

HOUSEHOLD DEBT AND FINANCIAL STABILITY

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■ Introduction ■

Household debt has been soaring in Estonia in recent years. This has been underpinned by easy access to loans due to low interest rates and the fact that banks lack major funding constraints. Meanwhile, increasing incomes have encouraged households to apply for loans.

In the past five to six years the financial behaviour of Estonian households has significantly changed. This has above all been characterised by surging long-term loans and consumption at the expense of future income. At the same time, depositing has remained modest, ie risk buffers have weakened on the sector level. Such unbalanced financial behaviour gives grounds to wonder whether faster loan growth compared to depositing and the soaring debt burden in Estonia is an exceptional phenomenon, considering international experience. Can such a trend be sustained over a longer period? What are the accompanying risks related to financial fragility of households and the overall financial stability at large? The following review, which summarises the main indicators characterising household debt burden and discloses their content from the aspect of financial stability, offers some assistance in order to find answers to these questions.

■ Role of Households' Financial Strength Analysis in Assessing Financial Stability ■

The rapid loan growth in Estonia has been primarily underpinned by active housing loan market. Even though in traditional banking long-term housing loans are among the most illiquid financial assets¹, it is an attractive product for a bank securing stable income at a relatively low risk. However, we can only talk about minimum risk to the effect that so far the Estonian banking sector lacks the experience that would indicate housing loans' repayment difficulties, which would threaten financial stability. Yet, in world practice, such an experience does exist.

Furthermore, during the periods of stable economic development and growth the key indicators characterising loan quality, such as the volume of overdue loans or provisions, are mostly small, ie good or even very good, and do not give sufficient information about loan-related risks that might actually have already been realised. Therefore, it is very important to study the financial strength of the borrowers and the sustainability of the loan

¹ Provided that derivatives are not used.

burden that has accumulated over time before possible problems start to manifest in the loan quality of the banks. In other words, **real sector (including households) financial indicators might be treated as early warning indicators in terms of the asset quality of banks.**

According to economic theory, an economic cycle, particularly its turning points, plays an important role in the emergence of financial crises²: an excessive debt accumulated in the preceding period might become burdening for the borrower, if market conditions reverse. At that point the issue of whether the borrower had considered possible difficulties in his or her loan servicing ability at the moment of taking out the loan becomes relevant. **From the aspect of financial stability the focus of the household fragility analysis is on studying the loan servicing ability.** As regards the risks emerging in the financial sector, both the credit risk related to the fragility of households³, as well as the impact of possible drawbacks on the banks' income earning capabilities⁴ should be analysed. The latter might include also indirect out-of-sector effects on the profitability of the banks (declining consumption reduces corporate sector income flows, which in turn curtails loan demand in the real sector). Which of these two effects has a stronger impact on the financial sector at a certain moment in time depends above all on the economic cycle, the development of the risk margins of the banks and on how diversified the credit portfolio is.

The subject of household financial fragility includes many individual issues, such as debt growth, shifts in the maturities structure of the portfolio, future cash flows related to debt-servicing and adequacy thereof, speculative activities in the securities and real estate markets, decline in the margins of financial institutions, etc. In the context of this subject the debt-to-assets ratio has to be regarded as one of the most important indicators. This is supplemented by the indicators that characterise the risk sensitivity of household liabilities regarding changes in asset prices or incomes.

■ Main Indicators Characterising Households' Indebtedness ■

The size and sustainability of households' debt are characterised by four main groups of indicators:

1. indebtedness;
2. capital gearing;
3. debt servicing;
4. wealth (see Table 1).

For assessing risks to financial stability as correctly as possible, it is advisable to assess the respective aggregate indebtedness indicators also by the age of family members, social-economic categories (ie employment status) and income level. Aggregate indicators

² Such an approach to financial stability has also been called the Fisher-Minsky-Kindleberger approach after its authors.

³ Default effect.

⁴ Income effect.

