FALLING DEMAND, HIGH INFLATION AND RISING INTEREST RATES POSE A THREAT TO THE SOLVENCY OF COMPANIES AND HOUSEHOLDS

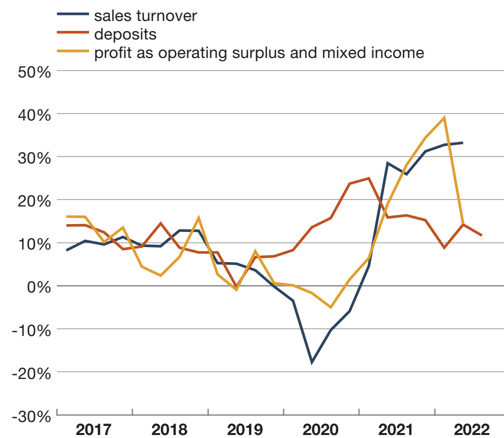
CONTRACTING ECONOMIC ACTIVITY WILL REDUCE THE INCOME OF BUSINESSES AND RAISE UNEMPLOYMENT

The financial results of businesses were mainly good in the first half of this year, but the first signs of the economic climate cooling were already apparent then. Sales revenues at companies were up more than 30% on the year (see Figure 1). Sales revenues grew rapidly in almost all sectors, though the growth came mainly from rising prices, while the growth in the volumes of products and services sold slowed. Evidence of this is that the growth in corporate value added was very fast at current prices, but at constant prices it was already in decline in several areas (see Figure 2). The data on corporate profits give quite mixed signals. Profits at current prices continued to grow over the year in the second quarter of the year, but GDP data indicate that profits may already have declined in quarterly terms. Improved corporate profitability in 2021[1] and the financial buffers built up in recent years allow the hope that companies will be able to cope with short-term problems with loan repayments.

Economic activity will decline in the second half of this year in Estonia's main trading partners as well as in Estonia. Although there are some differences between countries, the problems are relatively similar, with high inflation reducing purchasing power, domestic and foreign demand falling, and interest rates rising. Such an economic environment can also hurt sentiment, which then reduces the confidence to consume and invest, and so total demand may fall further (see Figure 3).

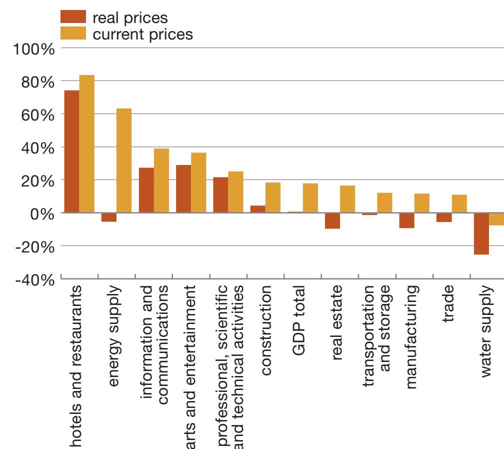
The ability of households to repay their loans depends above all on incomes, and so on whether unemployment starts to rise. The strong position of the labour market has so far supported demand and the capacity to pay, while unemployment has remained low in Estonia and in neighbouring countries. Unemployment generally reacts to changes in economic activity with a lag however, and so problems may emerge in the years ahead. The September forecast from Eesti Pank expects demand for labour to weaken in the second half of 2022 and employment to fall, but notes that this will happen from a very strong

Figure 1. Annual growth of corporate sales turnover, profit and deposits



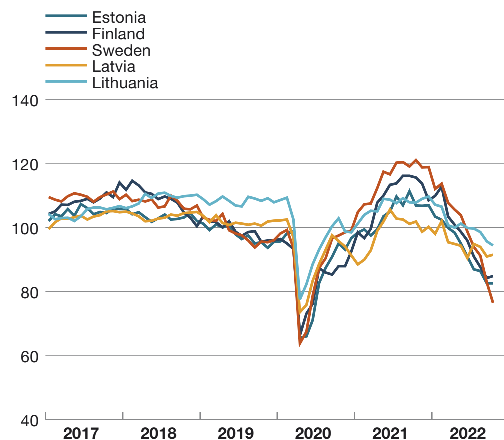
Sources: Eesti Pank, Statistics Estonia

Figure 2. Annual growth of corporate value added in Q2 2022



Source: Statistics Estonia

Figure 3. Economic sentiment indicator



Source: European Commission

1 The profitability of businesses was a little better in the second quarter of 2022 than it was immediately before the pandemic.

starting point. Although demand for labour being weaker will push the unemployment rate up next year, the impact should remain limited. In the broad sweep, there will remain labour shortages in the labour market, and these will continue to exert upwards pressure on wages.

