monitor 2005

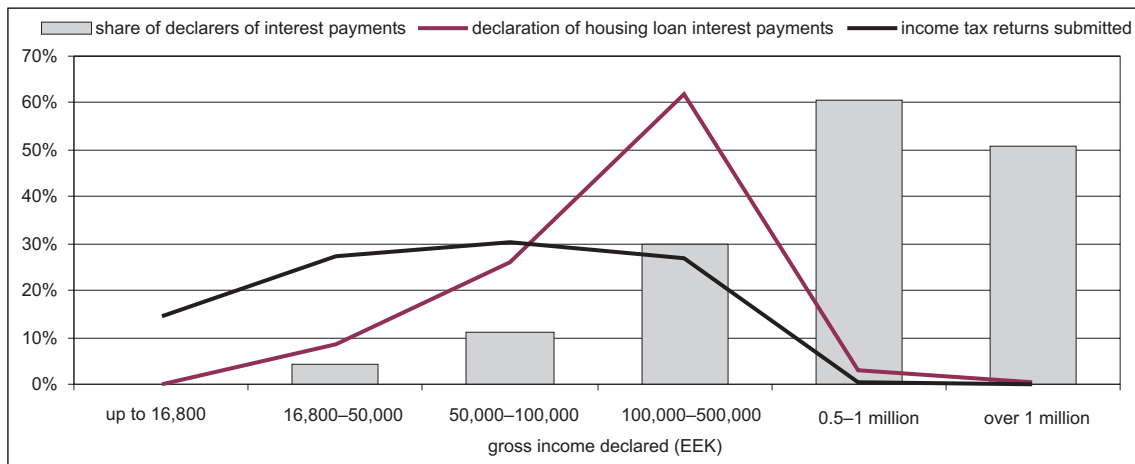
On the basis of natural persons' income tax returns, approximately 65% of housing loan customers declared gross income above the average Estonian wages in 2004 (see Figure 2.13)<sup>3</sup>. 30% of those who submitted the income tax return and whose income ranged from 100,000 to 500,000 kroons had taken a housing loan. As regards people with annual income ranging from 0.5 to 1 million kroons, over 60% had taken a loan. In 2004, fastest increase took place within these income brackets and the same trends most probably continued also in 2005.

Considering the micro data of present loan commitments, the potential amount of housing loan customers is certainly not on the brink of exhaustion. Although in the near future, loan demand might be inhibited by psychological factors (interest rate rise) on the one hand, and the high level of residential property prices compared to income on the other, there is actually still room for an increase in housing loans across all fundamentally creditworthy income groups. According to TNS Emor's F-monitor 2005, more than 8% (about 49,000) households<sup>4</sup> intend to take a housing loan (incl. purchase, building as well as renovation) within the next year.

<sup>3</sup> However, the amount of people who declared above-average wages was substantially smaller (28%).

<sup>4</sup> It is noteworthy that 78% of the households who plan to take a housing loan already have personal residential property (incl. households with housing loan or leasing commitments) and less than a quarter rent a housing.





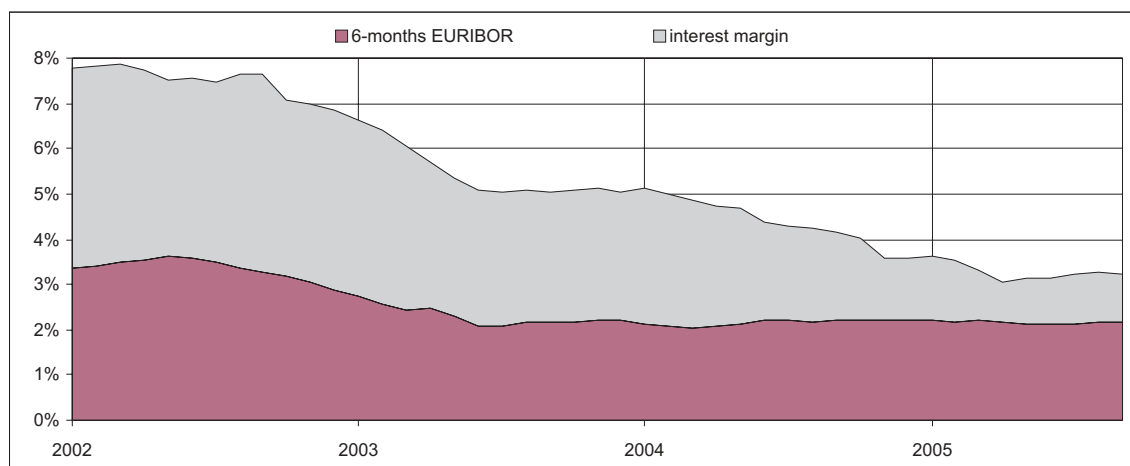
**Figure 2.13. Structure of housing loan clients and average income according to the income tax returns of 2004 (% of cases) and the share of declarers of housing loan interest payments in the total number of declarers**

Source: Estonian Tax and Customs Board

Presuming that the average loan amount and people’s preferences and attitudes do not change, according to this prognosis the housing loan turnover of 2006 will remain smaller than in 2005 (17 and 20 billion kroons, respectively).

- **Interest rates.** Low interest rates have had a major say when it comes to the activity of the housing market. As nearly all new housing loans have been issued with a floating interest rate, in the long run the Estonian housing loan interest rates will be mainly affected by EURIBOR.

However, as EURIBOR has remained at a low level since 2003, the nearly 2 percentage point decrease of housing loan interest rates since then can be explained mainly by the decline of margins in light of tight competition between banks (see Figure 2.14). In spring 2005, the interest margin reached 1 percentage point in ratio to the six-month EURIBOR and thus a margin lower than that is difficult to achieve for banks (in a longer perspective), presuming that they strive to maintain their profit margin.



**Figure 2.14. Development of housing loan interest rates**

Sources: EcoWin, Eesti Pank

## FINANCIAL BEHAVIOUR OF COMPANIES AND HOUSEHOLDS AND THEIR RISKS

A sudden drop in the interest margin of the loan portfolio most probably reflects changes in banks' pricing policy, which has brought about more even customer risk assessments. For instance, while in September 2005 over 60% of housing loans were issued with a margin lower than 1%, in earlier years pricing was considerably more diverse (see Figure 2.15).