Table 1. Indicators characterising the size and sustainability of households' debt

Groups of indicators	Indicator
Indebtedness	debt / GDP
	debt / disposable income
	housing loans / GDP
	housing loans / disposable income
Capital gearing	debt / assets value
	housing loans / real estate value
Debt servicing	interest payments / disposable income
	principal and interest payments / disposable income
Wealth	net financial position / disposable income
	net wealth / disposable income
	deposits / debt
	deposits / housing loans
Other indicators	Prices: loan interest rates, real estate prices, securities prices, etc
	Profitability: wages, disposable income, wealth, employment, saving (gross savings / disposable income), etc

alone do not reflect redistribution of intra-sector wealth; and, therefore, might either over- or underestimate problems related to indebtedness.

Besides the indicators directly measuring the size of debt, also the indicators that describe developments in real estate or labour markets (including interest rates, real estate prices, wages, employment, etc) are very important, above all from the viewpoint of loan servicing risks.

Indebtedness

Indebtedness is most frequently estimated according to the dynamics of households' **debt-to-GDP** or **debt-to-disposable-income** ratios, which combines the indicators of stocks and flows.

In countries with lower income levels indebtedness is usually lower. This reflects historically suppressed financial deepening, which in turn does not allow rapid catching up with the developed countries without serious implications for the macroeconomic and financial stability of the particular country. Apart from differences in income levels, the size of debt is also subject to the structure of the housing market (eg, the share and efficiency of the rental market, the share of state and municipal property, government support schemes, etc) and other factors (socio-cultural and demographic factors, the level of securitisation, etc).

As a result of the rapid pace of households' borrowing in Estonia, also the level of debt has soared – in the third quarter of 2003 the debt-to-GDP and the debt-to-disposable-income ratios could have amounted to an estimated 19 and 32%, respectively, (see Figure 1). Even though the level of indebtedness of Estonian households remains modest compared to several developed countries, the relatively liberal housing and financial markets have

elevated the respective ratios close to the level of some EU countries (see Figure 2) and to the leading position among the other acceding countries.