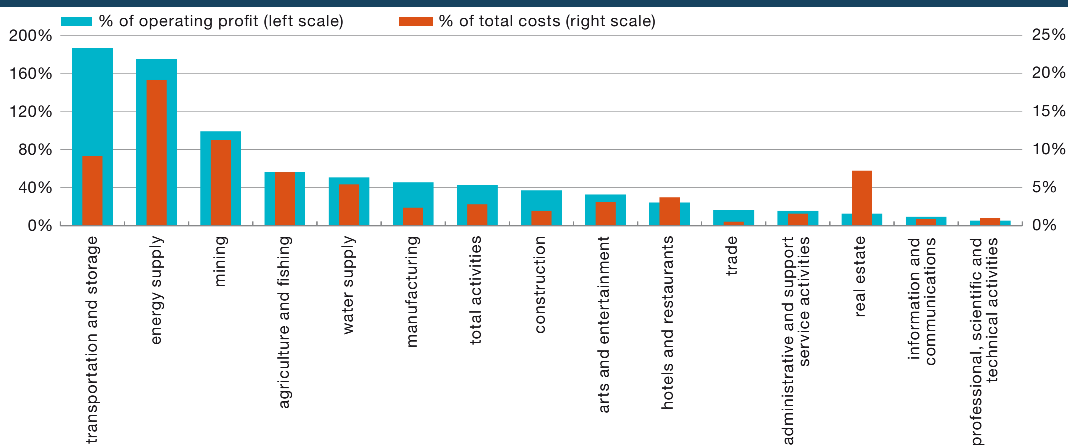
HIGH INFLATION LEAVES LESS MONEY FOR SERVICING LOANS

High inflation poses a threat to the ability of companies and households to repay their loans. If companies are able to pass the higher cost of inputs on to consumers, their capacity to repay their loans may even be improved for a short time with prices rising, as sales revenue and profit at current prices increase. Over the longer term though, high inflation will probably make companies less competitive and reduce demand for goods and services. High inflation will equally reduce the available cash flows of households and their capacity to cover their loans. If companies cannot pass higher input prices on to consumers, the negative impact of inflation will hit them first of all, and they will rapidly become less able to cover their loans.

Rapidly rising energy prices are a threat above all to businesses where energy accounts for a large proportion of spending. Energy is the input that has risen most in price for a large share of companies, and the rapid rise in energy prices will hit hardest at companies in logistics, agriculture, real estate and various branches of manufacturing, as that is where energy costs are a large share of total corporate spending and profits (see Figure 4). Although energy costs also play a large role in the energy sector and in mining, companies in those areas of the economy will at the same time gain from higher energy prices, and so the total impact for them will be positive.

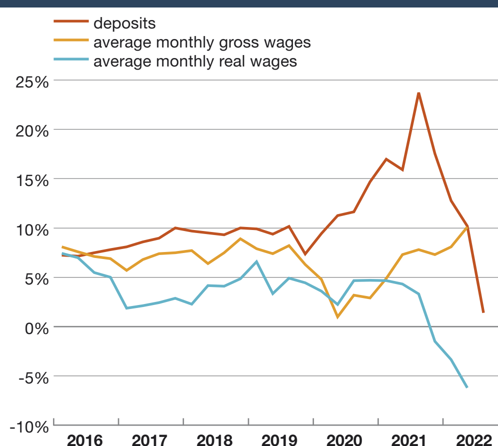
High inflation will over a longer period put pressure on the ability of households to service their loans. The first to feel the pressure will be households on lower incomes. Although incomes rose fast in nominal terms, high inflation had already reduced the purchasing power of wage earners by the middle of this year (see Figure 5). While there were still some sectors at the end of last year where the growth in real wages was positive, by the middle of this year purchasing power was declining for everyone. This means that inflation will leave households with less money than before after essential spending. Households on lower incomes are particularly vulnerable, as essential spending consumes a larger part of their incomes. People

Figure 4. Share in total costs and operating profit of expenditure on energy as electricity, fuel and heating; average for 2018-2020



Source: Statistics Estonia

Figure 5. Yearly growth in nominal and real wages and household deposits



Sources: Statistics Estonia, Eesti Pank

whose incomes are below the average and so are vulnerable are often those employed in accommodation and food service, real estate activities and branches of the service industry.

The incomes of people taking a housing loan are mainly higher than the average in Estonia, and so high inflation affects them a little less. The median net income of someone taking a housing loan in the second quarter was 1774 euros, which is about third higher than the Estonian median wage[2]. A little less than half of the loans were taken jointly with another applicant, and in that case the net median income totalled 2990 euros. The incomes of people taking car leases and consumer loans are generally higher than the average, but consumer loans have been taken more than other types of loan by households on lower incomes[3].

The decline in household savings indicates that households have been using their savings more than before since late autumn last year. It could be observed this summer that the deposits of households in banks shrank by around 10-30 million euros each month. Savings had grown fast for two years, but the yearly growth in savings dropped by the end of September this year to only 1.4%, indicating that less is being saved than before. The savings of private individuals remained quite large at the end of September at 11.15 billion euros, but it should be noted that deposits are distributed unevenly, and many people do not have any financial buffer. More than 17% of households responded to a survey in September that they were spending their earlier savings, and 4% said they were living in debt, while in May 13% were spending savings and 2% were in debt. The survey found that only 41% of households, or less than half, were saving money in September, while 51% had been a year earlier. Households on lower incomes have pointed to a more serious deterioration in their finances. Although the financial position of households with incomes above the average has worsened as well, a large part of them said in September that they were able to save at least a little[4].

