



FINANCIAL STABILITY ASSESSMENT

Weakening economy and tightening financing conditions pose a challenge to financial stability

13 May 2022 – Financial Stability Assessment – Financial stability

Russia's war on Ukraine has caused immeasurable human suffering and destruction for the people of Ukraine. Russia's attack weakened the economic outlook rapidly in spring 2022, and financial stability risks increased in Finland. To ensure financial stability, the resilience of borrowers and banks must be strengthened. More effective measures are needed for curbing excessive household indebtedness. More determined action must be taken to prepare for financial sector cyber risks and vulnerabilities in the payment and settlement systems.



The financial stability outlook weakened in spring 2022 as Russia launched its invasion of Ukraine. The Finnish financial system's direct exposures to Russia and Ukraine are small, but the war will increase financial stability risks via several indirect channels. Sudden turns in the war may increase uncertainty and cause risk-aversion by

investors. This may raise the cost of financing and weaken its availability on the international financial markets. Financial sector cyber risks have also increased. The weakening economy and rising interest rates, reflecting higher inflation risks, may in the longer term increase the credit risks from household and corporate loans.

The Finnish banking sector is sound, and it has a solid foundation for maintaining the provision of credit and for facing the possible increase in risks caused by the weakening operating environment. The good solvency position of Finnish life and non-life insurance companies as well as employee pension institutions will help them withstand a possible decrease in the value of and return on investments.

Unforeseen crises which shake the financial system from outside, like the COVID-19 pandemic and the war in Ukraine, highlight how important it is to strengthen the resilience of the financial system. The structural vulnerabilities of Finland's financial system are considerable and relate to household indebtedness and the banking system's substantial size, concentration and interconnectedness. Bank funding in Finland is reliant on international investors' confidence in the stability of the Nordic financial system. It is therefore essential that the banks have sufficient capital to counterbalance the structural vulnerabilities of the sector.

The authorities should have greater scope for imposing capital buffer requirements on banks under normal cyclical conditions, and these requirements could then be lifted during severe economic disruptions if necessary. In disruptive situations, easing the requirements would support the ability of banks to grant loans despite a weakening of their capital position caused by possible credit losses.

Resilience must also be improved by curbing the growth in household indebtedness. In January 2022, the Ministry of Finance published a draft Government proposal for measures to curb household indebtedness more effectively than at present. The proposal would, among other things, limit the length of housing loans and loans to housing companies, and would set up a loan cap and repayment obligation for housing company loans taken to finance new construction.

In addition to the proposed measures, Finland should limit the total debt or the cost of servicing the borrower's total debt relative to the loan applicant's income. Macroprudential instruments limiting the debt-to-income or debt-servicing-to-income ratio have become more common in Europe. The European Systemic Risk Board and the International Monetary Fund's evaluation group for the Finnish economy have repeatedly recommended the introduction of such instruments also in Finland.

The EU is reviewing its macroprudential regulatory framework in order to improve and harmonise the range and usability of macroprudential instruments in Europe. The aim of the reforms should be to ensure that all EU Member States have more effective instruments at their disposal to address housing market risks and excessive growth in household indebtedness.

In addition to the traditional business risks of the financial sector, cyber threats also pose a substantial risk to economic actors and call for more decisive preparedness and contingency planning. Key banking and payment services are an important part of

national security of supply and critical infrastructure, the functioning of which must be secured under all circumstances. Work on contingency planning in Finland must continue in cooperation between the authorities and the financial sector.

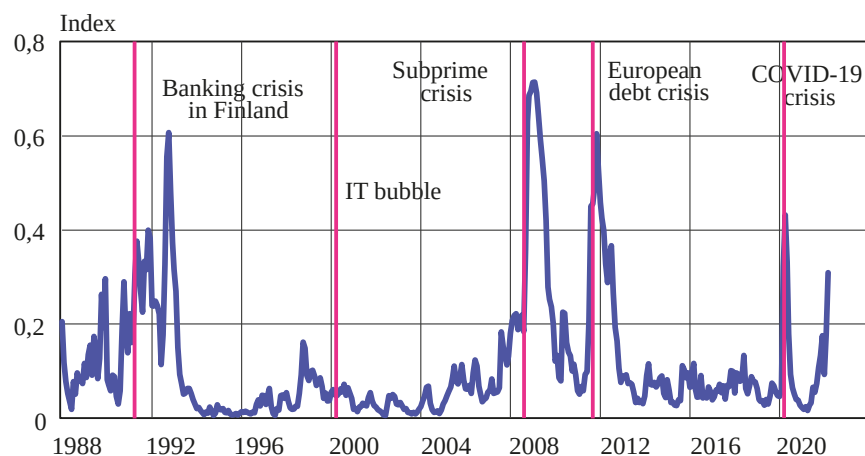
The war is expected to bring far-reaching changes to the international economy, and these will impact the financial system as well. In terms of energy and climate policies, there is a need for a new road map to achieve the set objectives. Development of the Banking and Capital Markets Union and full implementation of the latest Basel III standards on banks' capital adequacy requirements into EU legislation would contribute to the stability of the financial system.

Financial markets have operated without disruptions, but risks have increased

The international financial markets reacted strongly to the war Russia launched in Ukraine in February 2022. The financial market shock caused by the war was, however, significantly more local than the COVID-19 pandemic. It hit particularly Europe and companies, banks and countries with links to Russia, including Finland (Chart 1). Tighter than average economic ties to Russia and Finland's geographic location were reflected in the pricing of various Finnish securities, particularly in the early phase of the war. The interest rate spread between Finnish government bonds and those of the largest euro area economy, Germany, widened slightly in the first weeks of the war, but it has since returned close to the pre-war level.

Chart 1.

Financial market stress indicator for Finland



Sources: Bloomberg, Datastream and calculations by the Bank of Finland.

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Despite the strong growth in uncertainty related to the economic impacts of the war, the international financial markets have operated smoothly and there has been no need for

new financial support measures thus far.^[1] The increase in uncertainty has been contained partly by the fact that the international financial system's direct links to Russia are limited^[2] and known to investors. The Finnish financial system's direct exposures to Russia are also small.^[3] The decrease in links is due to for example the sanctions introduced in 2014 in response to the Russian annexation of Crimea.

The war will increase financial stability risks indirectly via the weakening operating environment. The impacts of the war may turn out to be long-lasting. The economic outlook has dampened, particularly in Europe.^[4] The war has aggravated production bottlenecks and caused a strong rise in energy prices and the prices of many raw materials, which is pushing up inflation.^[5] The higher rate of inflation has increased expectations for a more-rapid-than-expected pace of tightening in monetary policy in the main economic regions, particularly in the euro area and the United States. In addition to the war, the COVID-19 pandemic continues to weigh on the outlook for the global economy. The containment measures imposed in response to the pandemic may weaken growth particularly in China, where the risks are increased also by the large vulnerabilities in the real estate sector.