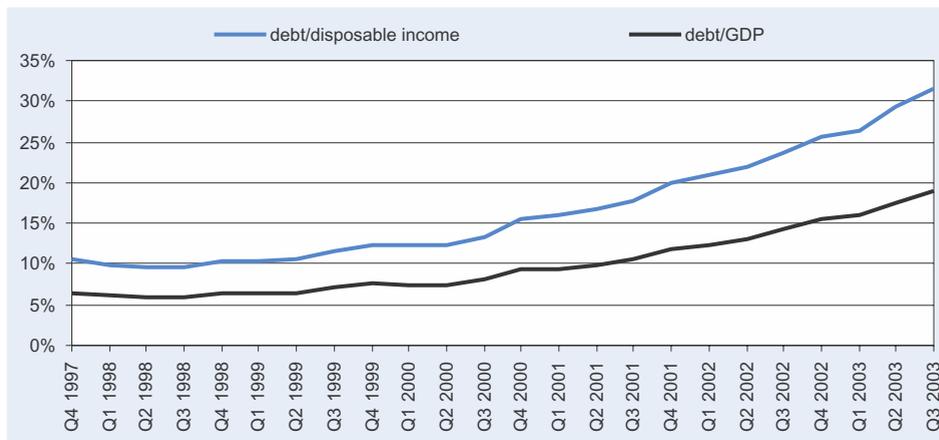


Figure 1. The level of debt of Estonian households

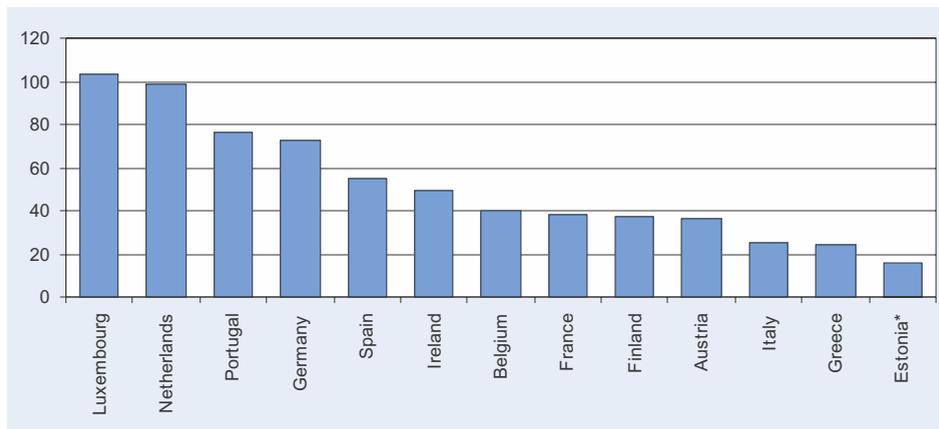


Figure 2. Household debt/GDP (%) in the euro area and in Estonia in the first quarter of 2003

* data for the 3rd quarter of 2003

Sources: ECB, Eesti Pank

Capital Gearing

Capital gearing ratios supplement indebtedness indicators with valuable information about the changes in the value of assets. A change in households' wealth in relation to increased indebtedness is reflected by the **gearing ratio**, or more specifically, the **housing loans to acquired real estate value ratio**. In practice, in case of a single loan project the equivalent to that indicator often used is the **loan-to-value ratio**.

If real estate prices rise in line with loan growth, capital gearing remains stable. In developed industrial countries where credit experience dates back a long time and borrowing is rather stable, capital gearing has in most cases remained relatively unchanged in recent years or has shown a slight upward trend (particularly in the Netherlands, United Kingdom, and the United States)⁵, which shows a certain faster loan growth if compared to real estate prices.

Estonia lacks official statistics on the (market) value of households' non-financial assets. To a certain extent **the comparison of the loan portfolio and the prices of real estate on sale** might be suitable, but since the market has existed for a relatively short time, it does not allow to get an adequate measure of capital gearing. Arising from the fact that generally the required minimum level of down payment is higher in Estonia (preferably a third of the value of the project), one can assume that capital gearing of Estonian households remains below the European average.

Debt Servicing

Debt servicing indicators enable to assess the impact of the changes in interest rates and incomes on financial stability. The **interest cover ratio** or **interest burden** frequently used in analyses is calculated by dividing the interest payments of a period by the disposable income of the same period⁶.

The loan and leasing interest payments of Estonian households have not considerably changed regardless of the soaring loan stock. Due to declining interest rates the interest cover has remained stable at 2.2–2.3% in the past few years.

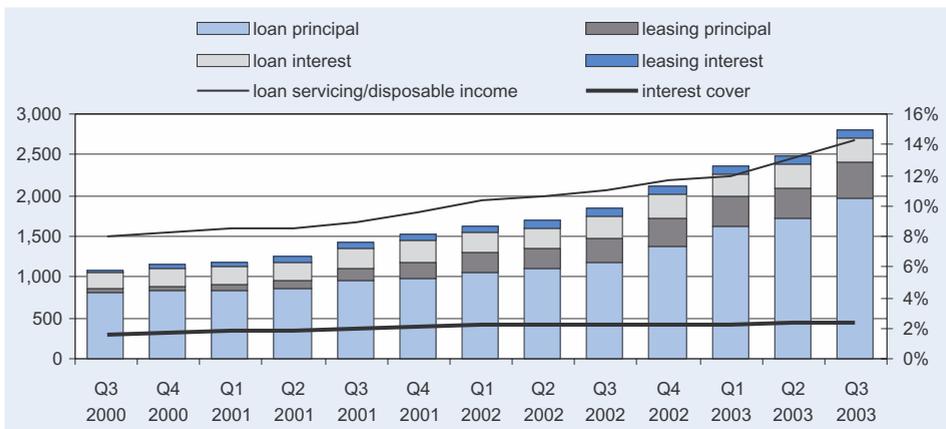


Figure 3. Households' quarterly loan servicing costs (principal and interest payments, EEK m) and debt servicing ratios (right scale)

⁵ During the past five years capital gearing has remained between 15–20% in most of the industrial countries that possess and publish respective statistics.