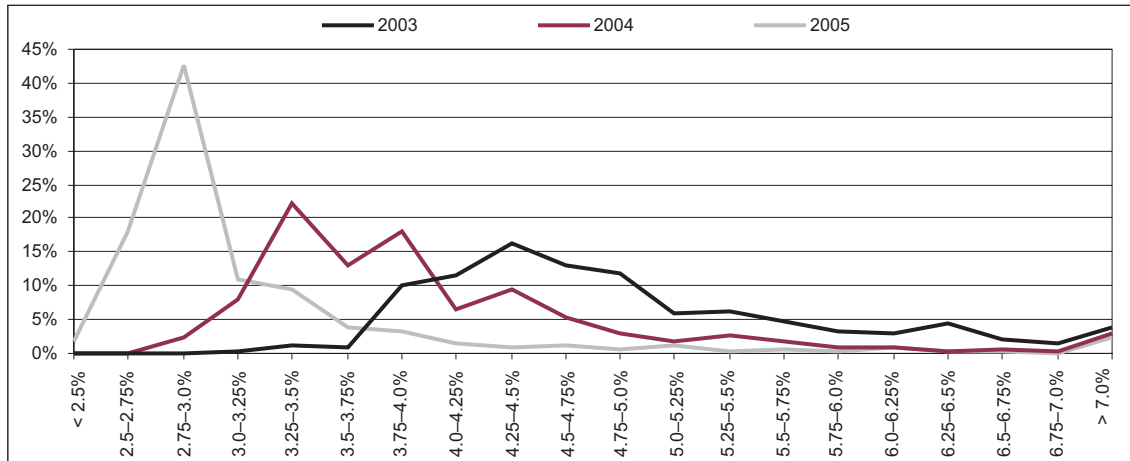


Figure 2.15. Structure of new housing loans issued in September by interest rate ranges

- The **maturities** of housing loans have prolonged significantly within the past five years. While at the end of 2000 the share of loans with the maturity of over 10 years remained below 50%, in the turnover of September 2005 they totalled 91%. Loans with the maturity of over 25 years accounted for more than a quarter of the total number of loans and for over 40% of the turnover (see Figure 2.16).

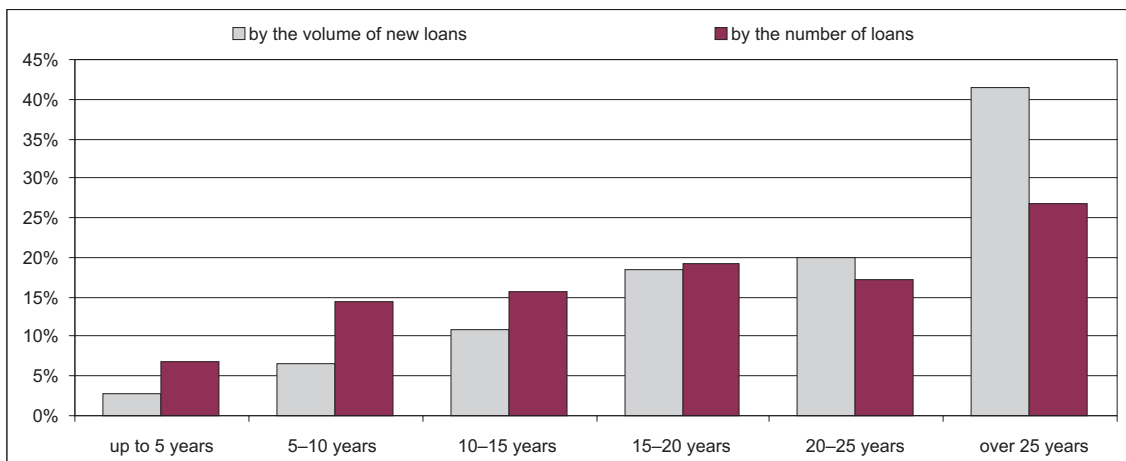


Figure 2.16. Maturity structure of new housing loans in September 2005

- The **government's role** in the development of the Estonian housing market has decreased over the past year. This has been facilitated by the improvement of loan terms and conditions. Compared to 2001, the share of housing loans backed by KredEx has decreased more than twice, accounting for nearly 12%<sup>5</sup> at the end of 2004.

<sup>5</sup> Source: Annual report 2004, KredEx.

The **income tax refund** on the housing loan interests has continued steady growth. Compared to 2003, over 21% more income tax was returned in 2004 (see Figure 2.17). Meanwhile, the average interest refund has diminished (3,200 kroons in 2004), reflecting a decrease in loan interest rates. Housing loan interest payments in ratio to the income earned have remained unchanged over the past years (below 2% of the gross income). As regards income brackets with larger debt burden, the interest rate burden has shrunk.

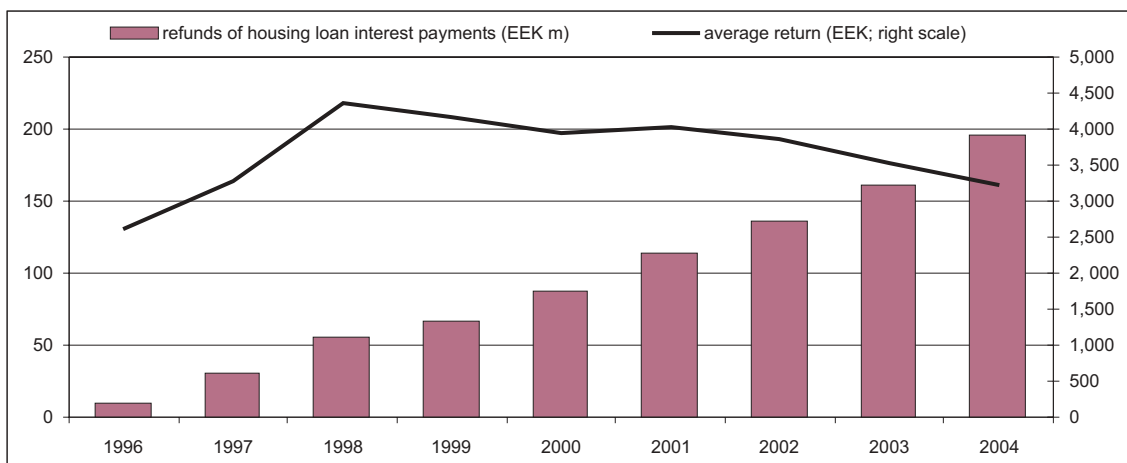


Figure 2.17. Refunds of income tax calculated on housing loan or finance lease interest payments

