Analysis

# Finland’s banking sector could withstand even a harsher recession than forecast

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Despite the economic recession, the capital position of Finnish banks has improved. This is attributable especially to growth in the net interest income of the banks. The financial standing of Finnish banks is expected to further improve in the immediate years ahead. However, the banking sector also faces threats in the form of downside risks to growth in the economy and geopolitical tensions. Stress testing shows that Finnish banks could nevertheless withstand a longer and deeper recession than forecast, but in this case their capital adequacy would weaken considerably, mainly due to an increase in loan losses. It is important that banks maintain sufficient capital buffers, as these buffers will safeguard their risk-bearing capacity in an uncertain operating environment.



# Capital adequacy of Finnish banks has remained strong in a difficult operating environment

Finland has a very bank-centric financial system, which means it is essential to have a strong banking sector for channelling finance into the real economy. Financial intermediation is always important for the functioning of the economy, but in economic downturns there are particularly significant threats to the capital adequacy of the banking sector and its ability to intermediate financing. A financially sound banking sector is able to bear risks and safeguard access to finance essential for economic growth, even in weaker economic conditions. The adequacy of capital in the banking sector should also be assessed against the possibility of a severe downturn.

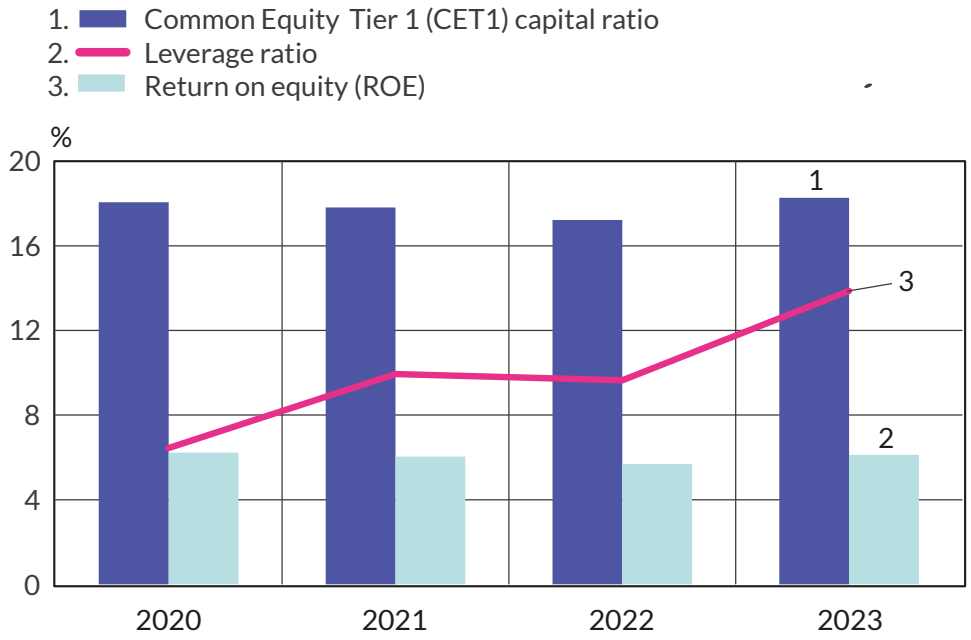
The profitability and capital adequacy of the Finnish banking sector have remained strong and even improved, despite the slow economic growth of recent years (Chart 1). The banking sector's operating result was almost 40% higher in 2023 than a year earlier. The return on equity increased to 14%, rising by 4 percentage points. A major factor behind the improved profitability of the banking sector is the rise in interest rates. Net interest income, which is the difference between the interest received and the interest paid by banks, is the largest income item for banks, and in 2023 this increased by more than 40% from 2022.

The capital adequacy of Finnish banks has remained significantly above the European average. In 2023, the banking sector's Common Equity Tier 1 (CET1) capital ratio improved to 18.3% (+1.1 percentage points) and the total capital ratio to 22.1% (+1.5 percentage points). These ratios exceed the current combined capital requirements for the banking sector by several percentage points. Loan losses have remained low in Finland, reflecting the good quality of the loan stock. The

stock of non-performing loans, which are loans with overdue payments of interest or principal, has also remained relatively low. Despite this, the volume of non-performing loans has begun to grow, which could be an indication of future loan losses.[1]

Chart 1.

**Banking sector profitability and capital position improved notably in 2023**




Source: Financial Supervisory Authority.