⁶ In developed countries the estimated interest cover indicator stands at 5–7%.

However, households' debt burden is not made up of just interest payments. Although principal payments boost a household's assets and net wealth at every re-payment period, these will actually determine the household's expenditure structure for a relatively long period. Therefore, also the **principal payments and interests to the disposable income ratio** have to be analysed. Loan servicing costs of Estonian households have consistently grown over time – accounting for more than 14% of disposable income⁷ at the end of the third of 2003 (see Figure 3).

Wealth

Given that debt has played an important role in shaping the wealth of households, the **net wealth⁸ to disposable income ratio** is a combination of indebtedness and capital gearing indicators. Growing debt affects property prices, thus having an impact on savings and wealth. Meanwhile, also the opposite causal connection is possible: increasing wealth offers collateral to stimulate loan growth.

Intuitively better perceivable is the **net financial position or net financial wealth⁹ to the disposable income** ratio that as an aggregate indicator characterises changes in the propensity to save and borrowing. In the countries where liberalisation of the financial sector has been especially extensive (eg, the United Kingdom), the relationship between growing debt and declining savings propensity is even stronger. Proceeding from the life cycle theory, one might still assume in case of individuals that the financial position improves in the later periods of the lifetime.

Even though wealth indicators provide the most compact overview of indebtedness, interpretation of such data should be approached with great caution since these do not include information about the actual risk position of households. For example, it is probably complicated to analyse the sensitivity of wealth to changes in interest rates or prices. Besides, financial and non-financial assets differ in liquidity, which is why treating them together might lead to false conclusions.

The changes that have occurred over time in the structure of the asset portfolio of households (above all increased risk exposure and decreased liquidity) intensify insecurity regarding future financial wealth. The risk of financial assets is to a certain extent decreased by the relatively modest volatility of the housing market, but since the market is not liquid it might lead to serious consequences, should the prices of apartments plummet¹⁰. The bigger the capital gearing is, the more it affects wealth and the more cautious households have to be in their consumption decisions.

⁷ The existent statistics does not enable to accurately calculate the size of principal payments, which is why indirect calculation methods have been adopted.

⁸ Net wealth = financial asset + non-financial assets – liabilities. Non-financial assets include durable goods and residential property in their respective replacement and market value.

⁹ Net financial wealth = financial assets – financial liabilities. These indicators are available on the financial accounts calculated in the context of the system of national accounts (SNA).

¹⁰ However, one might still assume that even if the price of a residential property falls below that of the outstanding debt, it would not create problems for its owner if his/her loan-servicing ability does not weaken.

A part of the net financial position is reflected by household saving and borrowing ratios: **deposits/debt** and **deposits/housing loans**. Due to different market structures it is practically impossible to provide a single assessment to say whether the deposits-to-loans ratio of a country's households reflects a sufficient safety coefficient in case of realising unforeseen loan service risks or not. In several EU countries the loan portfolio of households is considerably larger than the assets they have deposited with the banks. At the same time, households in these countries make use of other savings alternatives (see Figure 4). In Estonia and in other acceding countries local thin securities markets are not yet much favoured by the households and here the negative net position can sooner be substantiated by other factors. In Estonia the reason primarily lies in the expansive nature of the loan market.