Source: Estonian Tax and Customs Board

### Consumer credit

**Loans not directly related to financing housing** comprised 22% of the household debt at the end of September 2005, having decreased by 3 percentage points, year-on-year. The majority of non-housing loans still consists of study loans, but rapidly growing credit card debts form already over a quarter of other household loans (see Figure 2.18).

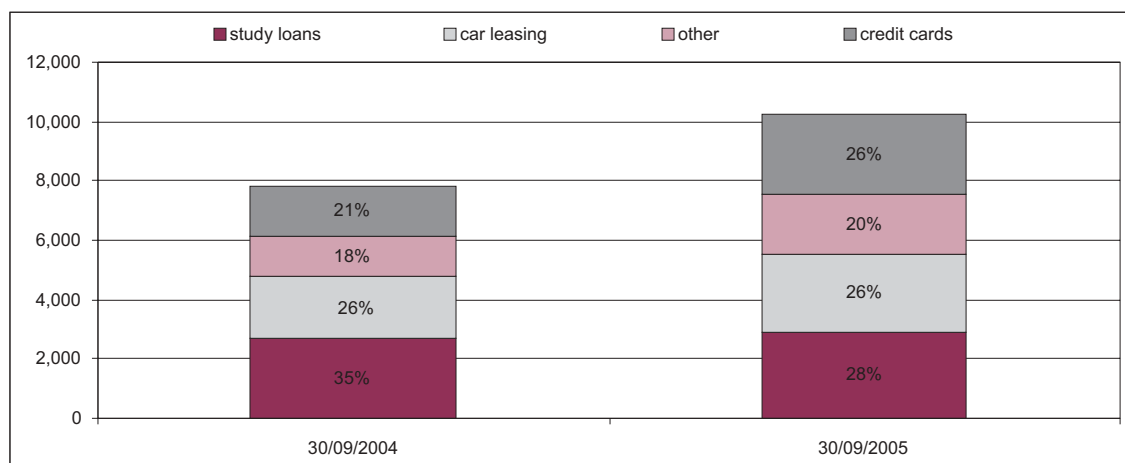


Figure 2.18. Stock (EEK m) and structure of non-housing household loans/leasing

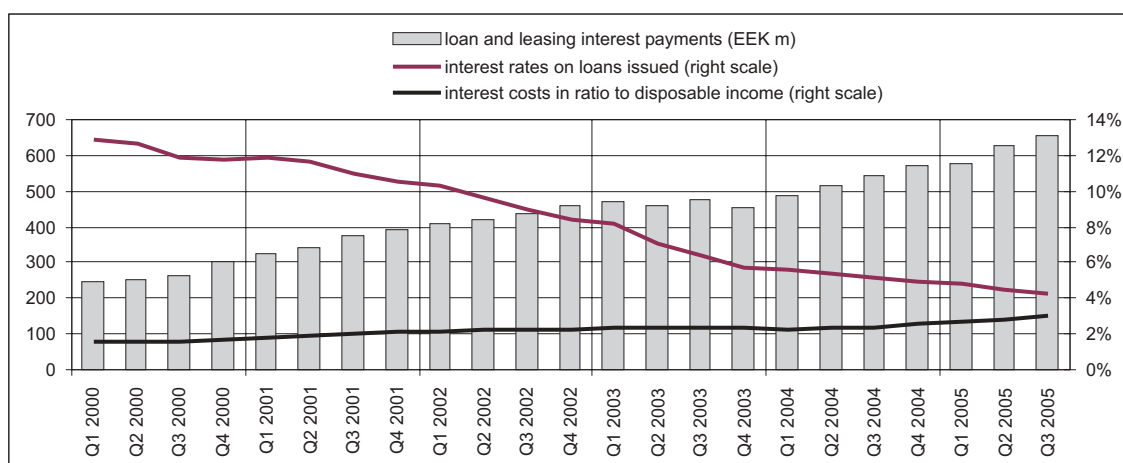
According to TNS Emor's F-monitor, the share of households who finance purchases of durable goods (furniture, home appliances, etc) with a loan remained unchanged in 2005 (17% of households, i.e. about 100,000 families). At the same time, more loan and leasing facilities were used for purchasing a car or other

vehicle compared to last year (7% of households, i.e. about 42,000 families). The loan potential for car leasing will probably remain the same over the following 12 months, whereas the desire to purchase durable goods with loan has started to drop thanks to increased income. The desire to buy durable goods next year has increased, whereas approximately 47,000 households intend to take a loan for that.

### *Households' loan-servicing ability and risks*

Positive macroeconomic developments have secured further increase in household income; meanwhile the favourable interest environment helped households maintain a sufficient loan-servicing ability in the first nine months of 2005. This is also confirmed by the good quality of banks' housing loan portfolios. The favourable loan environment has also encouraged borrowers to take higher risks, which can cause serious setbacks in their loan-servicing ability should the loan environment deteriorate.

The growth of **interest burden**<sup>6</sup> in circumstances where the average loan interest rate has suddenly dropped indicates that the household sector has become more vulnerable to macroeconomic and financial environment changes. Households' interest payments to banks and leasing companies have increased faster than incomes over the last year, raising the interest burden ratio to a 3% level in the third quarter (see Figure 2.19). As so far relatively few households have taken a long-term loan, it is more expedient to assess the impact of a potential change in loan interests on the basis of micro-level behaviour.