Russia's invasion of Ukraine will weaken the economic outlook in Finland. Before the outbreak of the war, the Finnish economy had just passed the deepest dip caused by the pandemic. The Bank of Finland's [scenarios show](#) that in the current year, Finland's GDP growth will slow to a range of 0.5–2%.^[6] Economic forecasts are subject to elevated uncertainty, as the impacts of the war will be reflected in statistical data only after several months.

Even though the initial financial market shock caused by the war has faded, market risks related to the future developments in securities prices are clearly elevated. Financing conditions have tightened, and companies' and governments' market-based funding has become more expensive. Stock prices have fallen and price volatility has been high, particularly in Europe. In addition to the uncertainty related to the progression of the war, investors' risk appetite and asset allocation decisions are affected by expectations on economic developments and the pace of monetary policy normalisation. Negative surprises may increase fluctuations in securities prices, and the possibility of a wider

1. Financial stability authorities have enhanced their cooperation and the monitoring of various supervisory and regulatory policy measures. In addition, EU countries have agreed on common sanctions.

2. According to the EU's Single Supervisory Mechanism (SSM), the euro area financial system's exposures to Russia are manageable, see [Invasion of Ukraine: euro area banks so far resilient to a second exogenous shock \(europa.eu\)](#).

3. Only less than 0.1% of the banking sector's assets, and only 0.3% of the total assets of insurance companies are subject to direct Russia exposures. Domestic investors' direct exposures to Russian counterparties are small as well. Domestic investment funds account for the majority of the investments in Russia (0.4% of the total amount of investments by investment funds) and the majority of the investments were in funds specialising in Russia.

4. See [Sota näkyy euroalueella jo luottamusilmapiirissä ja energiahinnoissa – uhkaako hidas kasvu ja nopea inflaatio? – \(The war is reflected already in euro area confidence and energy prices – is there a threat of slow growth and rapid inflation? Bank of Finland Bulletin\)](#).

5. See <https://www.eurojatalous.fi/fi/2022/artikkelit/venajan-hyokkays-ukrainaan-nostaa-energian-hintaa-ja-pitkittaa-nopean-inflaation-jaksoa/> (Russia's attack on Ukraine pushes up energy prices and prolongs the period of rapid inflation), Bank of Finland Bulletin.

6. The Bank of Finland will publish its next forecast on 21 June 2022.

shock cannot be ruled out. The possible sources of disruptions include the increase in cyber risks and the growing instability on the energy markets (see Infobox 1 below).

A tightening of financing conditions in response to a sudden increase in risk aversion by investors could raise risk premia and hence interest rates in relative terms more in the case of countries and companies with a high credit risk. As a consequence of the war, this has indeed already happened to some extent. In the euro area, this could increase fragmentation. For example, in the Mediterranean countries, the vulnerabilities of public finances and the banking sector are larger than in other countries, and they have suffered from the pandemic relatively more than other countries.



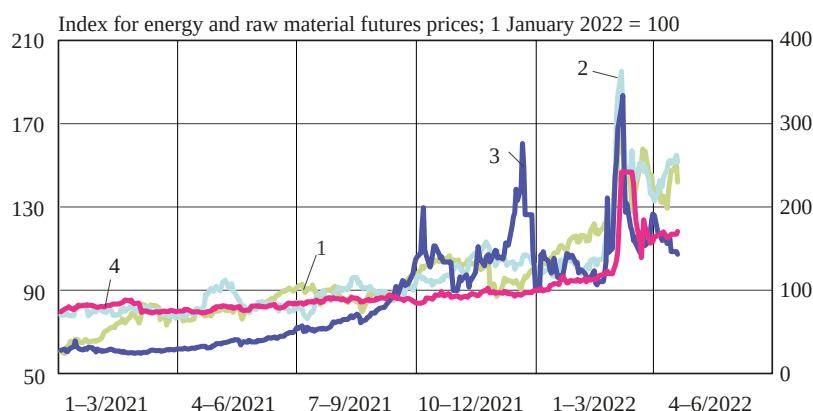
Energy markets may create financial stability risks

The strong rise in energy and raw material prices has been one of the major consequences of Russia's invasion of Ukraine (Chart 2). The war has far-reaching implications for the energy markets, which will create risks to financial stability. If economic sanctions were imposed on Russia's energy exports, on which some EU countries are highly dependent, it would have an impact on the availability and price of energy, increase uncertainty on the financial markets and push up inflation.

Chart 2.

Strong movements in energy and raw material futures prices have increased energy industry companies' liquidity needs

- 1. Oil
- 2. Wheat
- 3. Gas (right-hand scale)
- 4. Nickel



Source: Bloomberg.

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Another short-term risk relates to energy companies, as they are sensitive to fluctuations in energy prices. Many energy companies have sought to decrease the risk associated with price fluctuations by hedging their sales revenues on the derivatives markets. The contracts include a margin requirement that protects the buyer against the failure of the seller to deliver energy in accordance with the terms of the contract. Margin requirements increase in the event of rising energy prices and price fluctuations. In the current circumstances, the margin requirements may have increased as much as tenfold.

A significant growth in margin requirements raises energy companies' liquidity risks and increases their need for financing, which will tie the energy industry's

risks tightly to banks and other financial entities. The higher margin requirements have increased demand for finance also by domestic credit institutions (See [From crisis to crisis – companies are once again facing a challenging operating environment](#)).

If the energy company delivers energy as agreed, the margin payment is refunded in full. If the company is unable to deliver energy due to, for example, sanctions, the liquidity problem may, in the worst case, jeopardise the energy company's capital adequacy and cause losses also to the financial sector. The higher counterparty risks on the markets may decrease banks' willingness to operate on the capital markets and hence weaken market liquidity and access to finance.

Strong capital position of banks and insurance companies helps withstand increase in risks

Insurance companies are particularly sensitive to a rise in market risks. In the investment assets of non-life insurance companies and in life insurance companies' investment assets other than those held to cover unit-linked policies, the largest weight is on fixed-income investments. Interest rate risk is associated also with the technical provisions of life and non-life insurance. The good solvency position of Finnish life and non-life insurance companies as well as employee pension institutions helps them withstand higher market risks. Life and non-life insurance companies posted good results in 2021. The solvency ratio continued to rise following the dip in spring 2020 amid COVID-19 and has reached 136.3%. Employee pension companies' solvency ratio in 2021 was at its highest level in a decade.