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The structural vulnerabilities in the banking sector are among the key risks identified in the Finnish financial system. The risks are associated with the large size of the banking sector relative to the Finnish economy and the large share of corporate financing that is derived from the banks. Other sources of vulnerability include the concentration of the banking sector and its interconnectedness with other Nordic countries, and, above all, the heavy exposure of Finnish banks to the Nordic real estate market, through lending.

Households constitute a significant customer group for Finland's banks, though the indebtedness of the household sector increases credit risks.[2] The Finnish banking sector's above average dependency on market-based funding also exposes banks to liquidity risks associated with disruptions in the financial market. Bank funding is also associated with real estate market risks,

because a considerable share of the funding consists of covered bonds secured by residential mortgages and by mortgage-backed loans.

Due to the bank-centric nature of the Finnish financial system, any weakening of the banking sector's financial standing could introduce strong negative second-round effects to the economy. To counterbalance the risks, additional capital requirements have been set for banks to support their risk-bearing capacity. For example, the 1% systemic risk buffer (SyRB) requirement, which entered into force in April 2024, will strengthen the capital position of the banking sector and increase the risk-bearing capacity of the banks.

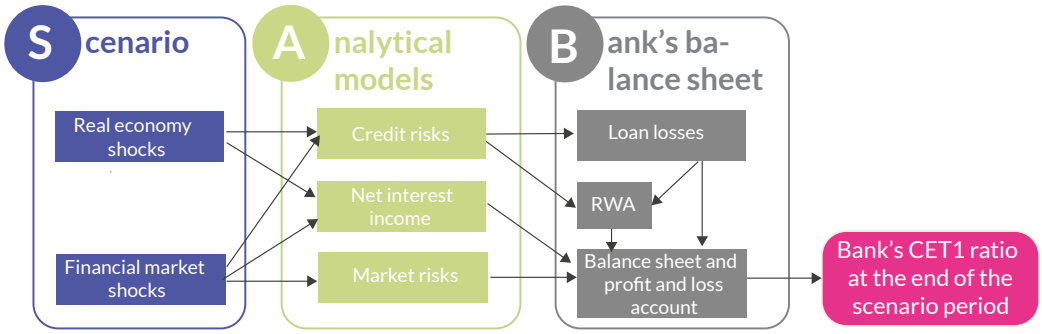
## Stress tests can be used to assess the outlook for the banking sector under different scenarios

A three-stage stress-testing framework was used for assessing the financial standing and risk-bearing capacity of the banking sector under various economic and financial market scenarios (Chart 2). The first stage was to set a scenario – in this case either the published forecast or the stress scenario – which provides the framework for analysing the impact on the banks' profitability and capital adequacy. The aim was to use the scenario to test whether the banking sector could withstand the materialisation of possible risks to the real economy and the financial markets. Due to the Nordic interconnectedness of the Finnish banking sector, it was also considered worth testing how the simultaneous materialisation of risks in Finland, Sweden, Denmark and Norway would affect the capital position of the Finnish banking sector. This scenario would also need to include assumptions about developments in these Nordic countries.

The second stage of the test included an assessment of the impact of each scenario on banks' risks, such as credit risk and market risk, and on the growth in their net interest income. The analysis used various statistical methods and calculation rules (see information box). The third and final stage of the stress test involved calculating the overall impact of the various risks on the capital position of banks.[3]

Chart 2.

**Bank of Finland and FIN-FSA's stress testing method has three stages**




RWA = Risk-weighted assets
Sources: Bank of Finland and Financial Supervisory Authority.

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The stress-testing framework has many applications. On the one hand, it allows the use of economic forecasts as scenarios, with the assumption that over a three-year forecasting horizon, the financial markets will not face any major disruptions. Such a scenario could be used to predict the financial soundness of the banking sector if the economy were to develop according to current expectations. On the other hand, by using various adverse economic and financial market scenarios, the framework could be used to test banks' risk-bearing capacity in less favourable conditions than projected.

The scenarios used for stress-testing banks are typically chosen to reflect an unlikely, but possible, very severe negative sequence of events.

## ⓘ Banks' credit risks and net interest income are strongly linked to growth in the economy

For many banks, the most important source of income is their net interest income, which is the difference between interest earned and interest paid. In the stress-testing

framework, net interest income has been calculated on the assumption that the links between the macroeconomic variables and the domestic net interest income are statistically similar to historical data from Finland's euro era. The same statistical equivalences have also been applied to the net interest income accumulated in other Nordic countries.