**Figure 2.19. Households' loan and leasing interest payments during a quarter, interest rates on outstanding loans and interest costs in ratio to disposable income**

Since autumn 2005, several major banks have been recommending households to fix their loan interests in order to protect themselves against the risks accompanying interest rate rises. As Estonian households have not experienced an interest rate rise cycle during the independent banking history of Estonia, it is difficult to forecast how borrowers will react to this recommendation. The interest rate increase will show how they have assessed their options and risks related to the economic environment. As far as financial stability is concerned, the potential interest rate rise enables new loan customers to apply prudent financial behaviour.

<sup>6</sup> Interest burden is the ratio of interest payments to disposable income.

## BACKGROUND INFORMATION

### FACTORS INFLUENCING THE GROWTH OF DEPOSITS IN ESTONIA

Majority of deposits (over 80%) held with Estonian banks are comprised of corporate and household deposits (see Figure 2.20). The share of government and financial institutions deposits is relatively modest, thus exerting a minor influence on the dynamics of the total volume of deposits. In addition to the customer structure, deposit growth is affected by the structure of deposit terms. In recent years the shares of demand deposits and time deposits have stayed at 2/3 and 1/3 level, respectively. The share of corporate demand deposits is slightly larger (75%) and that of household demand deposits is smaller (60%).

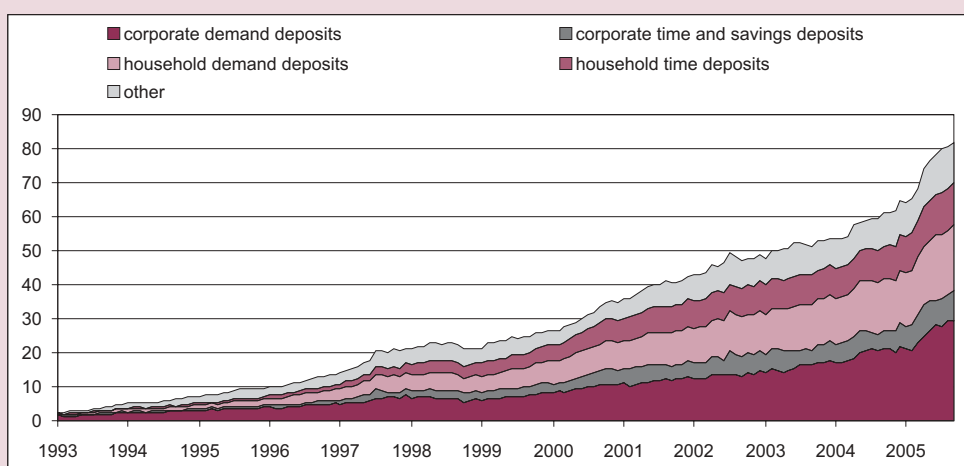


Figure 2.20. Structure of deposits held with Estonian credit institutions (EEK bn)

Deposit growth is mainly related to economic growth. Household incomes and corporate profits increase along with economic activity, including consumption and investment growth. This, in turn, fosters both demand and time deposit growth (see Figure 2.21). While demand deposits are clearly related to economic growth, larger income inflows also enable to make longer-term investments in less liquid but more interest earning time deposits.

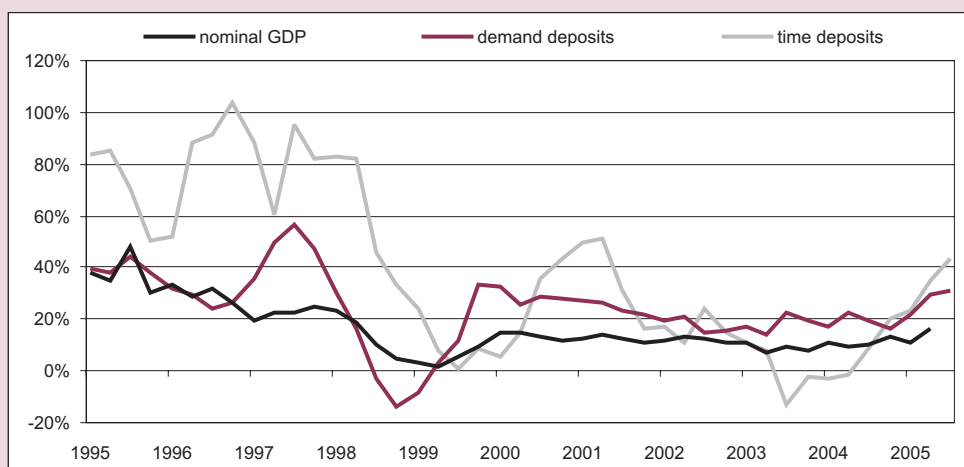


Figure 2.21. Annual growth of deposits and nominal GDP

Deposit growth largely depends on **deposit interest rise**. In Estonia, changes in the interest rates on time deposits do not affect the volume of deposits significantly, although a higher interest rate should motivate to place free funds in time deposits instead of less profitable demand deposits. The relation between deposit growth and the real interest rate remains unclear in Estonia (see Figure 2.22). The real interest rate has been negative for a while but the annual growth of time deposits has nevertheless been positive. Moreover, the relation between inflation and the annual growth of time deposits has been positive rather than negative.