Empirical research has shown that inflation can have a large, harmful impact on the ability of companies and households to pay their loans that may only be felt after a couple of years. The research in 2019 by Kukk and Levenko[5] found that if consumer price inflation rises above its target of 2%, overdue loans increase in both Western Europe and Central and Eastern Europe (CEE), but by more in CEE. The harmful impact of inflation peaks in CEE countries after seven quarters, and a rise of one percentage point in inflation leads to an increase of 0.3 percentage point in the share of loans overdue. Research by Staehr and Uusküla[6] finds that the effect may be even larger, as a rise of one percentage point in inflation in CEE[7] causes the share of loans overdue to rise by 0.5 percentage point after eight quarters[8].

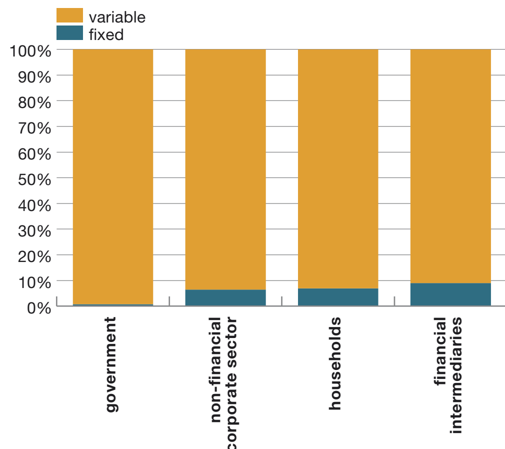
The results show that although inflation reduces the real value of debt liabilities, the purchasing power of borrowers is still weakened and so they have fewer resources available for paying their loans. High inflation may also reflect economic uncertainty, which has a detrimental impact on economic activity and the capacity to pay, but the estimates may also reflect how high inflation often grows together with economic upswings, which are usually followed by growth in overdue loans.

HIGHER INTEREST RATES CAUSE LOAN SERVICE COSTS TO RISE

A rise in interest rates generally has a negative impact on borrowers. Most of the loans issued by banks in Estonia have floating interest rates. The interest rate on such loans depends on the base interest rate, which is regularly adjusted in response to market conditions. The base interest rate is mostly either the European interbank money market interest rate Euribor, or a base interest rate set internally by the bank. Loans with floating interest rates are generally taken to mean housing loans, but the majority of car leases, corporate loans and loans to the general government also have floating interest rates (see Figure 6). This means that rising interest rates increase the loan

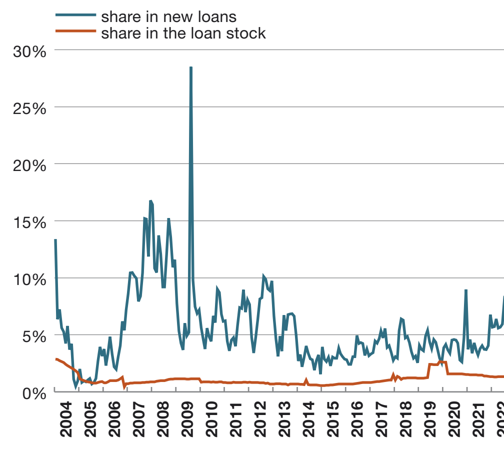
2 The general median wage in first quarter of 2022 was 1289 euros, and that of single applicants for housing loans was 1650 euros. This gap of 25–35% has been quite typical in earlier periods as well.
3 The financial behaviour of residents 2020. Turu-uuringute AS.
4 Estonian Institute of Economic Research.
5 Kukk and Levenko 2019: Macroeconomic imbalances and loan quality in panels of European countries.
6 Staehr and Uusküla 2020: Macroeconomic and macro-financial factors as leading indicators of non-performing loans. Evidence from the EU countries.
7 The CEE countries that Kukk and Levenko looked at were Czechia, Estonia, Hungary, Croatia, Lithuania, Latvia, Poland, Slovenia and Slovakia. The research by Staehr and Uusküla also covered Bulgaria and Romania.
8 Both pieces of research looked at the loans of companies and households together.