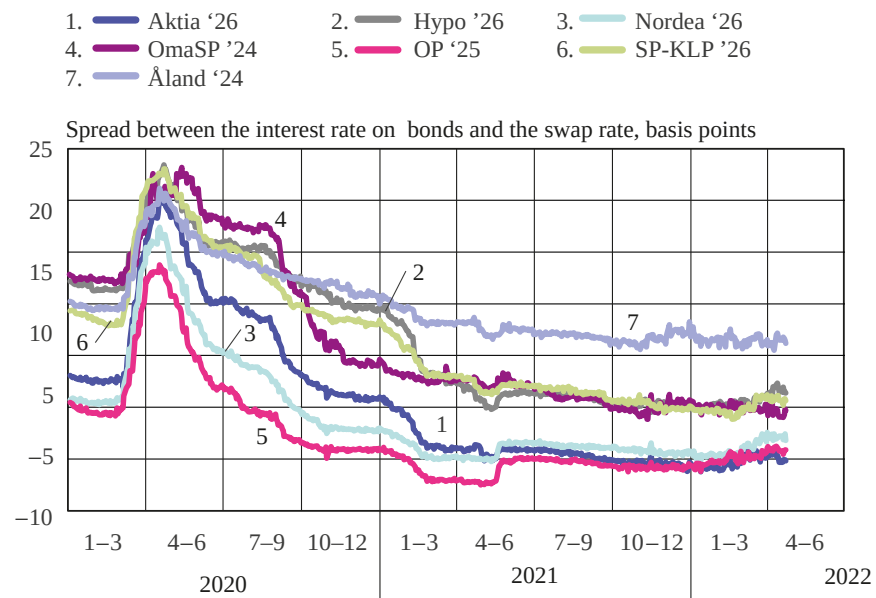
Market risks play a significantly smaller role in banking than in insurance. Rising interest rates may also improve the profitability of banks' core activity. The increase in market risks may burden banks' profitability particularly via funding. Finnish banks use a lot of market-based funding to finance their lending activities, and an increase in investors' risk aversion could push up the price of banks' funding. Finnish banks' funding is based largely on mortgage-backed covered bonds. The required returns on these bonds have not increased in spring 2022 (Chart 3).

The Finnish credit institution sector's Common Equity Tier 1 (CET1) ratio has in recent years remained stable, at around 18%, and banks' profitability improved significantly in 2021. The wave of credit losses feared at the start of the pandemic did not materialise, because extensive support measures and interest-only-periods helped companies and businesses cope with the loss of income caused by the pandemic. The share of nonperforming loans in banks' credit stock remained almost unchanged and is among the lowest in Europe. A weakening economy, high inflation and rising interest rates could

in the immediate years ahead increase the credit risks related to corporate and household loans. This may weaken banks' profitability and create an additional need for capital buffers.

Chart 3.

Finnish banks' funding did not become more expensive following the outbreak of war



Source: Bloomberg.

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Vulnerabilities in the financial market infrastructure require decisive work

The heightened geopolitical uncertainty and the sanctions imposed on the financial sector increase banks' operational risks. Russia's invasion has triggered an increase in cyber attacks, particularly in Ukraine and Russia. Some Finnish banks have been subject to denial-of-service attacks in spring 2022. Even though the individual incidents did not cause significant damage, the risk of cyber attacks against banks and the entire financial sector has increased notably.

There is a risk that the operational problems of one financial institution could spread wider and cause a lack of confidence in the financial sector. Authorities have warned the industry of the risk of cyber attacks and urged entities to ensure their capabilities to take action in the event of a cyber attack.

The threats to the operational environment of the financial sector have changed in recent years (see [Financial sector also facing new kinds of threats](#)). In addition to cyber threats, Russia's invasion of Ukraine has increased the likelihood of other types of influencing. The financial sector is an important part of the supply chain security for critical infrastructure, which must function under all circumstances.

The financial sector vulnerabilities have been identified in preparedness exercises. Many financial sector companies have a statutory obligation to prepare for emergency conditions. However, current legislation does not specify clearly enough how the preparedness obligation must be fulfilled. The level of national preparedness on the financial markets has been under examination already for several years, but mutual understanding has not been reached on the need for and means of preparedness. The preparedness work must continue, which requires smooth cooperation and a common stance between the industry and authorities.

Weakening economic environment may bring tighter financing conditions for businesses

Russia's war in Ukraine and its wider impact is affecting different industries and businesses in different ways. Before the war, Russia was an important market for many Finnish companies. Numerous companies were engaged in importing or exporting across the Russian border, or had production facilities, sales outlets and warehousing within Russia. Exporters are now suffering lost sales revenue, and it will take time to find replacement export markets and generate new business. For importers there may be difficulty obtaining substitute raw materials, or the new sources may be considerably more expensive.

The transportation sector and the chemicals industry are especially vulnerable to the reductions in Russian imports and exports (Table 1). Industries importing from Russia that are more vulnerable than average include many manufacturing industries, heat and power generation, and mining and quarrying. Industries vulnerable on the export side include a number of manufacturing industries and accommodation and food service activities.

Table 1.

Business vulnerabilities vary by industry

Industry	Vulnerabilities				Credit risks, situation as of Dec 2021		
	Pandemic	Energy and commodities	Russian exports	Russian imports	Loans, %	NPL, %	Interest rate, %
Agriculture, forestry and fishery		•			3	3	1.9
Mining and quarrying				•	1	2	1.8
Industry					2	1	1.4
Food products industry				•	0	5	2.9
Textiles industry				•	2	1	1.1
Forest industry				•	1	2	1.3
Chemicals industry		•	•	•	2	2	1.8
Metals industry		•		•	15	0	0.5
Electricity, gas and heating, cooling		•		•	5	3	2.1
Construction		•		•	5	3	1.7
Transport and warehousing	•	•	•	•	1	6	2.4
Accommodation and food services	•		•		26	2	1.4
Real estate		•			1	5	1.9
Art, entertainment and recreation	•				0	2	2.0
Other services	•						

The table presents vulnerabilities and credit risk indicators for the selected industries. The industries with vulnerabilities concerning trade with Russia were determined on the basis of OECD value added statistics for 2018. These industries are marked with a red dot if their turnover (or, more precisely, value added) is considered to be comparatively vulnerable in regard to trade with Russia. The industry is specified as vulnerable in regard to exports to Russia if its share of value added created from these exports in relation to all value added is among the highest quartile of all industries (proportions vary in the range 3%-8%). Similarly, the industry is specified as vulnerable in regard to imports from Russia if the value added attributable to these imports as a proportion of domestic final demand is among the highest quartile of all industries (proportions vary in the range 9%-48%). The vulnerability indicators refer to a comparison between industries rather than being absolute figures. The calculations were made at OECD industry level and grouped for the table at a higher level using expert assessment: if a significant industry was identified, the corresponding higher sector was also marked with a red dot. Industries with vulnerabilities concerning the pandemic and energy and commodities were determined on the basis of an expert assessment. The credit risk columns were calculated using December 2021 credit institution data collected by the Bank of Finland. The column header 'loans, %' refers to the industry's bank loans as a proportion of the total corporate loan stock. 'NPL, %' refers to the stock of non-performing loans as a proportion of the industry's loan stock. 'Interest rate, %' refers to the weighted average interest rate on the industry's loan stock.

Sources: OECD and Bank of Finland.

