

# Financial Stability Report

## Autumn 2023



Czech National Bank — Financial Stability Report — Autumn 2023

**CNB** CZECH  
NATIONAL  
BANK

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The Financial Stability Report – Autumn 2022 was discussed by the CNB Bank Board at its regular meeting on financial stability issues on 29 November 2023 and published on 15 December 2023. With a few exceptions, it contains information as of 30 June 2023. It is available in electronic form on the [CNB website](#), where the underlying data for the tables and charts used in this publication are also published.

# The mandate of the CNB

Maintaining financial stability is defined as one of the CNB's main objectives in Act No. 6/1993 Coll., on the Czech National Bank, as amended:

## Article 2

(2) The Czech National Bank shall perform the following tasks:

...

**e) set macroprudential policy by identifying, monitoring and assessing risks jeopardising the stability of the financial system and, in order to prevent or mitigate these risks, contribute by means of its powers to the resilience of the financial system and the maintenance of financial stability; where necessary, it shall cooperate with the relevant state authorities in setting macroprudential policy,**

...

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The CNB defines financial stability as a situation where the financial system operates with no serious failures or undesirable impacts on the present and future development of the economy as a whole, while showing a high degree of resilience to shocks. The CNB's definition is based on the fact that financial stability may be disturbed both by processes inside the financial sector that lead to the emergence of weak spots, and by strong shocks, which may arise from the external environment, domestic macroeconomic developments, large debtors and creditors, economic policies or changes in the institutional environment. Any interaction between weak spots and shocks can result in the collapse of systemically important financial institutions and in disruption of the financial intermediation and payment functions of the financial system.

The CNB's aim with regard to financial stability is to ensure a degree of resilience of the system that minimises the risk of financial instability. To fulfil this aim, the CNB as the central bank and supervisory authority uses the instruments made available to it by the Act on the CNB, the Act on Banks and other applicable laws. Cooperation with other national and international institutions is also very important in this area. In order to maintain financial stability, the CNB focuses on prevention and broad communication with the public regarding the potential risks and factors posing a threat to financial stability. This Financial Stability Report is an integral part of such communication.

The global financial crisis led to a strengthening of the importance of the objective of financial stability in central banks. Macroprudential policy, which is intended to contribute to the maintenance of financial stability, was formally introduced in the Czech Republic in 2013 through an amendment of the Act on the CNB No. 227/2013 Coll. In line with the [CNB's Strategy](#), the main aim of macroprudential policy is to mitigate systemic risk, i.e. the risk of instability of the financial system as a whole. A debate about the tools of macroprudential regulation, i.e. the set of pre-emptive measures intended to prevent financial instability, is going on at international level. The European Systemic Risk Board (ESRB) has been operating at the European level since the start of 2011. Together with three pan-European sectoral supervisory authorities (EBA, ESMA and EIOPA) it makes up the European System of Financial Supervision (ESFS). If it identifies increased risks of a systemic nature, the ESRB issues warnings and recommendations to mitigate those risks. CNB representatives are involved directly in the ESRB's work; the CNB Governor and another board member are members of the General Board of the ESRB, and CNB experts participate in its working groups. Since 2011, the CNB has also been represented in the Regional Consultative Group of the Financial Stability Board established by the G20.

The CNB regularly monitors and closely analyses developments in all areas relevant to financial stability. The members of the CNB Bank Board meet with experts from key sections at regular meetings on financial stability issues. A wide range of information on developments of risks in the domestic financial system and abroad is presented at these meetings. The position of the Czech economy in the financial cycle is assessed and – if any risks to financial stability are identified – discussions are held regarding the use of regulatory, supervisory and other economic policy tools to suppress such risks or their potential effects.



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# Foreword



Dear Readers,

It is my pleasure to present the autumn issue of the Financial Stability Report. This report is the main input to the Bank Board's assessment of systemic risks in the domestic financial sector and its decisions on the configuration of the CNB's macroprudential policy instruments. At its November meeting on financial stability issues, the Bank Board decided to leave the countercyclical capital buffer rate unchanged and to deactivate the upper limit on the DTI ratio. Given the macroeconomic developments and the geopolitical situation, the Bank Board also discussed structural systemic risks and the possibilities of responding to them using macroprudential instruments. The decisions taken were based on traditional and new analyses of cyclical and structural risks in the domestic financial system. The macroprudential policy settings remain broadly tight, as concern about the potential manifestation of risks accumulated during the previous expansionary phase of the cycle persists.

The Czech economy remains close to the bottom of the financial cycle. Since the end of last year, residential property prices have declined and households and corporations have reduced their demand for loans and their total debt. We expect neither the share of highly risky loans, nor other systemic risks to the stability of the domestic financial sector to increase in the near future. The risks to financial stability may therefore appear less acute, but they remain heightened. The focus of attention has shifted to the impact of the tight financial and lending conditions and weak economic prospects on borrowers' ability to service their debts, the ongoing correction in the property market and to the consequent risks for banks and non-bank financial intermediaries. Despite these risks, the household and non-financial corporations sectors in the Czech Republic remain resilient for the time being. However, difficult macroeconomic conditions accompanied by an often tense geopolitical situation may adversely affect their financial soundness again in 2024. The materialisation of very adverse economic developments abroad could also exacerbate or mutually reinforce some sources of structural systemic risks, with consequences mainly for the domestic banking sector.

You will read in this report that the domestic financial sector is prepared for the risk of adverse developments. Its strong capital and liquidity position is a result of the long-term profitability of the financial sector and the effective use of macroprudential and microprudential instruments by the CNB. These instruments help ensure that the financial sector stays prudent in favourable phases of the financial cycle and remains resilient at times of heightened financial stress. The autumn stress tests confirmed that the key sector of the financial sector – banks – is highly resilient.

I would like to assure the public that the actions taken by the Bank Board are commensurate with the current economic situation and are sufficient to maintain financial stability. The CNB will continue to carefully monitor and evaluate the impacts of the difficult domestic and foreign conditions on the domestic economic sectors and on the stability of the financial system as a whole. The Bank Board also stands ready to respond immediately with macroprudential instruments to any risks that could weaken the resilience of the domestic financial sector.

**On behalf of the Czech National Bank**

A handwritten signature in black ink that reads "Karina Kubelková". The signature is written in a cursive, slightly stylized font.

**Karina Kubelková**

Bank Board member

## I. DECISIONS AND ASSESSMENT OF RISKS TO FINANCIAL STABILITY

*The CNB Bank Board decided at its meeting on financial stability issues on 29 November 2023 to leave the countercyclical capital buffer rate at 2% on the basis of an assessment of cyclical systemic risks. The Bank Board also agreed in its discussion that the structural systemic risks identified were relevant, but it currently does not deem it necessary to react to them by deploying macroprudential capital instruments. Further to an assessment of systemic risks associated with mortgage lending and the residential property market, the Bank Board decided to leave the upper limit on the LTV ratio unchanged at 80% (90% for applicants under 36 years purchasing owner-occupied housing) and to deactivate the upper limit on the DTI ratio. The change takes effect on 1 January 2024.*

**The risks to financial stability remain elevated, against a background of tight financial conditions worldwide and weak expected economic growth, reflecting geopolitical tensions.** In many European countries, relatively high monetary policy rates have led to a turn in the financial cycle and are putting downward pressure on property prices, pushing down lending to the real economy and, coupled with a drop in real wages, increasing debt service risks in the private non-financial sector. The restrictive monetary policies are being accompanied by gradual fiscal consolidation. The sovereign risk of some European countries remains elevated and their fiscal space to act countercyclically in the event of future shocks remains limited. Major sources of risk and uncertainty – amplified by increased geopolitical tensions – persist in the global economy. The materialisation of these risks would have a very adverse effect on domestic economic growth as well. Growth is currently subdued in the Czech Republic, and many institutions have revised their outlooks for 2024 down in recent months. The higher production, living and financial costs have not yet been reflected in the default rates of non-financial corporations and households, which, however, may face difficult economic conditions again in 2024, with potential impacts on their financial soundness.

**Year-on-year growth in residential property prices in the Czech Republic turned negative in mid-2023.** It is expected to stay slightly negative in the second half of 2023 and turn positive during 2024, although it is likely to remain subdued in the coming years compared with the past decade. However, construction in high-demand localities remains insufficient, which could foster faster growth in property prices in some regions if demand recovers. The affordability of housing has improved slightly amid falling prices and growing nominal income. At the same time, the estimated overvaluation of apartment prices has also decreased slightly. However, it remains high (at 60% for the median-income household with limited liquidity and 20% for household investors). The commercial property market has been going through a correction so far in 2023. This may affect the value of collateral used to obtain funding.

**The financial sector showed favourable trends in the first half of 2023.** Most of its segments saw growth in assets and maintained high profitability. The banking sector remains resilient due to high capitalisation and liquidity. Loan portfolio quality, which may be affected by the subdued domestic and global economy, remains the key risk. A macro stress test confirmed the banking sector's resilience to the hypothetical materialisation of even the most significant risks. The sector as a whole would comply with the regulatory limits on the capital and leverage ratios even in the *Adverse Scenario*. The banking sector's stability is reinforced by macroprudential capital buffers and by compliance with the MREL from 2024 onwards. However, persisting risks and uncertainty above and beyond the *Adverse Scenario* continue to create potential for a sizeable drop in banks' profitability and require an increased degree of prudence in the management of banks' balance sheets, individual risks and capital, including dividend policy, in the current interest rate environment.

**The CNB Bank Board decided to leave the countercyclical capital buffer rate at 2%.** The size of new cyclical risks taken on by the banking sector remains subdued. The existing cyclical risks in banks' balance sheets are also declining, though at a slower pace than in previous quarters. Persisting uncertainty stemming from the global macrofinancial conditions is simultaneously making banks more vulnerable, partly because of potential growth in risk weights in the event of shocks. This is creating a counterweight to the disappearance of cyclical risks from balance sheets. Maintaining the CCyB rate at 2% is consistent with the level indicated by the CNB's quantitative approaches. Should the cyclical risks continue to disappear naturally from the banking sector's balance sheets, the CNB remains ready to lower the countercyclical capital buffer rate gradually. Should the economic situation worsen significantly and significant unexpected credit losses form in the domestic banking sector, the CNB is ready to lower the countercyclical capital buffer rate more significantly or release the buffer fully in order to foster smooth lending to the real economy.



**The Bank Board discussed systemic risks of a structural nature.** According to the CNB's analyses, the domestic banking sector is to a large extent vulnerable to certain systemic risks of a structural nature, which are primarily related to the Czech economy's greater openness and high foreign trade concentration. The potential costs associated with the transformation of the energy-intensive domestic economy to a climate-neutral one are also a significant contributor to systemic structural risk, as they may affect the competitiveness of domestic non-financial corporations. The vulnerability of domestic non-financial corporations may be exacerbated under certain conditions by their high share of foreign currency funding. These risks stemming from the characteristics of the real economy and the banking sector are being intensified by growing uncertainty surrounding future economic developments abroad, which are being affected by the geopolitical situation and tight financial conditions. The CNB has long been monitoring and assessing these risks on a regular basis. If it deems it appropriate to strengthen the banking sector's resilience to them, it stands ready to set a systemic risk buffer rate.

**The Bank Board decided to deactivate the DTI ratio with effect from 1 January 2024.** The systemic potential of the build-up of risks stemming from new mortgage loans in banks' portfolios is low and the CNB does not expect these risks to increase significantly at the horizon of the autumn forecast. This was confirmed over the forecast outlook by a simulation conducted via a stress test of households. Given the uncertainty surrounding future economic developments, there is a persisting risk associated with a more significant correction of residential property prices. For this reason, the Bank Board decided to leave in effect the upper limit on the LTV ratio at 80%/90%.

The CNB will publish additional detailed analyses of risks to financial stability and information about the macroprudential policy settings in June 2024 in its publication *Financial Stability Report – Spring 2024*, which will be the reference document for the spring Bank Board meeting on financial stability issues.



## II. THE REAL ECONOMY AND FINANCIAL MARKETS

### II.1 THE MACROECONOMIC AND FINANCIAL ENVIRONMENT

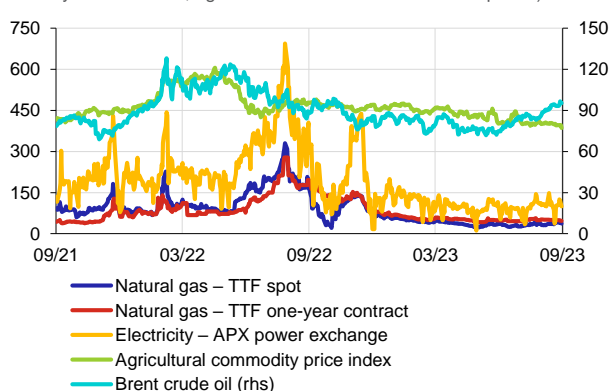
#### II.1.1 The international environment

##### Financial markets are revising the expected duration of restrictive monetary policies...

Although inflation has decreased considerably in most countries in 2023, it remains above the inflation targets of most central banks. Despite some calming on energy markets (see [Chart II.1](#)) and the fade-out of other supply-side inflation factors (especially the global supply chain disruptions), expectations regarding the duration of restrictive monetary policies were revised towards general acceptance of the “higher-for-longer” scenario. As a result, medium and long-term government bond yields have increased further (see [Chart II.2](#)).

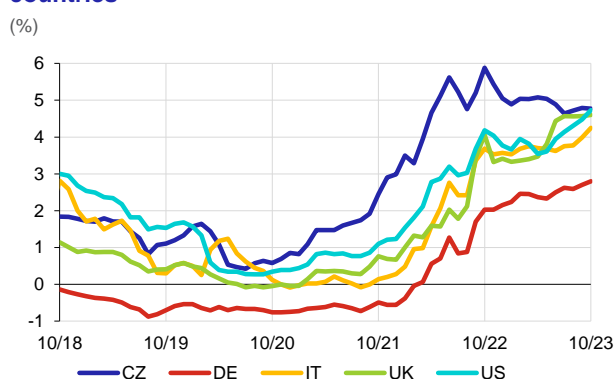
**Chart II.1**  
Selected commodity prices

(oil in USD/barrel; commodity index in USD/index point; natural gas and electricity in EUR/MWh; agricultural commodities – index in points)



Source: Refinitiv, Amsterdam Power Exchange

**Chart II.2**  
Five-year government bond yields for selected countries



Source: Refinitiv

##### ...due to the persistence of inflation

Inflation will remain high in most advanced economies in 2024, according to the predictions of (inter)national authorities (see [Chart II.3](#)) and the expectations of analysts and financial markets, who have revised their outlooks compared to the end of 2022, particularly for the euro area (see [Chart II.4](#)). Although the cycle of interest rate increases at the key central banks has probably now peaked due to weakening inflation, monetary policy is likely to be eased later and at a slower pace than initially expected (see [Chart II.5](#)). The persistence of inflation may be affected by a further escalation of the already high geopolitical tensions. Higher oil and energy prices in particular could lead to a new supply-side inflation shock with potentially adverse effects on the real economy and financial markets.

##### The situation on global financial markets was relatively calm in 2023 Q2 and Q3...

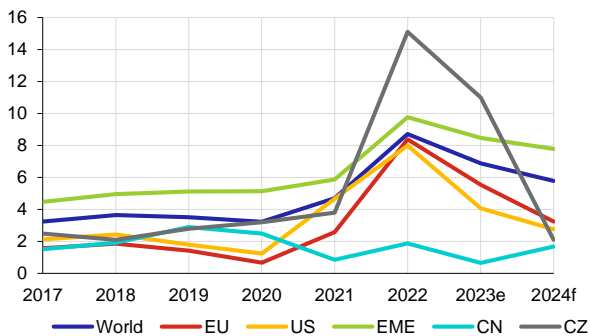
Financial stability concerns have shifted from the immediate impact of rapidly rising interest rates on asset prices to the medium-term impacts of tighter financial conditions. Despite turbulence in March caused by tensions in the US and Swiss banking sectors, global stock markets have been performing well and recorded relatively high yields in the first three quarters of 2023 (see [Chart II.1 CB](#)), driven mostly by the US technology sector. Stock market volatility was low despite the downward phase of the financial cycle and still tightening financial conditions (see [Chart II.6](#) and [Chart II.2 CB](#)). This was due, among other things, to favourable developments on energy commodity markets, with expectations of a soft landing (i.e. expectations that the global economy will avoid a deep and long-lasting recession) also playing a role.

##### ...but some sources of tension and uncertainty persist

The tensions observed on the US government bond market escalated in September 2023 (see [Chart II.6](#)). This was due to a combination of factors, the main one being a higher US government borrowing requirement, another imminent shut-down of government departments and agencies due to the debt ceiling, and a gradual shift towards the “higher-for-longer” scenario. Uncertainty also persists on markets regarding developments in China, whose economic growth is lagging well behind expectations and where local governments continue to grapple with high debt linked to the property development segment, which is facing big problems. Global markets have not yet responded much to these risks, but a continued negative trend in China could spill over to the global economy. The Chinese economy is thus currently contributing to the risk of an increased probability of an adverse economic scenario at the global level (see [Chart II.3 CB](#)).

**Chart II.3**  
**Inflation in selected regions**

(annual inflation rates in %)

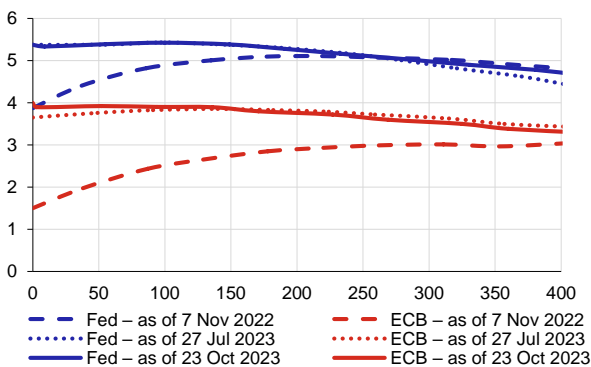


Source: IMF, CNB

Note: e = expected value, f = forecast. The forecast for the Czech Republic is based on the CNB's autumn forecast (MPR – Autumn 2023). The forecasts for the other economies are based on the IMF's October forecast published in World Economic Outlook, October 2023.

**Chart II.5**  
**Market-implied rate paths**

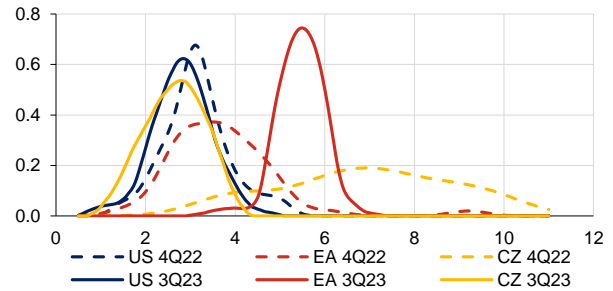
(%; x-axis: days since observation date)



Source: Refinitiv

**Chart II.4**  
**Analysts' inflation expectations**

(x-axis: expected annual inflation rate in %; probability density)

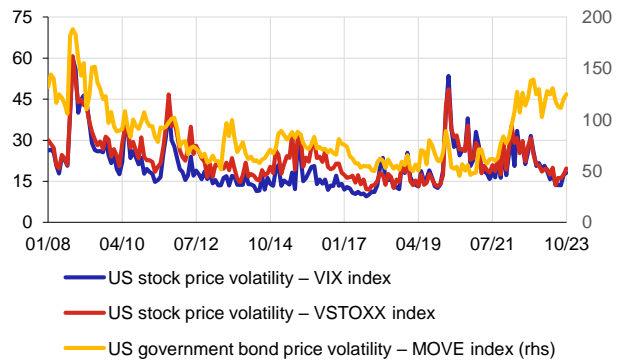


Source: CNB, ECB, Federal Reserve Bank of Philadelphia

Note: The chart shows the probability density of inflation expectations for the annual inflation rate. It was compiled from the individual analysts' point forecasts and adjusted by means of kernel smoothing. The data for the EU and the USA are taken from the SPF surveys of analysts. The data for the Czech Republic are taken from the CNB's *Financial Market Inflation Expectations*. Analysts in the USA, EA and CZ did not always provide their predictions at the same time, so the chart serves mainly to compare the evolution of inflation expectations over time for a given currency area.

**Chart II.6**  
**Market uncertainty indicators**

(points)



Source: Refinitiv

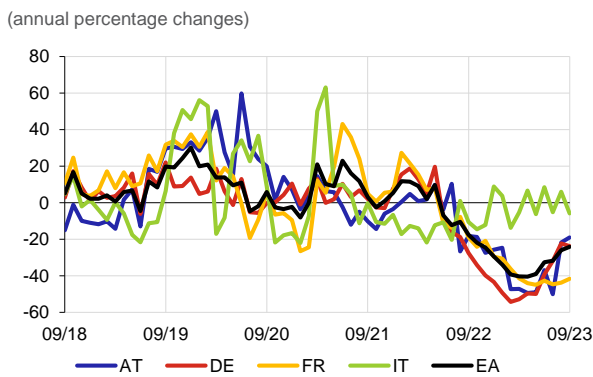
**Overvaluation of some financial assets is increasing markets' sensitivity to unexpected adverse shocks**

Stock market prices are currently being affected by optimistic expectations regarding corporate profits and a drop in inflation pressures. According to the CNB's estimate, the risk premium is currently fluctuating around 1 pp for the broad S&P 500 and 2 pp for the European Euro Stoxx 50, while investors have historically demanded a premium of around 3–4 pp on average for both (see [Chart II.4 CB](#)). This indicates potentially significant overvaluation of both US and European equities. Risk premia on corporate bonds were also lower in 2023 for most credit quality classes than would be consistent with their long-term averages (see [Chart II.5 CB](#)), which may indicate they are overvalued. The probability of a disorderly correction on financial markets thus remains elevated and markets may be very sensitive to a potential deterioration in macroeconomic variables.

**Monetary policy rates are pushing down lending and affecting property prices...**

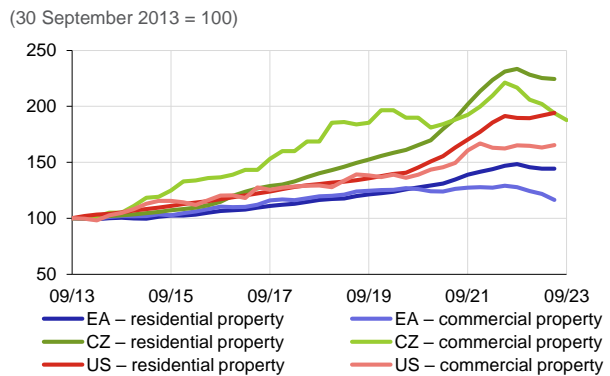
The growth in monetary policy rates was reflected in tightening credit standards across advanced economies already in 2022. The trend intensified in 2023 as financial markets moved towards the "higher-for-longer" scenario. This further reduced the amount of new loans provided to the private non-financial sector, especially for house purchase (see [Chart II.7](#)). The turn in the financial cycle and the shift of economies into the downward phase was linked with downward pressure on property prices. Prices of commercial property in many European countries started to fall already in the second half of 2022. Major year-on-year decreases in residential property prices, which usually respond rather more moderately or slowly to the cycle (see [Chart II.8](#)), have so far been observed mostly in more developed countries (see [Chart II.9](#)). This may be linked partly with the nature of the housing market. A higher share of renting households also generally means a higher share of owners owning properties as an investment (see [Chart II.6 CB](#)). This may increase the sensitivity of property prices to a change in macrofinancial conditions.

**Chart II.7**  
New loans to households for house purchase in the euro area



Source: ECB

**Chart II.8**  
Commercial and residential property price indices



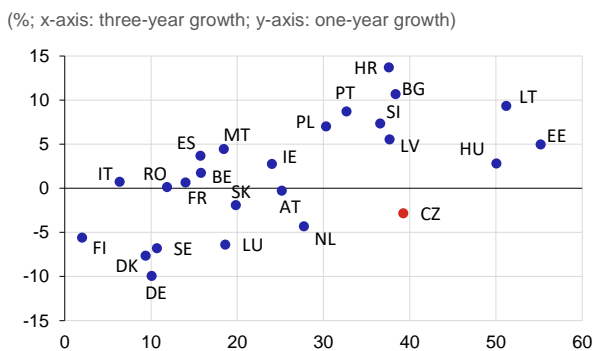
Source: ECB, BIS, iO Partners

Note: The commercial property price index for CZ is an estimate based on the average capital price across the commercial property segments.

**...amid growth in credit risk in the private non-financial sector**

A drop in real wages and higher interest rates on housing loans were reflected in a deterioration in households' ability to service their debt. This represents a risk especially in countries where the share of variable rate mortgages is high. Moreover, the potential effect of a decline in collateral value on credit quality in the financial sector is being exacerbated by the current fall in residential property prices, which may deepen further if monetary policies remain restrictive for longer. Although the risks associated with reduced debt servicing ability have yet to be reflected in an increase in the share of non-performing mortgage loans, initial signs of household distress have already started to manifest themselves in the euro area as a rise in the mortgage default rate. Owing to pressure on liquidity buffers, the default rate for non-financial corporations has also started to edge up, especially in the area of loans to finance commercial property purchases. The future evolution of credit risk will probably be highly mixed across countries and sectors. Worse credit quality would be negatively reflected in the banking sector's profitability and could weaken banks' ability to lend to the real economy.

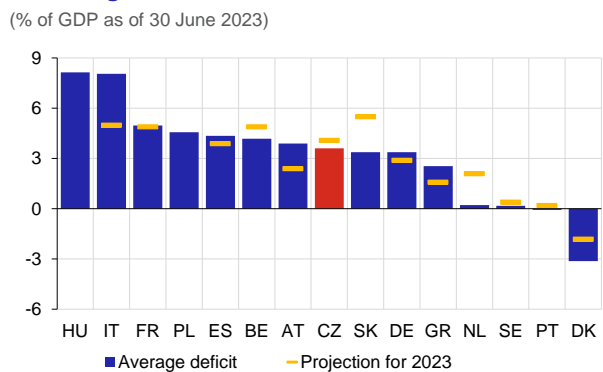
**Chart II.9**  
Residential property price growth in selected EU countries



Source: Eurostat

Note: Data as of 30 June 2023. Due to different methodologies, the data for SK differ from those published by the NBS.

**Chart II.10**  
General government deficits in selected EU countries



Source: Eurostat, IMF

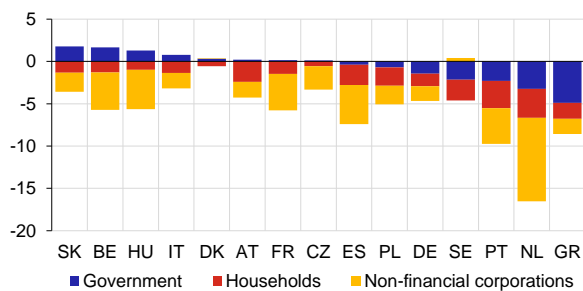
Note: Averages for 2022 Q3–2023 Q2. The data for IT and GR are not seasonally adjusted. The projections for 2023 are based on Fiscal Monitor, October 2023. Projections are not available for HU and PL.