The amount of net interest income is strongly dependent on real gross domestic product (GDP): in a larger economy, there are more loans and deposits from which to generate net interest income. Experiences so far indicate that the volume of loans grows at least at the same rate as the economy of a country. Analyses using figures that cover Finland's euro era show that a 1% growth in real GDP will increase the net interest income of the banking sector by over 2%.

Inflation also affects the nominal amount of net interest income, in that if price levels rise, the amount of money in the economy will probably also increase. As the money stock mainly consists of bank deposits, the nominal stock of deposits will also increase, thereby giving banks access to additional funding at moderate cost. The euro volume of loans will also grow higher in an environment of higher price levels. Furthermore, as total deposits and the lending stock grow, banks' net interest income will also increase.

The loans and investments held by Finnish banks are mainly short-term or have variable rates. Therefore, a rise in market rates is fairly quickly reflected in the interest income from almost all assets and investments. In contrast, the interest rate on banks' deposit liabilities usually moves much more slowly. In the past, a one percentage point increase in the market rates has caused the average interest rate on bank deposits to increase by about half a percentage point. In conditions with very low nominal rates, a one percentage point increase in interest rates, for example from 0% to 1%, will increase net interest income by around 7%.

As with net interest income, loan loss estimates are also based on a statistical connection between previously experienced credit losses and variables relating to the macroeconomy and the financial markets. Assessments of the volume of loan losses in the Finnish banking sector are carried out using a long-term dataset that also captures the 1990s banking crisis. The time series that are available for the other Nordic countries do not extend as far back, and loan loss assessments for these countries are compiled using a single statistical panel model.

In the stress-testing framework, banks' profit distribution is assumed to adhere to their

respective profit distribution policies, if such have been published. If not, the distribution of profits is assumed to be in line with the historical average. Furthermore, no profit is expected to be distributed from a negative result.

The stress-testing framework involves two choices that fundamentally impact the outcome of the test. The first is to choose which data to use to estimate loan losses. The second is about the assumption regarding the approach taken by banks to recognizing non-performing exposures as loan losses. In this stress test, banks are assumed to cover their non-performing assets on the basis of a historic average for the coverage ratio.[4]

## Banks' capital adequacy is expected to strengthen in the immediate years ahead

According to the Bank of Finland's December 2023 forecast[5], the economic outlook will remain subdued in the immediate years ahead. The recession will continue in 2024, but the economy will begin to recover in 2025 and grow further in 2026. Inflation in the euro area and Finland will return close to the target level in 2024–2026 and interest rates will gradually decline. The 12-month Euribor is projected to be at 2.7% in 2026. In the examination below, we apply the December 2023 forecast as a scenario in the stress-testing framework described above, and assess the impact of the projected GDP growth for the immediate years ahead on banks' performance and capital adequacy.

On the assumption that the economy grows in line with the forecast over the years ahead, the banking sector is expected to remain financially sound. In the test scenario based on the Bank of Finland forecast, banks' net interest income decreases slightly in 2024 due to the decline in interest rates. In 2025 and 2026, there is no significant change in net interest income, as the boost provided by the economic recovery and inflation would be balanced by the contraction associated with the fall in interest rates.