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Many of the industries vulnerable to a reduction in trade with Russia have a high exposure to energy and commodity price rises and to a deterioration in availability. This exacerbates the war's indirect effects on these industries. The effects will depend greatly on the speed with which companies are able to adjust their operations to the new economic environment and to find replacement markets for those which were lost.^[7] The sharp rise in energy and commodity prices is driving inflation higher, which will have a broader impact on costs faced by Finnish companies. If the price and availability

7. According to a study commissioned by OP Financial Group, a relatively large number of companies have already been able to react quickly to the situation (see https://www.op.fi/op-ryhma/medialle/tiedotteet?id=4235887_PRC).

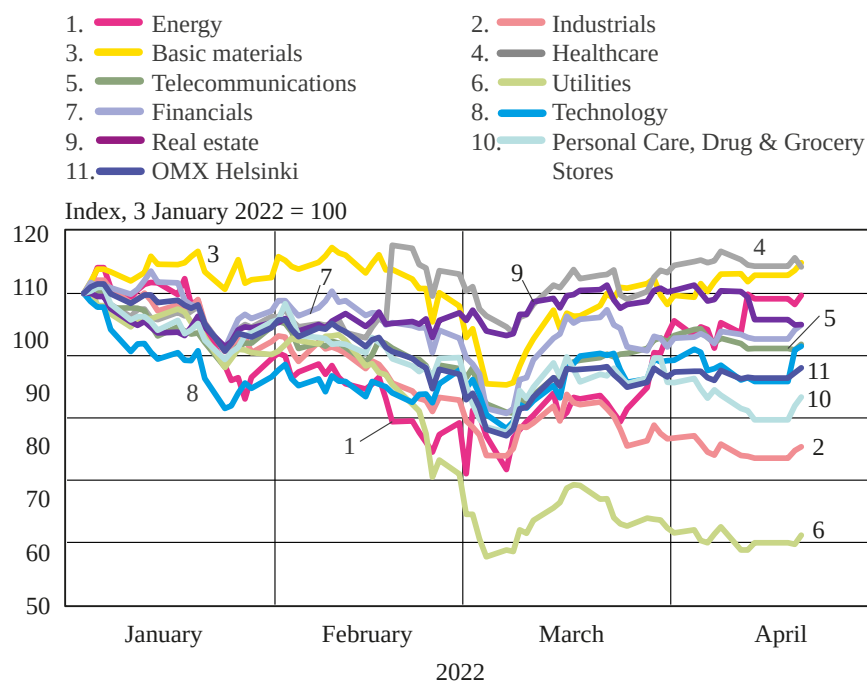
problems persist for a longer period, the indirect secondary effects of the war could spread more widely to Finnish companies via a decrease in domestic consumption.

Russia's invasion of Ukraine is weakening the economic environment for businesses in Finland, and this follows what have already been two exceptionally challenging years due to the pandemic. The pandemic affected companies in different ways, and the recovery has proceeded further in some industries than in others (see [From crisis to crisis – companies are once again facing a challenging operating environment](#)). Among the service industries worst affected by the pandemic (accommodation and food services, arts, entertainment and recreation), corporate credit risks have grown. These industries account for a fairly small share of bank lending (Table 1). Most bank loans have been granted to the real estate sector and to e.g. companies specialising in the supply of electricity, gas and heating. There have been relatively few non-performing loans in these industries so far.

Corporate credit risks and financing costs may increase as a result of the weakening economy, the materialisation of Russia-related risks and reduced profitability due to the rise in energy and raw material costs. The effects are evident in the stock prices of companies with a high exposure to the loss of trade with Russia (Chart 4) and in the price of market funding. Companies will experience tighter financing conditions when they renew their financing upon the maturity of their existing arrangements.

Chart 4.

Industries on Nasdaq OMX Helsinki diverged after Russian invasion



Source: Macrobond.

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Household expenses increased by rise in costs of living and loan-servicing

The sharp increase in consumer prices is affecting the purchasing power of households and forcing up the level of consumer spending on essentials. The considerable rise in energy and commodity prices is especially visible in the prices of foodstuffs, fuel, electricity and other energy-related housing costs. Slightly over half of household consumption expenditure has been on food, housing and mobility in the past few years (consumption expenditure does not include residential property purchases or loan repayments).

The increase in essential consumption expenditure may lead to a rise in the number of households experiencing financial distress. This would be exacerbated by a concurrent rise in loan-servicing costs or reduction in income. Many debt-laden households have a significant exposure to interest rate hikes. The risks are lessened by the fact that many housing loan borrowers have recently hedged their floating-rate loans. For some, a rise in interest rates would extend the repayment period of the housing loan, in which case it would not affect the monthly loan-servicing costs.

The impact of interest rate hikes on housing loan borrowers can be examined using data^[8] which the Financial Supervisory Authority has collected from credit institutions on new housing loans granted and on the income of borrowers. When interest rates rise, the monthly loan-servicing costs of floating-rate annuity loans will increase. In Chart 5, the growth in loan-servicing costs in relation to the borrower's income is illustrated by comparing the distribution of the loan-servicing burden at the time the loan is granted with a situation where the total interest rate on housing loans is 2%.

At the time of granting the loan, the loan-servicing costs typically (median of the distribution) comprise about 18% of the borrower's monthly net income. As interest rates rise to 2%^[9], the typical loan-servicing burden will increase moderately (by about 1.5 percentage points), but for housing loan borrowers with a loan-servicing burden that is already high (the highest decile of the distribution) the change is greater, at around 4.5 percentage points. A separate article (see [New housing loans keep growing in size – share of longer-term loans has become more substantial](#)) describes in more detail the calculations at different interest rates.

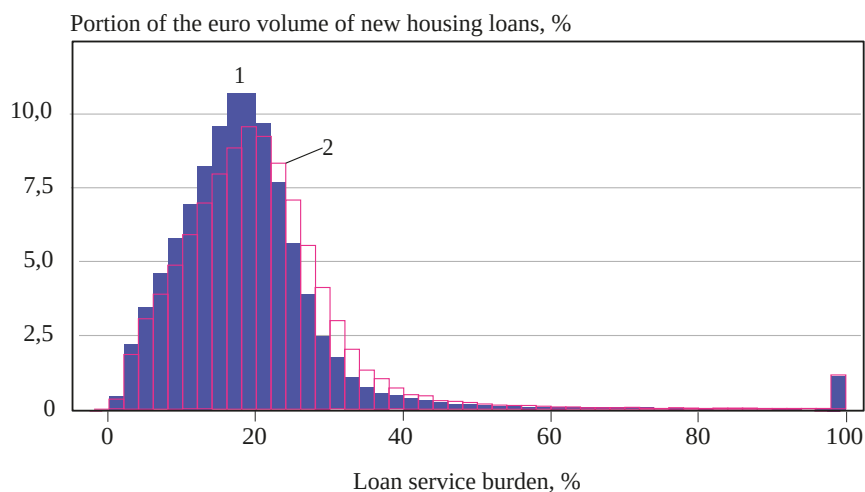
8. The data is from July 2020 to September 2021. The loan-servicing costs of loans covered by interest rate hedges at the time of origination, and of fixed-rate loans and fixed-instalment loans, have been kept unchanged in the calculation. The monthly loan-servicing costs of other new housing loans have been estimated to grow in the manner of floating-rate annuity loans.