**Meanwhile, fiscal consolidation is proceeding only slowly in European economies**

The issuing activity of European governments on primary markets in the euro area remained high in 2023 and, given the inverted shape of the yield curve, debt maturity continued to lengthen. The increased issuance by euro area countries was smoothly absorbed by the markets despite the discontinuation of the Eurosystem's asset purchase programmes (only reinvestments are being made under the PEPP). The potential public finance vulnerability induced by sudden changes in financial market sentiment remained limited due to relatively long debt maturity and a high share of debt issued during the period of low interest rates. Fiscal consolidation is proceeding slowly in European economies, and no major improvement can be expected in the near future (see Chart II.10). Debt ratios have thus been falling mainly in the private sector so far (see Chart II.11). Rising debt refinancing costs amid a worse economic growth outlook represent a medium-term public finance vulnerability, as a compromise will need to be found between continued supportive policies and public finance sustainability in the years ahead, especially in highly indebted countries with frequent deficits (see Chart II.7 CB).

**Chart II.11**  
Change in the debt ratios of economic agents in selected EU countries

(pp; as of 30 June 2023)

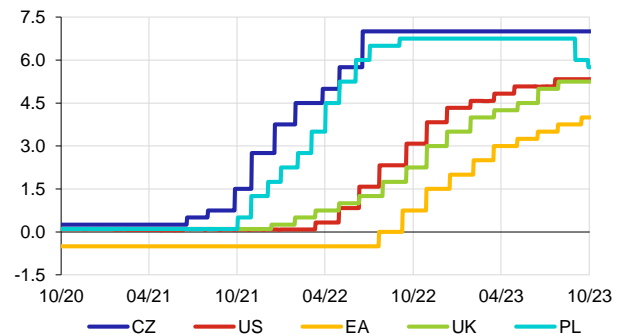


Source: ECB

Note: Change compared to 31 December 2022. Debt is expressed relative to GDP.

**Chart II.12**  
Main monetary policy rates of selected central banks

(%; latest observations as of 20 October 2023)



Source: Refinitiv Datastream

Note: Deposit rate for EA. Mid-range for US.

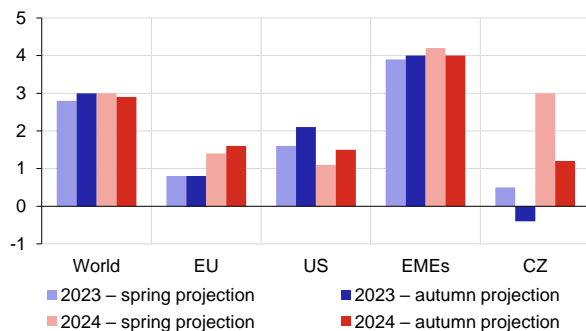
### II.1.2 The domestic environment

#### Inflation is falling faster in the Czech Republic than in advanced economies, and markets expect the CNB to start easing monetary policy soon...

Inflation in the domestic economy has been declining faster during 2023 than in most advanced economies and should near the inflation target in 2024 (more detailed information on the domestic economy can be found in [Monetary Policy Report – Autumn 2023](#)). This is partly because the CNB began its monetary policy tightening cycle before the key central banks started theirs (see [Chart II.12](#)). The Czech government bond yield curve thus peaked in late 2022 and early 2023 and has since been moving slowly downwards due to moderately falling risk-neutral yields and term premia (see [Chart II.8 CB](#) and [Chart II.9 CB](#)). Generally, however, the risk-neutral component of the yield curve is substantially higher than in past decades, confirming expectations of a higher-for-longer scenario in the Czech Republic as well.

**Chart II.13**  
Economic growth forecasts for selected regions

(annual real GDP growth in %)

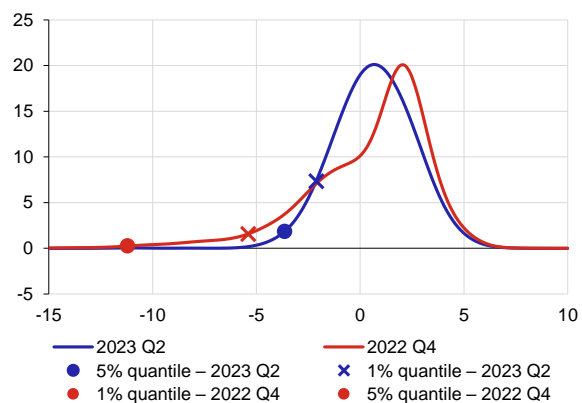


Source: IMF, CNB

Note: The forecast for the Czech Republic is based on the CNB's spring and autumn forecasts (MPR – Spring 2023 and MPR – Autumn 2023). The forecasts for the other economies are based on the IMF's April and October forecasts published in *World Economic Outlook*, April 2023, and *World Economic Outlook*, October 2023.

**Chart II.14**  
Risk of adverse economic developments in the Czech Republic

(x-axis: year-on-year growth in %; y-axis: probability density)



#### ...although this may happen in an environment of worse economic conditions...

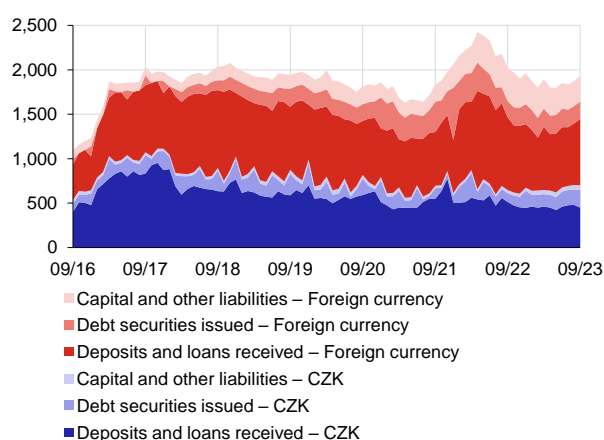
GDP growth remains subdued in the Czech Republic. Unlike in the EU and US economies, this, coupled with ongoing public finance consolidation, was reflected in a reduction of the growth estimate for 2024 (see [Chart II.13](#)) and a modest decline in business sentiment. In 2024, the domestic real non-financial sector may thus face worse economic conditions with potential impacts on its financial soundness (see [section II.2.2](#)). Although growth expectations for the Czech Republic were revised down, a calming of the energy markets, a relative stabilisation of geopolitical tensions in the region and expected monetary policy easing caused the likelihood of a highly adverse scenario materialising in the Czech Republic to fall on the whole (see [Chart II.14](#)).

### ...but its impact on the exchange rate of the koruna is likely to be limited

The CNB rate cuts expected by the markets may put the domestic currency under some depreciation pressure. However, the likelihood of the Czech koruna weakening markedly is limited to a large extent by the fact that the Czech banking system's foreign currency liabilities to non-residents with short maturity are tending to decrease (see [Chart II.15](#)). The financial markets also view the risk of a major weakening of the koruna as low. This is suggested by options contracts<sup>1</sup> (see [Chart II.10 CB](#)) and relatively narrow cross-currency basis spreads for CZK/EUR currency swaps<sup>2</sup> (see [Chart II.16](#)), reflecting good availability of euro funding for the domestic banking sector. A combination of widening cross-currency basis spreads and worsening availability of foreign currency funding from parent companies would thus be a risk scenario. It could ultimately lead to markedly higher euro funding costs for non-financial corporations. The impact of such a scenario depends largely on non-financial corporations' rate of hedging against exchange rate movements. The key sector for the domestic economy is export-oriented manufacturing, which is hedged partially directly through derivatives transactions and partially naturally by its foreign currency revenue. A depreciation of the Czech koruna could thus primarily affect importers, for which reliable hedging data are not available.

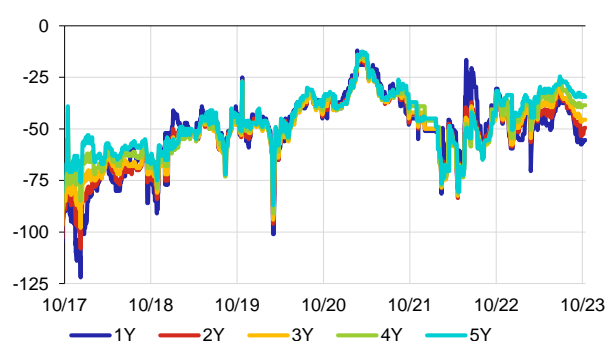
**Chart II.15**  
The Czech banking sector's liabilities to non-residents

(CZK billions)



**Chart II.16**  
Cross-currency basis spread – CZK/EUR

(bp)



Source: Refinitiv Datastream

Note: The chart shows the cross-currency basis spread for CZK/EUR currency swaps. Currency swaps are derivatives contracts in which one party borrows a currency and simultaneously lends another currency to the counterparty. In the Czech Republic, FX swaps are a way of raising euro liquidity.

### Property prices continued to fall in the first half of 2023...

Transaction prices of residential property fell in the first half of 2023 and their year-on-year growth turned negative at the end of Q2 for the first time since 2012 (see [Chart II.17](#)). To a large extent, residential property prices declined across all regions and market segments, including new builds (see [Chart II.18](#)). Older apartments in less lucrative localities underwent a particularly sharp decrease in prices. The largest drops were recorded by the Ústí nad Labem, Moravia-Silesia and South Bohemia regions, which had seen the strongest growth in prices over the past five years. The market correction continues the trend seen last year, as prices of less attractive apartments were already falling by 2022 Q3 and Q4. The data for 2023 Q2, along with current market information, nonetheless suggests that residential property prices are now gradually stabilising and the market is probably close to bottoming out (see [Chart II.17](#) and [Chart II.11 CB](#)).<sup>3</sup>

### ...the forecast expects a return to year-on-year growth in 2024

With regard to its autumn forecast, the CNB expects year-on-year growth in residential property prices to stay slightly negative in the second half of 2023 and return to year-on-year growth during 2024 (see [Chart II.17](#)). However, prices are likely to rise more slowly than they did in 2016 and 2021. In the shorter run, lower price growth will also be fostered by a reduction in the rate of VAT on new builds from 15% to 12%, which some developers have already begun to build into their prices.

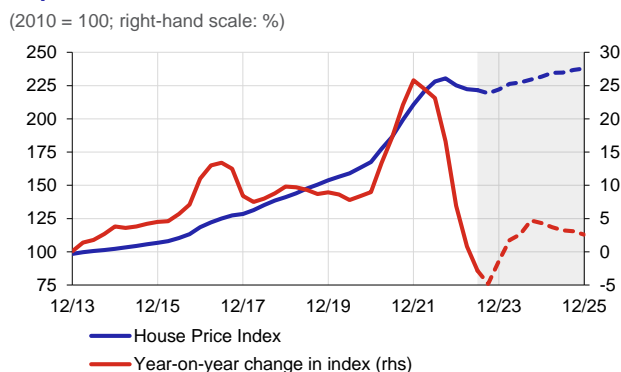
1 Or rather by the risk-neutral distribution obtained from them. The risk-neutral distribution provides an estimate of the probability that market participants attach to the future evolution of prices (assuming investors are risk-neutral).

2 Cross-currency basis swaps are a sub-set of currency swaps with floating interest rates in both legs of the derivatives contract. The floating rates are determined on the basis of reference or swap rates. The price of the contract is expressed as a mark-up on the floating interest rate of the counter currency (PRIBOR for CZK/EUR contracts). The other rate is not altered in any way.

3 Apartment asking prices are also gradually falling, suggesting an increasing willingness of sellers to accept lower prices, although the decline in asking prices is lagging behind that in transaction prices.



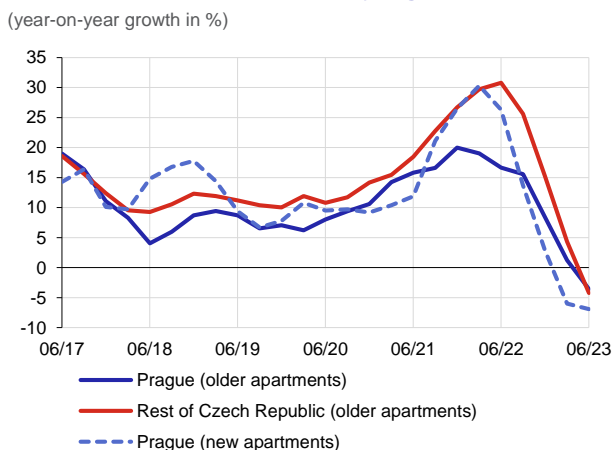
**Chart II.17**  
Transaction prices of residential property in the Czech Republic



Source: CZSO, CNB

Note: Values in the grey area are projections based on the CNB's autumn forecast (MPR – Autumn 2023).

**Chart II.18**  
Apartment transaction prices by region



Source: CZSO

### Insufficient construction may foster stronger price growth in the future...

A stronger decline in prices was prevented mainly by a limited supply of new and partly also older properties. Although apartment completions remained high relative to the last decade (see [Chart II.12 CB](#)) and almost 50% of new builds were in large regional centres (Prague, Brno and the Central Bohemia and Moravia-Silesia regions; see [Chart II.13 CB](#)), from the structural perspective there is still a large mismatch between the number of new apartments being built and the demographic trends in the biggest agglomerations. This mismatch may increase further in the future, as some developers – faced with weakening demand and rising prices – have begun to delay the implementation of projects which have already started. If demand were to pick up more significantly in the next few years, the demand pressures could – given the supply constraints – show up quickly in transaction prices and growth in prices could surge.

### ...and the supply of older properties may be affected by the tax system

Stronger growth in supply was also prevented in the first half of 2023 by a time test applied to the sale of (mostly buy-to-let) older properties. In the case of properties owned for less than five and ten years, households have to pay tax on the income made on the sale.<sup>4</sup> Given the high growth in prices seen in past years, this may amount to 5–10% of current prices on average. The obligation to pay this amount of tax may motivate some households to hold on to their properties, even in an environment where prices are falling slightly and the supply of alternative investments with similar returns is rising.

### Despite having improved slightly, the affordability of owner-occupied housing in the Czech Republic remains very low

The fall in property prices made housing slightly more affordable during the first half of 2023 (see [Chart II.19](#)). This was aided by relatively flat mortgage rates and continued nominal growth in household income. Under the macroprudential approach, apartment prices nonetheless remained overvalued<sup>5</sup> by 60% for the median household purchasing owner-occupied housing in 2023 Q2 (see [Chart II.20](#)). This indicates that, given the level of interest rates and the expected economic developments, liquidity constrained median-income households may still be exposed to an increased risk of future default when purchasing average price property. The degree of overvaluation of buy-to-let apartments (under the valuation approach) also decreased slightly and was close to 20% in 2023 Q2 (see [Chart II.20](#)). Despite this decline, some households are still willing to accept a relatively low rental return, as households' expectations regarding further growth in apartment prices and rents remain very optimistic in comparison with the CNB's official forecast. In the event of an economic downswing, investors could re-appraise the situation significantly. This would add to the downward pressure on prices. There are sizeable differences in the affordability of housing across regions (see [Chart II.14 CB](#)). As usual, the biggest cities (Prague and Brno) rank among the least affordable regions. By contrast, housing remains affordable in less developed regions (Ústí nad Labem and Moravia-Silesia).

### The commercial property market is going through a correction

Prime yields on commercial property kept rising in 2023. The growth is linked primarily with the monetary policy stance in the Czech Republic and the rise in foreign long-term interest rates (see [section II.1.1](#)).<sup>6</sup> Given the existing uncertainties,

<sup>4</sup> Properties owned for more than five years (if the purchase was made by the end of 2020) or ten years (for purchases made since 2021) are exempt from income tax. The tax is calculated on the difference between the selling price and the purchase price. Property sales are also tax exempt if, for example, the funds are used to buy another dwelling. The tax is therefore directed primarily at buy-to-let properties.

<sup>5</sup> The degree of overvaluation is the difference between the observed market price and the fundamental value. The deviation of prices from fundamentals is not in itself a predictor of how much property prices will fall in the future.

<sup>6</sup> A large proportion of commercial property transactions are made in euros. Rents are likewise set largely in euros.

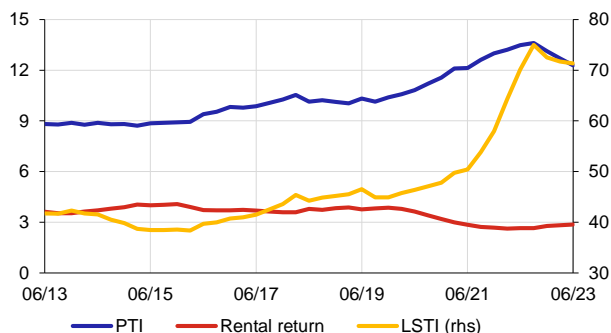
however, the growth in domestic prime yields has been fairly moderate so far, even though prices have dropped quite substantially. Despite a slight increase in the risk premium (see [Chart II.15 CB](#)), the CNB thus assesses prime yields as still quite low relative to fundamentals. This points to persisting overvaluation of commercial property prices. The market situation in the first half of 2023 continued to reflect uncertainty about the evolution of rents and rising property operating costs on the one hand and growth in prices of debt financing and construction work on the other. In the event of a further increase in uncertainty about future developments, prime yields could continue to rise. This would ultimately mean a further decrease in the value of collateral used to obtain bank funding (see [section IV.4.2](#)).

**Activity on the Czech commercial property market remained highly subdued in the first half of 2023**

After having decreased in 2022, transaction activity on the commercial property market remained highly subdued in the first half of 2023. It thus remains far below the average for the last ten years (see [Chart II.21](#)). Activity on the commercial property market is likewise declining in terms of newly completed space, which is close to a historical low in the case of office property in particular. Newly completed industrial space is higher than it was before the pandemic but has been declining sharply since the second half of 2022 (see [Chart II.22](#)). Given the very low vacancy rate and persisting demand for new space, this segment is likely to remain resilient to the risk of disorderly growth in prices over the next few quarters. By contrast, there is still a risk of a price correction in the case of retail space and partly also office space, amid lower occupancy rates and weaker growth in rents (see [Chart II.22](#) and [Chart II.16 CB](#)).<sup>7</sup>

**Chart II.19**  
Selected apartment affordability indicators

(PTI in years; yields in %; right-hand scale: %)

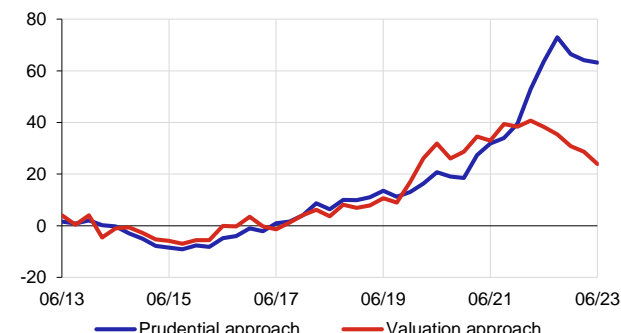


Source: CZSO, CNB, IRI, Společnost pro cenové mapy ČR, s.r.o.

Note: PTI is the price-to-income ratio and LSTI the loan service-to-income ratio. The apartment price is defined as the average price of a 68 m<sup>2</sup> apartment. Income is defined as the annual moving total of the average gross wage. A loan with an LTV of 80% and a repayment period of 25 years was considered for the LSTI calculation.

**Chart II.20**  
Estimated overvaluation of apartment prices

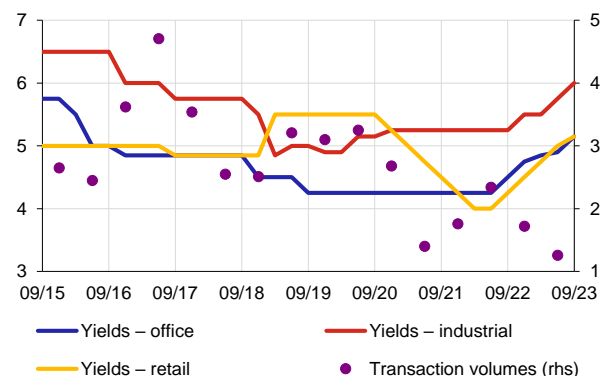
(%)



Note: The methodology of the indicators is described in Plašil, M., Andrlé, M. (2019): *Assessing House Price Sustainability*, Thematic Article on Financial Stability 1/2019, CNB. The overvaluation estimate is based on the CNB's autumn forecast (MPR – Autumn 2023).

**Chart II.21**  
Yields on commercial property and transaction volumes in the Czech Republic

(%; right-hand scale: EUR billions)

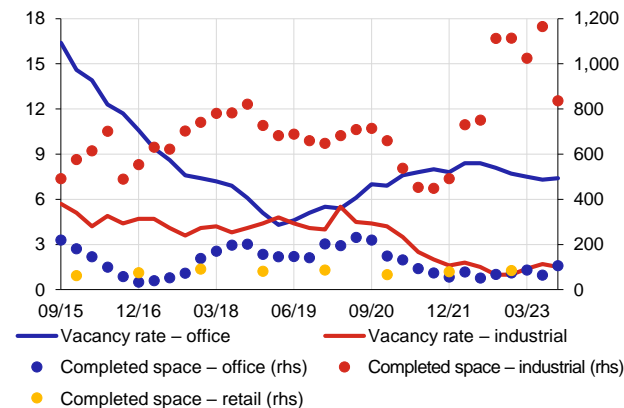


Source: iO Partners

Note: Prime yields. Transaction volumes are reported as annual moving totals at semi-annual frequency.

**Chart II.22**  
Vacancy rates and completed space for commercial property

(vacancy rates in %; right-hand scale: space in thousands of m<sup>2</sup>)



Source: iO Partners

Note: Stocks of completed space are reported as annual moving totals.

<sup>7</sup> Given the gradually diminishing inflation pressures, however, commercial property rents are likely to stabilise.



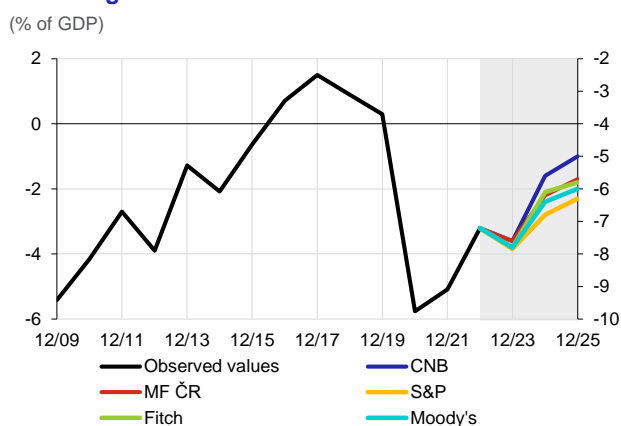
## II.2 THE NON-FINANCIAL SECTOR

## II.2.1 General government

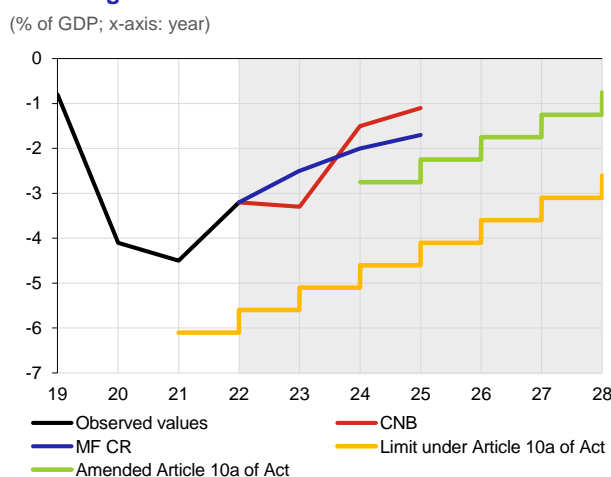
**The general government deficit will continue to shrink very slowly towards zero**

The CNB's autumn forecast expects the general government deficit to widen from 3.2% to 3.6% of GDP in 2023. For 2024, it predicts a deficit of 1.6% of GDP (see [Chart II.23](#); the Ministry of Finance estimate is 2.2% of GDP). This is mainly due to the unwinding of temporary energy crisis-related support measures and to the measures contained in the consolidation package.<sup>8</sup> The consolidation package will help slow the pace of growth in general government debt. This debt rose by 14 pp between 2019 and the end of 2022 (to 44.2% of GDP at the end of 2022). The CNB's fiscal forecast expects the general government debt-to-GDP ratio to increase to 45% in 2023 and 45.4% in 2024. Taking the necessary steps to improve the fiscal situation is also important to maintain the Czech Republic's high rating in the future (see [Table II.1 CB](#)), as rating agencies have made their ratings conditional, among other things, on stabilising and preventing any significant deterioration of the Czech Republic's fiscal situation. The announced consolidation efforts should contribute to keeping the general government balance within the limits expected by rating agencies (see [Chart II.23](#)) and help reduce the risk of the Czech Republic's rating being downgraded.

**Chart II.23**  
General government balance



**Chart II.24**  
General government structural balance

**The effect of the consolidation efforts is somewhat limited from the structural balance perspective**

The structural balance<sup>9</sup> and its outlook demonstrate a significant structural imbalance in the public finance system caused by past fiscal measures. The Ministry of Finance forecast expects this balance to improve by just 0.5 pp between 2023 and 2024 (see [Chart II.24](#)). According to the CNB's autumn forecast, it will also be above the medium-term objective (MTO) of -0.75% of GDP.<sup>10</sup> Further consolidation efforts will thus be needed to return the budgets to structural balance. The amendment to the Act on Budget Responsibility<sup>11</sup> that forms part of the consolidation package can be viewed as a positive step. The amendment revises the structural deficit limits and thus changes the original, highly benevolent limits, the fulfilment of which required minimal fiscal effort. The approval of the amendment would accelerate the achievement of the MTO – a structural deficit of 0.75% of GDP – by three years to 2028 (see [Chart II.24](#)).

8 The consolidation package contains measures that improve the general government balance by CZK 114 billion in 2024. It assumes a further positive impact of CZK 24 billion in 2025. For more details on the parameters of the consolidation package see [Ministry of Finance of the Czech Republic](#) (in Czech only).

9 The structural balance is the general government balance corrected for the economic cycle and extraordinary one-off measures.

10 Fulfilment of the medium-term objective is not required under the current general escape clause. After the clause expires, and assuming no changes are made to the fiscal rules at EU level, the Czech Republic will need to consolidate to achieve the MTO within the stipulated time frame.