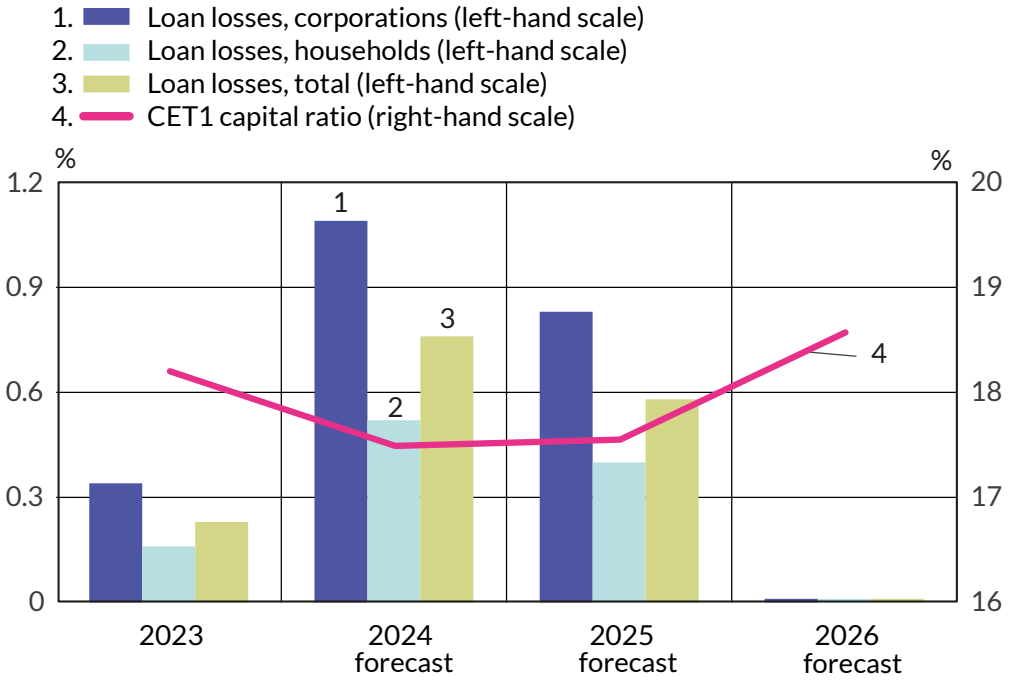
The rapid rise in interest rates and other costs has eroded the financial buffers of businesses and households alike, which is reflected as an increase in banks' loan losses in 2024 and 2025 compared with 2023. In this scenario, loan losses will increase to around 0.7% of the loan stock (Chart 3). However, the recovery of the economy and declining interest rates will also help mitigate the materialisation of credit risks, resulting in very small loan losses in 2026.

If the economy continues to grow in line with the forecast, the capital position of the banking sector will remain good, as the moderate growth in loan losses will not threaten banks' capital

adequacy (Chart 3). The increase in loan losses would weaken the Common Equity Tier 1 (CET1) capital ratio slightly in 2024 compared with the end of 2023, but in 2025–2026, banks' capital adequacy will again improve. By the end of 2026, the CET1 capital ratio would rise slightly above the 2023 level, to 18.7%.

Chart 3.

**Loan losses expected to grow in the immediate years ahead but banking sector's capital adequacy will nevertheless strengthen**




Loan losses in the Finnish banking sector, measured as percentage of total loan stock for the sector(s) concerned.
Sources: calculations by the Bank of Finland and the Financial Supervisory Authority (FIN-FSA).

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## Prolonged recession would be considerable test for banks' capital adequacy

The forecast referred to above describes the future that seems most likely. However, in assessing the adequacy of the banking sector's risk-bearing capacity, it is important to look at a stress

scenario based on a significantly weaker trend in the operating environment than expected. Below, the financial standing and resilience of banks will be assessed using a stress scenario (see Stress scenario's longer and deeper recession disrupts the financial markets) which is based on the vulnerabilities observed in the Finnish banking sector and the resulting stability risks.[6]

In contrast with the forecast, the stress scenario is a very unlikely but possible course of events in the economy and financial markets. The severity of the stress scenario is in line with the adverse scenario set out in the European Banking Authority's (EBA) stress tests published in July 2023, in which the adverse impact of high interest rates and rapid inflation on the euro area banking sector was illustrated.[7]

### ⓘ Stress scenario's longer and deeper recession disrupts the financial markets

At the start of the stress scenario, heightened geopolitical tensions drive up inflation in the euro area and lead to a rise in interest rates, deepening the recession and prolonging it until 2025. The recession and increasing uncertainty also extend and exacerbate the difficulties in the housing and real estate markets, depressing share prices and raising the risk premia on bonds.

Household indebtedness and large housing loans in relation to income and collateral have been recognised as significant vulnerabilities in the Nordic countries. These vulnerabilities have a significant impact on the performance of the housing and real estate markets under this scenario. In Sweden, Denmark and Norway the overvaluation of residential properties will bring further problems. Housing prices would decline substantially in the first two years of the stress scenario. In Finland and Sweden, housing prices declined by around 10% in 2023, and in the stress scenario, the same rate of decline would continue for another two years before coming to a halt in 2026 (Chart 4). In Norway and Denmark, the decline would accelerate further.