9. A total interest rate of 2% corresponds roughly to the market's expectation of interest rates by the end of 2023.

Chart 5.

New housing loans according to borrower's loan-servicing burden at various interest rates

1. Interest rate at origination
2. Interest rate 2%



The loan-servicing burden has been calculated from loan-specific data, and it describes the monthly loan-servicing expenses relative to the borrower's net income. The servicing burden of fixed-rate, interest rate-hedged, and fixed-installment loans is assumed to remain the same as at origination. Outliers of the right-hand tail of the distribution have been added to 100%.

Sources: Financial Supervisory Authority and calculations by the Bank of Finland.

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There are differences in financial standing among debt-laden households. Deposits and other financial assets of households have increased in recent years, and this is also reflected in the level of savings and net assets of many debt-laden households. In terms of income, heavily indebted households are generally relatively high earning households that have residential property assets and other financial buffers. Among heavily indebted households there are, however, also households with little room for manoeuvre financially.^[10]

The uncertain economic outlook and high level of inflation could cause households to postpone purchases, thereby decreasing residential property sales and private consumption. Consumer confidence in the economy, and especially expectations regarding the outlook for the Finnish economy, weakened considerably in March. Consumers' views about the outlook for their own financial situation showed a less

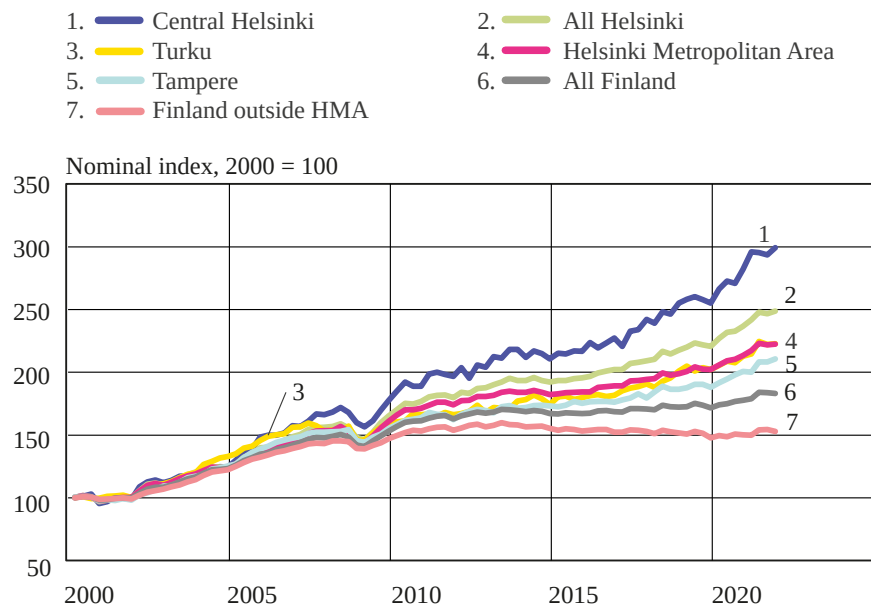
10. See <https://www.eurojatalous.fi/fi/2021/artikkelit/voimakkaasti-velkaantuneiden-taloudelli-nen-tilanne-vaihtelee-suomessa/> (in Finnish).

marked deterioration, and intentions regarding residential property purchases and borrowing remained relatively high. Nevertheless, fewer people than before considered this a good moment to take out a loan or buy consumer durables.

The elevated uncertainty and caution on the housing market could slow the rise in residential property prices or steepen the downward trend in regions with declining property prices. In their spring forecasts, banks operating in Finland have taken the view that nominal housing prices, at least in the Helsinki Metropolitan Area, will rise further in 2022–2023, but more slowly than in 2021. In 2021, residential property prices rose in the Helsinki Metropolitan Area by 5.5%, and across the country by 3.7%, which was the highest rate since the corrective jump in 2010 (Chart 6). By international comparison, the rise was rather modest (see [Nordic housing market risks can affect Finland's economy](#)).

Chart 6.

Rise in residential property prices accelerated in 2021



Source: Statistics Finland.

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2021 was the most active year on the housing market in a long time. Residential property sales picked up quickly following the shock caused by the pandemic, with sales reaching significantly higher levels than in previous years. The level of sales and the rising price trend had already calmed somewhat before Russia's war in Ukraine began. Housing sales

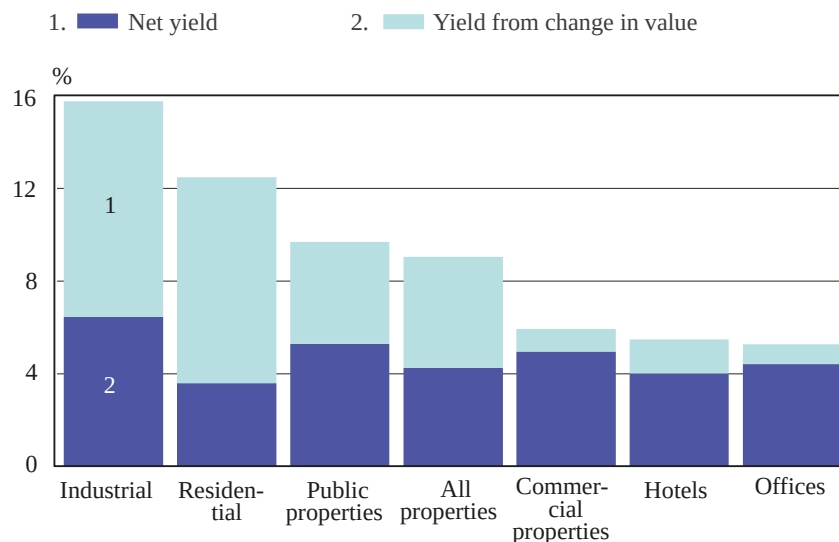
and the drawdowns of new housing loans in March 2022 were down from a year earlier, but were nevertheless still greater than before 2021. Housing construction is very active, particularly in the country's growth hubs. The sharp increase in construction costs and uncertainty about demand may lead to a reduction in the appetite of construction companies and investors to invest in new projects. The number of new building permits was down at the beginning of 2022 compared with a year earlier.