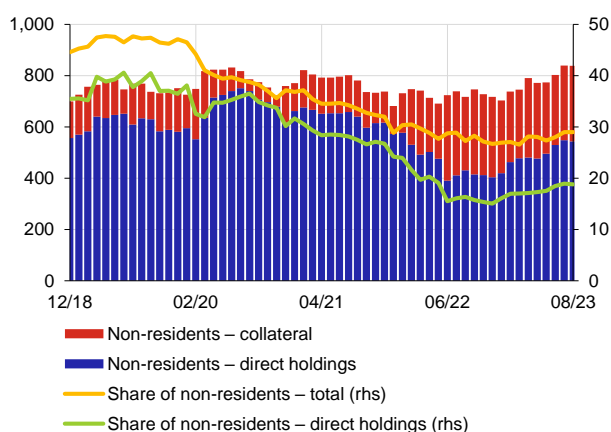
11 Act No. 23/2017 Coll., on the Rules of Budget Responsibility, as amended.

### The direct interconnectedness of the banking sector and general government continues to grow

Owing to the persisting high deficit, issuing activity on the primary government bond market remains high (see [Chart II.17 CB](#)). During 2023, demand for government bonds was high<sup>12</sup> among non-residents<sup>13</sup> (see [Chart II.25](#)) and especially among domestic banks. They remain general government's main direct creditor. According to Ministry of Finance data, domestic banks' share in total government bond holdings was CZK 1.14 trillion, or 40% of the total volume, at the end of August 2023 (see [Chart II.18 CB](#)). The share of domestic general government debt securities in the total assets of the Czech banking sector was almost 14% (see [Chart II.26](#)). Due to the increase in these shares, there is still a potential risk to financial stability in the sense of mutual transmission of an adverse shock between the banking sector and general government.

**Chart II.25**  
Holdings of Czech government bonds by non-residents

(CZK billions, right-hand scale in %)

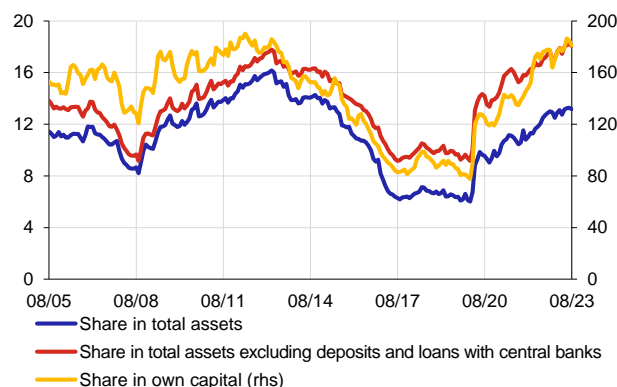


Source: Ministry of Finance of the Czech Republic, CNB

Note: CNB estimate based on Ministry of Finance data and custody data.

**Chart II.26**  
Share of general government debt securities on the balance sheets of domestic banks

(%)



## II.2.2 The private non-financial sector

### Firms' profitability continued to grow, investment fell and the labour market remained tight

The profit rate of non-financial corporations rose for the fourth consecutive quarter despite more subdued economic activity, while the investment rate fell, due partly to higher interest rates (see [Chart II.27](#)). However, the solid profitability recorded to date should also be reflected in a higher rate of investment in the future, as firms' previous profits mean that they can expand or streamline their production capacity and invest in energy savings.<sup>14</sup> This is necessary from the medium-term perspective to maintain corporate competitiveness and reduce the potential impacts of climate risks (including physical risks; see [Box 1](#)) on future financial results. Profit margins may fall due to lower expected consumer demand. This may also be fostered by high wage growth, which will remain at 7–8%. Following a prolonged period of decline, wages will begin to go up again in real terms at the start of 2024. This wage growth will be linked with a still tight labour market, despite an expected continued moderate rise in the unemployment rate (see [Chart II.28](#)).<sup>15</sup>

### Credit activity in non-financial corporations will decline in 2024...

Based on a projection consistent with the baseline scenario of the CNB's autumn forecast, the subdued nominal investment activity will manifest itself in a continued slowdown in lending to non-financial corporations until the end of 2024 (see [Chart II.29](#)).<sup>16</sup> Credit activity will grow gradually in 2025 due to rising corporate investment. The year-on-year change in the stock of loans will also be affected to some extent by the repricing of euro-denominated loans due to the expected change in the exchange rate. This will contribute to a slightly higher rate of growth until mid-2024 and conversely to lower growth from 2024 Q3 onwards.

<sup>12</sup> The volume demanded in government bond auctions exceeds the announced auction volume several times over. The bid-to-cover ratio was 1.93 in the first three quarters of 2023. The average time to maturity of government debt as of 2023 Q3 was 6.2 years.

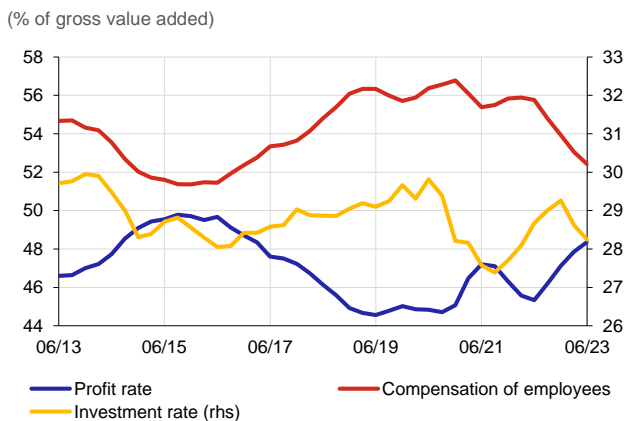
<sup>13</sup> The average duration of the domestic general government bonds held directly by non-residents is 5 years.

<sup>14</sup> See [Monetary Policy Report – Autumn 2023](#).

<sup>15</sup> For a closer look at the current labour market situation, see the cnBlog article: [Co hýbe trhem práce](#) (What drives the labour market; in Czech only).

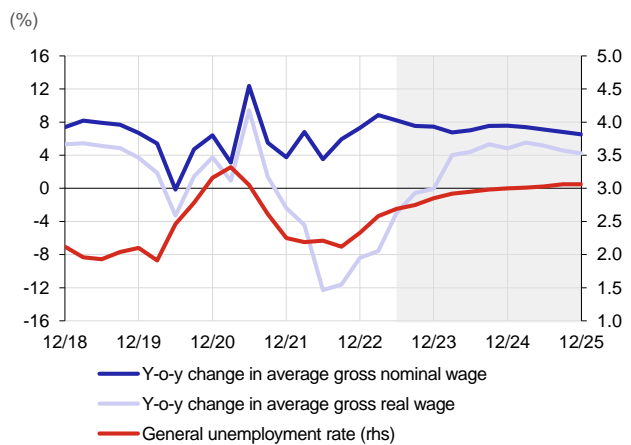
<sup>16</sup> The year-on-year growth will temporarily reach higher levels at the end of 2023 due only to base effects.

**Chart II.27**  
**Compensation of employees, profit rate and investment rate in the non-financial corporations sector**



Source: CZSO  
 Note: Profit is defined as the annual moving total of gross operating surplus and investment as the annual moving total of gross fixed capital formation.

**Chart II.28**  
**Labour market indicators**

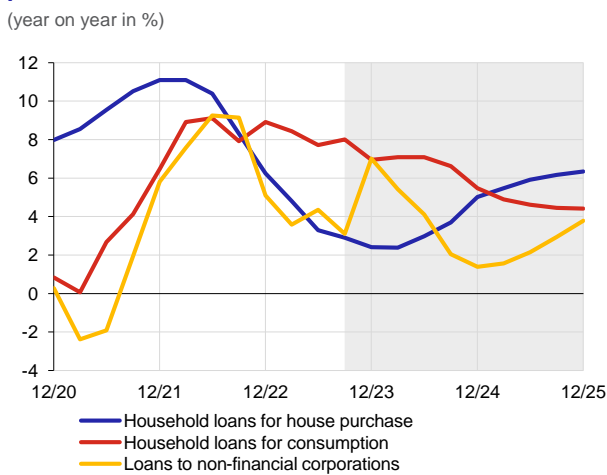


Note: The values in the grey area are based on the CNB's autumn forecast (MPR – Autumn 2023). The general unemployment rate is seasonally adjusted.

**...and may also have an effect on the observed decline in the debt ratio of non-financial corporations**

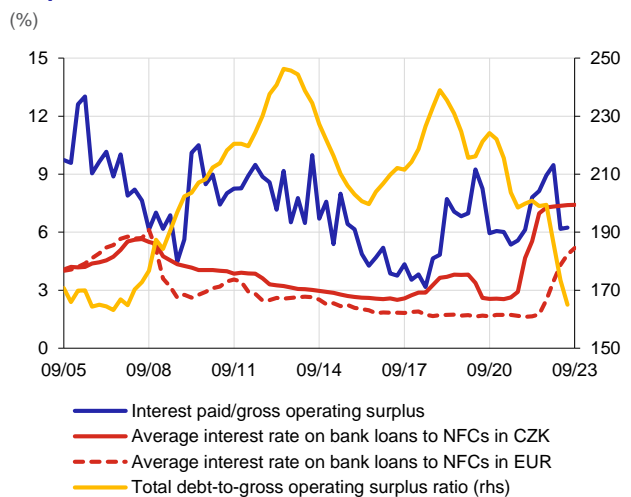
The debt ratio fell to the all-time low recorded in 2007 (see Chart II.30), due to rising profit and to credit growth not supporting relative debt growth. A decrease in debt to other non-financial entities was the main contributing factor. A persisting lower interest rate on euro-denominated loans than on koruna loans (2.25 pp lower on average at the end of 2023 Q3) led to continued growth in the stock of euro-denominated loans (see Chart II.19 CB), whose share stood at almost 49% at the end of Q3.

**Chart II.29**  
**Projections of growth in the stock of bank loans in the private non-financial sector**



Note: The growth rates are adjusted for the credit portfolio of Sberbank. The values in the grey area are based on a projection consistent with the CNB's autumn forecast (MPR – Autumn 2023).

**Chart II.30**  
**Debt ratio and interest paid by non-financial corporations**



Source: CNB, CZSO  
 Note: The interest rate is calculated as the average interest rate on the stock of koruna/euro bank loans to non-financial corporations.

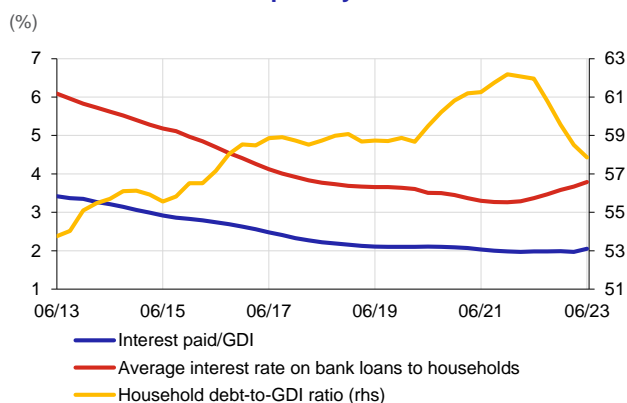
**The growth rate of loans to households will tend to remain below average...**

Year-on-year growth in the stock of loans to households declined further to 3% in the case of loans for house purchase and stayed at 8% in the case of loans for consumption in 2023 Q3 (see Chart II.29). According to the projection based on the CNB's autumn forecast, growth in housing loans will continue to decline in the first half of 2024. However, this trend will then reverse and the growth will turn positive again, reaching 6% in 2025. Growth in loans to households for consumption is expected to fall gradually from relatively high levels towards the long-term average of just over 4%.

### ...which will help reduce the household debt ratio further

The household debt ratio fell further to less than 58% of gross disposable income, due mainly to weak lending on the residential property market (see [Chart II.31](#)). According to the CNB's projection, the debt ratio is expected to continue declining in 2023 Q3 and Q4. The extended period of high interest rates is passing through increasingly to average interest rates on existing bank loans to households, which rose by 0.4 pp year on year to 3.8%. However, interest paid by households increased only marginally (see [Chart II.31](#)).

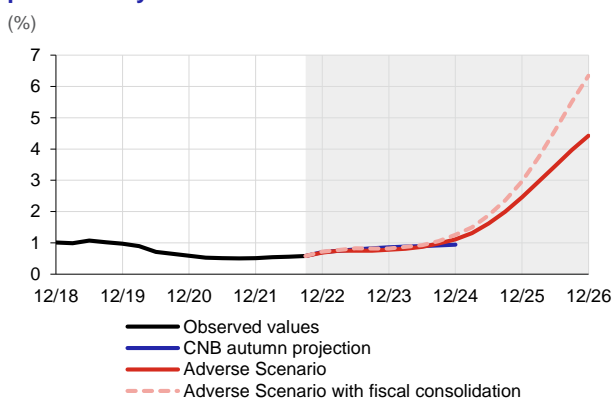
**Chart II.31**  
Debt ratio and interest paid by households



Source: CNB, CZSO

Note: The household sector also includes data for NPISHs. The interest rate is calculated as the average interest rate on the stock of bank loans to households.

**Chart II.32**  
12M default rate on loans to households for house purchase by scenario



Note: The 12-month default rate is a forward-looking indicator defined as the flow of non-performing loans in the next 12 months divided by the total stock of loans in the starting period. The autumn projection is consistent with the CNB's autumn forecast (MPR – Autumn 2023).

### The default rate on loans to households edged up and will continue to increase according to the CNB's autumn projection

The 12M default rate on loans to households for house purchase started to rise very gradually, reflecting labour market developments (see [Chart II.32](#)). However, its current level of 0.6% is still well below the long-term average (2.5% in 2007–2022). Consumer credit followed a similar trend as loans for house purchase, recording an increase in the 12M default rate to 3% (see [Chart II.33](#)).

### Refixing of mortgage rates will have only a limited effect on the default rate...

The risk of household insolvency connected with the refixing of mortgage rates and the growth in the cost of living has not materialised so far. As interest rates fall and real wages start to grow again, the likelihood of greater risk materialisation continues to decrease. According to the indicator of interest rate repricing risk, average growth in mortgage loan instalments represents 22% of average wage growth. Households that took out mortgage loans in 2020 or 2021 and are now refixing them face the largest interest shock (see [Chart II.20 CB](#)). However, these households are relatively small in number,<sup>17</sup> as most of the mortgage loans provided in 2020 and 2021 had rates fixed for five years or more (roughly 94% of the total provided). The impact of refixing on the default rate will thus be low.

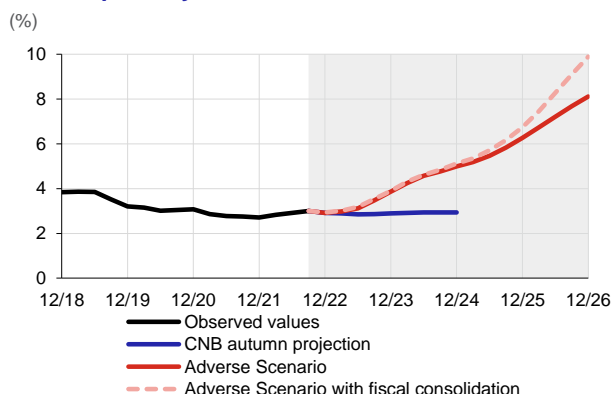
### ...in the Adverse Scenario, the default rate rises mainly due to an increase in the unemployment rate

According to a projection consistent with the autumn forecast, the default rates on loans for house purchase and consumer credit will continue to rise gradually. However, they will remain well below the long-term average. In the *Adverse Scenario*, the default rates on loans for house purchase and consumer credit rise sharply to 4.2% and 8.1% respectively, owing mainly to a sharp increase in the unemployment rate. The *Adverse Scenario* extended to include fiscal consolidation<sup>18</sup> would have an even bigger impact on the solvency of Czech households and the 12M default rate would climb as high as 6.3% for loans for house purchase and 9.9% for consumer credit (see [Chart II.32](#) and [Chart II.33](#)).

<sup>17</sup> Assuming that refinancing, repayment or default has not occurred since the provision of the mortgage loan, around 4,300 loans provided in 2020 and 2021 should be refinanced in 2023 and around 7,500 loans provided in 2020 and 2021 should be refinanced in 2024.

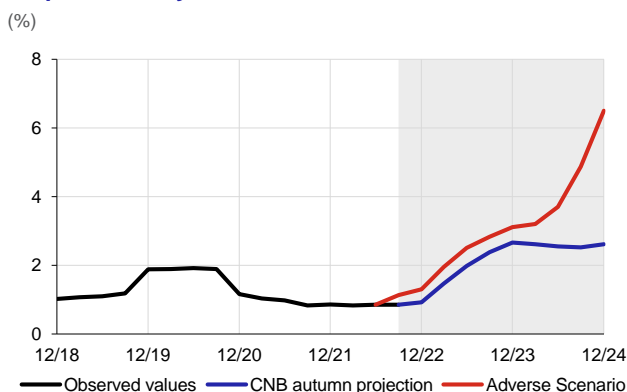
<sup>18</sup> The *Adverse Scenario with Fiscal Consolidation* aims to determine how households would be affected by additional fiscal consolidation going beyond the fiscal package currently in the approval process (see section II.2.1) that would take place in the event of adverse economic developments. This scenario assumes additional public finance consolidation of CZK 150 billion (2% of GDP) a year in 2025 and 2026. The additional fiscal consolidation is carried out mainly by increasing government revenue (for instance by increasing personal income tax) and also by cutting expenditure (government consumption and investment). This scenario leads to a deeper decline in GDP (of around 1 pp a year in 2025–2027) and a larger increase in the unemployment rate (to 13.2%).

**Chart II.33**  
12M default rate on loans to households for consumption by scenario



Note: The 12-month default rate is a forward-looking indicator defined as the flow of non-performing loans in the next 12 months divided by the total stock of loans in the starting period. The autumn projection is consistent with the CNB's autumn forecast (MPR – Autumn 2023).

**Chart II.34**  
12M default rate on loans to non-financial corporations by scenario



Note: The 12-month default rate is a forward-looking indicator defined as the flow of non-performing loans in the next 12 months divided by the total stock of loans in the starting period. The autumn projection is consistent with the CNB's autumn forecast (MPR – Autumn 2023).

### The default rate on loans to non-financial corporations remained stable but will also increase according to the autumn projection

The 3M corporate default rate was close to a ten-year low in the first half of 2023 (see [Chart II.21 CB](#)). However, a rising trend can be observed in construction, which has been hit by higher construction costs and the postponement of construction projects in response to higher interest rates and lower demand for property.<sup>19</sup> Given the uncertainty connected with future developments in the energy market and an increase in the administered component of energy prices, loans to corporations in the energy sector and to energy-intensive corporations are also considered riskier (see [Chart II.22 CB](#)). According to a projection based on the autumn forecast, the 12M default rate on loans to non-financial corporations is expected to rise gradually to 2.6%, where it will stay until the end of the scenario horizon (see [Chart II.34](#)). Default rates increase mainly for loans to the construction and property development sectors. These sectors are the most sensitive to the higher interest rates and lower demand for property (see [section II.1.2](#)). According to the results of a sensitivity analysis, if monetary policy rates stayed at 7% for longer and subsequently decreased only gradually,<sup>20</sup> the aggregate 12M default rate would increase by 0.25 pp on average compared with the situation consistent with the autumn forecast. The increase would be 0.21 pp in property development and as much as 1 pp in construction.

<sup>19</sup> However, the ratio of bank deposits to loans remains more than double in the case of entities from this sector.

<sup>20</sup> The 3M PRIBOR rate is 7% until 2024 Q1 and then falls by 50 bp each quarter to 3.5% at the end of 2025. Rate changes are also implied in the projections for loans, property prices, etc.

## BOX 1: Credit exposures to non-financial corporations at risk of floods

The Czech Republic's geographical location makes it directly exposed to physical climate risks in the form of floods, the probability of which may continue to increase as a result of climate change.<sup>21</sup> The extent of banks' exposures to such risk can be determined, for example, using the geographical location of the premises of private non-financial sector entities, which can be used directly as loan collateral. Any damage to such property would thus cause a decrease in the value of the collateral and hence in banks' loan security, and (also in the event of damage to property not used as collateral) could lead to households and non-financial corporations incurring sudden additional expenditure, assuming insufficient insurance. This box analyses credit exposures exposed to physical climate risks using detailed data on the registered addresses of domestic non-financial corporations that have loans from banks operating in the Czech Republic.<sup>22</sup> As regards floods, flood zones with frequencies of five, twenty and one hundred years are used.<sup>23</sup>

Chart 1 (BOX 1)

## Flood zones and non-financial corporations at risk of floods



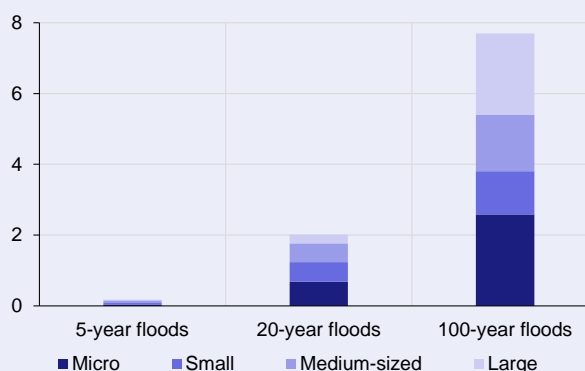
Source: TGM WRI, CNB

Note: Dots denote the registered offices of non-financial corporations in flood zones. The hue of the dot and the flood zone denotes the probability of flood occurrence, ranging from the lightest hue representing a five-year flood to the darkest hue representing a hundred-year flood. The source of the data on flood zones is the [T. G. Masaryk Water Research Institute \(TGM WRI\)](#).

Chart 2 (BOX 1)

## Exposures to non-financial corporations at risk of floods

(share in total stock of loans to non-financial corporations as of 30 June 2023 in %)



Corporations at risk of flooding are currently mostly located in regional capitals with relatively large rivers (see Chart 1). However, most of these corporations would only be affected by a hundred-year flood (see Chart 2). Flooding could thus put at risk about 8% of the total stock of bank loans to non-financial corporations (around CZK 100 billion). This share is lower than in the euro area. According to the ECB and the ESRB,<sup>24</sup> around 10.6% of banks' credit exposures to corporations in the euro area are subject to high or increasing flood risk. Banks could also face higher loss given default if the value of collateral is lowered due to flood risk. However, a rough estimate suggests that only 15% of loans facing the risk of a hundred-year flood are secured with collateral at the same location as the corporation facing flood risk (CZK 15 billion).<sup>25</sup>

When performing an overall assessment of the relevance of flood-related risks to financial stability, we must bear in mind that floods tend to be local and a hundred-year flood is very unlikely to occur nationwide. At present, the systemic impact of floods is rather limited, partly thanks to insurance.<sup>26</sup>

21 For more on climate risks in relation to the Czech economy, see, for example, [Financial Stability Report 2020/2021](#), Box 4, [Financial Stability Report – Autumn 2022](#), Box 6 and Box 7, and the thematic article by Kotlář, M., Motl, M., and Komárková, Z. (forthcoming): *The Impact of Selected Long-term Climate Scenarios on the Czech Economy*.

22 A corporation's registered office is not necessarily the production plant or similar building where it carries on its economic activity. Moreover, corporations may have multiple buildings of this type which may not be at the same location. The results of the analysis should therefore be interpreted as indicative.

23 In this case, the year basically denotes the probability of occurrence in any given current year. It is 20% for a five-year flood, 5% for a twenty-year flood and 1% for a hundred-year flood.

24 ECB and ESRB (2021): [Climate-related risk and financial stability](#).

25 The estimate is based on whether the postcode of the non-financial corporation's registered office is the same as that of the pledged property.

26 According to the CNB's analysis, insurance companies would not be directly threatened by the materialisation of physical risks – see Box 6 in [Financial Stability Report – Autumn 2022](#).



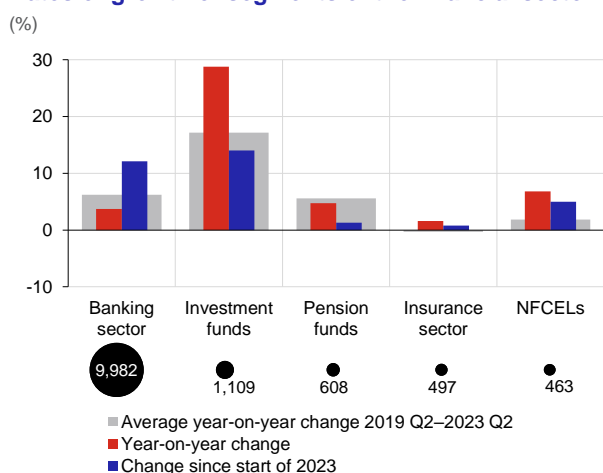
## III. THE FINANCIAL SECTOR

### III.1 DEVELOPMENTS IN THE FINANCIAL SECTOR

#### The financial sector continued to grow

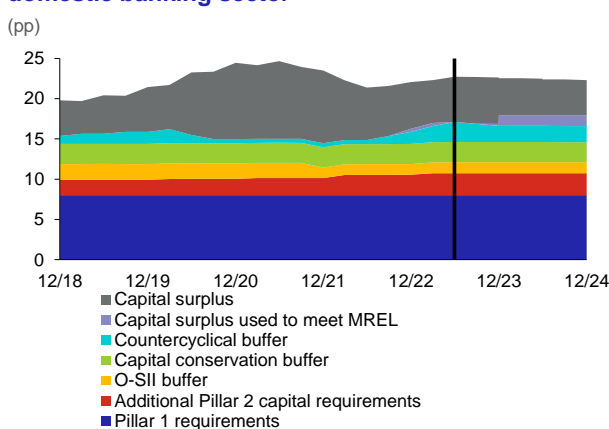
The total assets of the domestic financial sector reached CZK 12.7 trillion (178% of GDP) in mid-2023, having increased by around 10.9% in the first half of the year (see [Chart III.1](#)). The banking sector, which – with 80% of the assets – continues to dominate the domestic financial sector, recorded the largest growth in absolute terms (CZK 1,076 billion, or 12.1%). The investment fund sector showed the fastest growth (CZK 136 billion, or 14.0%; for details see [section III.3](#)), with foreign equity securities remaining its most significant assets (see [Chart III.20](#)). Non-bank financial corporations engaged in lending (NFCEs) also posted faster asset growth than in past years (CZK 22 billion, or 5.0%; for details see [section III.3](#)). In terms of size, NFCEs thus converged towards the long stagnant insurance sector, whose total assets grew at the slowest rate (CZK 4 billion, or 0.8%; for details see [section III.3](#)).

**Chart III.1**  
Rates of growth of segments of the financial sector



Note: NFCEs = non-bank financial corporations engaged in lending. The sizes of the circles proportionately show the value of the segments' assets in CZK billions as of 2023 Q2. The banking sector also includes credit unions.