Figure 6. Share of loans with fixed and variable interest rates in the loan portfolio



Source: Eesti Pank

Figure 7. Share of fixed interest rate loans in total housing loans



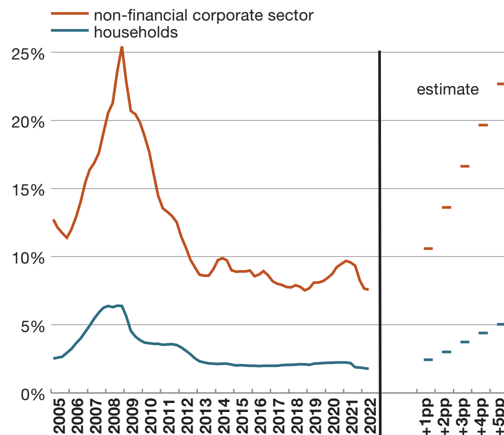
Source: Eesti Pank

payments of the majority of borrowers after some lag, meaning the danger increases of borrowers not being able to service their debts, especially when there are other factors acting on costs in the same direction. The share of loans in Estonia that have floating interest rates is one of the largest in the countries of the European Union.

The interest rates on existing fixed rate loans also rise as money market interest rates rise, but with a longer delay, depending on how long the interest rate is fixed for in the loan contract. The banks generally fix the interest rate in the loan contracts for a maximum of five years, after which it can be fixed again for a further period at the prevailing market conditions if the borrower wants to do that. There has been increasing interest of late in housing loan contracts with fixed interest rates[9], and they have increased to 8% of all newly issued loans (see Figure 7).

For the interest burden when interest rates rise, it is the financial position of companies that is affected first. Data from the second quarter of this year show that the interest expenses for households reached an estimated 1.8% of disposable income, and those for companies reached 7.6% of surplus from activities and mixed income[10]. If interest rates were to rise by one percentage point, the interest paid by households would rise to 2.4% of disposable income, and for companies it would reach around 11% of surplus from activities and mixed income (see Figure 8). A rise of five

Figure 8. Private sector interest burden



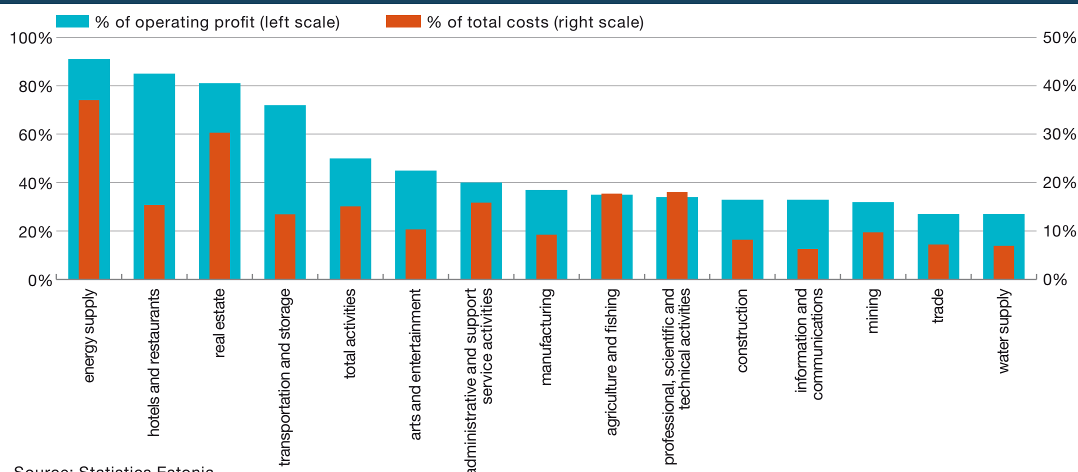
Sources: Eesti Pank, Statistics Estonia

percentage points in the base interest rates would leave households paying as much as 5% of their disposable income on interest expenses, while expenses for companies would reach 23% of surplus from activities and mixed income. It should be noted though that this calculation does not take account of any possible fall in income, or of other expenses increasing at the same time as interest expenses[11].

Higher interest rates have the biggest impact in sectors where financial leverage is high and interest is a large part of expenses, such as energy, real estate, transport and storage, and accommodation and food service

9 Loans with fixed interest rates are taken here to mean loans where the interest rate is fixed for longer than one year.
10 Disposable income and surplus from activities and mixed income also cover households and companies that have not taken any loans.
11 The calculation uses cumulative disposable income for four quarters and the surplus from activities and mixed income as at the first quarter of 2022.

Figure 9. Share of debt liabilities in total assets and share of interest expenditures in operating profit; average of 2018-2020



Source: Statistics Estonia

(see Figure 9). The debt of companies in energy, real estate and transport and storage is very large and loans to those sectors make up nearly half of the loans issued by the banks operating in Estonia. Whether companies in these sectors fall into difficulty with servicing their loans as interest rates rise will consequently be of great significance for the loan quality of the banks.