Impact of pandemic still visible on real estate market

The past two years have been a difficult time on the real estate investment market, as the pandemic has strained segments of the commercial property market in particular. Changes that occurred in the demand for property investment and for premises during the pandemic are evident in the differences in property investment yield between different real estate sectors (Chart 7). Property occupancy rates are still well below the pre-pandemic level, and the lasting changes brought by the pandemic are still being assessed – for example, changes in the popularity of working at home and the transformation of the retail sector. The restrictive measures in place for the pandemic were removed at the start of 2022, which should gradually reduce uncertainty regarding the property rental market and regarding future premises needs.

Chart 7.

Property investment yield is positive, but great differences exist between segments



Latest observation: Dec. 31, 2021.

Source: KTI Finland.

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Despite the pandemic continuing, Finland's real estate investment market made a

recovery in 2021. The volume of real estate transactions began to rise in 2021, and was 24% above its 2020 level and 10% greater than in 2019. Although the weakening economic environment may bring greater uncertainty to Finland's real estate investment market, it is still too soon to assess the impact. Tighter financing conditions will be reflected in the market price of debt financing for investors. The deteriorating conditions could bring a reduction in the appetite to invest, especially in the highest-risk projects. The rise in construction costs is also adding uncertainty for the commercial property market and construction.

In Finland, a significant proportion of bank lending is to real estate companies domestically and in the Nordic countries (see [Nordic housing market risks can affect Finland's economy](#)). This increases the banking sector's exposure to any problems on the real estate market. A large and growing share of real estate financing on the Finnish market is for housing corporations, and such lending has so far remained very low risk for the banks. Loans granted to construction companies in Finland have constituted a relatively small proportion of the total.

Major structural risks call for good resilience in all circumstances

In Finland, the financial system's key vulnerabilities in terms of financial stability are structural and therefore constant or steadily growing. Household indebtedness has long been one of the main structural vulnerabilities of Finland's financial system. The level of household debt has crept upwards steadily and is currently very high and still rising. Most of the debt is in the form of housing loans, which, over the decades, have become significantly larger and also of longer duration.

Finland's banking sector is large, concentrated and intertwined with the Nordic banking sector. Due to the interconnections between the Nordic financial systems and economies, the Finnish financial system is vulnerable to any problems that may emerge in Nordic banks and in the Nordic financial sector.

By international comparison, the Nordic banks are particularly exposed to problems on real estate markets, as the region's banks have granted a considerable amount of housing loans and commercial property loans. Bank funding is very dependent on market funding and on credit collateralized by immovable property. This financing structure exposes banks to any disruptions occurring on the international financial markets.

The growth of household indebtedness in the other Nordic countries is linked to tail risks in the Finnish economy, i.e. to the elevated probability of significant reductions in GDP (see [Nordic housing market risks can affect Finland's economy](#)). The rapid increase in indebtedness of households in Finland's Nordic neighbours is a key factor adding to domestic tail risks. Sweden is of great importance for Finland's economy, which is why its risks are very readily transmitted to the Finnish economy.

A well-functioning economy requires effective financial intermediation. In Finland, the banking sector's role as a financial intermediary is central. The importance of stable and efficient financial intermediation is heightened in times of economic disruption or a

downswing. This is why the banking sector's risk-bearing capacity and ability to function even in the event of serious disruptions should be assessed in advance.

A stress test conducted jointly by the Bank of Finland and the Financial Supervisory Authority was used to assess banks' loss-absorbing capacity against housing market risks (see [Large structural risks require banks to hold buffers for a rainy day](#)). The test focused especially on the systemic risks caused by the structural vulnerabilities in the banking sector and housing market. The banks' loss-absorbing capacity was tested in a three-year scenario in which the Nordic countries face an economic crisis severely affecting the housing market. The test shows that while the banking sector's Common Equity Tier 1 capital ratio (CET1) weakened by 1.4–4.7 percentage points, it still exceeded the minimum capital adequacy required.

Macroprudential policy is used to reinforce the resilience of the financial system and to prevent the build-up of the risks and vulnerabilities threatening financial stability, such as excessive household indebtedness. This promotes stable financial intermediation for businesses and households and reduces the likelihood of financial crises and their effects on the financial system and the economy.

The aim of the macroprudential capital buffer requirements imposed on banks is to protect banks from risks that affect the system as a whole. Comparison shows that the average level of the Finnish banking sector's structural capital buffer requirements is currently lower than in peer countries with similar structural risks (see [Banks' macroprudential buffer requirements lighter in Finland than in its peers](#)).

In Finland, as in many other EU countries, measures were quickly taken at the start of the pandemic to ease macroprudential policy, along with other support measures, with the aim of ensuring the continued stability of lending in a deteriorating economic environment. These steps were, for the most part, very successful in safeguarding financial intermediation. In many EU countries, the vulnerabilities regarding financial stability, particularly in relation to private sector indebtedness and the housing market, did, however, continue to grow after the initial shock of the pandemic.

Russia's invasion of Ukraine and its economic impact have added to the uncertainties. Large-scale easing measures in macroprudential policy of the kind pursued early in the pandemic have not so far been introduced. However, in some countries macroprudential policy is still light and authorities have not yet begun to build up macroprudential buffers again. In many countries the macroprudential authorities have continued measures that were announced earlier, such as tightening the capital requirements for banks.



A positive neutral countercyclical capital buffer rate is necessary to prepare for black swans

As the COVID pandemic and the materialisation of geopolitical risks triggered by Russia's war in Ukraine have shown, shocks that threaten the stability of the financial system can also arise outside the system itself. Therefore, macroprudential instruments should include more capital requirements that could be eased in the event of disruptions on the financial markets. The buffer requirements could be relaxed to support the provision of credit when the economy needs stimulation.

The countercyclical capital buffer requirement is intended to be a macroprudential buffer that can be released in the event of disruptions to the financial system. However, the requirement cannot be eased unless it is first set above 0%. In response to experiences during the pandemic, several European countries have set a goal to enable the imposition of a countercyclical capital buffer requirement in a neutral stage of the credit cycle.

According to existing domestic regulations, a countercyclical capital buffer requirement can only be imposed if there are signs of an overheating of the credit cycle. There are well-founded reasons for setting a countercyclical capital buffer requirement above 0% in a neutral stage of the credit cycle in Finland as well. It would be desirable to implement the necessary regulatory changes in the context of the ongoing review of the EU's macroprudential regulatory framework (see [Macroprudential toolkit should be replenished in Finland and Europe](#)).

New macroprudential instruments needed to curb growing household indebtedness

The Bank of Finland has long been concerned about the growing indebtedness of Finnish households. In January, the Ministry of Finance published a draft Government proposal on measures to curb household debt more effectively.^[11] The Bank of Finland submitted a comment on the proposal.^[12]

The objectives of the proposal are good and valid, and the draft proposal contains a number of justified measures to prevent risks related to excessive growth in household indebtedness. However, the draft proposal is insufficient, as it does not include measures

11. See Ministry of Finance press release 28 January 2022 (in Finnish) <https://vm.fi/-/kotitalouksien-velkaantumisen-rajoittamiseen-tahtaavat-lakiluonnokset-lahtevat-lausuntokierrokselle>.