**Chart III.2**  
Structure of capital and capital requirements in the domestic banking sector



Note: The capital prediction assumes constant risk weights. Risky exposures are calculated on the basis of banks' assumptions about future loans, which banks report in the statement "Bank financing plans" (FPSIFE10). The prediction also takes into account the issuance of eligible liabilities by banks with a non-zero MREL recapitalisation amount.

### III.2 BANKING INSTITUTIONS<sup>27</sup>

#### III.2.1 Own funds and eligible liabilities

##### The capitalisation of the domestic banking sector remains robust

The sector's capital rose by CZK 31.7 billion to CZK 657 billion in the first half of 2023. Most of the capital (94%) consisted of the highest-quality common equity Tier 1 capital. The overall capital ratio (the ratio of total capital to risk-weighted exposures) increased by 0.7 pp in the first half of 2023 compared to the end of 2022, reaching 22.7% (see [Chart III.2](#)). This was caused mainly by a decline in the aggregate risk weight (+3.6 pp of the capital ratio) and growth in capital (+1.1 pp). An increase in total exposures had the opposite effect (-4.0 pp).

##### Banks are maintaining their capital well above the risk-weighted capital requirement

Domestic banks met the regulatory risk-weighted capital requirement<sup>28</sup> by a significant margin of CZK 170 billion (5.6 pp of the capital ratio). The capital surplus fell by CZK 9.3 billion in the first half of 2023 due to the reallocation of capital to cover cyclical risks (the previous 1 pp increase in the CCyB rate began to be felt in January and April). Owing to a gradual decline in cyclical systemic risks in banks' balance sheets, the CNB lowered the CCyB rate by 0.5 pp in the second half of 2023 (see [section IV.3](#)). This means the capital surplus should be around CZK 9 billion higher as of January 2024.

<sup>27</sup> The Czech Export Bank and the National Development Bank are excluded from the analysis of the capital of the banking sector as a whole in the entire [section III.2](#). This is because these banks are wholly owned by the Czech state (providing implicit state guarantees for their liabilities) and have different business models and volatile credit portfolios.

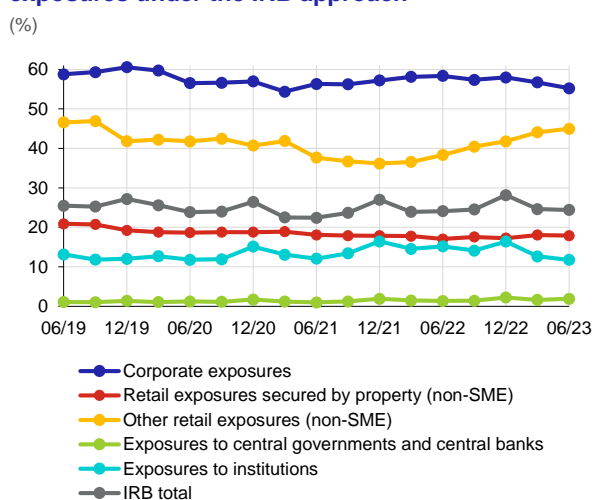
<sup>28</sup> The risk-weighted capital requirement, expressed as the ratio of capital to risk-weighted exposures, consists of the minimum level of regulatory capital in Pillar 1 (8%), requirements based on the supervisory review of risks in Pillar 2 (an average of 2.7% for the sector as of mid-2023) and capital buffers (an average of 6.4% for the sector).



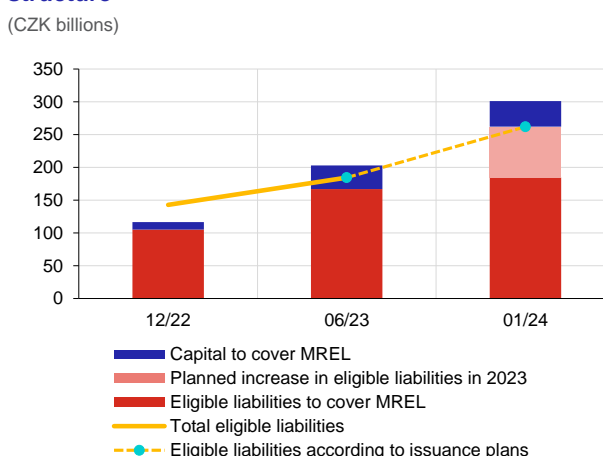
**The size of the capital buffer will also be affected by the future evolution of risk weights**

The average risk weights of banks that use internal models to set those weights (the IRB approach) rose by 0.3 pp year on year to 28.2% as of mid-2023 (see [Chart III.3](#)).<sup>29</sup> The largest growth in risk weights was observed across banks for unsecured loans to households (of 6.7 pp to 45.0%). This was linked primarily with the effect of growth in the cost of living on portfolio riskiness. There was also a modest rise in risk weights for the largest credit portfolio of exposures secured by residential property (of 0.8 pp to 17.9%). By contrast, corporate exposures saw a decline in risk weights (of 3.2 pp to 55.2%). Here, the trends were mixed across banks due to different portfolio structures and strategies. Other things being equal, growth in risk weights increases the capital requirement in absolute terms and reduces the capital ratio. In the event of a movement of the economy towards the *Adverse Scenario*, growth in risk weights could gradually accelerate and hence increase the capital intensity of the credit portfolios of banks using the IRB approach (see [section III.4](#)).<sup>30</sup> These risks are very limited in the *Baseline Scenario*, mainly because of the prudent configuration of microprudential (Pillar 2) and macroprudential instruments (see [section IV](#)), which are responding to the great uncertainty and risks in the domestic and global economy, and because of tightened central bank monetary policies.

**Chart III.3**  
Average risk weights of the main categories of banks' exposures under the IRB approach



**Chart III.4**  
MREL recapitalisation amount and compliance structure



Note: An intermediate MREL target has been in effect since 1 January 2022. The final requirement comes into effect on 1 January 2024. An indicative (non-binding) MREL target applies for 2023.

**Capital even exceeded the non-risk-weighted capital requirement by a large margin**

The robust capitalisation of the domestic banking sector was also indicated by the leverage ratio, which had an aggregate value of 6.2% as of mid-2023. The ratio fell by 0.9 pp year on year as the sector's balance sheet expanded but was still well above the 3% regulatory minimum (see [Chart III.1 CB](#)). In the domestic banking sector, the value of the leverage ratio is significantly affected by high exposures to the CNB (2.3 pp). Adjusted for these exposures (about 26% of the banking sector's total assets), the leverage ratio was relatively high at 8.5% as of the middle of the year. The capitalisation of the domestic banking sector is on the high side by international standards in both risk-weighted and non-risk-weighted terms (see [Chart III.2 CB](#)).

**The banking sector's resolvability is enhanced by compliance with the MREL recapitalisation amount...**

The indicative requirement for the MREL recapitalisation amount stood at CZK 203 billion as of mid-2023. Banks complied with this requirement by means of both eligible liabilities (CZK 167 billion) and capital (CZK 36 billion; see [Chart III.4](#), second column).<sup>31</sup> This reduced the usability of the capital surplus for paying dividends, absorbing losses and lending to CZK 134 billion (4.6% of risk-weighted exposures) as of mid-2023.<sup>32</sup>

29 Exposures whose risk weights are set using the IRB approach amounted to CZK 7.7 trillion as of mid-2023. This corresponded to 68% of the exposures of the domestic banking sector.  
 30 However, the potential increase in risk weights associated with the materialisation of credit risk would not be strong at first, as the parameters of internal models take into account the evolution of credit risk over the longer term (around nine years).  
 31 While the intermediate limit (in effect since January 2022) and the final limit (applicable from January 2024 onwards) for the MREL are binding, only an indicative limit was set for 2023. See Kahoun, T. (2019): [Minimum Requirement for Own Funds and Eligible Liabilities \(MREL\): General Approach of the Czech National Bank](#).  
 32 Using a very simplistic estimate, other things being equal, this capital surplus should be sufficient to cover the credit risk of around CZK 2.2 trillion of new exposures without the capital dropping below the regulatory minimum.

### ...which will increase at the start of 2024

The recapitalisation amount will increase sharply when the final MREL comes into effect at the start of 2024 (see [Chart III.4](#), third column). The MREL compliance structure will depend on the amount of eligible liabilities issued by banks in the second half of 2023. To fully cover the recapitalisation amount using eligible liabilities, banks would have to issue around CZK 116 billion of them in this period, whereas their plan is to issue CZK 77 billion of them in 2023. They intend to meet the rest (CZK 39 billion) using own funds at the start of 2024 (see [Chart III.4](#), third column).<sup>33</sup>

## III.2.2 Credit risk

### The overall rate of growth of client exposures slowed slightly

Total client credit exposures<sup>34</sup> rose by 6.0% (CZK 238 billion) to CZK 4,206 billion in the first eight months of 2023 compared to the end of 2022. The growth was due most of all to credit activity in the non-financial corporations segment (+6.1%, CZK 89 billion), primarily via euro lending (see [section II.2.2](#)), while credit activity in the household segment remained generally subdued by historical standards (+3.6%, CZK 81 billion; see [Table III.1 CB](#) and [Table III.2 CB](#)).

### The share of loans with increased credit risk rose...

The migration of loans to the category of loans with increased credit risk since initial recognition continued during the first eight months of 2023. The ratio of loans in Stage 2 to total client credit exposures rose by 0.7 pp to 16.1% compared to the end of 2022. From the historical perspective, the total share of client loans in Stage 2 as of August 2023 remained elevated, especially in the household segment. A total of CZK 252.1 billion – CZK 138 billion in the case of households (see [Chart III.5](#)) and CZK 70.8 billion in the case of non-financial corporations (see [Chart III.6](#)) – was moved into the category of loans with impaired credit quality. This testifies to prudent behaviour by banks in assessing credit risk given the uncertainty about future economic developments (see [section II.1](#)). In the case of households, the loans concerned were generally loans to low-income clients or clients currently employed in sectors evaluated as higher-risk. In the case of corporations, they were loans to clients from energy-intensive industries or the commercial property sector.

Chart III.5

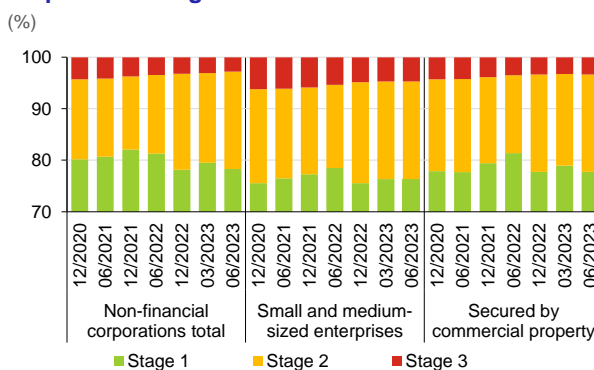
### Structure of loans by portfolio in the household segment



Note: Loans secured by property and consumer credit account for 91% of loans to households.

Chart III.6

### Structure of loans by portfolio in the non-financial corporations segment



Note: Loans to SMEs and loans secured by commercial property account for 82% of loans to non-financial corporations.

### ...for both secured and unsecured loans in the case of households...

Turning to the individual portfolios in the household segment, migrations to Stage 2 occurred in the case of both loans secured by residential property and unsecured consumer credit (see [Chart III.5](#)). In absolute terms, loans secured by residential property amounted to CZK 1,793 billion as of mid-2023, with Stage 2 accounting for 15.2% and Stage 3 for around 0.6%. Unsecured loans for consumption totalled CZK 329 billion in absolute terms, with Stage 2 accounting for 19.7% and Stage 3 for 4%.

### ...and primarily for loans secured by commercial property in the case of non-financial corporations

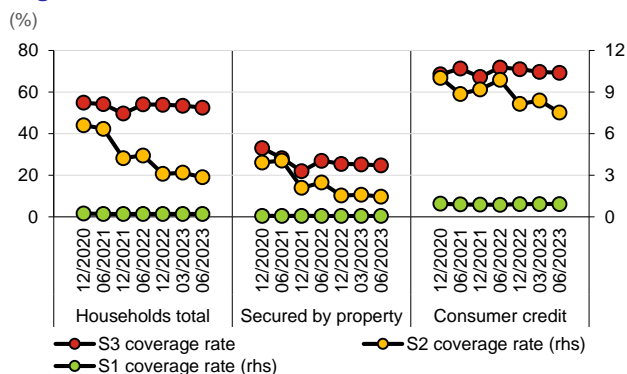
In the longer term, generally higher riskiness can be seen in the portfolio of small and medium-sized enterprises (SMEs), although the migrations to Stage 2 in the first half of 2023 were primarily in the portfolio of loans secured by commercial

<sup>33</sup> MREL compliance using own funds reduces the capital surplus and potentially also the usability of capital buffers. See [Pfeifer, L., Holub, L. \(2022\): The Relationship between the MREL and Macroprudential Capital Buffers](#).

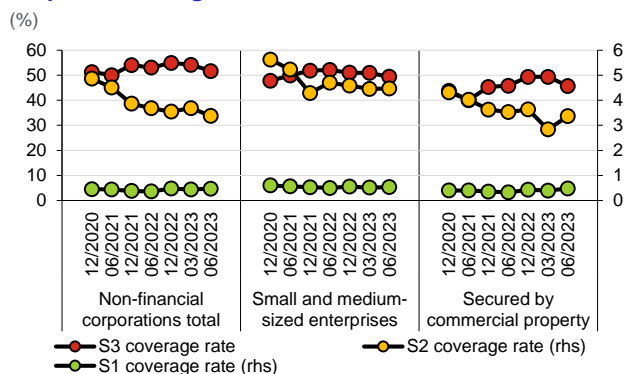
<sup>34</sup> Client credit exposures are defined as exposures to non-financial corporations, households and credit institutions. The total volume includes both new and refinanced loans.

property. As of June 2023, loans to SMEs accounted for almost 19% of total loans in Stage 2 and almost 5% in Stage 3. The respective figures for loans secured by commercial property were around 19% and 3.4% (see [Chart III.6](#)).

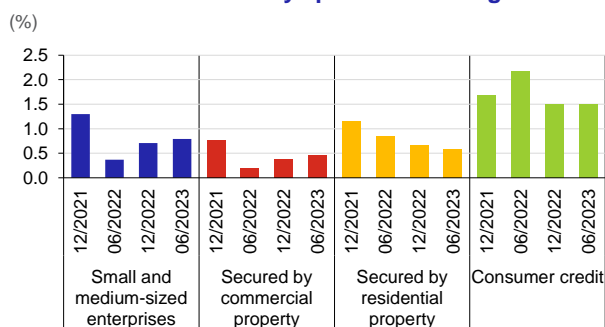
**Chart III.7**  
**Coverage of loans by portfolio in the household segment**



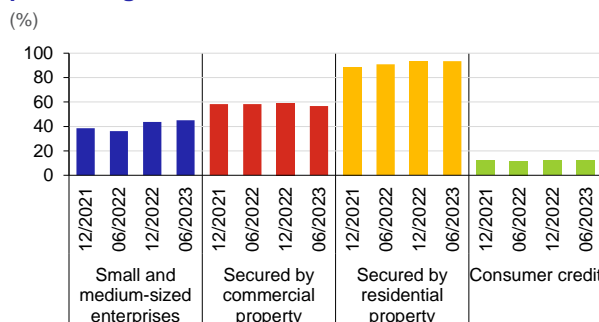
**Chart III.8**  
**Coverage of loans by portfolio in the non-financial corporations segment**



**Chart III.9**  
**Share of loans 30–90 days past due in Stage 2**



**Chart III.10**  
**Share of collateralised performing loans in total performing loans**



Note: Loans secured by residential property and consumer credit account for 91% of loans to households. Loans to SMEs and loans secured by commercial property account for 82% of loans to non-financial corporations.

### Banks' expectations regarding credit risk materialisation remained subdued...

Despite the still relatively high or growing share of Stage 2 loans across segments, banks have yet to begin provisioning more for expected credit losses, as the coverage ratios show (see [Chart III.7](#) and [Chart III.8](#)). This is explained partly by the stagnation of some fundamental credit risk characteristics, including the share of Stage 2 loans 30–90 days past due (see [Chart III.9](#)) and the collateralisation of performing loans (see [Chart III.10](#)). Provisions in the sector fell by 5.5% (CZK 3.9 billion) in the first eight months of 2023. This was due mainly to the non-financial corporations segment, where provisions fell by 10.9% (CZK 4.4 billion), as against a rise of 3.6% (CZK 1 billion) recorded in the household segment.

### ...the coverage ratio in Stage 2 fell to the lowest level ever seen

Given the growth in exposures with elevated risk, the subdued expectations of credit risk materialisation led to a drop in the coverage ratio in Stage 2 in both the household portfolio (by 0.2 pp to 2.9%) and the non-financial corporations portfolio (by 0.2 pp to 3.4%). At the portfolio level, both these rates were at their lowest level since reporting started in 2020. The coverage ratio in the loans to households portfolio decreased both for loans secured by residential property (by 0.1 pp to 1.5%) and in particular for consumer credit (by 0.6 pp to 7.5%; see [Chart III.7](#)). The coverage ratio also fell for loans to SMEs (by 0.1 pp to 4.5%) and for loans secured by commercial property (by 0.3 pp to 3.4%; see [Chart III.8](#)). This may pose a risk in the event of adverse economic developments accompanied by a cliff effect related to relatively sudden and high provisioning (see [Financial Stability Report – Autumn 2022](#), Box 4).

### The total coverage ratio is also being affected by non-performing loans classified in Stage 3...

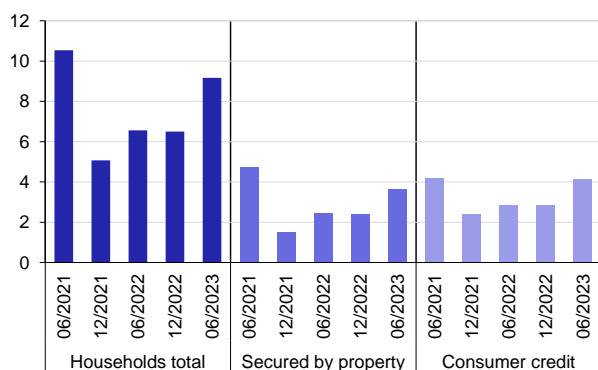
In the household segment, the increases in exposures classified in Stage 3 have been rising gradually since the end of 2021 (see [Chart III.11](#)). In the first half of 2023, there was an increase of CZK 9.2 billion in total (with loans secured by property accounting for CZK 3.6 billion and consumer credit for CZK 4.1 billion), as against CZK 6.6 billion in the same period of 2022. The share of Stage 3 loans in the total portfolio of loans to households and non-financial corporations has

been falling since the end of 2020. It decreased by 0.22 pp (CZK 4.7 billion) to 1.73% in the first eight months of 2023 compared to the end of 2022. This was due mostly to the situation in the non-financial corporations segment, whose share declined by 0.6 pp (CZK 6.4 billion) to 2.63%, while that in the household segment was broadly flat (see [Table III.1 CB](#)). Overall, the ratio of non-performing loans in the Czech Republic also remains low compared to the other EU countries (see [Chart III.5 CB](#)), while coverage of client loans by provisions is above the EU average (see [Chart III.6 CB](#)).

**Chart III.11**

### Semi-annual increases in credit exposures in Stage 3 in the household segment

(CZK billions)

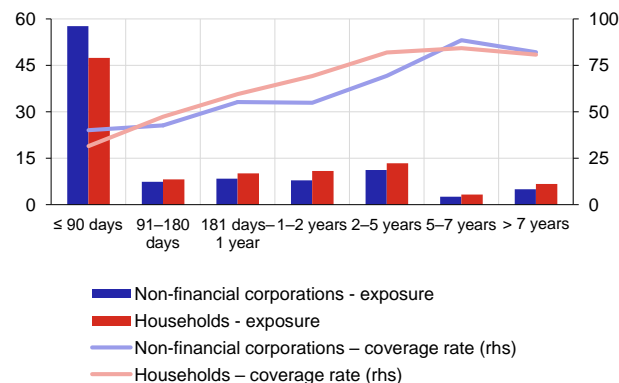


Note: Loans secured by property and consumer credit account for 91% of loans to households.

**Chart III.12**

### Structure of credit exposures and coverage ratios in Stage 3 by past-due period

(%; as of June 2023)



Note: The share of exposures is the share of the exposures of the given segment with the given past-due period in the total exposure of the segment in Stage 3.

### ...which consisted mainly of loans with a maturity of up to 90 days

Under IFRS 9, one of the mandatory criteria for classifying a loan as non-performing (Stage 3) is its past-due period (more than 90 days past due). However, based on individual assessments, banks can also classify loans that are not more than 90 days past due as non-performing. The share of Stage 3 client loans that were not more than 90 days past due as of mid-2023 was 57.7% for firms and 47.4% for households. The coverage ratios for the relevant categories were 40.1% and 31.6% respectively (see [Chart III.12](#)). The coverage ratio was increasing with an increasing number of days past due, the highest levels being attained by loans that were 5–7 years past due (86.7%). Sudden migration of exposures in Stage 3 to categories with longer past-due periods caused by strongly adverse macrofinancial developments could thus lead in a relatively short time to a significant increase in the need to cover these exposures.

## III.2.3 Profitability and liquidity

### The profitability of the banking sector fell slightly year on year...

Return on banks' assets fell slightly (by 0.03 pp) in the first eight months of 2023, reaching the pre-pandemic level (1.1%; see [Chart III.13](#)).<sup>35</sup> The banking sector's net profit for the first eight months of 2023 was flat year on year (up CZK 0.6 billion) at CZK 75.3 billion (see [Chart III.13](#)). Profitability was affected by impairment losses, which stood at CZK 3.6 billion in August 2023, up almost CZK 2.8 billion year on year (see [Chart III.14](#)). The average interest rate margin on the stock of loans also fell by 0.5 pp to 5.2 pp, contributing to a year-on-year drop in interest profit of 4.3% to CZK 110 billion (see [Chart III.15](#)).

### ...due in part to a decline in interest margins on new loans

Interest margins<sup>36</sup> on new loans fell by 0.64 pp year on year to 6.84% in August 2023, mostly due to a decrease in the margin on loans to households for consumption (of 0.76 pp to 7.46 pp; see [Chart III.16](#)). Margins on new loans to non-financial corporations also went down (by 0.57 pp to 6.92 pp). The effects of faster transmission of monetary policy to loan rates than to deposit rates therefore gradually faded in both segments' portfolios. Conversely, margins on housing loans recorded a slight year-on-year increase (of 0.07 pp to 3.34 pp), probably reflecting the higher profit and risk mark-up on refinanced loans. In addition to the response of banks to potential changes in the monetary policy settings, future margins on new loans may be affected by changes in risk premia in response to the further evolution of economic conditions and by the final form of the proposed changes to the law governing early mortgage repayment.<sup>37</sup>

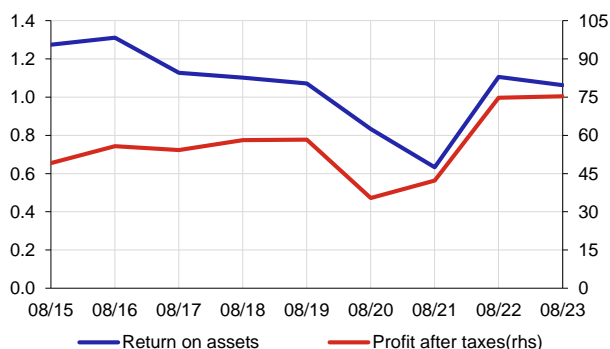
35 Return on assets was 0.9% for large banks, 1.4% for medium-sized banks, 1.6% for small banks and 0.9% for building societies.

36 Margins are calculated as the difference between the lending rate and the deposit rate but do not take into account interest rate position hedging.

37 [Draft law amending certain laws in connection with the development of the financial market and supporting security in old age](#) (in Czech only).

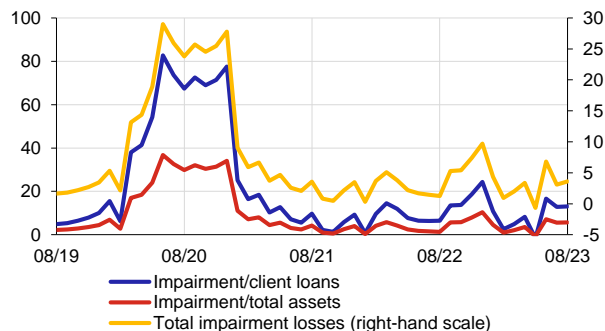
**Chart III.13**  
Return on assets and profit

(%; right-hand scale: CZK billions)



**Chart III.14**  
Asset impairment losses

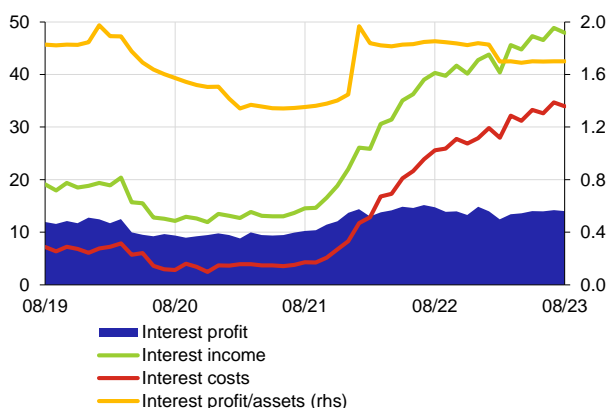
(bp; right-hand scale: CZK billions)



Note: Impairment losses are annualised. Client loans comprise loans to the private sector.

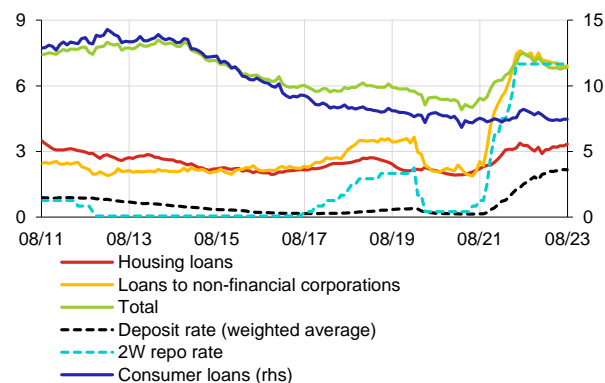
**Chart III.15**  
Decomposition of interest profit

(monthly contributions in CZK billions; right-hand scale in %)



**Chart III.16**  
Interest margins on new client loans

(margins in pp; rates in %)



Note: Margins are calculated as loan rates for the given sector minus the average deposit rate. The non-financial corporations item excludes revolving loans and credit cards.