How a rise in base interest rates affects the average borrower with a housing loan

The median loan outstanding in the housing loan portfolios of the banks is around 50,000 euros, and the borrower was paying interest on it at the end of July of around 83 euros[12], while the total loan repayment under an annuity schedule was 253 euros a month. A rise of one percentage point in the base interest rate would increase the interest expenses by around 42 euros, but a reduction in the principal payment of the loan means the increase would be 24 euros a month, which is probably not an excessive change for the borrower in most cases. If the base interest rate were to rise

Table 1. The monthly loan payments to be made on the average outstanding loan under different interest rates

	i (31.07.2002)	i+1 pp	i+2 pp	i+3 pp	i+4 pp	i+5 pp
Median outstanding loan	50 000	50 000	50 000	50 000	50 000	50 000
Interest rate	2%	3%	4%	5%	6%	7%
Maturity in years	20	20	20	20	20	20
Interest payment in euros	83	125	167	208	250	292
Principal payment in euros	170	152	136	122	108	96
Total loan repayment in euros	**253**	**277**	**303**	**330**	**358**	**388**

Table 2. The monthly loan payments to be made on the average new loan under different interest rates

	i (Q2 2022)	i+1 pp	i+2 pp	i+3 pp	i+4 pp	i+5 pp
Median outstanding loan	100 000	100 000	100 000	100 000	100 000	100 000
Interest rate	1.9%	2.9%	3.9%	4.9%	5.9%	6.9%
Maturity in years	30	30	30	30	30	30
Interest payment in euros	158	241	324	408	491	574
Principal payment in euros	207	175	147	123	101	84
Total loan repayment in euros	**364**	**416**	**471**	**530**	**593**	**658**

12 The base interest rate that applied to a very large share of housing loans in July was still 0%.

by three percentage points though, as the markets currently expect, the loan repayment would rise by a total of 77 euros, while a rise of five percentage points in the base interest rate would increase the repayment by 135 euros a month. This would clearly have a much more serious impact on the family budget of the average borrower.

The size of the median loan is much larger for new housing loans at around 100,000 euros, and the interest the borrower pays on that is almost 158 euros a month, so the total monthly repayment under an annuity schedule is 364 euros. If the base interest rate were to rise by one percentage point, the loan payment would rise by 83 euros, and the total loan payment would increase by 52 euros a month. This would raise the loan repayments of the average single person with a loan from 20.5% of income to 23.5%. A rise of two percentage points in the base interest rate would raise the loan repayments to 26.5% of net income, a three percentage point rise would put them at 30%, and a five percentage point rise would raise them to 37%. This means that a new borrower would feel the impact of the change in repayments on their net income quite strongly.

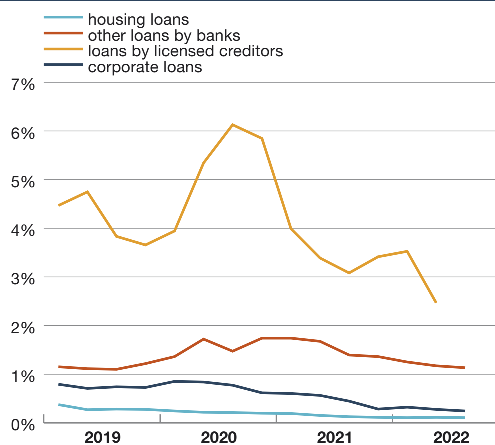
OVERDUE LOANS WILL INCREASE, BUT THE BANKS WILL BE ABLE TO COPE WITH THE LOAN LOSSES

The share of loans not repaid by their deadline has so far remained small for loans to companies and households (see Figure 10). Overdue corporate loans have increased slightly since the start of the year, but the level of overdue loans remains very low. The volume of housing loans and other loans issued to households that were not repaid by their due dates continued to decline in the middle of this year, reaching the lowest level of a decade. There had been no major increase by the middle of the year in the volume of housing loans that the banks themselves considered to be at increased credit risk. The share of loans from other creditors that are not repaid on time has also declined.

The main scenario in the September macroeconomic forecast from Eesti Pank finds the share of overdue loans will increase from 0.2% in September 2022 to 1% next year. Overdue loans will increase as falling demand reduces the income of companies, rising unemployment and high inflation eat into real incomes, and rising interest rates increase loan payments. If base interest rates rise higher than forecast, the level of overdue loans will be higher, especially corporate loans and consumer loans, and they will remain at that level for longer (see Figure 11). If Euribor were to rise to 5%, the share of overdue loans would reach around 1.5%. The direct impact of interest rates on the capacity to repay loans is limited, but a rise in them reduces economic activity, causing unemployment to increase and so reducing the capacity to pay.