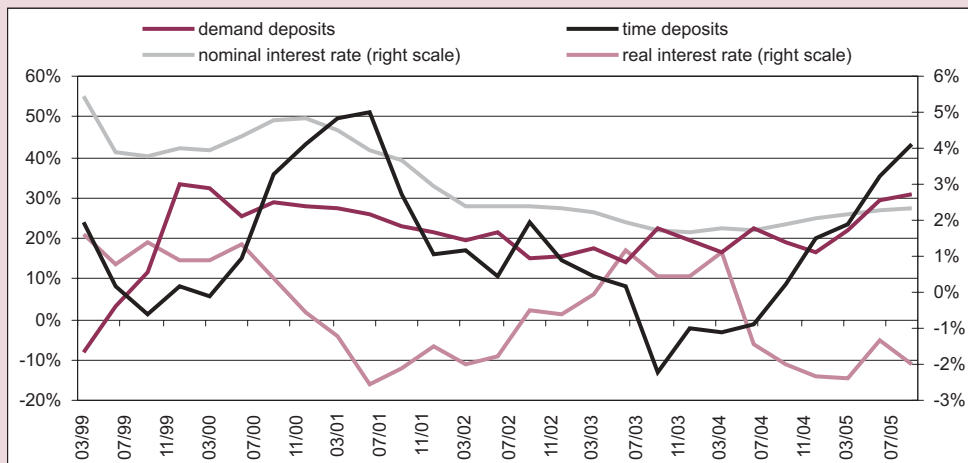


Figure 2.22. Annual growth, and nominal and real interest rate of deposits

Time deposits can be considered as a form of saving, their growth being related to the **general increase in assets** on the one hand, and to less attractive alternative saving (investment) forms on the other. The general volume of assets has an impact on deposits which is supported by the fact that the increase in time deposits has stayed relatively well in line with national saving dynamics (see Figure 2.23).

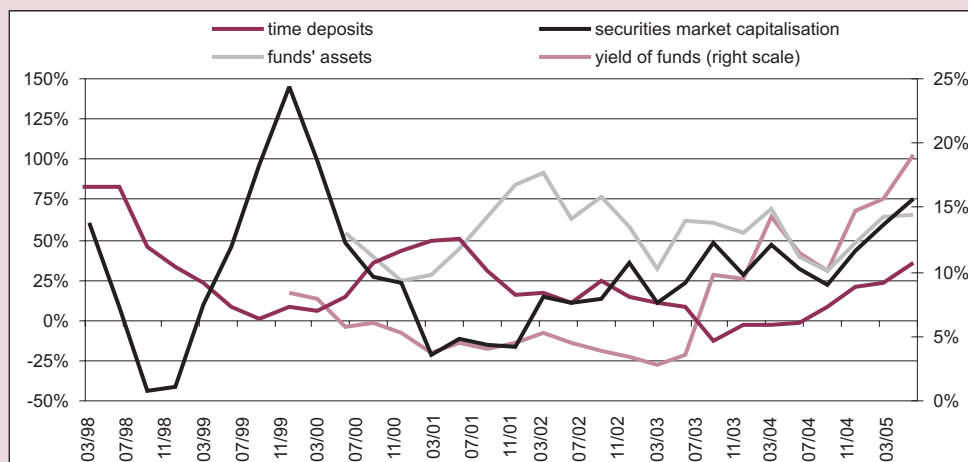
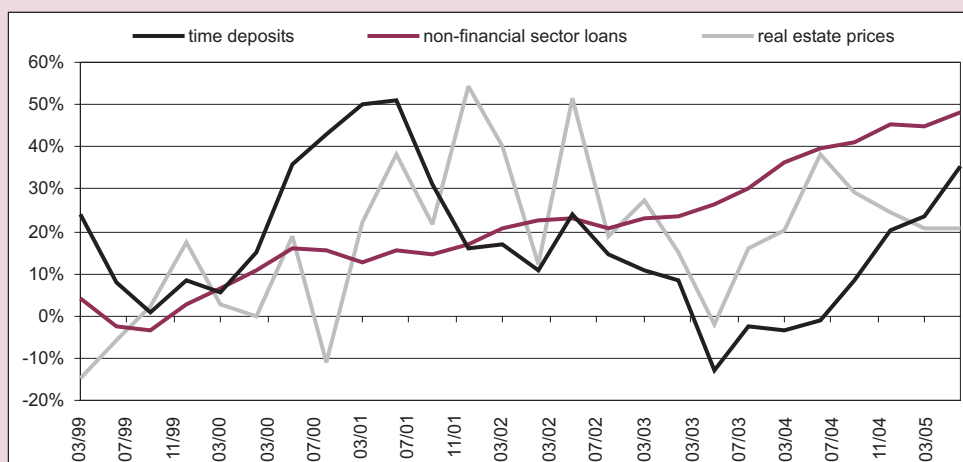


Figure 2.23. Annual growth of time deposits, securities market capitalisation and assets of investment funds, and the yield of funds

The relation between deposit dynamics and developments of other available **savings instruments** remains even less clear. Since the end of 1990s, securities market investment options in Estonia have soared, which has decreased the amount of potentially deposited funds. At the same time, securities market developments have differed from the dynamics of time deposits. Compared to deposits (70 billion kroons) residents invest in shares and investment and pension fund stocks (30 billion kroons) relatively modestly. Although the yield of funds is considerably higher than interests earned on deposits, savings are still preferably placed in deposits. In case of households, market surveys also confirm such tendency. One of the reasons for the modest use of alternative investment forms may be relatively high transaction costs compared to depositing.

In order to purchase real estate or launch another investment project, additional financing is usually needed besides savings. The **dynamics of loan supply (demand)** should therefore reflect the development of deposit volumes, which is also clearly evident in the case of Estonian indicators. Though rising residential property prices should normally cause a decrease in the deposits of real estate purchasers, the aggregate data for Estonia do not reflect that (see Figure 2.24). This may partly reveal the increased need to acquire risk buffers in order to cover potential loan-servicing problems.



**Figure 2.24. Annual growth of time deposits, non-financial sector loans and residential property prices**

The **unemployment rate**, which is considered an indicator of households' insecurity, has no impact on deposits based on the data for Estonia. Neither is there evidence that the decrease of labour force in ratio to the number of children and the retired is directly related to deposit decrease, although the number of people receiving professional income has diminished.

In conclusion, the restructuring process related to transition to market economy carries on in Estonia, and thus permanent long-term economic relations have not yet fully developed. The relation of deposit growth to other economic indicators is relatively weak and changes periodically, which does not allow for a successful assessment of the economic environment's impact on the volume of deposits.