**The maturity structure of deposits has been stable since the start of the year**

Client deposit rates on term accounts rose from just under 4% in December 2022 to almost 4.6% in August 2023 (see [Chart III.17](#)). Rates on demand account balances also increased, from just under 1.3% in December 2022 to almost 1.7% in August 2023.<sup>38</sup> The share of deposits on term accounts in total deposits remained stable in 2023. In August, it was 25.9%, almost 11 pp higher than at the start of the cycle of interest rate increases in June 2021. Most deposits on term accounts continued to have maturities of up to one year (almost 79%). This may limit the interest rate risk to the banking sector’s profitability to some extent in the monetary policy easing phase.

**Bank profitability will also continue to be affected by the effectiveness of interest rate risk management...**

Owing to the relatively large and rapid movements in monetary policy rates seen in recent years, the importance of banks managing interest rate risk effectively in order to keep their net interest income stable in the long run has increased.<sup>39</sup> Greater interest rate volatility – associated with fluctuations in the valuation of assets – directly affects banks’ profitability.<sup>40</sup> The CNB has been monitoring the interest rate risk in the banking book since the start of the recent cycle of interest rate increases, but this has not yet been a source of systemic stress for domestic banks. Given that a significant part of the banking sector (93% of total assets) remains most sensitive to an increase in interest rates<sup>41</sup> (see [Chart III.25B](#)), the aforementioned risks may weaken if monetary policy rates are lowered.

38 As of August 2023, rates on new deposits on term accounts were up 0.55 pp year on year to 5.18%.

39 See, for example, [Global Financial Stability Report \(IMF, April 2023\)](#).

40 The accounting regulations determine how these valuation gains and losses are reported and reflected in profits and losses. If banks do not mark their assets to market, unrealised losses may accumulate in their balance sheets as interest rates increase. These losses may be realised when assets not marked to market are sold off, for example due to a run on deposits.

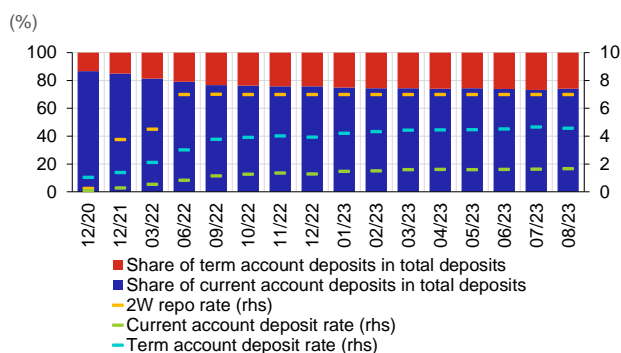
41 Data obtained from the outcome of a supervisory outlier test based on section 4.5 of the [EBA/GL/2018/02](#) guidelines.



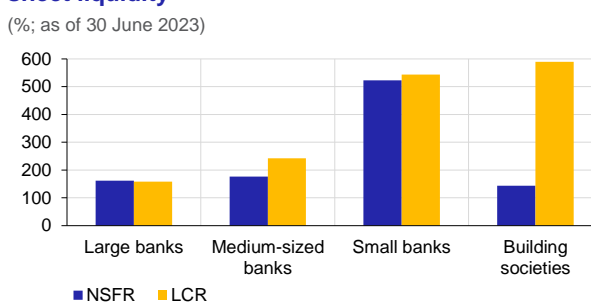
### ...and will be influenced mainly by monetary policy and future developments in the domestic and global economy

Uncertainty about the banking sector's future profitability is associated with the medium-term consequences of tighter for longer financial conditions and in particular with a potential larger unexpected decline in economic activity. Higher credit losses may adversely affect profitability, while in certain circumstances, higher risk premia may have the opposite effect. The start of the monetary policy easing process will result in a fall in income on excess liquidity, while the form of monetary policy transmission to credit and deposit rates (margins) and the volume of new loans will affect future interest profit. The *Baseline Scenario* of the banking sector stress tests assumes steady growth in economic activity and a gradual increase in lending. This is consistent with relatively high profitability, with pre-tax profit fluctuating around CZK 100 billion annually and RoA ranging from 0.7% to 1% over the three years of the scenario (see [section III.4](#)). The banking sector should thus have sufficient funds to continue lending to the economy and absorb unexpected losses.

**Chart III.17**  
Interest rates on term and demand accounts



**Chart III.18**  
Comparison of selected indicators of banks' balance-sheet liquidity



Note: The results take liquidity subgroups into account and exclude state-owned banks.

### The liquidity position of the banking sector is strong...

The aggregate LCR of the banking sector excluding state-owned institutions was 187% in mid-2023 (see [Chart III.18](#)). It was constantly above the regulatory minimum of 100% in each month of the first half of 2023, averaging 189%. All banks were compliant with the minimum throughout this period. The NSFR (171% as of mid-2023; see [Chart III.18](#)) confirmed that the funding of domestic banks was stable. The good aggregate liquidity position as of mid-2023 is also evidenced by the ratio of total client deposits to total client loans (162%)<sup>42</sup> and the ratio of quick assets to total assets (43.2%).

### ...but the building society segment is experiencing a specific trend

The trend in the building society segment differs from that in the rest of the banking sector. The ratio of client deposits to total client loans in this segment continued to decline in the first half of 2023 (to 88% in June 2023). However, building societies are usually owned by domestic parent banks, which have sufficient liquidity. Some building societies are also members of liquidity subgroups with their parent company. For this reason, the CNB does not deem the trend in the building society segment to be a source of major systemic risk.

### Numerous domestic banks are below 100% in the case of the LCR and NSFR in foreign currency

The relatively high share of foreign currency loans to non-financial corporations (see [section II.2.2](#)) is increasing the importance of the foreign currency liquidity position. A large majority of domestic banks were below 100% in the case of the LCR and NSFR calculated using (sub)balance sheet items in euros.<sup>43</sup> As of mid-2023, the weighted average<sup>44</sup> LCR in euros for the banking sector as a whole stood at 71%. The share of net outflows in euros and dollars is significant at more than 17% of total net liquidity outflows in the banking sector regardless of currency. Any major growth in liquidity stress on euro markets associated with outflows of unstable or even relatively stable euro funds could require domestic banks to obtain additional funds from their parent banks in a very short time, which in turn would make them more reliant on this source. Such an eventuality could be accompanied by volatility of the domestic currency and a potential increase in haircuts on koruna collateral. This could increase the cost of foreign currency funding for domestic banks. The CNB is therefore closely monitoring the risks associated with the foreign currency funding of domestic banks and stands ready to respond where necessary with appropriate microprudential and macroprudential instruments in order to mitigate those risks.

42 The share of total insured deposit claims is 67%, of which covered deposit claims account for 43% of total deposits.

43 An LCR and an NSFR of at least 100% in each currency is not a regulatory requirement. However, Article 8 of Regulation (EU) No 61/2015 requires credit institutions to ensure that the currency denomination of their liquid assets is consistent with the distribution by currency of their net liquidity outflows. Credit institutions are thus required to ensure that the currency denomination of their liquid assets matches their net liquidity outflows in order to prevent excessive currency mismatch from jeopardising their ability to use their liquidity buffers during a crisis to cover liquidity outflows in a specific currency.

44 Weights in the form of net outflows in euros. State-owned banks and foreign branches of banks are excluded.

### III.3 NON-BANK FINANCIAL CORPORATIONS

#### Assets continued to rise in value in all main segments of non-bank financial corporations

Investment funds recorded the highest growth (of around CZK 93 billion to CZK 1,112 billion; see [Chart III.1](#)), due to both inflows of new client funds and asset performance (see [Chart III.19](#)). The movements in asset value varied considerably across funds depending on their investment strategies (see [Chart III.7 CB](#)). Foreign equity securities were still the largest component of the aggregate investment fund portfolio (see [Chart III.20](#)). Funds deposited in pension funds also rose in the first half of the year (by CZK 8 billion to CZK 608 billion), as the solid performance of assets and the inflows into participation funds surpassed the net outflow from transformed funds.<sup>45</sup> The insurance sector<sup>46</sup> also recorded a slight increase in assets in the first half of 2023 (of CZK 8 billion to CZK 506 billion), with domestic debt securities remaining the largest item of the asset portfolio (see [Chart III.20](#)).<sup>47</sup>

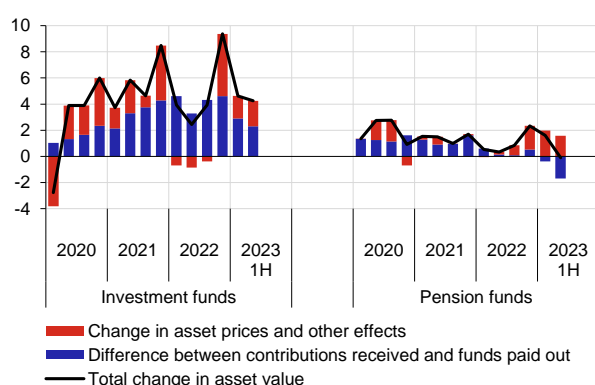
#### The share of liquid assets declined in bond funds and was flat in other fund types

The risks to financial stability associated with the investment fund sector stem mainly from potential maturity mismatches between assets and liabilities. They arise mainly at times of falling financial asset prices and rising market uncertainty, when the number of investors prone to leaving funds increases. In the event of elevated outflows, investment funds are forced to use their liquidity buffers to pay redeeming clients and to sell off less liquid assets if the buffers prove insufficient.<sup>48</sup> In conditions of impaired domestic and foreign market liquidity, this would increase the downward pressure on prices, and the initial adverse shock in the investment fund segment could thus result in risks spilling over into the whole financial system. The liquidity position of investment funds did not change significantly in the first half of 2023 and remains solid, with bond funds having long accounted for the largest share of liquid assets (see [Chart III.21](#)).<sup>49</sup>

Chart III.19

#### Decomposition of the change in the value of investment and pension funds' assets

(% of assets as of end of previous quarter)

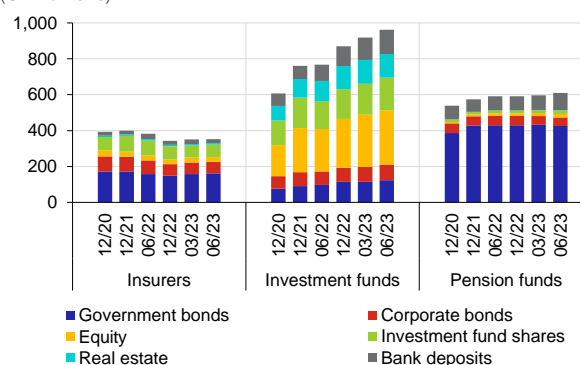


Note: For pension funds, change in asset value and other effects does not include assets associated with the use of synthetic hedging. Other effects include the effect of derivatives transactions and effects related to changes in leverage.

Chart III.20

#### Main components of domestic non-bank institutional investors' investment assets

(CZK billions)



Note: The difference between the sectors' investment assets and total assets (see [Chart III.1](#)) is significant for insurance companies and investment funds. Non-investment assets include, for example, insurance claims and reinsurance recoverables in the case of insurers and loans and receivables in the case of investment funds. Moreover, in the case of insurers, the chart excludes branches of foreign insurance companies, the Export Guarantee and Insurance Corporation and the Czech Insurers' Bureau.

#### The investment fund sector is not currently contributing to risks to financial stability

The contribution of investment funds to domestic systemic risk via fire sales is currently negligible given the continued decline in the share of Czech government bond holdings. If the buoyant asset growth in the investment fund sector were to persist, increasing potential for the formation or amplification of adverse shocks and thus for a rise in investment funds' contribution to systemic risk can be expected. This might arise in the form of the above-mentioned increase in market volatility as a consequence of fire sales of Czech government bonds, concentration of financing of certain sectors of the domestic real economy, and in general the emergence of imbalances in domestic financial markets and the real economy. In such case, CNB could apply macroprudential instruments aimed at limiting these risks.<sup>50</sup> The CNB also conducts a

45 Assets in transformed funds decreased in value by approx. CZK 14 billion in the first half of 2023, while those in participation funds increased by CZK 22 billion.

46 The insurance sector includes insurance companies and one reinsurance company VIG Re, but excludes data for EGAP and the CIB.

47 The given values of the sectors' total assets may differ slightly from those in [Chart III.1](#) due to a different range of entities included in the analysis.

48 For details see [Szabo, M. \(2022\): Meeting Investor Outflows in Czech Bond and Equity Funds: Horizontal or Vertical? CNB WP 6/2022.](#)

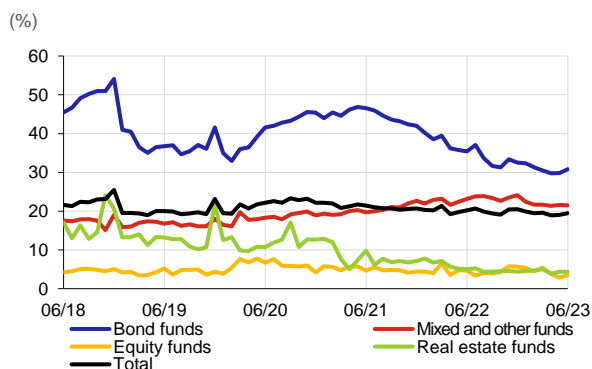
49 The collective investment funds sector excludes funds for qualified investors. The share of liquid assets is not shown for the latter because this segment is highly heterogeneous and changes in the aggregate indicator are therefore difficult to interpret.

50 At the current time, the legislation allows the application of macroeconomic instruments to restrict the use of leverage by investment funds. The introduction of instruments for effective mitigation of other risks is currently in the legislative process at the European level.



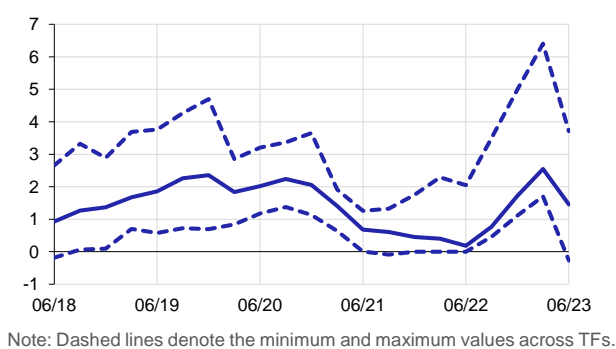
quarterly assessment of alternative investment funds, which comprise special collective investment funds<sup>51</sup> and funds for qualified investors. In particular, the CNB monitors the contribution of alternative funds with increased leverage to risks associated with fire sales, lending by funds and the interconnectedness funds and other domestic financial corporations.<sup>52</sup> The results of this assessment currently do not indicate any excessive risks to domestic financial stability.<sup>53</sup>

**Chart III.21**  
**Share of liquid assets on the balance sheets of collective investment funds**



Note: Liquid assets comprise cash, debt securities issued by general government, and bank deposits and other claims payable on demand. The collective investment funds sector excludes funds for qualified investors.

**Chart III.22**  
**Surplus of assets over liabilities of transformed funds**  
(% of total assets of TFs)



Note: Dashed lines denote the minimum and maximum values across TFs.

### Higher interest rates led to strong performance of pension funds...

Czech government bonds account for the largest part of pension fund assets (see [Chart III.20](#)), especially in the case of transformed funds (approximately 69% of pension funds' total assets). A drop in the koruna yield curve led to an increase in the value of the bond portfolio of transformed funds in the first half of 2023. However, the surplus of assets over liabilities was volatile. The effect of strong asset performance, resulting in growth in the surplus, was offset by the return of previous capital injections from transformed funds to pension management companies (PMCs) and by dividend payments (see [Chart III.22](#)). This led to a slight decrease in their capital position (see [Chart III.23](#)). The share of bonds held at amortised cost in the balance sheets of transformed funds continued to rise moderately (see [Chart III.8 CB](#)). This share limits the impact of rising income on the asset value and capital of transformed funds. Conversely, in the event of a decrease in interest rates in the future, it will reduce its current positive impact on the book value of bonds.

### ...legislative changes introduce uncertainty regarding future developments

Legislative changes currently under preparation<sup>54</sup> could accelerate the decline in participants, especially in the area of transformed funds. According to CNB analyses, however, the current liquidity of transformed funds at the sector level is sufficient to cover any outflow of participants, and the additional costs associated with fire sales of bonds measured at amortised cost due to an increase in exits of clients would amount to approximately CZK 1 billion at the sector level.

### Portfolio concentration in domestic government bonds remains a long-term risk for the PMC sector

Despite the increasing share of bonds held at amortised cost, transformed funds remain the most sensitive to volatility in Czech government bond prices. Higher volatility could temporarily jeopardise transformed funds' ability to meet the statutory requirements. This risk is connected mainly with a potential material deterioration in the sovereign credit risk rating of the Czech government and an increase in the risk premium on government bonds, which would give rise to a need to create provisions for bonds that are not marked to market and potentially to top up the capital in transformed funds that guarantee non-negative returns. According to the results of the public finance stress test (see [Financial Stability Report – Spring 2023, section IV.5](#)), however, the likelihood of this occurring in the coming years is quite low. Nonetheless, the risks associated with domestic public finance sustainability may increase in the longer term (see [section II.2.1](#)). In the longer run, the dynamic development of the pension system in the Czech Republic, including the planned creation of alternative

51 Special funds are collective investment funds that do not meet the requirements of Directive 2009/65/EC (UCITS IV) and hence are not standard funds.

52 The assessment methodology is compliant with ESMA guidelines, which are detailed here: [Guidelines on Article 25 of Directive 2011/61/EU](#).

53 The CNB is required by law to conduct this assessment under Article 25 of Directive 2011/61/EU of the European Parliament and of the Council of 8 June 2011 on alternative investment fund managers. The CNB has been conducting quarterly assessments since the second half of 2021, when the related [guidelines of the European Securities and Markets Authority](#) entered into force.

54 The changes that will probably affect the pension sector the most include the abolition of the state contribution for clients of transformed funds aged over 65 years (which may trigger a marked one-off outflow) and the creation of the long-term investment product, which may significantly reduce the inflow of money into pension funds.

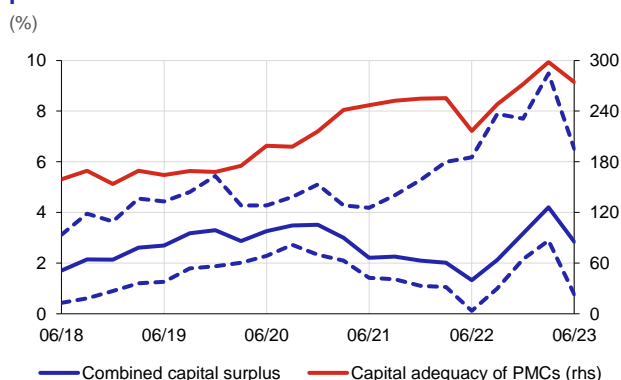
forms of state-supported savings for old age via a tax credit (the long-term investment product), may also imply certain risks for the sector.<sup>55</sup>

### The insurance sector is highly solvent

A drop in the koruna yield curve led to a moderate increase in the value of the investment portfolio in the first half of 2023 (of 2.7% compared with the end of 2022). As regards the composition of the portfolio, insurance companies increased the share of Czech government bonds (a rise of CZK 12 billion; other investment assets were flat or declined). Premiums written in non-life insurance rose in the first half of 2023 (by 4.4%; see [Chart III.9 CB](#) and [Chart III.10 CB](#)). Premiums written in life insurance were flat, with growth in risk and investment life insurance products being offset by the maturing of the portfolio of traditional life insurance products. Claim settlement costs rose more slowly than premiums in both cases. This had a positive effect on the sector's profitability.<sup>56</sup> Aggregate profitability remains above the long-term average, and return on assets was the highest in ten years<sup>57</sup> (see [Chart III.11 CB](#)). The aggregate solvency ratio remained above 200% (222% as of 30 June 2023), well above the regulatory minimum of 100% (see [Chart III.24](#)). The insurance sector thus remains resilient and is not currently a source of risks to the stability of the financial system.

Chart III.23

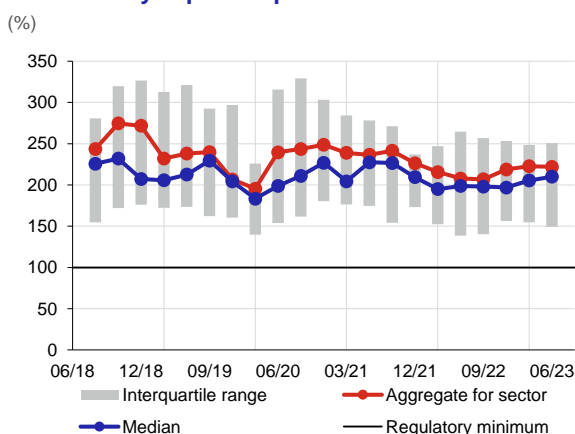
#### Combined capital surplus and capital adequacy of the pension fund sector



Note: Dashed lines denote the minimum and maximum values of the combined capital surplus across TFs. The combined capital surplus is the ratio of the sum of (1) the capital surplus of pension management companies and (2) the difference between the assets and liabilities of TFs to the assets of TFs.

Chart III.24

#### Ratio of insurance companies' eligible own funds to the solvency capital requirement



Note: The values exclude the Export Guarantee and Insurance Corporation and the Czech Insurers' Bureau.

### The main risk to the insurance sector is a disorderly price correction on financial markets

The evolution of credit spreads and prices on financial markets remains a major risk for the insurance sector. The total immediate risks to the insurance sector decreased slightly in the first half of 2023 as a result of a fall in volatility and a decline in domestic yield curves. Credit spreads are near their post-2000 averages despite the persisting geopolitical uncertainty. In the event of a disorderly price correction on financial markets due to significant risk repricing, insurance companies operating in the life insurance segment could run into problems (life insurance premiums account for around 27% of total premiums collected). In non-life insurance, there is still a medium-term risk stemming from the prices and extent of reinsurance, where premium prices have already been – and will probably continue to be – adjusted due to the recent pandemic, the war in Ukraine and climate change.<sup>58</sup> This may cause an increase in the prices of insurance itself, a narrowing of product ranges and a decrease in the availability of insurance cover for some client segments and economic sectors. The final result could be a drop in the insurance sector's profitability and a weakening of its capital position. The CNB uses, among other things, macro-stress tests of the insurance sector and supervisory stress tests of insurance companies to assess these risks. The results of both tests this year showed that the domestic insurance sector remained resilient to potential adverse shocks at the aggregate level based on the end-2022 data (see [Financial Stability Report – Spring 2023](#), section IV.2.1 and [Supervisory stress tests of selected insurance companies – 2023](#)).

<sup>55</sup> Savers will be able to include various products, from bank deposits through to investments in mutual funds or other securities, in the long-term investment product (LIP). If the relevant amendment to the Capital Market Undertakings Act is approved, the LIP would come into existence on 1 January 2024 and could be offered by banks, investment firms and securities dealers. The state support will be provided via deductions from the income tax base. The deductible amounts should be higher for the LIP than for other products of pension firms. On the other hand, clients would not be entitled to state contributions.

<sup>56</sup> This holds true both in gross terms and net of reinsurance.

<sup>57</sup> With the exception of the second half of 2021 and the first half of 2022, when profitability was increased by one-off effects related to changes in the ownership structures of some insurance companies.

<sup>58</sup> This has been partially incorporated into reinsurance programmes for 2023.

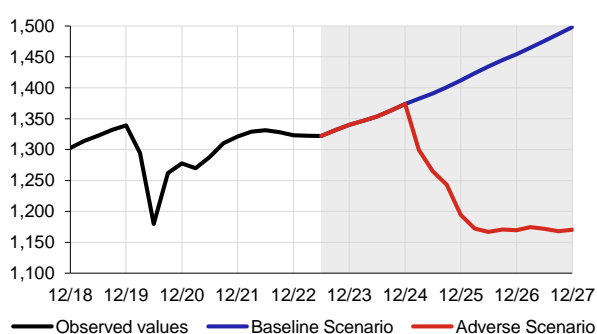
### III.4 MACRO STRESS TEST OF THE BANKING SECTOR<sup>59</sup>

The spring Financial Stability Reports traditionally assess the impacts of selected macrofinancial scenarios at the three-year horizon, while the autumn Reports usually test the banking sector's resilience to the impacts of specific risks with longer-term effects. In its first two years, the current *Baseline Scenario* is based on the official macroeconomic forecast published in [Monetary Policy Report – Summer 2023](#). However, the scenario's five-year horizon makes it possible to assess the longer-term consequences of certain economic and geopolitical uncertainties and risks. The *Adverse Scenario* describes a hypothetical situation in which economic conditions deteriorate sharply in the third year of the scenario, i.e. after the inflation pressures have receded and monetary policy rates have been normalised. Projections of key macroeconomic variables in the two scenarios are shown in [Charts III.25A–B](#), [Table III.1](#) and [Charts III.12A–D CB](#). Overall, the results of the stress testing of the Czech banking sector demonstrated the sector's robust capitalisation, which is sufficient to absorb the adverse shocks modelled. The results also showed that banks had made progress in preparing for binding compliance with the minimum requirement for own funds and eligible liabilities (MREL) from 2024 onwards.

**Chart III.25A**

**Alternative scenarios: real GDP**

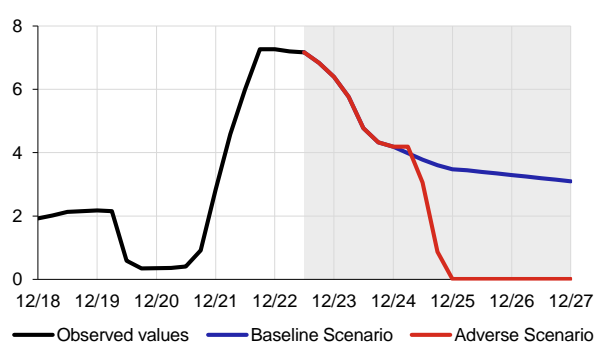
(CZK billions; quarterly data)



**Chart III.25B**

**Alternative scenarios: 3M PRIBOR**

(%)



**The *Baseline Scenario* assumes a renewal of economic growth...**

The *Baseline Scenario* assumes that the economy stagnates in the first year, due mainly to continuing subdued consumption by households because of a decline in their real income and adverse expectations caused by geopolitical concerns. Corporate investment also remains muted due to high domestic interest rates. The economy recovers more strongly in the subsequent years of the scenario. The recovery is fostered by net exports, which are supported by growth in economic activity abroad. A decline in inflation, which fluctuates around the 2% target from 2024 onwards, also has a positive effect. The tightness in the labour market persists and the unemployment rate is flat at around 3% in the scenario. Real wages start to grow again, further encouraging positive sentiment and growth in household consumption and fostering economic growth. Faster growth is countered by the government's fiscal policy focused on reducing structural deficits in the form of a consolidation package. The exchange rate weakens slightly to CZK 24.7 in the first year of the scenario but appreciates gradually in the following years to below CZK 24.0 at the scenario horizon.