In the stress scenario, the bleak economic outlook and more difficult access to funding would further weaken the situations of companies and restrict their investment. Furthermore, higher interest expenditure and rising unemployment would reduce private demand, deepening the economic downturn. The 2023 recession preceding the beginning

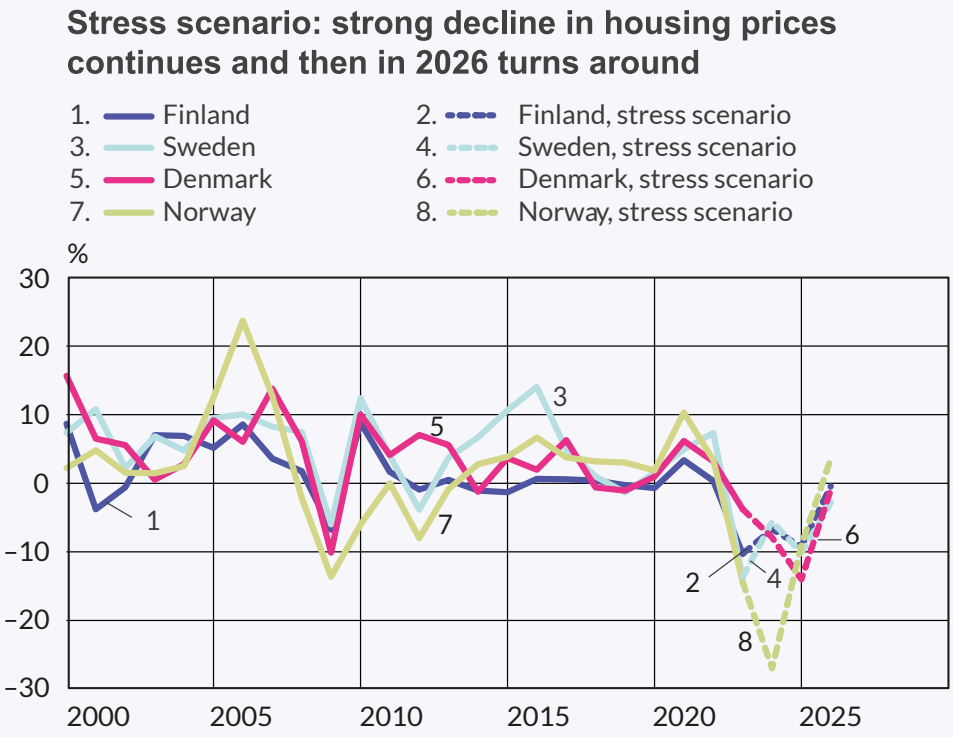
of the scenario will also diminish the loss-absorbing capacity of households and businesses and amplify the negative impacts of the scenario. Real GDP would decline by around 6% in Finland in 2024 and 2025, and the decline would be similar in the other countries. The recovery in the GDP would begin in 2026, when growth would be around zero or slightly higher in all the countries (Chart 5).

In the stress scenario, consumer price inflation would not show signs of easing as in the forecast but would instead remain significantly higher than forecast throughout the scenario. Inflation is forecast to slow more quickly in Finland than in the other Nordic countries. In the stress scenario, inflation would be clearly higher in Sweden, Denmark and Norway than in Finland.

Since higher inflation would strain the entire euro area under the stress scenario, interest rates would also remain clearly higher than the average of the past few years. The 12-month Euribor, which is an important reference rate for consumers in Finland, would rise to almost 6% by 2025, before interest rates would start to fall. High inflation would also lead to a rise in interest rates in Sweden, Denmark and Norway.

Other interest rates than short-term market rates would also rise sharply. Risk premia on corporate bonds would rise significantly from the beginning of the stress scenario, as would those on government bonds. Share prices would decline in Finland by 55% from their level at the end of 2023 but would rise slightly from their lowest levels during the last two years of the scenario. The yield spread of corporate bonds in 2024 in relation to the lowest risk bonds would be around 1 percentage point at its highest.

Chart 4.




Sources: Macrobond, Bank of Finland, Sveriges Riksbank, Norges Bank, Danmarks Nationalbank, European Banking Authority and calculations by the Bank of Finland.

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Chart 5.