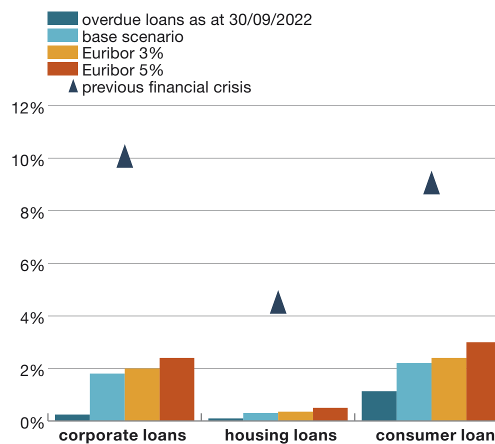
The profitability of the banks operating in Estonia is high and their capitalisation is good, and so they are able to cope with possible loan losses. The possible loan losses of the banks in the baseline scenario could reach up to 150 million euros in Estonia. This is less than half of

Figure 10. Share of loans overdue for more than 60 days



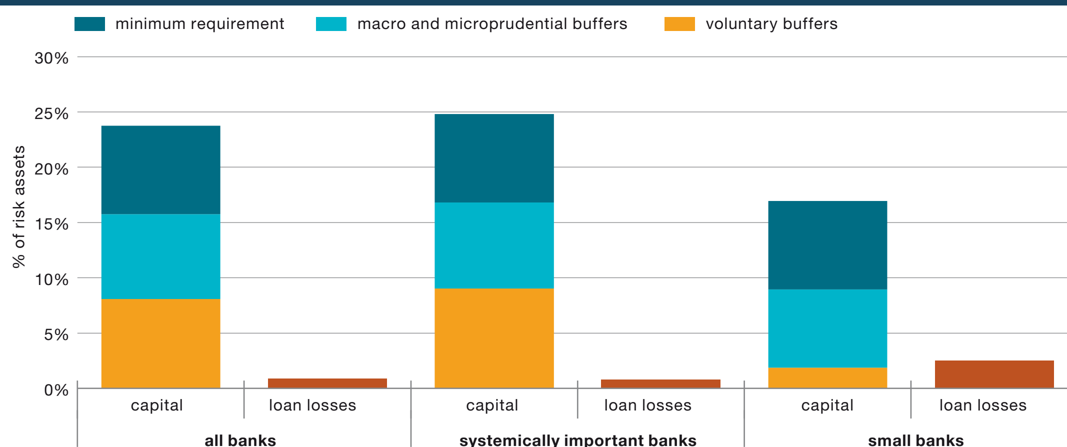
Sources: Eesti Pank, Finantsinspektsioon

Figure 11. Potential share of overdue loans within assets



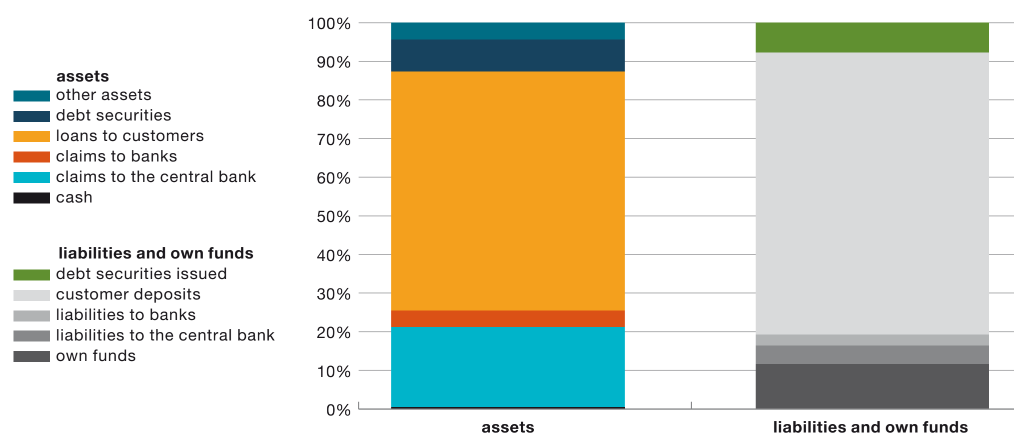
Source: Eesti Pank

Figure 12. The capitalisation of the banking sector and potential loan losses



Source: Eesti Pank

Figure 13. Assets, liabilities and own funds of the banking sector



Source: Eesti Pank

the profit of 405 million euros that the banks made in 2021. Possible loan losses would reach around 0.9% of risk assets (see Figure 12). The share of loan losses at systemically important banks would be smaller than the average at 0.8%, while it would be notably larger at 2.5% at the small banks. The difference arises largely because consumer loans are a larger part of the loan portfolio at small banks. If necessary, banks can cover the losses not only from profit but also from their voluntary buffers and the buffers required by supervisory authorities[13].

The profitability of the banks is also supported by rising money market interest rates. The interest income of banks is much more sensitive to changes in the interest rates than their interest expenses are. The main part of the assets of the banks are loans to clients (see Figure 13), around 80% of which are loans with floating interest rates. If money market interest rates rise, the interest income earned by the banks increases, with some lag. At the same time, the largest part of the liabilities of the banks at over 80% are client deposits. Some 90% of them are demand deposits, and the banks pay very low interest on them. This means that a rise in interest rates would not notably increase the costs on at least three quarters of the liabilities of the banks. Although other liabilities have started to increase in recent years among the liabilities of the banks, mainly through the bonds issued by the banks for which the terms and price are set by the market, this will affect the structure of liabilities very gradually and will not at first increase the interest expenses for the sector as a whole sharply. This means in the short term