**...amid only a slight increase in credit risks**

The *Baseline Scenario* assumes a gradual increase in lending, which is muted at the start of the scenario in the case of both loans to non-financial corporations and loans to households for house purchase due to only slowly falling interest rates and negative economic sentiment. The default rate among non-financial corporations rises slightly at the start of the scenario but then falls as the economy gradually recovers. The household default rate increases very slightly over the entire scenario period (see [Table III.1](#)). Loss given default stays around the initial levels for both non-financial corporations and households (see [Table III.1](#)).

**In the *Adverse Scenario*, the economy would enter a deep recession...**

The economy would evolve in line with the *Baseline Scenario* in the first two years, which would see an economic recovery, a decline in inflation and normalisation of monetary policy. In the third year, the scenario simulates hypothetical adverse global developments associated with increasing geopolitical tensions, which would cause domestic and external demand and corporate investment activity to decline sharply. GDP would decrease by 8.0% and 6.4% respectively in the third and fourth year and be flat in the fifth year (see [Table III.1](#)). After the outbreak of the recession, unemployment would gradually rise to 10.5% at the test horizon and nominal wages would start to fall. Fiscal policy would be countercyclical throughout

<sup>59</sup> For methodology and historical information and results see <https://www.cnb.cz/en/financial-stability/stress-testing/banking-sector>.

the scenario, but supportive expenditure measures would be scaled down due to rising government debt. Residential property prices would record a correction and their year-on-year growth would turn negative and remain so until the end of the test. Monetary policy, which would be gradually normalised in the first two years, would be highly accommodative after the onset of the economic crisis. Czech government bond yields would fall sharply in the third year of the scenario following the monetary easing, but would correct slightly in the subsequent years due to growth in the credit risk premium. The exchange rate would gradually depreciate to CZK 30.5 to the euro in the scenario.

**Table III.1**  
**Key variables in the alternative scenarios**

	Actual value	<i>Baseline scenario</i>					<i>Adverse Scenario</i>				
	2022	2023	2024	2025	2026	2027	2023	2024	2025	2026	2027
<b>Macroeconomic variables (y-o-y, averages for given periods in %)</b>											
Real GDP growth	2.4	0.1	2.3	2.7	3.1	2.9	0.1	2.3	-8.0	-6.4	0.1
Inflation rate	15.1	11.0	2.1	1.7	1.7	1.9	11.0	2.1	0.0	-4.2	-5.6
Unemployment rate*	2.4	2.7	2.8	3.0	3.0	3.1	2.7	2.8	4.1	8.1	10.5
Nominal wage growth	5.9	9.3	8.5	6.8	5.6	5.2	9.3	8.5	2.5	-1.7	-2.0
Real GDP growth in EMU	2.9	0.3	1.3	1.8	1.6	1.6	0.3	1.3	-1.5	-2.8	1.0
<b>Growth in loans (y-o-y, averages for given periods in %)</b>											
Non-financial corporations	7.8	3.6	2.9	2.1	5.5	9.7	3.6	2.9	9.6	10.7	0.0
Loans for house purchase	7.9	4.1	4.3	5.9	6.3	6.3	4.0	4.0	4.5	3.2	2.1
Consumer credit	7.3	9.1	8.1	6.4	6.3	6.1	9.1	7.8	3.7	0.0	-1.9
<b>Default rate (PD)*</b>											
Non-financial corporations	1.0	1.3	2.6	2.6	2.1	2.0	1.3	3.1	6.3	7.8	6.2
Loans for house purchase	0.5	0.7	0.8	0.9	1.0	1.1	0.7	0.8	1.1	2.4	4.3
Consumer credit	2.6	2.9	2.9	2.9	3.1	3.2	2.9	3.9	5.0	6.3	8.1
<b>Loss given default (LGD) (averages for given periods in %)</b>											
Non-financial corporations	32	33	34	34	34	34	33	38	43	45	45
Loans for house purchase	15	14	14	14	15	14	14	17	19	20	22
Consumer credit	43	43	43	42	42	42	43	45	48	49	51
<b>Asset markets (averages for given periods in %)</b>											
3M PRIBOR	6.3	6.9	4.8	3.7	3.4	3.2	6.9	4.8	2.0	0.0	0.0
5Y IRS CZK	5.0	4.4	3.4	3.3	3.4	3.5	4.4	3.1	1.6	0.8	1.1
5Y Czech GB yield	4.8	4.7	3.5	3.2	3.4	3.5	4.6	3.6	2.1	1.3	1.6
3M EURIBOR	0.3	3.5	3.9	3.4	3.0	3.0	3.5	3.9	0.0	0.0	0.0
5Y IRS EUR	1.8	3.3	3.2	2.9	2.9	3.0	3.2	2.5	1.3	0.7	0.5
Residential property (y-o-y)	17.3	-1.5	4.3	3.2	1.9	2.0	-2.0	4.8	-2.6	-1.7	-12.1
Equities (y-o-y)	-11.3	23.9	-2.4	-3.1	-0.5	0.0	8.2	-8.5	17.4	5.5	1.0

Source: CNB, BRCI

Note: \* The unemployment rate is calculated using the ILO methodology. The PD values represent the expected default rate in the current year.

### ...which would lead to the materialisation of credit risks

Credit risk parameters (see [Table III.1](#)) would already be worsening gradually at the start of the scenario before the economic crisis. After the onset of the crisis, however, the pace of deterioration would rise markedly in both non-financial corporations and households. The economic downturn in 2025 would lead to a drop in the profitability of non-financial corporations and growth in their default rate to a higher level, where it would stay until the last year of the scenario. The default rate for households would increase over the entire horizon on the back of gradually rising unemployment and falling nominal wages. The drop in the profitability of non-financial corporations, the decline in property prices and the growing unemployment, together with the fall in nominal wages, would lead to a gradual increase in loss given default for both non-financial corporations and households (see [Table III.1](#)). Growth in loans to households would slow, more significantly so in the case of consumer credit, where it would turn negative. Growth in loans to non-financial corporations would record a similar downward trend, although the slowdown would be dampened by a depreciation of the koruna, which would lead to the revaluation of foreign currency loans and an increase in their value in koruna terms.

### The stress test takes into account current fiscal policy

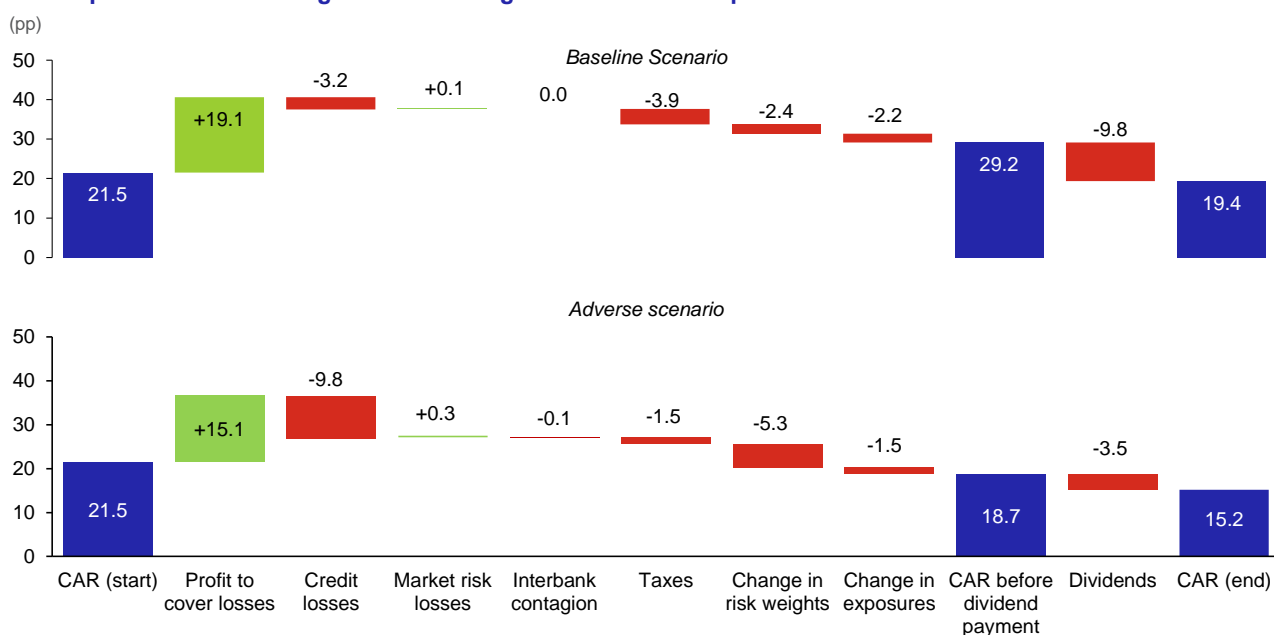
Both scenarios take into account the government's current fiscal consolidation efforts. Moreover, the *Adverse Scenario* considers a relaxation of fiscal policy in response to the economic downturn in the third year of the scenario. The proportion of government bonds in banks' balance sheets continues to grow in both the *Baseline Scenario* and the *Adverse Scenario*. This growth positively affects banks' profits through increased interest income. However, the growth in concentration could also increase the risks associated with the link between banks and the state (for details see [section II.2.1](#)). The impacts of the windfall tax are also taken into account in both scenarios.

### Banks' operating profit increases in the *Baseline Scenario*...

With the exception of the second year of the *Baseline Scenario*, pre-tax profit remains well above CZK 100 billion and gradually rises. This is due to growth in profit to cover losses (operating profit), which goes up mainly because of growth in interest income supported by higher interest rates, growth in the volume of loans provided and by continued purchasing of government bonds by banks (growth in the portfolio of CZK 174 billion at the scenario horizon). Credit losses increase from their current low levels to CZK 23.5 billion in the second year of the scenario and fluctuate around this level in the subsequent years. Their negative impact on pre-tax profit thus weakens over time. Banks' profitability, as measured by return on assets (RoA), rises to 1% following an initial decline caused by an increase in assets. The decomposition of the change in the overall capital ratio (see [Chart III.26](#)) shows that profit to cover losses (+19.1 pp) contributes a sizeable 12.1 pp to the increase in the capital ratio after taking into account credit losses (-3.2 pp), market risk losses (0.1 pp) and taxes (-3.9 pp). However, an increase in the total risk exposure amount (TREA), which reflects an increase in risk weights and a rise in exposures (with negative contributions to the capital ratio of 2.4 pp and 2.2 pp respectively), has a negative effect (-4.6 pp) on the resulting capital ratio. The latter thus increases from 21.5% to 29.2% before dividends are taken into account.

Chart III.26

### Decomposition of the change in the banking sector's overall capital ratio in the alternative scenarios



Note: CAR = overall capital ratio. Items increasing the capital ratio are shown in green and items reducing it in red.

### ...and the capital ratio remains well above the regulatory minimum even after dividends are taken into account

Dividend payments in the modelling framework<sup>60</sup> (CZK 346 billion) reduce the resulting capital ratio from 29.2% to 19.4%. However, the latter stays above the overall capital requirement (OCR) by a sufficient margin. No systemically important bank<sup>61</sup> would breach the O-SII buffer requirement in the *Baseline Scenario* (see [Chart III.27](#)), while other banks would breach the SREP capital requirement (TSCR) in one case due to the macroeconomic nature of the stress test.<sup>62</sup> Topping

60 For details on the methodology see [Solvency macro stress test of the domestic banking sector](#).

61 Five banks with an O-SII buffer level set for 2023 are considered systemically important.

62 A bank may also get into a situation of an insufficient capital ratio because the stress test methodology assesses its business model as unsustainable even if this is not necessarily true, as changes in banks' approaches to their business strategy are not taken into account. This is because the methodology is based on a universal bank model and may not be entirely accurate for banks with specific business models. The CNB therefore takes institutions' specific characteristics into account when assessing the test results.



up the capital to the TSCR would require a capital injection totalling CZK 0.03 billion. The banking sector as a whole also remains above the binding 3% leverage ratio requirement by a sufficient margin in the *Baseline Scenario*. Individually, however, one bank would be required to replenish its capital to the tune of CZK 0.3 billion. The introduction of the windfall tax will not have a significant effect on the sector's resilience.

### The banking sector would stay profitable even in the *Adverse Scenario*...

The assumed rise in income on newly purchased government securities (a total increase in the portfolio of CZK 721.0 billion over the entire test horizon) would have a positive effect on profit to cover losses and outweigh the negative impacts of the decline in monetary policy rates. Profit to cover losses would rise from CZK 105.8 billion in the first year of the scenario to CZK 134.8 billion in the last year. The sharp fall in economic activity and the rise in unemployment would cause a surge in credit losses peaking in the third and fourth years of the scenario at just below CZK 100 billion. The decline in interest rates would reduce the value of marked-to-market assets, but the impact of this reduction on profit would be fairly low. The banking sector thus would not fall into loss in any year of the *Adverse Scenario*. Profitability as measured by RoA would reach a trough (0.1%) in the third year but would subsequently increase thanks to growth in profit to cover losses and a decline in credit losses. The decomposition of the change in the overall capital ratio (see [Chart III.26](#)) shows that profit to cover losses (+15.1 pp) would sufficiently cover the substantial credit losses (-9.8 pp), the negligible interbank contagion losses (-0.1 pp) and taxes (-1.5 pp) and, together with slight market risk profits (0.3 pp), would contribute 4.0 pp to the increase in the capital ratio. Growth in the total risk exposure amount (TREA) would cause capitalisation to decline by 6.8 pp to 18.7% (with the increase in risk weights contributing 5.3 pp and the growth in exposures 1.5 pp). The introduction of the windfall tax would have no major effect on the sector's resilience in the *Adverse Scenario* either.

**Table III.2**  
Impact of the alternative scenarios on the banking sector

	Actual value	<i>Baseline Scenario</i>					<i>Adverse Scenario</i>				
	2022	2023	2024	2025	2026	2027	2023	2024	2025	2026	2027
<b>Items in P/L statement and OCI (CZK billions)</b>											
Profit to cover losses*	114.6	109.6	117.5	142.1	149.2	158.0	105.8	107.0	110.9	123.2	134.8
Credit losses*	-6.6	-6.5	-23.5	-22.7	-24.1	-25.2	-25.5	-59.5	-99.5	-95.2	-59.5
in stages 1 and 2	-0.2	2.3	-1.4	0.1	-2.0	-1.9	-17.1	-31.1	-37.1	-5.1	32.7
in stage 3	-0.6	-8.9	-22.1	-22.7	-22.0	-23.3	-8.4	-28.4	-62.4	-90.0	-92.2
Profit from market risks (P/L)	14.6	8.0	1.4	-0.2	0.2	-0.3	6.3	1.8	4.4	0.1	-1.3
Pre-tax profit	118.1	109.3	95.5	119.2	125.3	132.4	84.9	49.3	15.8	28.2	74.0
Profit from market risks (OCI)	-7.0	5.0	2.9	-0.6	2.0	-1.3	-5.7	4.4	14.4	2.5	-2.6
Interbank contagion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-1.1	-0.8	0.1
<b>Balance-sheet items (CZK trillions; end of period)</b>											
Assets	8.1	9.5	9.9	10.2	10.5	11.0	9.5	9.8	10.3	10.6	10.6
Client loans (net)	4.1	4.4	4.5	4.7	5.0	5.4	4.4	4.5	4.8	4.9	4.8
Debt securities holdings	1.6	1.8	1.9	2.0	2.0	2.0	1.8	1.9	2.1	2.3	2.4
Regulatory capital	0.6	0.6	0.6	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.6
TREA	2.8	2.9	3.1	3.2	3.4	3.6	3.0	3.2	3.7	4.0	4.2
TEM	8.5	9.8	10.1	10.4	10.7	11.1	9.8	10.1	10.6	11.0	11.1
<b>Regulatory indicators (% as of end of period)</b>											
Overall CAR (% of TREA)	22.1	20.9	20.1	20.0	19.7	19.4	20.7	19.5	16.8	15.3	15.2
CET 1 CAR (% of TREA)	20.5	19.1	18.4	18.3	18.1	17.9	18.9	17.8	15.4	14.0	13.9
Leverage ratio (% of TEM)	7.1	6.0	5.8	5.9	6.0	6.1	5.9	5.8	5.5	5.3	5.5
MREL* (% of TREA)	26.9	29.9	29.0	28.6	28.1	27.6	29.7	28.0	24.4	22.4	22.2
MREL* (% of TEM)	9.0	9.0	8.8	8.8	8.9	9.0	8.9	8.8	8.4	8.2	8.5
<b>Others</b>											
Dividends for given year	102.5	70.4	58.6	71.7	75.6	69.6	51.0	24.6	22.7	24.5	28.2
Loss rate* (%)	-0.2	-0.1	-0.5	-0.5	-0.5	-0.5	-0.6	-1.3	-2.1	-1.9	-1.2
RoA* (%)	1.1	0.7	0.8	0.9	1.0	1.0	0.6	0.4	0.1	0.2	0.6

Note: Actual values for 2023 H1 and prediction for 2023 H2. \* Profit to cover losses represents pre-tax profit adjusted for credit losses and losses from market risk. Credit losses (with a minus sign) represent impairment losses due to credit risk. If loss allowances are released, the figure is shown with a plus sign. MREL is the sum of own funds and eligible liabilities. The loss rate is calculated as credit losses divided by gross average client loans. RoA is calculated as after-tax profit divided by assets at the end of the period, where the value of assets does not reflect government deposit operations over the year-end.

**...but the resulting capital ratio would signal a need to release the CCyB**

Dividend payments (totalling CZK 151.0 billion) would cause the resulting overall capital ratio to fall to 15.2%.<sup>63</sup> In this situation, the CNB would respond by fully releasing the CCyB, enabling it to be used to absorb losses in the banking sector. Two systemically important banks (see Chart III.28) would require capital injections totalling CZK 11.2 billion due to breach of the O-SII requirement and the TSCR. Two systemically unimportant banks would require capital injections totalling CZK 1.5 billion due to breach of the TSCR. The leverage ratio of the banking sector in the *Adverse Scenario* would fall to 5.5%, thus staying well above the 3% minimum. However, one systemically important bank and one systemically unimportant bank would be individually non-compliant and would require capital injections of CZK 7.6 billion and CZK 1.3 billion respectively to satisfy the regulatory minimum. However, the resulting overall capital ratio shows that the banking sector as a whole would be sufficiently resilient to the adverse developments assumed in the *Adverse Scenario*.

**Banks continue to issue eligible liabilities reducing their capital needs for MREL purposes**

The banking sector continued to prepare for when the requirements related to compliance with the MREL (minimum requirement for own funds and eligible liabilities) enter into force in 2024. The primary goal of these measures is to ensure that enough suitable liabilities and funds are available to recapitalise banks in a financial crisis. Banks are gradually optimising the structure of the instruments they use to comply with the MREL so as to minimise their costs and maintain their profitability. However, the issuance outlook for eligible liabilities still suggests elevated issuing activity, which may peak in the second half of 2023. Any further increase in the share of eligible liabilities would lead to a decrease in tied-up capital in banks and enable higher dividend payments. This would be reflected in the MREL structure, which does not indicate any problems with compliance in the *Baseline Scenario*. In the *Adverse Scenario*, however, banks would require a top-up of 1.6% of the TREA of eligible liabilities (see Chart III.29) to comply with the recapitalisation amount requirement. Due to insufficient compliance with the TSCR, banks would also have to top up CET1 using injections from owners or other sources totalling 0.9% of the TREA of the banking sector and 1.6% of the TREA of own funds, which, however, can alternatively be obtained, for example, by issuing subordinated debt (AT1 capital).

Chart III.27

Compliance with selected regulatory requirements by the banking sector in the alternative scenarios

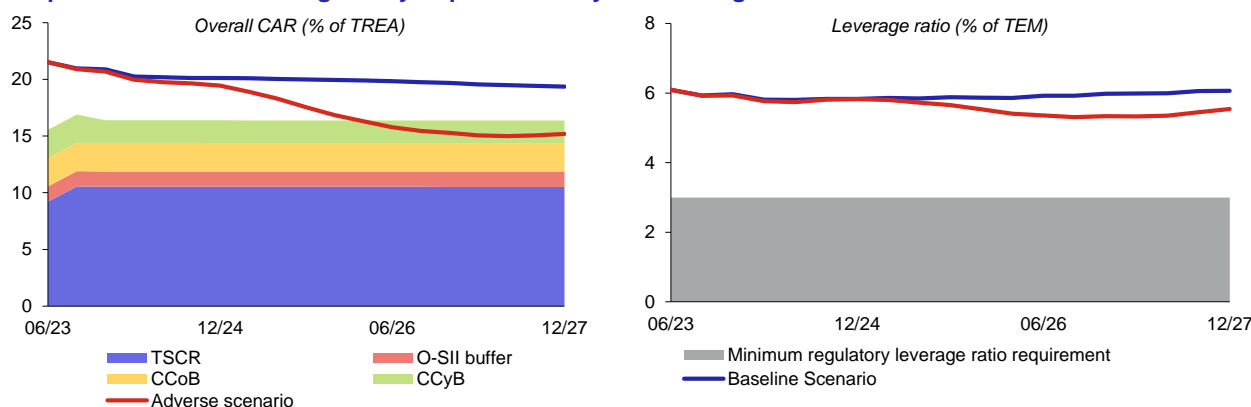


Chart III.28

Need and method for replenishing own funds at different capital requirement levels

(CZK billions; right-hand scale: number of banks)

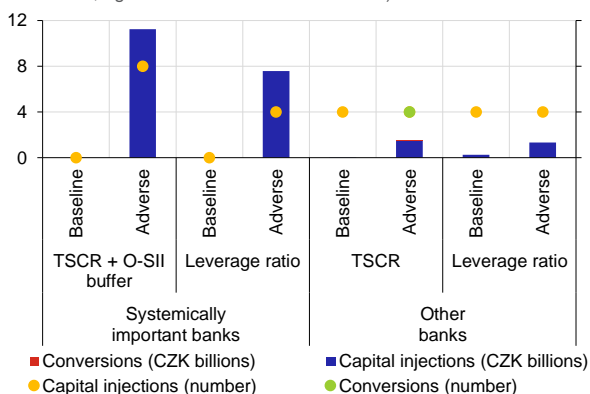
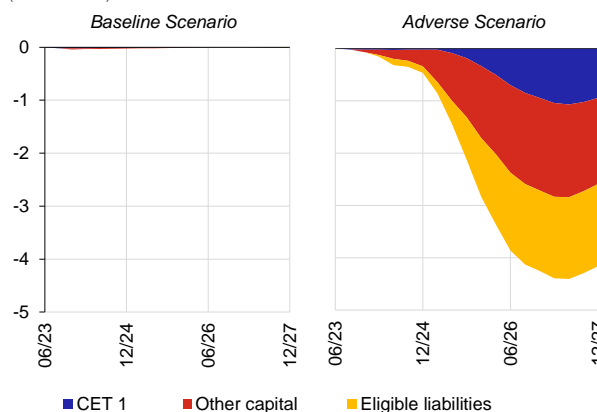


Chart III.29

MREL shortfall and its structure

(% of TREA)



63 The outcome would thus be 4.2 pp worse than in the *Baseline Scenario*, where, however, CZK 195 billion more would be paid out in dividends.



## IV. MACROPRUDENTIAL POLICY

Pursuant to Article 2 of the Act on the CNB, the CNB maintains financial stability and sees to the sound operation of the financial system in the Czech Republic.<sup>64</sup> In conformity with an ESRB recommendation, it focuses on the fulfilment of intermediate objectives reflecting the existence of different sources of systemic risk and their own transmission mechanisms. To achieve these objectives, it conducts macroprudential policy. To this end, it uses a set of macroprudential instruments focused mainly on the banking sector.

### IV.1 THE CNB'S MACROPRUDENTIAL POLICY INSTRUMENTS

#### The CNB currently uses capital buffers and credit ratios

The CNB actively sets three out of the four capital buffers. In doing so, it reflects the extent and expected evolution of the structural risks (see [section IV.2](#)) and cyclical risks (see [section IV.3](#)) faced by the domestic banking sector. As of November 2023, the total capital buffer (the “combined capital buffer”) amounted to 4.5–7% (see [Table IV.1](#)).<sup>65</sup> To mitigate systemic risks arising from the housing market and its financing, the CNB sets upper limits on the LTV, DTI and DSTI credit ratios. As of 1 January 2024, upper limits are set for LTV (see [section IV.4](#)).<sup>66</sup>

**Table IV.1**  
**Summary of macroprudential instruments in the Czech Republic**

Instrument	Setting as of 29 Nov. 2023	Applicable as of Jan. 2024
Capital conservation buffer (CCoB)	2.50%	2.50%
Countercyclical capital buffer (CCyB)	2.0%	2.0%
Buffer for other systemically important institutions (O-SIIs)	0.5–2.50%	0.5–2.50%
Systemic risk buffer (SyRB)	not set	not set
Upper LTV limit	80% (90%)	80% (90%)
Upper DTI limit	8.5 (9.5) times	not set
Upper DSTI limit	not set	not set

#### When configuring the capital instruments, the CNB takes into account their interaction...

The CNB configures the capital instruments so that they reflect the nature of the systemic risks, complement each other and thus increase each other's effectiveness. While the countercyclical capital buffer (CCyB) is aimed at enhancing the banking sector's resilience to cyclical systemic risks across loan portfolios, the systemic risk buffer (SyRB) is intended to strengthen resilience to risks of a longer-term structural nature. Structural risks, in particular when combined, have the potential to exacerbate adverse economic shocks, intensify the materialisation of cyclical risks and disrupt the ability of financial institutions to provide loans and other financial services, thereby deepening the downturn of the economy.<sup>67</sup> In addition, the buffer for other systemically important institutions (O-SIIs) ensures the resilience and business continuity of systemically important institutions irrespective of economic and financial conditions.

#### ...and the identifiability, monitorability and measurability of systemic risks

The CNB employs quantitative methods to assess identifiable and measurable risks of a cyclical character, which are covered primarily by the CCyB. These methods make use of the credit loss distribution with the 90% quantile as a cut-off point. The CNB also has to take into account risk types that are clearly identifiable but difficult to measure. They lie further into the tail of the distribution and tend to be conditional on sentiment, the behaviour of economic agents and on political decisions at the international level (such as climate change decisions). These risks tend to be mostly structural in nature but can vary in intensity through the cycle. The CNB can use the SyRB to cover these risks if it assesses them as significant. Risks that are difficult not only to measure, but also to identify are covered by the capital conservation buffer (CCoB).<sup>68</sup>

<sup>64</sup> The macroprudential instruments used to mitigate specific systemic risks are described in the [CNB's Macroprudential Policy Strategy](#).

<sup>65</sup> The estimated credit potential of the capital buffers was CZK 3.2 trillion at the end of 2023. The credit potential depends not only on the capital buffer rates and on lending activity in individual sectors, but also on risk weights. If risk weights increase, the credit potential of the buffers decreases.