## Real gross domestic product would decline substantially in the stress scenario



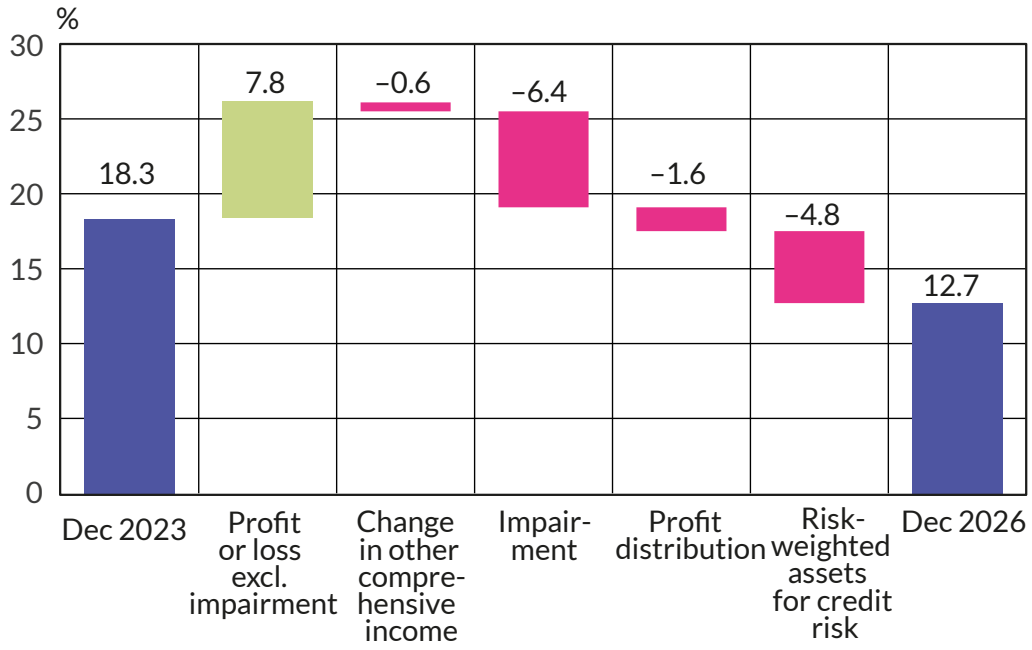

Sources: Macrobond, Bank of Finland, Sveriges Riksbank, Norges Bank, Danmarks Nationalbank, European Banking Authority and calculations by the Bank of Finland.

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The capital position of the Finnish banking sector would weaken considerably under the economic and financial market trajectory of the stress scenario described above. Over three years, the Common Equity Tier 1 (CET1) capital ratio of the banks would fall by 5.6 percentage points, to 12.7% (Chart 6). Although the capital ratio would weaken by an exceptional amount[8], the banking sector's capital adequacy at the end of the stress scenario would exceed the minimum capital required under the regulation of banks' capital requirements.[9]

Chart 6.

## Finnish banking sector's CET1 capital ratio would weaken considerably in the stress scenario




Sources: calculations by the Bank of Finland and the Financial Supervisory Authority (FIN-FSA).

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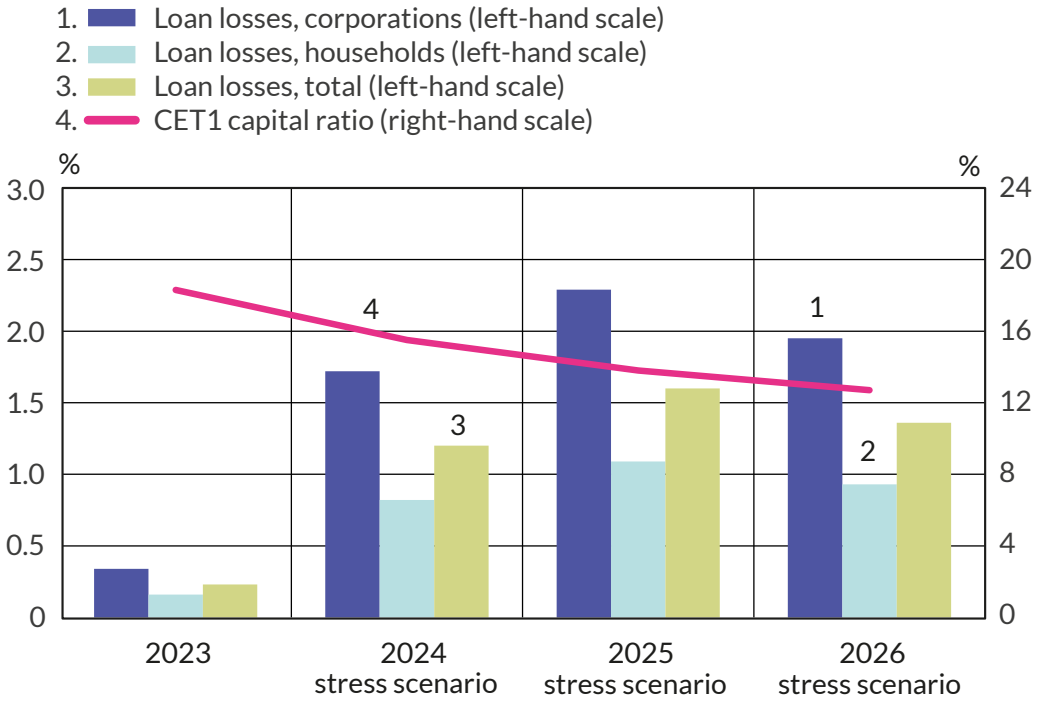
In the stress scenario, banks' net interest income would first remain quite steady in nominal terms, as the rise in interest rates in 2024 would compensate for the real contraction of the economy. Adjusted for inflation, this income item would contract, nevertheless. The situation would become worse in 2025, when net interest income would decrease by over 10% amid a deepening recession and a halt to the rise in interest rates. The decline in net interest income would eventually stop in 2026, but the net interest income formed in Finland would be over 10% smaller than in 2023. However, even this contracted level of net interest income would support the profit of the banking sector. The effect of a positive profit on capital adequacy would be 7.8 percentage points in the stress scenario (Chart 6, '*Profit or loss excl. impairment*').