## STRUCTURE AND DEVELOPMENT OF ESTONIAN HOUSING MARKET

During the last five years the total volume of housing loans and leasing granted by Estonian banks and leasing companies has increased annually more than 40% and the household debt has grown nearly four times, amounting to 30% of GDP. At the same time, residential property prices have risen, e.g. the price of a two-room flat in satisfactory condition in Tallinn has almost tripled in five years. The fast growth of residential property prices and housing loans, which has outpaced that of the disposable income of households, has raised concerns about overpricing in the housing market and the growth sustainability of housing prices and loans. The present background information gives an overview of the risks the decline of residential property prices and loans poses on the financial sector, covers the Estonian housing market developments in recent years, and analyses the possible overpricing of housing in Tallinn and Tartu.

### ***Risks accompanying the decline of residential property prices and housing loans***

The survey published by the International Monetary Fund in 2003 on stock market and housing market booms and crashes in industrial countries after World War II<sup>7</sup> showed that a **real estate boom<sup>8</sup> was followed by a crash in 40% of cases** and after the crash of residential property prices GDP turned out to be on average 8% lower than the result achieved by extrapolating the pre-crash average growth rate. The change of residential property prices may influence economy in several ways. As regards the real economy, investments of domestic economic agents may rise or decline and private consumption may also change because of the wealth-effect. The financial sector may be affected by the decline of residential property prices.

Bank loans are the main financing source for real estate, whereas housing loans traditionally form a large share in banks' portfolios. Slightly more than half of Estonian banks' portfolios are granted to real estate companies or to households for housing purposes and 70% of these are secured by a mortgage. The decline of residential property prices may affect the activities of banks in several ways: through (1) the decline of quality of mortgage loans and rise of loan losses; (2) the deterioration of the financial position of borrowers or the bank itself, or (3) the decrease of financial transactions and slowdown in economic activity. One of the surveys published this year by the Bank for International Settlements (BIS)<sup>9</sup> showed that the **profits of banks in industrial countries have decreased by a half in the so-called bad times, whereas provisions have doubled.**

The risk related to housing loans depends on the purpose of the loan. Housing loans are considered to bear the lowest risk since housing is treated as a necessity for which there is less elastic demand and the loan is repaid from household income, which should be more stable than corporate income. Loans issued to real estate developers are considered notably riskier, since their repayments are guaranteed by the sales or rental prices only after the completion of the property. Accordingly, at the beginning of 1990s the growth of bad loans

<sup>7</sup> "When Bubbles Burst", World Economic Outlook, 2003, Ch 2.

<sup>8</sup> Boom was defined as a price increase, which exceeded the limit of the upper quartile of all price increases.

<sup>9</sup> Haibin Zhu, "The Importance of Property Markets for Monetary Policy and Financial Stability. Real Estate Indicators and Financial Stability", BIS Papers, No 21.



of commercial real estate companies was one of the main triggers for the banking crises of industrial and East-Asian countries. Meanwhile, the growth of the so-called speculative real estate investments has been observed in several countries around the world (allegedly also in Estonia). The risk level of such investments is relatively higher, similarly to loans issued to professional real estate developers.

Residential property price dynamics affects banks also through the change of market value of the mortgaged property. In order to protect themselves against the drop of residential property prices, banks apply the requirement of down payment but this may turn out to be insufficient in case of an extensive price fall. Surveys also reveal that the loan terms and conditions of banks are pro-cyclical, i.e. in good times, banks tend to underestimate the risks for different reasons, e.g. self-financing rates are cut down in case of fast growth of residential property prices. Besides the credit risk, the fall in residential property prices might also undermine banks' profitability through the need to increase provisions, which results in a decrease in capital adequacy and loan potential, and thus also reduced interest income as well as fee and commission income.

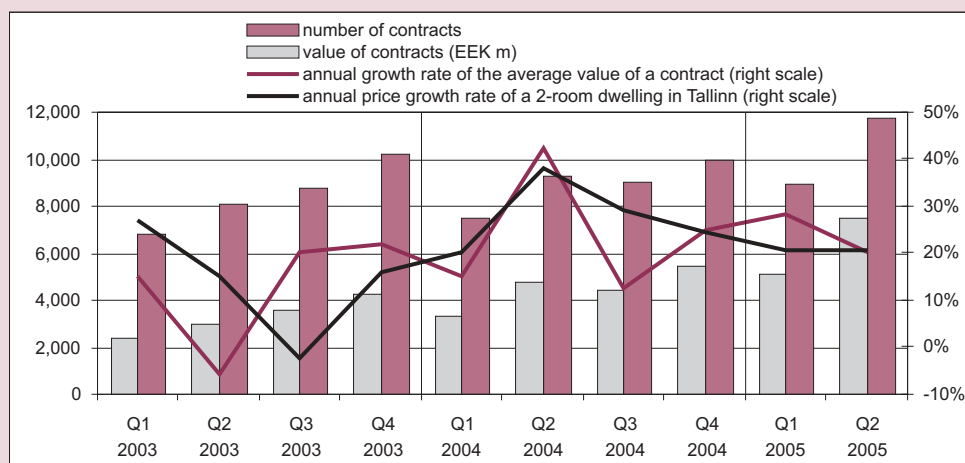
### ***Estonian housing market trends in recent years***

**The rise in Estonian housing market prices and transaction volumes has been strongly supported by income growth, declining average interest rates as well loosening loan terms and conditions.** For instance, the maximum loan amount a household with two members, both of whom work in Tallinn and receive average income, can take has increased one and a half times in the last five years, taking into account the decline of the average interest rate. Income, on the other hand, has grown approximately 60%. Banks have loosened loan terms and conditions under competitive pressures, e.g. they have lengthened the maximum loan repayment period and found opportunities to decrease the minimum requirement for down payment.

**Without doubt, expectations also play an important role in housing market developments.** Thus, housing investment decisions may be made on the basis of high yields in previous periods and the assumption that such tendencies would continue in the future. The predictable increase of speculative housing investments reflects that such an approach is widespread. On the other hand, residential property price rise expectations have increased due to Estonia's accession to the European Union and the Economic and Monetary Union. The interest of foreign investors in the Estonian housing market is often mentioned in this relation. According to the statistics of the Estonian Land Board, however, the **share of foreign investors in the Estonian housing market is relatively small** – 7,2% by number and 4,3% by value of all contracts concluded in the first half of 2005 and it has not exceeded 10% in the previous periods either. It has to be taken into account, though, that the share of foreign investors may differ by region, e.g. in Tallinn Old Town it may be quite high. Moreover, some foreign investors may use companies established in Estonia for the ownership of real estate.