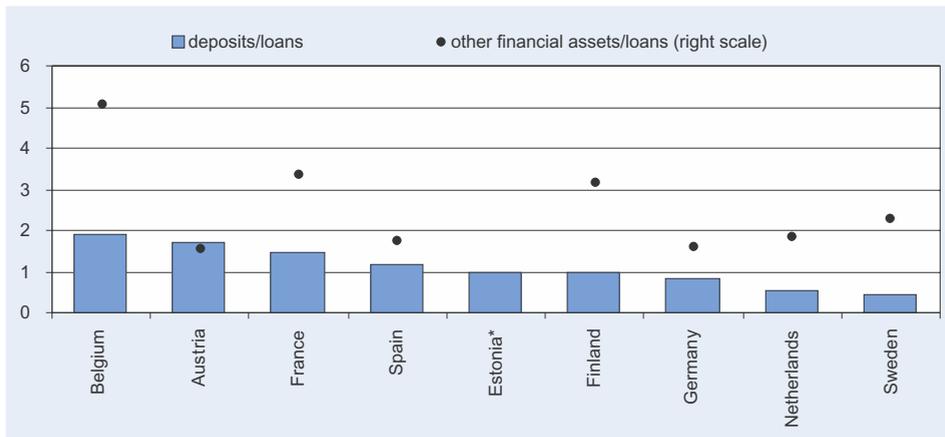


Figure 4. Households' deposits-to-loans ratio in some EU Member States and in Estonia in 2002

* data for the 3rd quarter of 2003

Sources: New Cronos, Eesti Pank

■ The Impact of Households' Debt on ■ Financial Stability

On the overall household sector level the **insolvency risk** affecting banking stability does not just depend on the accumulated debt or income, but also on the other assets on the balance sheet of the borrowers and macroeconomic indicators (including interest rates and the phase of the business cycle). The overall *ex ante* risk assessment is also complicated because of the fact that the household sector is not homogeneous but consists of groups of people of different age with different assets and incomes and liquidity constraints.

If debt growth has been caused by demographic changes or if the sustained growth in income and the value of assets is related to the life cycle optimum, there should be no insolvency risk, ie loans taken out cannot be considered excessive. However, if banks' liquidity constraints loosen, households might exceed their life cycle optimum level while

seeking increased wealth. For a private person danger looms in a situation where loan growth is not accompanied by increasing wealth, ie if borrowed money is channelled into consumption. In such a case interest payments and capital gearing both increase and the borrower is more vulnerable to changes in income and interest rates. For a creditor the risk of insolvency is the bigger the larger the part of unsecured consumer loans is in the overall households' credit portfolio.

If households' repayment difficulties start to occur on a massive scale, increasing loan losses might weaken the capitalisation and solvency of financial intermediaries. This, in turn, results in credit rationing and might under the worst case scenario even lead to a systemic crisis. The results of insolvency are the more painful the less the households are aware of potential risks and the more expansive the crediting behaviour of the financial institutions is.

The increasing loan burden has also made private consumption considerably more sensitive to the changes in environmental conditions. Plummeting consumption¹¹ (eg, as a result of rising interest rates) is one of the more serious consequences that might deliver a further blow also on financial stability.

Rising indebtedness might also diminish **the role of the household sector as a driver of economic growth**, since private consumption is a very important factor regarding the extent and duration of economic recession and the speed of economic recovery. Besides, high level of indebtedness does not enable to adopt expansive monetary policy efficiently enough, since the impact derived from lowering the interest rate on encouraging consumption might remain weak.

■ Conclusion ■

The financial stability of households has both direct (loan repayment ability) and indirect (the effect of consumption change on the financial strength of the corporate sector) impact on the banks. Even more obvious is the role households play in shaping the income basis of the banks as well as their assets and liquidity through their attitude towards savings. Therefore, it is very important to accurately assess the financial situation of the households and changes thereof.

¹¹ In the United States some 8% of the changes in private consumption (including 13% of the changes in services consumption) have been caused by the change in the debt servicing ratio (Murphy, R. (2000), 'Does Household Debt Help Forecast Consumer Spending?', Boston College).