12. Comments submitted on the draft can be found in the lausuntopalvelu.fi service [https://www.lausuntopalvelu.fi/FI/Proposal/](https://www.lausuntopalvelu.fi/FI/Proposal/Participation?proposalId=9495c2f2-a649-4fb2-b179-d38ffb795017&proposalLanguage=da4408c3-39e4-4f5a-84db-84481bafc744)

[Participation?proposalId=9495c2f2-a649-4fb2-b179-d38ffb795017&proposalLanguage=da4408c3-39e4-4f5a-84db-84481bafc744](https://www.lausuntopalvelu.fi/FI/Proposal/Participation?proposalId=9495c2f2-a649-4fb2-b179-d38ffb795017&proposalLanguage=da4408c3-39e4-4f5a-84db-84481bafc744).

proposed by a Ministry of Finance working group on the introduction of a maximum upper limit on the debt-to-income ratio or an equivalent instrument to limit the debt or debt-servicing expenditure relative to household income.^[13]

13. See [Debt-to-income cap and maturity limits necessary to curb financial stability risks](#), Bank of Finland Bulletin.



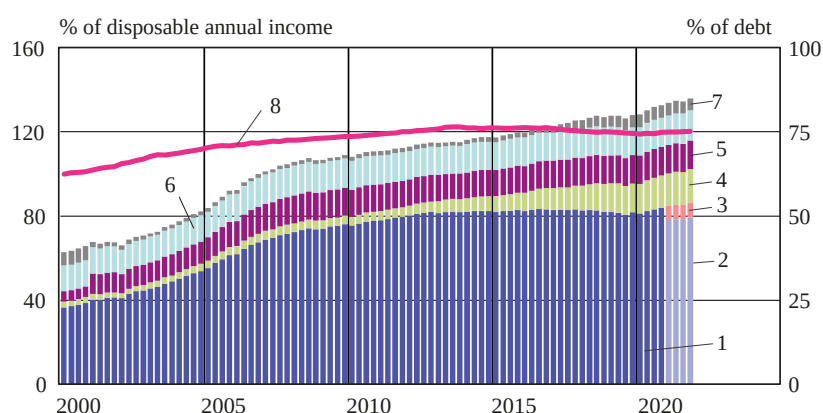
Household indebtedness continues to grow

At the end of 2021, household indebtedness relative to disposable income was record high (Chart 8). Roughly three-quarters of the debt is housing-related, i.e., housing loans and buy-to-let mortgages held by households and housing company loans relating to owner-occupied dwellings and dwellings for investment purposes. Housing credit growth has long exceeded households' income growth. The decline in consumption in the early phase of the pandemic reduced demand for consumer credit. Regulation of the interest rate cap may also have contributed to the supply of consumer credit.^[14]

Chart 8.

Finnish households' indebtedness has been increasing for a long time

1. Housing loans (up to 2020/IV)
2. Owner-occupied residential mortgages (2021/I-)
3. Buy-to-let mortgages (2021/I-)
4. Loans via housing companies
5. Consumer credit from Finnish credit institutions
6. Other loans from Finnish credit institutions
7. Other loans from Finland and abroad
8. Housing-related loans (right-hand scale)



Sources: Statistics Finland and Bank of Finland.

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New mortgage-borrowers' indebtedness relative to income has increased in recent years. Based on data^[15] collected in 2021, the typical total debt of new mortgage-borrowers was around 382% relative to gross annual income (Chart 9), compared with around 360% in 2020 and around 328% in 2018. Here, typical total debt-to-income refers to the mortgage-weighted median debt-to-income ratio. At the same time, the typical size of new mortgages has grown, which may

14. See <https://www.eurojatalous.fi/fi/2022/artikkelit/pandemia-ja-saantelyuudistukset-muokkaavat-kulutustuottomarkkinaa/> (in Finnish).

15. New mortgage-borrowers' debt-to-income ratios have been examined using loan-specific data on new mortgages and borrowers' other loans and income compiled by the FIN-FSA from credit institutions. The most recent data, compiled in 2021, covers the period between July 2020 and September 2021 (hereinafter '2021'). The reference data covers the periods between April 2019 and June 2020 ('2020') and April 2017 and March 2018 ('2018').

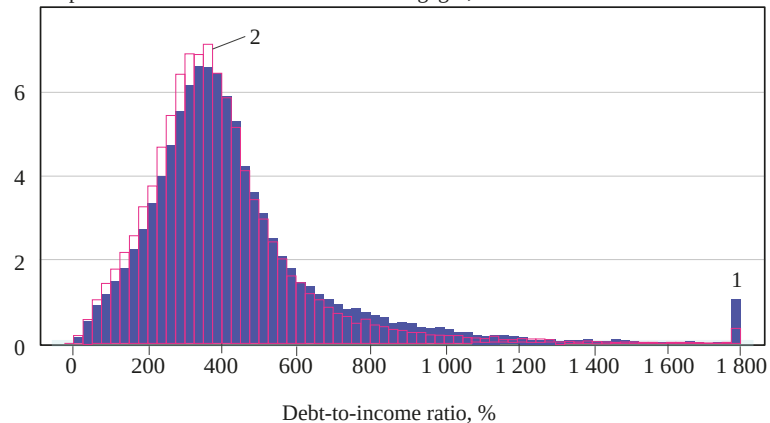
explain the rise in indebtedness (see [New housing loans keep growing in size – share of longer-term loans has become more substantial](#)).

Chart 9.

New mortgages by borrower's debt-to-income ratio

- 1. ■ Year 2021 data
- 2. □ Year 2020 data

Proportion of the euro volume of new mortgages, %



The debt-to-income ratio describes new mortgage borrowers' total debt relative to their gross annual income. The distribution of the ratio shows the share of total new housing lending granted relative to the borrower's debt-to-income ratio. Outliers of the right-hand tail have been added to the haircut value 1,800%. Sources: Financial Supervisory Authority and calculations by the Bank of Finland.

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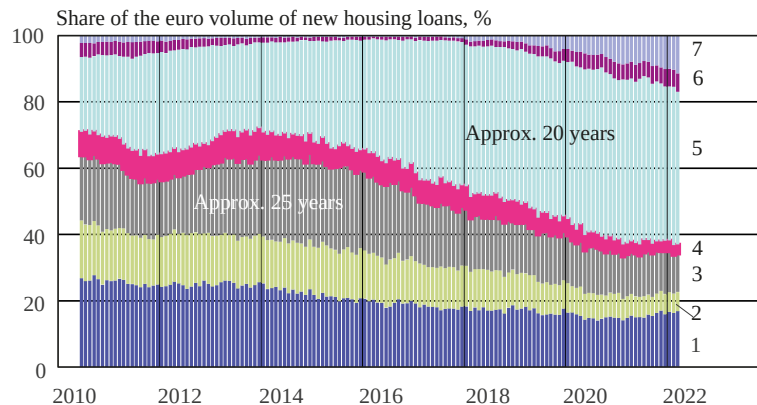
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Loans with longer-than-usual repayment periods have become increasingly common in recent years. At the beginning of 2022, mortgage loans with a repayment period of over 26 years accounted for more than 15% of the euro volume of new housing loans, and the corresponding share of loans with a repayment period of over 30 years was over 10% (Chart 10). Most loans with repayment periods of over 26 years have a maturity of around 30 or 35 years. Longer-term housing loans have, on average, been larger than other new mortgages. The increasing size of the loans and the longer repayment periods increase households' indebtedness.