Proceeding from the rigid supply characteristic of the housing market, in the medium term prices are mainly determined by the demand. The purchase-sale value of dwellings has risen an average of 20% annually in Estonia over the last two years, raising the average price level by almost one and a half times. As regards the latest developments, where the increase in the number of **purchase-sale contracts of dwellings** has rather accelerated in 2005 (from 19%

in the first quarter to 26% in the second), the increase in the average value of transactions has slowed down from 29% in the first quarter to 20% in the second (see Figure 2.25).<sup>10</sup> Although according to the transaction volumes and values the housing market has become active outside Tallinn as well, the **real estate transactions have concentrated even more around Tallinn during the last three years** – the Harju County accounts for almost 60% of the number of transactions and approximately 80% of their value.



**Figure 2.25. Notarised purchase-sale contracts of dwellings and residential buildings as movable assets and real estate, average value of a contract and the price of a 2-room dwelling in Tallinn**

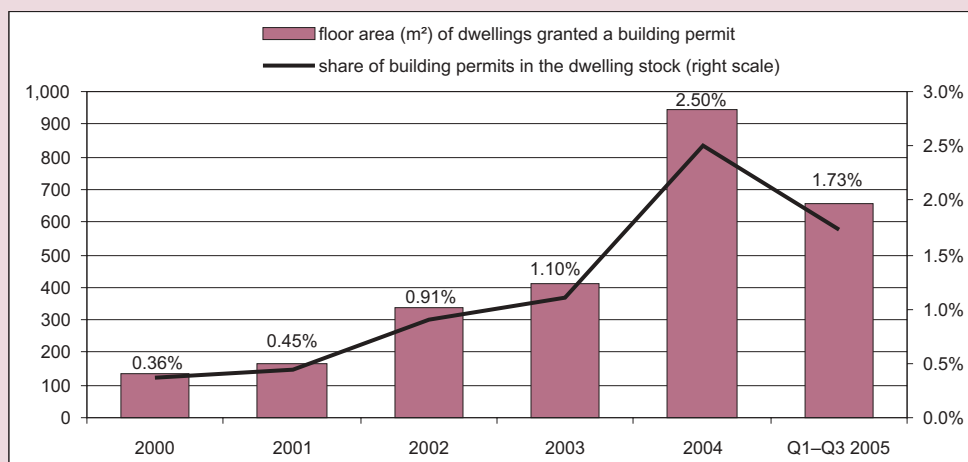
Source: Statistical Office of Estonia

The decline in loan interest rates and greater availability of loans has boosted the construction of new dwellings. The fast price rise of typical apartments in 2003 and in the first half of 2004 reduced the price difference between older and new dwellings. Due to income growth and the decreasing price difference between older and new apartments, more and more households could afford to purchase a new dwelling. This, in turn, brought along an increase in the **supply of new dwellings**. Although construction growth might seem enormous (2.3 times more new building permits were issued in 2004, year-on-year<sup>11</sup>), this year the **total area of the dwellings that were given building permits was 2,5% of the total dwelling stock**, which remains within the 2–3% limit considered to be a common depreciation rate of real estate (see Figure 2.26).<sup>12</sup> At the same time, one must take into account that in Estonia a large share of construction activities and real estate transactions take place in Tallinn and its surroundings, where the share of new building permits in the total dwelling stock is presumably higher.

<sup>10</sup> The price increase of market dictating two-room flats in Tallinn slowed down from 25% in the fourth quarter of 2004 to 21% in the first two quarters in 2005.

<sup>11</sup> Issuing of building permits was especially active in the second quarter of 2004, when a large share of building permits were registered beforehand in expectance of a change in VAT from 1 May 2004.

<sup>12</sup> For example, in Austria new building permits formed 5% of the dwelling stock in 2003, according to RICS European Housing Review 2005.



**Figure 2.26. Construction permits issued and their share in the dwelling stock**

Source: register of construction works

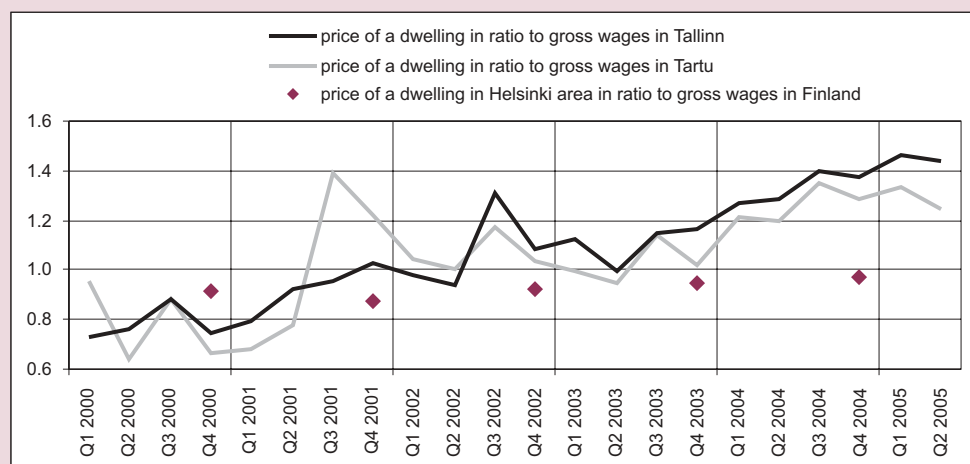
### ***Is the housing market overpriced?***

Real estate is considered to be overpriced when its price highly exceeds its fundamental value. At the same time, it is difficult to determine the fundamental value of a property, because it involves forecasting of unrealised expected values. It is as difficult to estimate the extent of the market value exceeding the fundamental value in order to qualify as important in determining whether real estate actually is overpriced. In case of Estonia which is a transition economy, the analysis of possible overpricing in the real estate sector is further complicated, as the nominal and real convergence is expected to be accompanied by an increase in residential property prices, more so because the initial price level of residential property was very low.