The volume of loan losses would grow significantly in 2024 and would remain high throughout the stress scenario. Loan losses would account for a maximum of 1.6% of the loan stock in 2025 (Chart 7). Loan losses from corporate sector loans would be higher than those originating from household

sector loans. The realisation of credit risk would have a significant impact on the capital adequacy of banks. In the weakening economic environment, loan losses arising from loans granted to businesses and households would weaken banks' CET1 capital ratio by 6.4 percentage points (Chart 6, '*Impairment*'). The increased probability of loan losses would raise the risk weights for the credit risk used in the capital adequacy calculation, reducing the CET1 capital ratio by a further 4.8 percentage points (Chart 6, '*Risk-weighted assets for credit risk*').

Chart 7.

**Large volume of loan losses would put a significant strain on banking sector's capital adequacy in the stress scenario**




Loan losses in the Finnish banking sector, measured as percentage of total loan stock for the sector(s) concerned.
Sources: calculations by the Bank of Finland and the Financial Supervisory Authority (FIN-FSA).

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The realisation of market risk would have a more moderate impact on banks than the realisation of credit risks. Lower share prices and higher risk premia on bonds would be reflected in bank profits as a reduction in trading income. This would also decrease the values of instruments recognised at fair value directly in banks' equity, which would lower the CET1 capital ratio by 0.6 percentage

points (Chart 6, '*Change in other comprehensive income*').

Solid profits during the stress scenario indicate that favourable net interest income performance is a more important factor for banks' operations than the prices of securities. As a result of profit distribution, the capital adequacy of the banking sector would be 1.6 percentage points lower compared with a situation in which retained earnings are used entirely to accumulate CET1 capital (Chart 6, '*Profit distribution'*). If necessary, banks could reduce their payment of dividends if the fulfilment of capital requirements would otherwise be jeopardised.

The effects of the stress scenario would be amplified by the fact that the Finnish economy was in recession at the year-end 2023 baseline. Recessions usually last for less than the three years assumed in the stress scenario. The long duration of the assumed recession makes the stress scenario very severe. Above all, the materialisation of credit risk usually occurs with a delay after the onset of an economic downturn. The debt-servicing problems of households and businesses usually become apparent gradually and increase during the course of a longer downturn. Owing to the weak baseline situation and the long-continuing uncertainty, the economic buffers of households and businesses have weakened, and credit risk is realised rapidly in the stress scenario, during the first year. On the other hand, banks' profitability and capital adequacy were at a good level at the end of 2023, which reduces the negative impacts on banks in the scenario. The banking sector has made use of its robust profits by raising its CET1 capital ratio during 2023.

The steep reduction in the CET1 capital ratio in the stress scenario highlights the importance of sufficient capital buffers. The level of capital at the end of the scenario is underpinned especially by the good capital position at the baseline. On the other hand, banks' business operations would also benefit from the rise in interest rates prompted by inflation, at least on a temporary basis. In the longer term, the reduction in economic activity and in demand for credit, along with the increase in debt-servicing problems, as a result of the higher interest rates would start to be reflected in banks' business, which would underline the importance of buffers.