Chart 10.

Maturities of new housing loans have lengthened in Finland

1. Maximum 14 years
2. Over 14 and maximum 19 years
3. Over 19 and maximum 21 years
4. Over 21 and maximum 24 years
5. Over 24 and maximum 26 years
6. Over 26 years and maximum 30 years
7. Over 30 years



Source: Bank of Finland.

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There is a need to introduce regulation on the maximum maturity for housing loans in order to curb household debt. Repayment periods have continued to lengthen over recent years, despite the fact that the Finnish macroprudential authority, the FIN-FSA Board, has since 2020 urged lenders to exercise restraint in granting loans that have longer maturities than usual. Regular repayment of loans in accordance with the maximum repayment period of the mortgage reduces household indebtedness and related risks. It is important that the maximum repayment period apply not only to residential mortgages, but also to housing company loans, and not only to banks, but also to other creditors. The maximum repayment period should not be significantly shortened from current maximum limits, and sufficient flexibility for lenders should be ensured.

The draft government proposal included measures to limit the amount of housing company loans used for financing new-build construction in relation to the unencumbered price of the housing company shares for sale. This would curb the increasing risks from indebtedness related to housing company loans. The proposed maximum loan-to-value ratio of 60% on housing company loans would still allow significant use of housing company loans in financing new-build construction. As a rule,

the regulatory measures applied to housing company loans and their debt components used for financing new-build construction should be the same as or similar to those applied to other housing loans.

In addition to the proposed instruments, consideration should be given to the introduction of macroprudential instruments based on the loan applicant's income, such as a maximum debt-to-income ratio (DTI cap) or a maximum debt-service-to-income ratio (DSTI cap). These instruments could be used to reduce the number of households heavily indebted relative to their income, thus improving households' debt-servicing ability. An income-based macroprudential instrument could be applied to almost all household credit, unlike the instruments suggested in the draft government proposal, which are applicable to only some parts of the credit stock. Income-based macroprudential instruments could be applied equally to all creditors and would be harder to circumvent.

It would be possible to measure the DTI cap or an equivalent limitation in a way that allows a typical amount of debt in relation to the borrower's income and sufficient flexibility in its application. This way, the instrument would not create obstacles to lending in growth centres or to specific groups, such as young borrowers.

The European Systemic Risk Board has highlighted the lack of a DTI cap and other instruments to prevent excessive household indebtedness in its recommendation to Finland and its assessment of compliance with the recommendations. The IMF identified the same shortcomings in a staff assessment published in January 2022.^[16]

There is a need to further develop and improve macroprudential instruments in Europe as well. In recent years, the use of macroprudential instruments limiting the maximum size of housing loans or the costs of servicing the borrower's total debts have become more common in the EU (see [Instruments to prevent risk of indebtedness becoming more common in Europe](#)). Since these instruments are governed by national legislation, their range and design differ substantially across Member States.

The review of the EU macroprudential regulatory framework provides an opportunity to improve and harmonise the range and usability of macroprudential instruments. National macroprudential authorities in all EU countries should have at least some macroprudential instruments at their disposal to allow for more effective ways to address risks related to the housing market and excessive household indebtedness. To take into account country-specific risks and market specificities, the activation and calibration of these tools should be governed by national authorities, as has been the case so far.

Macroprudential policy and regulatory development should be based on a forward-looking approach. Financial sector transformation and digitalisation may potentially increase the importance of new and cross-border lenders operating outside the traditional banking sector. For this reason, there is a need for macroprudential instruments that encompass these economic actors as well.

16. The IMF press release, report and statement on Finland are available for download [here](#).

The effects of the Russian invasion of Ukraine require adjustment of the economy and the financial system

The war is having a wide-ranging and far-reaching impact on both the economy and politics, an impact which is also reflected in the financial system. Companies engaged in international trade have been forced to adapt to the outbreak of the war. The war requires significant economic policy input from several countries in a situation where crisis measures during the pandemic have already weakened the sustainability of public finances.

The war is also reflected in Europe's energy and climate policies, now in need of a new road map to achieve the set objectives. In many countries, long-term climate strategies were based on the use of natural gas, as natural gas was hoped to allow emission reductions and affordable access to energy during the shift towards renewable energy sources. EU countries are now trying to break away from Russian natural gas. For many countries, reaching the climate objectives will become more difficult, at least in the immediate years ahead, although in the long term, the green transition will likely accelerate as renewable energy sources replace Russian fossil fuels. There is a threat that the economic risks of climate change will increase, which would consequently increase the transition risks for banks.^[17]

Much work has been done to promote the stability of the financial system, but many important projects are still under way. Finalisation of the Banking Union and the single deposit guarantee would further strengthen financial stability. A common deposit insurance would increase public confidence in the banking system, prevent deposit runs and reduce harmful links between banks and their home countries.

For the diversification of the bank-centred European financial system, it is also important to continue development of the capital markets. A more determined dismantling of barriers to capital market integration in the EU would promote access to funding for corporates, sustainable economic growth and cross-border diversification of investment risks.

In October 2021, the European Commission published a legislative proposal to implement the reforms of the Basel Committee on Banking Supervision concerning the calculation of bank capital adequacy ratios (the Basel III finalisation). In order to ensure a level playing field and to safeguard financial stability, it is essential that banking sector activities are based on global rules which are as uniform as possible. Based on the Commission's impact assessments, the long-term benefits of implementing the Commission's proposals clearly outweigh the short-term costs of the reforms.

The Basel III reforms will be implemented over a very long transitional period. The Commission's proposal includes substantial and long-term alleviations, mainly in the calculation of the minimum euro-denominated risk-weighted asset requirements of large

17. 'Transition risk' refers to the risk that emissions-producing companies will not be able to shift their business models towards lower emissions quickly enough, leading to a loss of profitability.

credit institutions (the output floor) during the transitional period. These alleviations should not remain permanent. Extending or making the alleviations permanent would undermine the goals of the reform, which include improving the comparability of banks' capital adequacy ratios, reducing the model risks associated with the use of internal models, and mitigating the somewhat excessive procyclicality of banks' risk-weighted capital requirements.

Tags

[household indebtedness](#), [Ukraine](#), [financial stability](#), [Russia](#), [war](#), [macroprudential policy](#), [banks](#)