**There are mainly two ways to gauge whether real estate is overpriced: the ratio of residential property price to income and the real estate price-yield ratio.** For example, in the UK the “affordability” ratio (i.e. the ratio of average housing price to annual income) is used to estimate the overpricing of the housing market. The historically optimal level of this ratio is 4. In the Financial Stability Review of November 2004, the “affordability” ratios were compared for Tallinn and Helsinki until 2003<sup>13</sup> and it was found that in both regions this ratio has remained between 4.5–5.0 since 2002. It was concluded that **in the medium term the price increase of residential property should remain lower than income growth, otherwise the residential property price level may be considered overpriced.** As a ratio of “affordability”, the ratio of price per square meter of an average dwelling to average gross monthly wages may be used as well. In case of Tallinn and Tartu, the two largest cities in Estonia the price per square meter of an average dwelling exceeds the average gross wages at least by a fifth (see Figure 2.27), which stands out **in comparison to Finland, where the price per square meter of an average apartment in the Helsinki region has not exceeded the average gross monthly wages of the country for the last five years.**<sup>14</sup>

<sup>13</sup> See the background information “Price Level of Real Estate and Economic Growth” in November 2004 issue of Financial Stability Review.

<sup>14</sup> Using the average gross monthly wages of the Helsinki region would have rendered the price-wages ratio even lower.



**Figure 2.27. Ratio of the price of a two-room dwelling of a certain area to gross monthly wages**

Sources: Statistical Office of Estonia, Statistics Finland

Another way to analyse the possible overpricing of the real estate sector is to examine the price-income ratio of real estate, i.e. the ratio of purchase-sale and rental income, as the purchase-sale price should reflect the present discounted value of the future income stream from renting out that property.<sup>15</sup> In recent years, the demand for rental apartments has declined and the supply has increased thanks to the decrease in interest rates and greater availability of housing loans, which has led to a significant reduction in rental prices. While in 1999 it was feasible to earn back the purchase price of a two-room apartment in Tallinn in five years on average through rents, then in 2005 this would take more than ten years (see Figure 2.28).<sup>16</sup>

**Although rental prices have decreased considerably in relation to purchase-sale prices in the past five years, their current level still does not motivate to rent an apartment rather than purchase one.** In the second quarter of 2005, the average rental price exceeded the estimated monthly loan payment marginally<sup>17</sup>, but for renting to become attractive, rental prices should be considerably lower than loan repayments. Purchasing property is also regarded as an investment, while rent is expenses (even if capital gain, i.e. gain from the rise in the market value of real estate, is decreasing). Property purchase financed with a loan is more profitable than renting also from the tax perspective<sup>18</sup>, as the effective interest rate on the loan is lowered and the yield of the real estate investment increases, whereas there are no tax incentives for renting.

To conclude, the price level of apartments in Tallinn has risen higher than ever in ratio to the income level, while remaining close to the current record high in case of Tartu. At the same

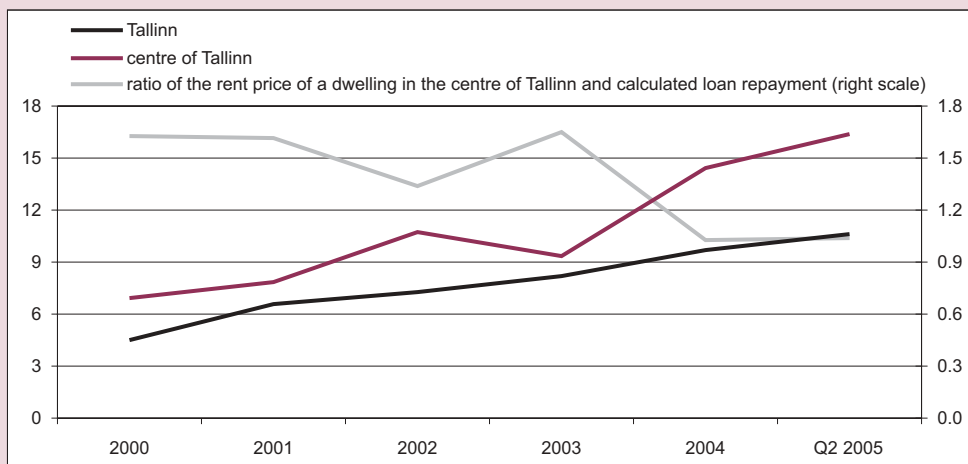
<sup>15</sup> As the Estonian housing market is to a high degree an "owner market" and the share of rental market is small, the incompleteness of the data due to scarcity of observations has to be taken into account in interpreting the results.

<sup>16</sup> Majority of renting still takes place unofficially, which means that the owner does not pay income tax on rents earned. Thus, the profitability indicators are even lower for these contracts than the official statistics suggest.

<sup>17</sup> On the black market, rental prices might have been even lower than the estimated monthly loan payments in the second quarter of 2005.

<sup>18</sup> The Income Tax Act provides for the deduction of interest payments on housing loans from taxable income up to 50,000 kroons per year.

time, the price level of an average apartment in Tallinn exceeds considerably the respective indicator for Finland. The slowdown in the residential property price growth in the first half of 2005 in Tallinn as well as in Tartu gives hope that the situation is going to improve, although a sudden and robust change in the market situation is not expected at present. The decrease in loan interest rates and greater availability of housing loans has decreased the demand for rental apartments, bringing the purchase-sale price and rental income ratio to the historical low. Based on this, the risks of the so-called speculative real estate investments, which have allegedly increased recently and in which case the owner hopes to cover loan repayments from rent income and earn capital gain from the increase in the market price, have increased.



**Figure 2.28. Ratio of purchase-sale price to the 12-month rent price of a dwelling and ratio of the monthly average rent price in the centre of Tallinn to the estimated loan repayment**

Source: Statistical Office of Estonia  
 Calculations: Eesti Pank