<sup>66</sup> To mitigate housing market risks, the CNB also uses [Recommendation of the CNB on the management of risks associated with the provision of consumer loans secured by residential property](#).

<sup>67</sup> For more on the interaction of structural and cyclical risks, see Hodula, M., Janků, J., Pfeifer, L. (2023): *Macro-prudential Policies to Contain the Effect of Structural Risks on Financial Downturns*, Journal of Policy Modeling.

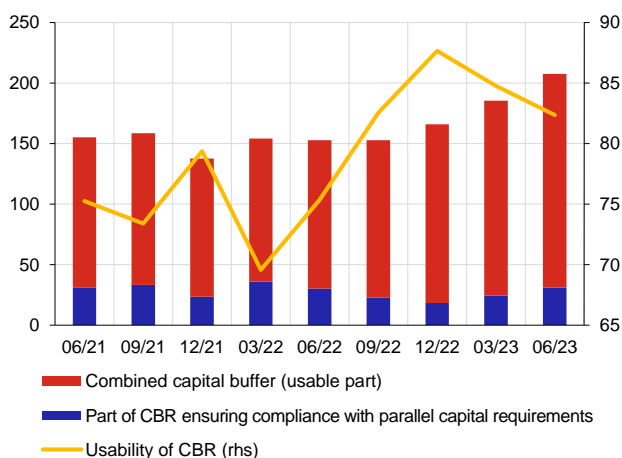
<sup>68</sup> In general, these include new potential sources of stress to the financial sector with which there is no previous experience in the history of financial cycles.

**The CNB monitors overlaps between the minimum capital requirements and the capital buffers**

Banks may use the combined capital buffer to meet the leverage ratio requirement and, in certain circumstances, to meet the MREL (the “parallel capital requirements”; see section III). This gives rise to overlaps between these requirements and the buffers. However, banks may only use the part of the capital that is not bound by the parallel capital requirements to absorb potential losses or to provide capital cover for new lending. As of mid-2023, the overlaps<sup>69</sup> concerned ten banks and amounted to CZK 31.1 billion (17.6% of the total combined buffer requirement; see Chart IV.1). They had not yet reached the level where they would systematically limit the effectiveness of macroeconomic policy capital instruments on the aggregate level, although they were growing relatively significantly (as of end of 2022 they stood at CZK 16 billion, or 11%). The CNB monitors the overlaps and, where necessary, responds with microprudential or macroprudential supervisory actions or resolution measures to ensure that the effectiveness of the capital buffers is not systemically weakened.

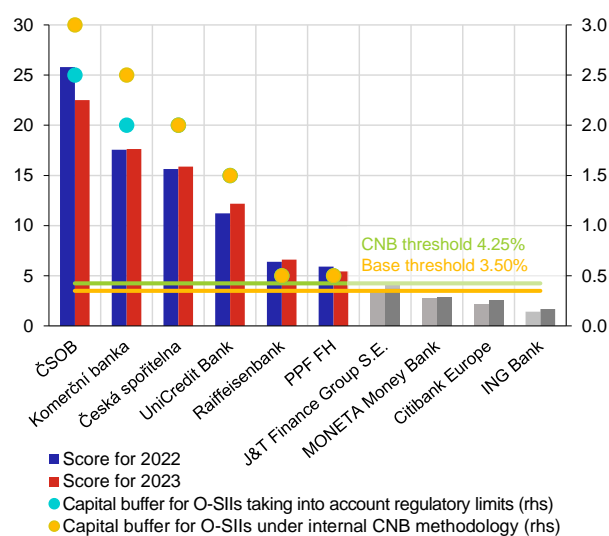
**Chart IV.1**  
**Usability of the combined capital buffer**

(CZK billions, right-hand scale: % of CBR)



**Chart IV.2**  
**Systemic importance scores and O-SII buffers**

(score in %; right-hand scale: rate in %)



Note: Grey denotes institutions not included in the list of other systemically important institutions for 2023. The regulatory limit means a limit of 1 pp above the O-SII or G-SII rate of the parent institution.

69 For details on the overlap between capital buffers and the leverage ratio requirement see Pfeifer, L. (2020): *Usability of Capital Buffers under a Binding Leverage Ratio Requirement*, Thematic Article on Financial Stability 6/2020, Czech National Bank, and for details on the overlap between capital buffers and the MREL see Pfeifer, L., Holub, L. (2022): *The Relationship Between the MREL and Macroprudential Capital Buffers*, Thematic Article on Financial Stability 2/2022, Czech National Bank.

## IV.2 CAPITAL BUFFERS AIMED AT SYSTEMICALLY IMPORTANT INSTITUTIONS AND STRUCTURAL SYSTEMIC RISKS

### The list of O-SIIs and the related capital buffer rate remain the same for 2024

In September 2023, the CNB conducted a review of the systemic importance of institutions in the domestic financial sector. It identified six bank groups, accounting for 82% of the total assets of domestic banking sector, as systemically important institutions (O-SIIs; see [Chart IV.2](#)).<sup>70</sup> Their resilience is key for financial stability and the CNB has set O-SII rates ranging between 0.5% and 2.5% of total risk exposures for them. The rates of two institutions are lower than their assessments would imply, due to the regulatory cap on the rate for subsidiaries (see [Chart IV.2](#)).<sup>71</sup> This limitation partly violates the level playing field principle in the Czech Republic and implies potential volatility should their home macroprudential authorities change the settings of this buffer.<sup>72</sup>

### The SyRB is intended to cover structural systemic risks<sup>73</sup>

The CNB may apply the SyRB to mitigate systemic risks of a structural nature. The SyRB can be set either for the whole banking sector and all exposure types (the general SyRB), or for a defined subset of sectoral exposures (the sSyRB). Systemic structural risks can be identified using various indicators and then analysed, but it can be rather difficult to quantify their potential impact on the solvency position of individual institutions or the financial sector as a whole.<sup>74</sup> Risks of a structural nature usually lie in the tail of the usual loss distribution, and either there is no experience with their materialisation, or they may materialise in the future very differently than they have in the past. For this and other reasons, the need to set the SyRB is assessed and any decision on the SyRB rate level is taken based on an expert assessment of potential sources of stress.<sup>75</sup> General/sectoral SyRBs have already been set in several European countries (see [Chart IV.1 CB](#)), while some of these countries took into account stress test results in calibrating SyRB rates.

### When assessing the need to set the SyRB, the CNB considers several structural risks...

According to [The ESRB Handbook on Operationalising Macroprudential Policy in the Banking Sector](#), the SyRB can be used to address systemic risks related to financial linkages within the financial sector, to common exposures across institutions, to the structure of the banking sector, and to financial linkages with the real economy and risks arising from its structure. In the Czech economy, the SyRB is potentially suitable for covering risks in four categories:<sup>76</sup> (1) the openness of the Czech economy and banks' balance sheets (i.e. vulnerability to foreign macrofinancial shocks), (2) the structural characteristics of domestic real sectors (aside from foreign linkages), (3) the importance of the banking sector in the economy and (4) the internal characteristics of the banking sector and its position in the domestic financial system (see [Table IV.2](#)). Besides these categories, the CNB considers climate change, or rather the financial stability implications of climate change and the transition to a climate-neutral economy, to be relevant to the SyRB. This risk is cross-sectional and is therefore included across the above categories. The CNB has long monitored many of the risks in these categories and regularly publishes analyses of these risks in its Financial Stability Reports (see [Table IV.2](#), column *Reference to FSR*).

### ...paying due regard to their relevance to the Czech Republic and the most appropriate way of mitigating them

For each type of risk or risk factor, the CNB assesses the following in its analyses (see [Table IV.2](#), column *Key risk factor*): (i) to what extent the risk is currently relevant in the domestic situation, (ii) whether it should be covered with a general or sectoral SyRB rate, and (iii) whether there is another, more effective instrument for covering it (see [Table IV.2](#), column *Existence of another instrument*). A large part of the potential structural systemic risks that could be covered by a sectoral SyRB (such as structural characteristics in sectors of the real economy and concentration of exposures in the property sector) are already partially limited by other types of instrument. The CNB therefore currently considers it relevant to identify, monitor and analyse structural risks that it is appropriate to limit using a general SyRB rate (see [Table IV.2](#), column *Appropriate for general SyRB*).

<sup>70</sup> For details see the CNB website: [List of other systemically important institutions](#).

<sup>71</sup> The O-SII buffer cap is 3%. In the case of domestic institutions that are subsidiaries of foreign institutions identified by their home supervisors as OSII or G-SIIs, the cap on the O-SII buffer rate cannot be more than 1 pp above the parent institution's O-SII or G-SII buffer rate. Five of the six domestic O-SIIs are subsidiaries of foreign institutions identified by their domestic regulators as O-SIIs or G-SIIs and may thus be subject to the specific cap on the buffer rate for subsidiaries.

<sup>72</sup> The CNB has long opposed this regulation. For details see [the CNB's response to the Targeted Consultation on Improving the EU's Macroprudential Framework for the Banking Sector](#).

<sup>73</sup> Until October 2021, the SyRB was used to mitigate risks related to the systemic importance of banks. Since the transposition of the CRD V directive took effect on 1 October 2021, the CNB has been using the O-SII buffer for these purposes.

<sup>74</sup> See, for example, ESRB (2015): [The ESRB Handbook on Operationalising Macroprudential Policy in the Banking Sector](#), chapter 4, section 4.2.

<sup>75</sup> See, for example, ESRB: [Systemic Risk Buffer](#).

<sup>76</sup> The above risk categories are based on the CNB's expert judgement and differ slightly from those of other countries and supranational authorities, on which they are nevertheless based – for example ESRB (2015): [The ESRB Handbook on Operationalising Macroprudential Policy in the Banking Sector](#), chapter 4, section 3.3.

**Table IV.2**  
**Overview and assessment of risks considered relevant for setting the SyRB<sup>76</sup>**

<b>1. Openness of the Czech economy and banks' balance sheets (i.e. vulnerability to foreign macrofinancial shocks)</b>				
Greater openness or foreign linkages mean stronger global shock spillovers. Strong concentration on one region abroad also means additional shock spillovers from that region. Foreign balance-sheet linkages may be another channel of weakening of banks' positions.				
Key risk factor	Reference to FSR	Currently relevant in CZ	Appropriate for general SyRB	Existence of another instrument*
Importance of foreign trade in economy	section IV.2	YES	YES	NO
Concentration of foreign trade and bank loans by export sector	section IV.2	YES	YES	NO
Foreign exposures in banks' balance sheets (assets, liabilities), including foreign ownership of domestic banks	section III.4 of FSR – Spring 2023	partly	generally YES	microprudential supervision, Article 458 CRR
Sentiment pass-through (esp. market variables)	section II.1	NO		
<b>2. Structural characteristics of domestic real sectors (aside from foreign linkages)</b>				
Domestic real agents' degree of prudence, indebtedness, propensity to engage in risky behaviour depending on the phase of the cycle and so on affect the riskiness of banks' balance sheets and the sensitivity of the banking sector to adverse developments.				
Key risk factor	Reference to FSR	Currently relevant in CZ	Appropriate for general SyRB	Existence of another instrument*
Structural characteristics in household sector	section IV.2, section II.2, section IV.4	partly	NO	borrower-based measures, sSyRB
Structural characteristics in corporate sector	section IV.2, section II.2	YES	NO	Pillar II, sSyRB
Structural characteristics in public sector	section IV.2, section IV.5 of FSR – Spring 2023	partly	YES	Pillar II
Bank concentration in residential and commercial property	section IV.2, section II and section IV.4	YES	NO	borrower-based measures, Pillar II, sSyRB
<b>3. Importance of the banking sector in the economy</b>				
The importance of the banking sector determines the secondary impact of structural risk materialisation on the cycle with undesirable consequences for the real economy, namely a potential spiral between the deterioration of the situation in the banking sector and the impact on the real economy.				
Key risk factor	Reference to FSR	Currently relevant in CZ	Appropriate for general SyRB	Existence of another instrument*
Share of banking sector assets in GDP, share of value added and employment in whole economy	section IV.2	NO		
<b>4. Internal characteristics of the banking sector and its position in the domestic financial system</b>				
The banking sector may exhibit risk characteristics associated, for example, with model risk or interconnectedness inside the banking sector and in relation to other sectors of the domestic financial system. These characteristics may have the potential to exacerbate banks' losses in the event of adverse developments.				
Key risk factor	Reference to FSR	Currently relevant in CZ	Appropriate for general SyRB	Existence of another instrument*
Competition in banking sector	section IV.2	NO		
Banks' business models, liquidity risks, relationship between liquidity and profitability	section III	NO		
Links to other segments of financial sector	section III.4 of FSR – Spring 2023	NO		
Model risk	section IV.3, Box 4 of FSR – Autumn 2022	partly	NO	borrower-based measures, Pillar II, sSyRB Art. 458 CRR
Cyber risk and FinTech-related risks	Box 3 of FSR – Spring 2023	NO		

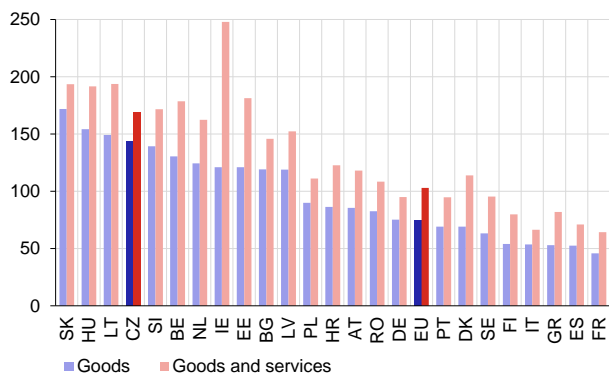
Note: \* When evaluating whether another instrument exists, the CNB considers neither the settings of the other capital buffers (the CCyB, the CCoB and the O-SII buffer), nor whether the said instruments are active at the time. The relationship between the SyRB and the other capital buffers is determined by both the nature and the identifiability and quantifiability of the risks monitored (see [section IV.1](#)). The CNB must consider this relationship when assessing the current relevance of each risk in the Czech Republic (see the column *Currently relevant in CZ*). For the same reason, the relationship to the MREL is not given either.

### The sensitivity of the Czech economy to foreign trade developments is a key source of systemic structural risks...

A high degree of openness of the economy is a significant structural risk which is, based on international practice, limited by using the general SyRB.<sup>77</sup> Imports and exports have a relatively large share in domestic economic output in international terms. This generally implies a greater sensitivity of domestic agents to foreign economic performance and a wider range of shocks that could hit the Czech economy and banking sector. The domestic economy can be regarded as highly open in this respect (see [Chart IV.3](#)), with the degree of openness increasing over time (see [Chart IV.4](#)). The high sensitivity of the economy to global economic developments is reflected to a large extent in historically greater volatility of GDP growth compared to other countries.<sup>78</sup> The Czech economy could thus be strongly affected by potential deglobalisation risks.<sup>79</sup>

**Chart IV.3**  
Openness indicator for selected EU economies in 2022

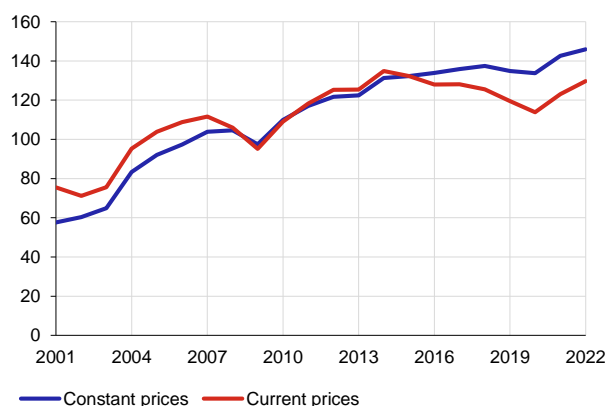
(sum of imports and exports in % of GDP; constant 2015 prices)



Source: Eurostat

**Chart IV.4**  
Openness indicator for the Czech economy

(sum of imports and exports of goods in % of GDP)



Source: Eurostat

### ...and its vulnerability to cross-border shocks is intensified by concentration in international trade...

The degree of international trade diversification is another major risk factor. Sales of domestic exporters (and suppliers of domestic importers) are regionally very concentrated. This may reduce the overall ability of the economy to compensate for shocks to demand in one region (or to import prices and other import conditions) by switching to other territories. The import and export concentration of the Czech economy is also well above the European average, and has been relatively constantly so over time (see [Chart IV.5](#)).<sup>80</sup> The main counterparts for Czech exporters are Germany, Slovakia and Poland, with China joining the list in the case of importers. The low degree of diversification is exacerbated by the nature of Czech exports, where intermediate products intended for specific customers account for a large proportion of the total.<sup>81</sup> Also crucial in systemic risk context is the relatively high share of bank loans provided to non-financial corporations with a high proportion of export revenue and to firms involved in export-linked supply chains (see [Chart IV.6](#)).<sup>82</sup>

### ...and by the direct cross-border links of domestic banks

Another risk factor monitored is the importance of non-residents in domestic banks' balance sheets and any sudden and unexpected changes in their behaviour related to changes in the economic situation abroad. On the asset side, this mostly concerns exposures to foreign credit institutions and client loans, while on the liability side it involves liabilities to credit institutions and, to a lesser extent, client deposits and bonds issued.<sup>83</sup> Another important indicator is the foreign ownership of domestic banks (almost 90% of the Czech banking sector's balance-sheet assets are foreign-owned). The fair value of derivatives with non-resident counterparts is also relevant on both sides of the balance sheet. Exposures to non-residents are rising over time, though more slowly than total exposures (see [Chart IV.2 CB](#)). Liabilities to non-residents rose sharply in 2016 and 2017 but have been broadly flat in absolute terms since then and are falling relative to the balance-sheet total.

<sup>77</sup> See, for example, ESRB: [Systemic Risk Buffer](#).

<sup>78</sup> The standard deviation of the annual domestic GDP growth rate for 2003-2022 was 3.2 pp, i.e. higher than that for Germany (2.3 pp), the EU as a whole (2.5 pp), the USA (1.9 pp), high-income countries in general (2.1 pp) and the global economy overall (1.9 pp).

<sup>79</sup> See, for example, [Deglobalisation: Risk or Reality?](#)

<sup>80</sup> The Herfindahl-Hirschman Index (HHI) is used to measure concentration. It is defined as the sum of the squares of the shares (in %) and takes values between 0 (zero concentration) and 10,000 (maximum concentration).

<sup>81</sup> See, for example, [The dependence of Czech Exports on Germany](#).

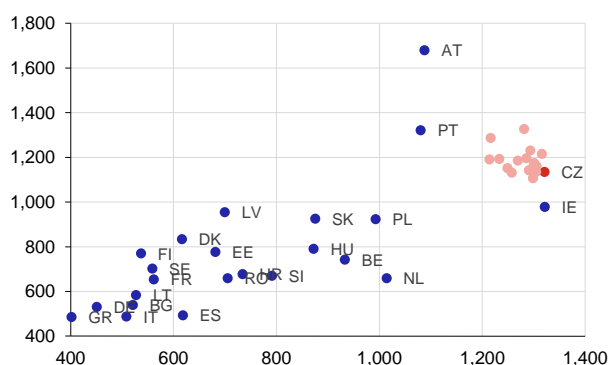
<sup>82</sup> An alternative indicator of the banking sector's export links is the ratio of loans to 350 of the largest exporters to total loans to non-financial corporations, which has long been fluctuating around 12%. Loans to largest exporters are denominated mostly in euros (57% as of 31 December 2019 and 72% as of 31 August 2023).

<sup>83</sup> Exposures to foreign credit institutions are a relatively natural consequence of domestic banks' involvement in cross-border payments and can be affected by banks' position in relation to their foreign ownership groups (for details see [Financial Stability Report – Spring 2023](#), section III.4). Loans to non-financial corporations account for around 75% and loans to clients in Slovakia for around 50% of loans and receivables in respect of non-resident clients.



**Chart IV.5**  
**Index of concentration of selected EU countries' exports and imports to partner countries in 2022**

(HHI in points; x-axis: exports, y-axis: imports)

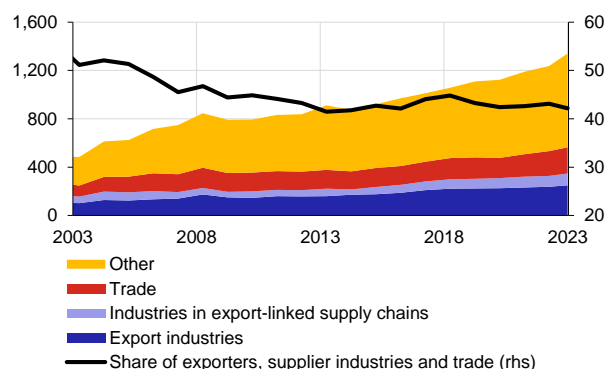


Source: Eurostat

Note: Light red points denote the values for the Czech Republic in the period of 2006–2021.

**Chart IV.6**  
**Bank loans to non-financial corporations by links to exports and trade**

(CZK billions; right-hand scale: %)



Note: "Export industries" are industries in which exports represent at least a third of the total resources used. "Supplier industries" are industries in which the share of output used subsequently for intermediate consumption in export industries represents at least a fifth of the resources used.

### The structural characteristics of the non-financial corporations sector are contributing to systemic risk

The contribution of households is currently less significant. This is apparent both from macroeconomic variables reflecting households' behaviour (typically the saving rate in recent years; see [Monetary Policy Report – Autumn 2023](#), Box 2) and from the profile of households generating demand for housing loans (see [section IV.4](#)). The contribution of general government was also assessed as less significant (see, for example, [section IV.5 of Financial Stability Report – Spring 2023](#)). However, when assessing the need to set the general SyRB, expert account could be taken of the potentially smaller fiscal space to act countercyclically given the elevated general government structural deficit (see [section II.2](#)). By contrast, some structural characteristics of the non-financial corporations sector may amplify the impact of any adverse shocks. These characteristics include the relatively high concentration by economic activity in the domestic economy and in bank loan portfolios, high vulnerability to transition climate risks and high importance of foreign currency funding. The long-running structurally high demand of households and firms for loans for financing the purchase and construction of property (though cyclically muted at present) can be seen as an additional risk across the private non-financial sector.

### High concentration by economic activity is apparent in output, employment and the composition of bank loans

Manufacturing and wholesale and retail trade play a key role in the non-financial corporations sector in terms of both generating output and gross value added and creating jobs (see [Chart IV.7](#)). These activities are also key recipients of bank loans (see [Chart IV.7](#), right-hand panel), while firms engaged in real estate activities are the most important recipients of bank loans in terms of the breakdown by economic activity. However, their direct share in economic activity as regards output and employment is comparatively small. The degree of concentration of economic activity, employment and bank loans by area of activity is higher in the Czech economy than in other EU economies (see [Chart IV.3 CB](#) and [Chart IV.4 CB](#)). A higher degree of concentration of bank loans in an area of activity (as is the case with loans to firms engaged in real estate activities) simultaneously contributes to systemic risk via lower diversification of bank loan portfolios.

### The interconnectedness of bank balance sheets and the property market is also strengthened by the significance of loans for house purchase

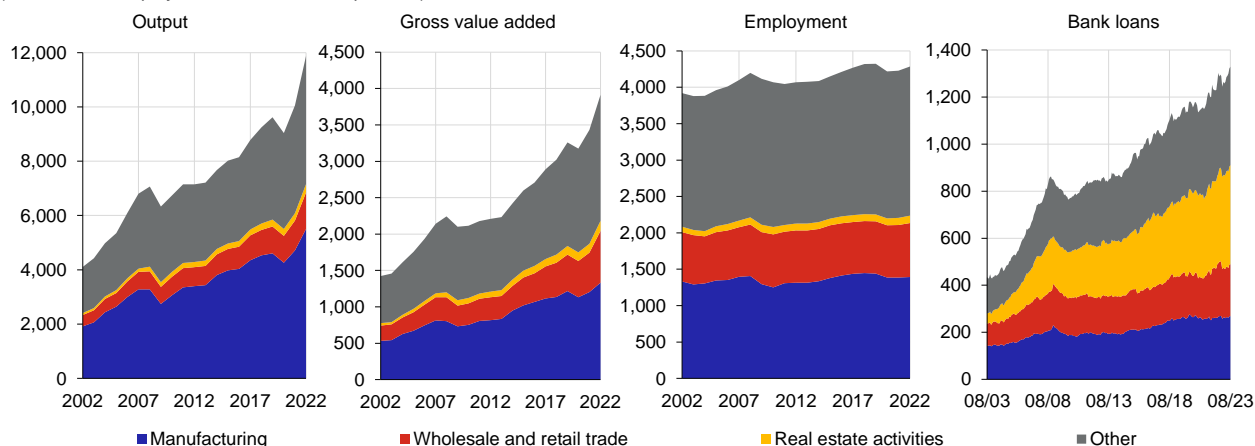
Real estate activity is the main cause of the high concentration of bank loans by economic activity in many European economies (see [Chart IV.4 CB](#)). Besides the concentration of loans to non-financial corporations by economic activity, loans to households for house purchase contribute to the interconnectedness of the banking sector and the property market. This is also the case in the domestic banking sector, where the share of property market-related loans has been above 60% of all loans provided to the domestic private non-financial sector since 2020 ([Chart IV.8](#)). As a result, the CNB has long focused on property market risks (see [section II.1](#) and [section IV.4](#)). In the SyRB context, this concentration, together with the riskier profile of mortgage portfolios, is the reason for setting a sectoral SyRB rate in some EU countries (see [Chart IV.1 CB](#)).



Chart IV.7

Output, value added, employment and bank loans in the non-financial corporations sector by economic activity

(CZK billions; employment in thousands of persons)



Source: Eurostat, CNB

Note: In the case of employment, all sectors (not just non-financial corporations) are included owing to data availability, but sections K (financial and insurance activities), O (public administration), P (education), Q (human health and social work) and T (activities of households) are simultaneously excluded for comparability, as activity in these sections is generated predominantly by sectors other than non-financial corporations.

The vulnerability of the non-financial corporations sector is being increased by transition climate risks...