## Finland's banking sector could withstand even a harsher recession if necessary

Finland's banking sector is profitable and financially sound, and its capital position has improved in recent years despite the Finnish economy having sunk into recession and the interest rate environment having been transformed. The financial standing of Finland's banks is expected to remain good in the immediate years ahead despite the weak economic outlook. Although loan losses are expected to increase, their moderate growth will not challenge the capital adequacy of the banking sector. The rise in interest rates would support banks' earning capacity in the years

ahead, and credit risks would decrease as economic growth recovers, reducing risk in the banking sector.

The risk buffers of the Finnish banking sector could also withstand a longer and deeper recession, if necessary. In the unlikely but possible stress scenario, the capital position of the banks would weaken substantially. Therefore, it is crucial that the capital adequacy of Finland's banks is strong at the baseline. The Finnish banking sector has benefited from the rising interest rates of recent years and has built up its capital buffers. The 1% systemic risk buffer (SyRB) requirement, which entered into force in Finland in April, will ensure that the risk-bearing capacity of the banking sector continues to be robust. The banking sector will play a fundamental role in financial intermediation in Finland as the economy recovers from recession.

## Notes

1. Read more about the banking sector's profits and capital adequacy in the Financial Supervisory Authority's (FIN-FSA) press release 'Banking sector's capital position and profitability improved due to strong performance – credit risks have grown particularly in loans to the real estate and construction sectors' (in Finnish). ↑
2. See Geopolitical tensions and a standstill property market are casting a shadow over financial stability – Bank of Finland Bulletin. ↑
3. For a more detailed description of the framework, see: New stress-testing framework to assess the capital adequacy of Finnish banks – Bank of Finland Bulletin. ↑
4. For more information about the impacts of estimated loan losses and the assumptions related to the coverage ratio, see the previous stress test conducted by the Bank of Finland and the FIN-FSA https://www.bofbulletin.fi/en/2022/1/large-structural-risks-require-banks-to-hold-buffers-for-a-rainy-day//. ↑
5. See Bank of Finland's December 2023 forecast tables: https://www.bofbulletin.fi/en/2023/6/forecast-tables-for-2023-2026-december-2023/. The calculations in the Bank of Finland's forecast are based on the most recent full-scale macroeconomic forecast by the Bank of Finland. There are slight differences in some key macroeconomic variables between the more limited interim forecast published in March 2024 and the forecast published in December 2023. A comparison of the forecasts is available at https://www.bofbulletin.fi/en/2024/articles/from-significant-recession-towards-growth/. ↑
6. For more information: Geopolitical tensions and a standstill property market are casting a shadow over financial stability – Bank of Finland Bulletin. ↑
7. We assume that the stress scenario diverges from the growth forecast to the same extent as in the EBA stress test. The difference is that the EBA test was based on economic forecasts carried out in November 2022. In this stress test, the latest available economic forecasts by each Nordic country's central bank were used. ↑
8. The EBA and the FIN-FSA assess the adequacy of capital in the banking sector using the EBA's stress test method. The EBA stress test included the two largest banks, Nordea and ↑

OP Group, the CET1 capital ratios of which were estimated to decrease by 3.3 and 5.5 percentage points, respectively, in the hypothetical stress scenario. The FIN-FSA assessed that the CET1 capital ratio of smaller Finnish banks would decrease by an average of 3.8 percentage points under the conditions of the stress scenario set out in the EBA stress tests. The reasons for the differences in the results based on this stress test and the EBA's stress test method are the differences in the methods used and the differences in the initial conditions of the stress tests. In the EBA stress test, the baseline level was determined by the situation at the end of 2022, and in this stress test, by the situation at the end of 2023. This stress test assesses the effects of a protracted recession, while in the EBA stress test the real economy had a more favourable starting point. On the other hand, the capital adequacy of the banks was significantly higher at the end of 2023 than in the previous year (Chart 1). See: Results of Finnish banks' stress tests – banks' resilience good, but a significant weakening of the operating environment would erode buffers - 2023 - www.finanssivalvonta.fi.

9. The minimum level refers to the minimum capital requirements set in the EU Capital Requirements Directive and Capital Requirements Regulation, and the bank-specific discretionary capital buffer requirements set by supervisory authorities, in other words the minimum capital requirement level required by Pillars 1 and 2. ↑

## Keywords

banks, macroprudential stability, stress tests, systemic risks