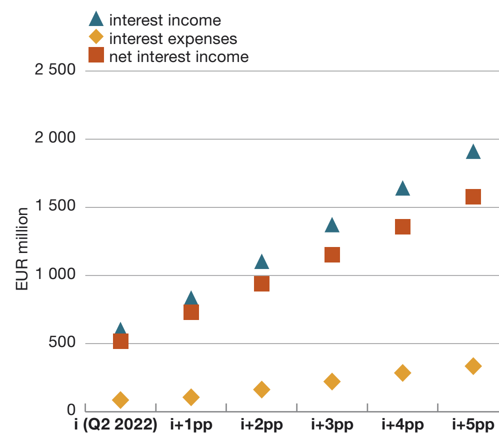
13 Balancing loan losses against capital assumes that the loan losses of the banks in other countries are similar to those in Estonia.

that the more the money market interest rates rise, the more profitable the banks will be.

It should still be noted though that rising interest rates will restraint the demand for loans, and so the loan portfolio will grow more slowly and so will the service fees and interest income earned by the banks. Higher interest rates may encourage bank clients to make more use of term deposits, increasing the share of liabilities on the balance sheet that are sensitive to interest rates, and so also increasing interest expenses.

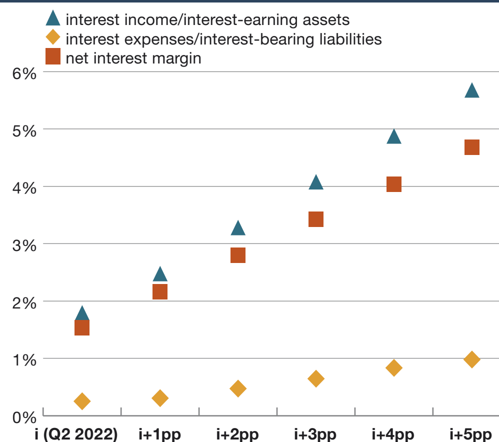
The net interest income of the banking sector will be boosted substantially by the expected rise in interest rates. Assuming that interest rates rise for both loan contracts with floating interest rates and liabilities with variable interest rates by one percentage point from their level at the end of July, the net interest income of the banking sector would increase by around 40% (see Figure 14), and the net interest margin would rise over the year in the second quarter from 1.5% to 2.2% (see Figure 15). This would mean additional income in the quarter of around 50 million euros for the sector as a whole, which would increase the annual return on assets of the banking sector in the second quarter from 1.1% to around 1.6%. A rise of three percentage points in base interest rates, which markets currently expect for the first quarter of next year, would bring additional income for the quarter of almost 160 million euros, and raise the return on assets to 2.8%. Euribor reaching 5%, which it last did in 2008 immediately before the global financial crisis, would almost triple net interest income, with the return on assets reaching around 3.9%[14].

Figure 14. Interest income and expenses at different interest rates



Source: Eesti Pank

Figure 15. Net interest margin at different interest rates



Source: Eesti Pank

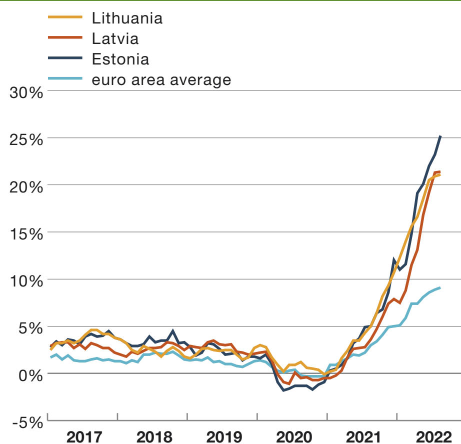
14 The calculation does not take account of possible changes in the assets and liabilities of the banks.

Box 1: The risks to financial stability in Latvia and Lithuania

A large part of the loan portfolios of the banks operating in Estonia are cross-border loans. In June 2022, 33% of the loans of the Estonian banking sector were issued through a branch operating in a foreign country, 8% of them in Latvia and 15% in Lithuania. There are other rapidly growing Estonian creditors besides Luminor operating in the Baltic region. Although the activities of small market participants are not yet systemically important for the financial systems and non-financial economies of the Baltic states, the rapid growth of smaller creditors increases their role in the financing of the economy. If the branches in Latvia or Lithuania need support from the Estonian head office, the available capital that was intended for lending to households and businesses in Estonia could be reduced. This would harm access to funding in Estonia and the smooth functioning of financial intermediation.

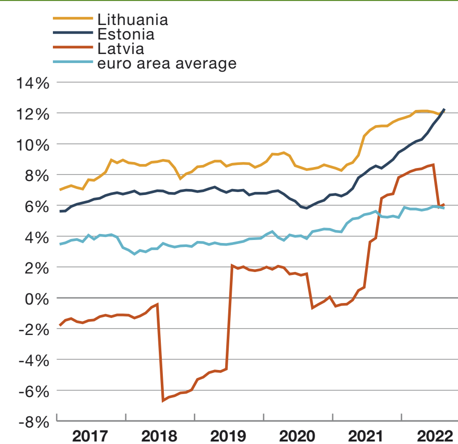
The war that Russia started in February has had a limited direct impact on the economies of Latvia and Lithuania, like in Estonia. The indirect or secondary effects of the war that threaten seriously to restrain economic growth in the Baltic states in the years ahead are a concern.

Figure B1.1. Annual change in the harmonised index of consumer prices



Source: Eurostat

Figure B1.2. Annual change in the stock of housing loans

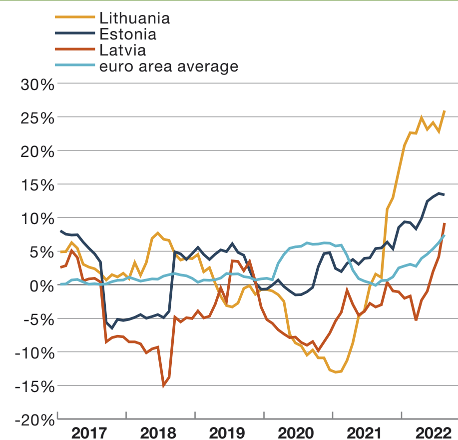


Source: European Central Bank

The main secondary effect is the inflation caused largely by high energy prices, which will limit consumption by companies and households and reduce the capacity of the non-financial sector to repay its loans. The cost of living has risen more in the Baltic states than anywhere else in the euro area (see Figure B1.1). All three Baltic states have introduced support measures to ease the impact of inflation, especially to mitigate high energy and heating costs. Although it is too early to forecast the final extent of these measures, it can still be expected that they will substantially help preserve the solvency of the non-financial sector and restrain the build-up of overdue loans.

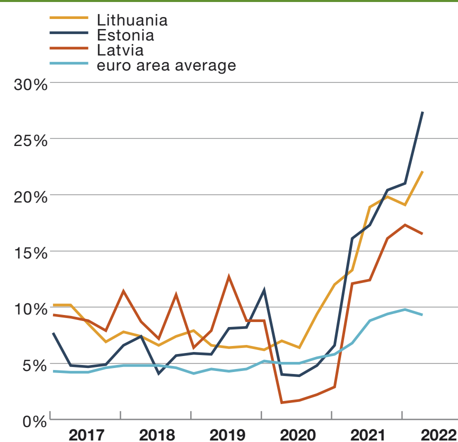
While the war can be blamed as the catalyst for higher prices for energy and fuels throughout the Baltic region at least, cyclical risks had already been building up before the geopolitical crisis erupted, especially in Estonia and Lithuania (see Figure B1.2). Despite the outbreak of war in February, growth in loans and real estate prices was strong in the first half of the year in Estonia and Lithuania (see Figure B1.3). Although real estate prices rose notably fast in Latvia as well, in that case the reference base was low and the growth in credit was slower, which may point more to restricted supply pushing prices up rather than to strong demand (see Figure B1.4). Like in Estonia, growth in real estate prices and credit in Latvia and Lithuania may be expected to decline. This will primarily be because of slower growth in the economy and rising interest rates that will leave companies and households with fewer funds available for investment.

Figure B1.3. Annual change in the stock of loans to companies



Source: European Central Bank

Figure B1.4. Annual change in the house price index

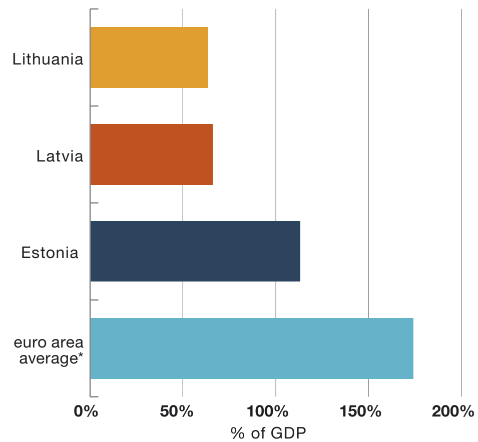


Source: Eurostat

All of the central banks in the Baltic region have taken steps to minimise cyclical risks. The most recent was the decision by the Lithuanian central bank to raise its countercyclical capital buffer to 1% from October next year.

Private sector debt in the Baltic states is below the average level in the euro area, and so the resilience of companies and households to a rise in interest rates is better than the average (see Figure B1.5). However, the share of loans with a floating interest rate is larger than the average in the euro area, and this makes borrowers more vulnerable to rises in interest rates. The share of loans in Estonia that have a fixed interest rate is the smallest in the euro area, and Latvia and Lithuania are not far behind. This means that a rise in interest rates will affect a relatively large share of lenders and borrowers throughout the Baltic states. A rise in base interest rates will equally increase the interest income of lenders, which will improve the capitalisation of the banks.

Figure B1.5. Private sector debt at the end of 2021



*As at 2020
Source: Eurostat