Given its structure, the Czech economy is comparatively vulnerable to transition climate risks in the form of rising prices of emission allowances and a stricter regulatory framework. In general, Czech industry is strongly energy-intensive<sup>84</sup> and the use of fossil fuels in the energy sector is above the European average (see Chart IV.5 CB). Potentially elevated costs of firms related to the transition to a climate-neutral economy and to increased frequency of natural disasters (see section II.2, Box 1) may weaken the profitability of the corporate sector in the medium term and, in the event of adverse developments, may also represent an additional source of stress, even though these costs may not themselves trigger a systemic crisis. A downward trend is apparent in the emission intensity of banks' corporate credit exposures, with the energy sector remaining the most significant source of climate exposure (see Chart IV.6 CB). The SyRB is recommended as the most appropriate macroprudential instrument to cover these types of risk.<sup>85</sup>

Chart IV.8

Concentration of bank loans in the property segment

(CZK billions; right-hand scale: %)

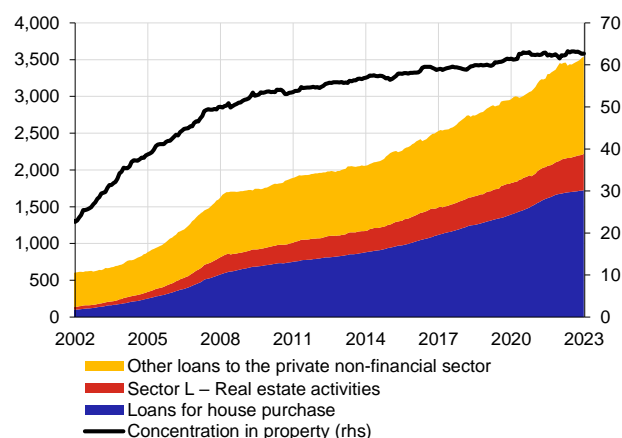
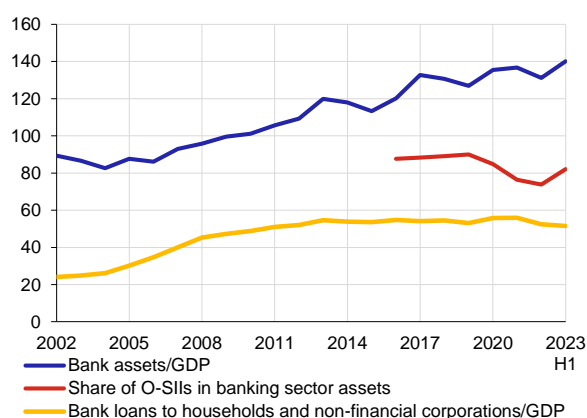


Chart IV.9

Size of the banking sector and the share of O-SIIs

(% of GDP; right-hand scale: % of assets of banking sector)



84 See, for example, Box 4 in *Financial Stability Report 2020/2021*, *OECD Economic Surveys: Czech Republic 2023* and Kotlář, M., Motl, M. and Komárková, Z. (2023): *The Impacts of Selected Long-term Climate Scenarios on the Czech Economy*.

85 ECB and ESRB (2022): *The Macroprudential Challenge of Climate Change*.

**...and by the consequences of foreign currency funding**

The importance of the foreign currency funding of domestic non-financial corporations has long been increasing. The share of euro loans in the total outstanding amount of domestic banks' loans to non-financial corporations was close to 50% in 2023 Q3 (see [Chart IV.7 CB](#)). The figure for total loans to domestic corporations, i.e. taking into account loans from foreign banks and intercompany loans, is even higher.<sup>86</sup> Although the default rate on euro loans to non-financial corporations is historically lower than that on koruna loans (predominantly for larger corporations; see Box 3 in [Financial Stability Report – Autumn 2022](#)), the exchange rate risk may not be fully hedged (naturally or financially) or this hedging may decrease in certain circumstances (such as a drop in foreign currency income in the event of a downturn in external demand). Any increase in debt service in foreign currency may therefore place an additional burden on corporations in the event of an increase in the exchange rate volatility of the koruna. This burden would not be systemically important per se (see Box 5 in [Financial Stability Report – Autumn 2022](#)), but it could exacerbate other adverse conditions.

**Systemic structural risk is not being increased by the relatively low debt ratio of sectors of the real economy...**

The debt ratio is an important structural risk factor. It is relatively low by international standards in all three sectors of the real economy (see [Chart II.7 CB](#)). The indebtedness of households and corporations has declined in recent years (see [Chart II.30](#) and [Chart II.31](#)). Given the lower indebtedness and lower debt service-to-income ratio, the risk of a fall in households' or corporations' income or a rise in their costs leading to increased default has also decreased.

**...by the banking sector's small size relative to economic activity...**

The balance-sheet total of the banking and financial sector is growing steadily relative to economic activity. It stood at 140% of GDP as of mid-2023 (see [Chart IV.9](#)). Nevertheless, this growth primarily reflects a rise in claims on the CNB and general government, whereas the banking sector's importance as a source of value added and as an employer has declined in recent years (see [Chart IV.8 CB](#)). The size of the domestic banking sector is still below the norm for the euro area (Germany 324% of GDP, Austria 247% of GDP, EA 313% of GDP). The risks associated with the systemic importance of the six largest institutions (82% of the banking sector's assets) and their ability to provide credit to the real economy are mitigated by the buffer for other systemically important institutions. The risk of potential losses in the banking sector feeding back into the real economy via a decrease in employment or lending is therefore relatively low or covered by other instruments. The probability of a downward spiral between the banking sector and the real economy can thus be seen as fairly low.

**...or by banks' falling concentration in lending**

The degree of competition of domestic banks in lending is not generally decreasing. On the contrary, a decline in concentration in lending, as measured by the HHI, indicates growing competition in lending to households (see [Chart IV.9 CB](#)). The HHI has fallen from a high degree of concentration in the case of consumer credit and a medium degree in the case of mortgage loans to low levels. The concentration of banks' lending to households has thus reached that of banks' lending to non-financial corporations in recent years.

**The Bank Board agreed on the relevance of the structural risks identified...**

The Bank Board based its evaluation on an expert assessment of all the aforementioned risks (see [Table IV.2](#)) and considered the potential additional losses that would arise from the consequences the openness and foreign trade concentration of the Czech economy. In the event of strongly adverse developments in the global economy, those consequences would include a deeper decline in the performance of the economy than implied by the CNB's usual estimates and projections, with the losses exceeding those assumed in the CCyB calibration (see [section IV.3](#)). The Bank Board agreed that these risks were relevant. It also took into account the additional risk of higher losses arising due to the specific characteristics of the domestic non-financial corporations sector (high sectoral concentration, foreign currency funding, potentially large costs related to the transition to a climate-neutral economy), the limited ability of general government to play a countercyclical role given the structural deficit, and the potential for unexpectedly adverse developments on the property market, in respect of which the domestic banking sector is strongly concentrated.

**...and the CNB will continue to monitor these risks**

The systemic structural risks identified are mostly of a long-term nature. Their relevance in the domestic environment can be expected to stagnate or increase further in the next few years. The CNB will therefore continue to monitor these risks. If it deems it appropriate to strengthen the resilience of the domestic banking sector to these risks, it is ready to set a general or sectoral SyRB rate.

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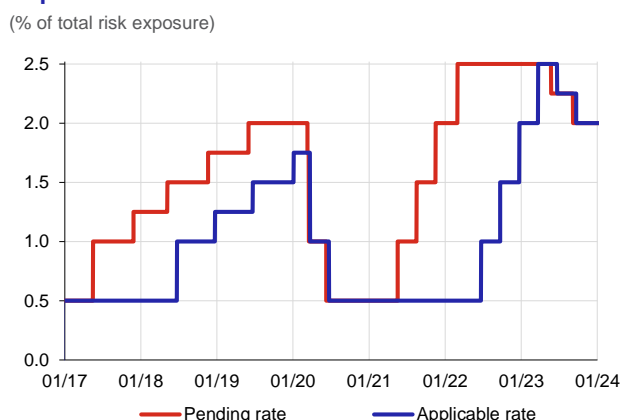
<sup>86</sup> For details see Zamrazilová, E., and Holas, J.: [Struktura financování firem a transmise měnové politiky ČNB](#) [The Structure of Corporate Financing and the Transmission of CNB Monetary Policy, in Czech only], Bankovníctví, 12 October 2023.

### IV.3 THE COUNTERCYCLICAL CAPITAL BUFFER<sup>87</sup>

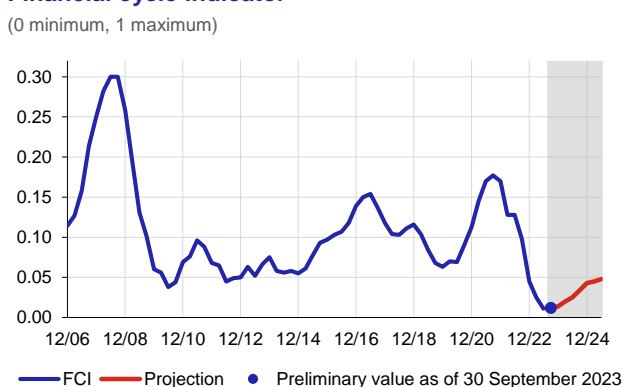
#### The CNB left the CCyB rate unchanged at 2%

The CNB Bank Board decided at its meeting on 29 November 2023 to leave the CCyB rate at 2% (see [Chart IV.10](#)). The Bank Board agreed that the size of new cyclical risks taken on by the banking sector remains subdued. This is consistent with the economy staying at the bottom of the financial cycle (see [Chart IV.11](#)). The cyclical risks in the banking sector's balance sheet continue to decline. The pace of this decline slowed, as compared to previous quarters, due partly to uncertainty stemming from the global macroeconomic conditions and geopolitical situation. This uncertainty is simultaneously increasing banks' vulnerability in the form of potential growth in risk weights in the event of shocks. This is creating a counterweight to the disappearance of cyclical risks from balance sheets. Maintaining the CCyB rate at 2% is consistent with the level indicated by quantitative approaches (see [Chart IV.12](#)).

**Chart IV.10**  
Pending and applicable CCyB rate in the Czech Republic



**Chart IV.11**  
Financial cycle indicator

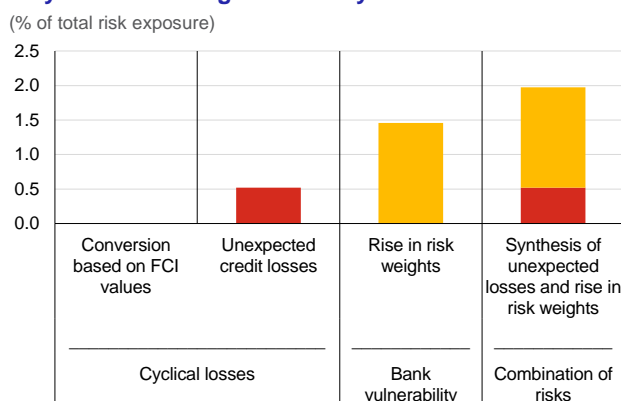


Source: CNB, CZSO  
Note: The projection is based on the CNB's autumn forecast ([MPR – Autumn 2023](#)).

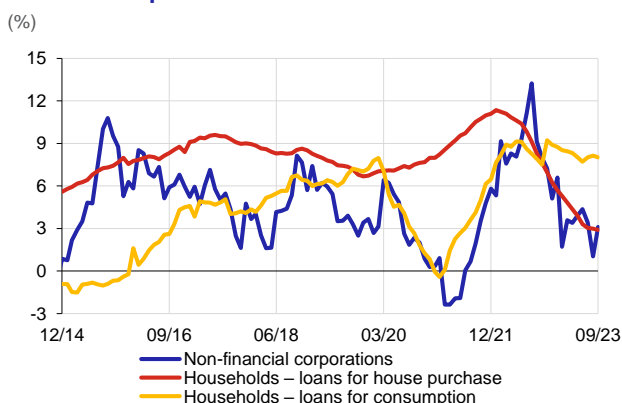
#### The recovery of the financial cycle is likely to be very gradual...

The aggregate financial cycle indicator (FCI) reached a trough in mid-2023 and, according to a preliminary estimate, was still at this level at the end of Q3 (see [Chart IV.11](#)). All components of the FCI are indicating a downturn in the financial cycle (see [Chart IV.10 CB](#)). If the projection consistent with the CNB's autumn forecast materialises, the future rebound of the FCI will be very gradual. At the end of 2024, the FCI value will be indicating that the cycle remains in the downward phase and that the volume of newly accepted cyclical risks in banks' balance sheets is still low. In line with this, an indicative conversion of the FCI value (0.01) into the CCyB rate implies no need to set a non-zero CCyB rate to cover the newly accepted risks (see [Chart IV.12](#) and [Table IV.1 CB](#)).

**Chart IV.12**  
CCyB rate covering financial cycle effects monitored



**Chart IV.13**  
Year-on-year growth in outstanding amounts of bank loans to the private non-financial sector



Note: The data are adjusted for the credit portfolio of Sberbank.

<sup>87</sup> Information on the purpose of the buffer, the methodology for setting the buffer rate and historical information can be found at the [CNB website](#).

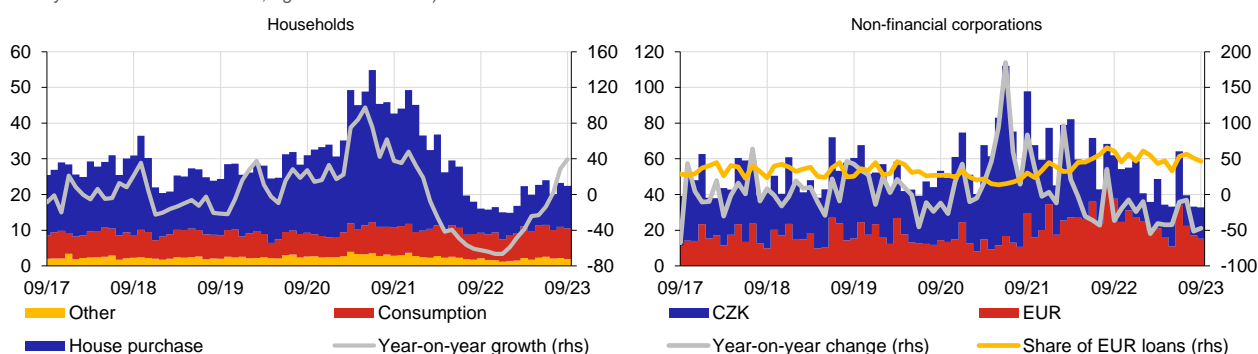
### ...due partly to the absence of a significant pick-up in newly negotiated loans...

The absolute volume of pure new loans to households remained below average (close to CZK 20 billion; CZK 22.4 billion in September 2023, with pure new loans for house purchase accounting for CZK 11.9 billion; see [Chart IV.14](#)). The figure for 2023 Q3 as a whole (CZK 66 billion) was CZK 1 billion lower than in the previous quarter. The recovery on the mortgage market has thus been very modest so far and is not gaining momentum.<sup>88</sup> No recovery was visible for pure newly negotiated loans to non-financial corporations either. Their monthly volume in September 2023 (CZK 32.8 billion) was the lowest since February 2017. Demand for koruna loans declined to a similar extent as that for euro loans, so the share of euro loans in loans to non-financial corporations remained at around 50%. The drop in non-financial corporations' interest in loan financing is also evidenced by a decrease in newly drawn (existing or newly negotiated) loans (see [Chart IV.11 CB](#)). The changes in banks' lending conditions are consistent with these credit market developments. Part of the market has so far eased the lending conditions applied to loans to households for house purchase, while the conditions for other loans to households have been tightened further and those for corporate loans are unchanged (see [Chart IV.12 CB](#)).

**Chart IV.14**

#### Pure newly negotiated bank loans

(monthly volumes in CZK billions; right-hand scale: %)



Note: Pure new loans comprise increases in existing loans and are adjusted for refinanced and refixed loans. The figures include signed contracts regardless of drawdown. They do not include revolving loans.

### ...and a related continued decline in the rate of credit growth

Year-on-year growth in outstanding loans to the domestic non-financial sector continued to decline across the monitored segments in 2023 from the high levels recorded in 2022 (see [Chart IV.13](#)).<sup>89</sup> At the end of 2023 Q3, the rates of growth in outstanding loans to households for house purchase and to non-financial corporations were below average at close to 3%. A very gradual rise in outstanding loans is consistent with the CNB's autumn forecast (see [section II.2](#), [Chart II.29](#)). The risks to the credit growth projection are tilted towards lower growth due to a slower decrease in monetary policy rates.<sup>90</sup>

### A certain amount of cyclical credit risks remain in the banking sector's balance sheet...

The pace of taking on new cyclical risks has stayed subdued so far in 2023. However, some risks from the previous strongly expansionary phase of the financial cycle remain in the banking sector's balance sheet. The process of disappearance of risks from the banking sector's balance sheet is estimated to have slowed a little in 2023 Q3, mainly due to persisting uncertainties stemming from the global macroeconomic and geopolitical environment (see [section II](#)). Related to these uncertainties is an expected more gradual recovery in domestic economic activity (see [Chart II.13](#) and [Monetary Policy Report – Autumn 2023](#) for the revised GDP estimate in the CNB's autumn forecast). This is also consistent with a slight upward shift in the expected unemployment rate and resulting slightly higher losses on the loans to households portfolio. The previous strong profitability of non-financial corporations (see [Chart II.27](#)), the still low observed unemployment rate (see [Chart II.28](#)) and the application of binding upper limits on the LTV, DTI and DSTI ratios during the previous expansionary phase of the credit and financial cycle fostered continued disappearance of risks from balance sheets.

<sup>88</sup> The decline in the growth of new loans in real terms, i.e. in relation to households' and corporations' nominal income, was even larger and deepened further. In the case of loans to households, total new loans provided to households over the last 12 months stood at 10.6% of gross disposable income as of 30 June 2023. This is 15 pp lower than the high recorded at the end of 2021. In the case of loans to corporations, new loans drawn over the last 12 months amounted to 43.7% of gross operating income (11 pp below the 2022 Q3 high).

<sup>89</sup> The increased growth in outstanding loans to households for consumption in November 2022 was due to technical factors – loan reclassification. This factor has affected the year-on-year rate of growth over the entire course of 2023 so far. Adjusted for this factor, the growth rate in this segment would also have fallen.

<sup>90</sup> [Statement of the Bank Board following the monetary policy meeting on 2 November 2023](#).

### ...which corresponds to a capital need equivalent to a CCyB rate of around 0.5%

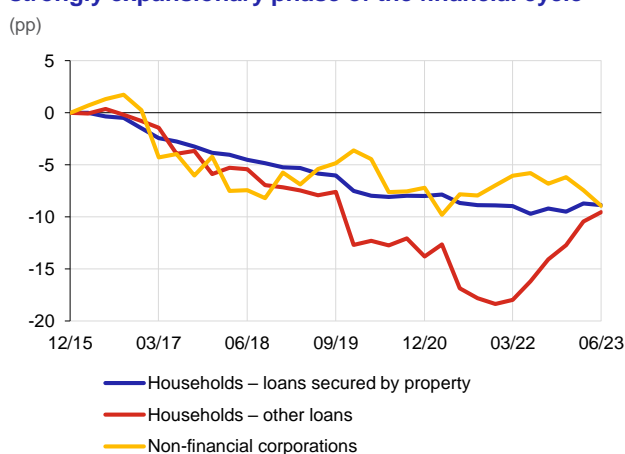
The estimated unexpected credit losses amounted to CZK 15 billion, a drop of CZK 3 billion compared with the previous assessment. The unexpected losses correspond to a CCyB rate of 0.52%. The estimate is consistent with the identified sources of vulnerability of the banking sector, which are related to still low levels of new non-performing loans, moderate expected growth in those loans (see [Charts II.32–34](#)) and relatively low provisioning (see [section III.2.2](#)).

### Risk weights remained cyclically low by historical comparison

Risk weights on the credit portfolios of banks using the IRB approach (“risk weights” hereafter in [section IV.3](#)) are an important indicator of the banking sector’s vulnerability over the financial cycle. As of mid-2023, the risk weights of all the main credit portfolios were around 9 pp below the levels observed at the start of the strongly expansionary phase of the financial cycle, which, according to the CNB’s analyses, the Czech economy entered at the end of 2015 (see [Chart IV.15](#)).<sup>91</sup>

**Chart IV.15**

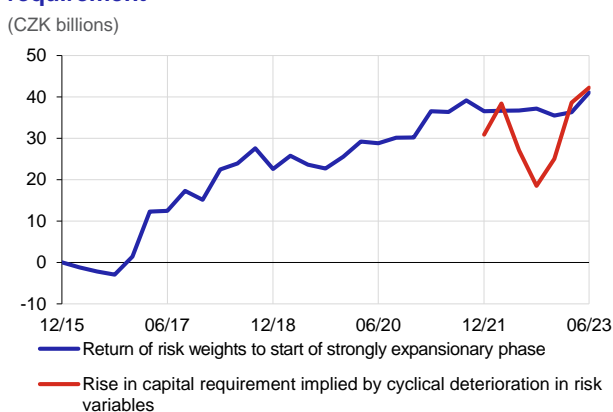
#### Change in risk weights compared with the start of the strongly expansionary phase of the financial cycle



Note: According to the CNB’s analyses, the strongly expansionary phase of the financial cycle started in 2015 Q4.

**Chart IV.16**

#### Effect of a change in risk weights on the capital requirement



Note: According to the CNB’s analyses, the strongly expansionary phase of the financial cycle started in 2015 Q4. The growth implied by a cyclical deterioration in risk variables reflects their evolution over a two-year horizon. The chart shows the capital requirement for the loan portfolios of banks using the IRB approach and includes non-SME retail exposures and corporate exposures.

### A cyclical deterioration in credit risk parameters would lead to an increase in the capital requirement

In addition to covering the manifestations of the financial cycle in the real economy (credit losses), the CCyB rate should cover the growth in the absolute capital requirement due to the effects of the financial cycle on risk weights. The CNB derives the CCyB rate to cover this risk using a model-based estimate of growth in risk weights due to a cyclical deterioration in the risk parameters of the probability of default (PD) and loss given default (LGD). According to an estimate, growth in risk weights would lead to an increase in the capital requirement of CZK 42 billion in absolute terms (see [Chart IV.16](#)). This would be covered by a CCyB rate of 1.46% (see [Chart IV.12](#)).

### Some European countries are increasing their CCyB rates despite the downward phase of the financial cycle

Many European countries already have CCyB rates in place (see [Chart IV.13 CB](#)). Countries with high rates are leaving them unchanged, while those with lower ones are raising them to further strengthen the resilience of their banking sectors.<sup>92</sup> The Czech Republic is so far the only EU country to have lowered its rate since 2020 (see [Chart IV.10](#)). This is due to the CNB’s forward-looking approach, which involves increasing the rate in good time in the upward phase of the financial cycle. This allowed it to lower the rate twice in 2023 in response to a partial drop in cyclical risks in the downward phase of the financial cycle. The financial cycles in the Czech Republic and other European countries are to some extent asynchronous (i.e. there is a time mismatch between their phases), due in part to different monetary policy time profiles. Only a minority of countries use (like the CNB) quantitative methods suitable for calibrating the CCyB rate during a downswing of the financial cycle, when the cyclical systemic risks in the banking sector are decreasing naturally without materialising (see [Box 2](#)).

<sup>91</sup> A rise in observed risk weights does not necessarily mean a decrease in risks and banks’ vulnerability and hence may not imply a reduction of the CCyB rate. The key factor is the extent to which the increase in risk weights is due to risk materialisation and a related cyclical deterioration in risk parameters (in which case it may be appropriate to relax the CCyB, as part of the CCyB is maintained for this purpose) or to a change in the structure of bank portfolios towards riskier asset types (in which case the risk persists or grows further, as does the need to maintain the CCyB at least at its current level).

<sup>92</sup> Partly in response to [Warning of the ESRB on vulnerabilities in the Union financial system \(ESRB/2022/7\)](#).



### Deviations of the credit-to-GDP ratio from its trend do not provide a suitable guide to setting the CCyB for the Czech Republic

In accordance with an ESRB recommendation<sup>93</sup>, the CNB should take into account the credit-to-GDP ratio and its deviation from the long-term trend when determining the position in the financial cycle and deciding on the CCyB rate. In 2023 Q2, the ratio was 79.2% and the relevant deviation -11.7 pp. The additional gap (the expansionary credit gap), which uses an alternative approach to determining the long-term trend and partially eliminates the problems associated with the recommended methodology, was 0 pp in 2023 Q2, implying a zero CCyB rate (see [Chart IV.14 CB](#)). However, this indicator must also be viewed as only a very simplified way of assessing the position in the financial cycle, with very limited direct usefulness as regards deciding on the CCyB rate. The CNB has long maintained that the approach based on the deviation of the credit-to-GDP ratio from its trend is not a suitable tool for assessing cyclical risks in the Czech economy and is subject to a range of shortcomings which reduce its reliability.<sup>94</sup> This opinion was reflected in the ESRB's concept note on the review of the macroprudential framework,<sup>95</sup> which recommends a broader set of indicators and methods for decisions on the CCyB rate.

#### BOX 2: Approach to the standard CCyB rate concept in European countries

Eight European countries refer to the concept of a standard or positive neutral CCyB rate<sup>96</sup> in their methods for setting the CCyB rate. **The reasons for using this concept** are similar across countries: the uncertainty in measuring the cyclical component of systemic risk and the related potential volatility of the rate, which may weaken the effectiveness of macroprudential policy and strengthen inaction bias. The concept of a standard CCyB rate makes it possible to enhance the transparency of the rate-setting process (to make regulatory capital planning easier for banks), to take into account macroprudential policy implementation lags (especially the postponement of CCyB increases by one year) and to prevent a delayed sharp rise in the capital requirement in the strongly expansionary phase of the financial cycle (see [Table 1](#)).

**Table 1 (Box 2)**

#### Overview of European countries' approaches to the use of the standard CCyB rate

Country	CCyB rate (%)		Reasons for introduction	Role of standard CCyB rate in downward phase of financial cycle and in absence of credit losses
	standard	pending		
NL	2	2	Uncertainty in identifying systemic risks, historical experience during pandemic, benefit of gradual rise in rate	Partial or full drop in rate considered only if losses materialise
SE	2	2	Uncertainty in identifying systemic risks, historical experience during pandemic, benefit of gradual rise in rate	Standard rate used as lower limit
EE	1	1.5	Uncertainty in identifying systemic risks, benefit of gradual rise in rate, alternative to SyRB	Standard rate used as lower limit
UK	2	2	Benefit of gradual rise in rate	Partial or full drop in rate considered only if losses materialise
CY	0.5	1	Benefit of gradual rise in rate	Symmetrical approach, possibility of reduction below standard rate
LT	1	1	Uncertainty in identifying systemic risks, benefit of gradual rise in rate	Standard rate used as lower limit
CZ	1	2	Uncertainty in identifying systemic risks, benefit of gradual rise in rate	Symmetrical approach, possibility of reduction below standard rate
IE	1.5	1.5	Uncertainty in identifying systemic risks, benefit of gradual rise in rate	Partial or full drop in rate considered only if losses materialise

Source: CNB, ESRB, ECB, websites and methodological documents of national macroprudential authorities

Note: A gradual rise in the rate makes capital planning easier for banks, reduces the need for a sharp increase in the rate in the strongly expansionary phase of the financial cycle and reduces the risk of delay in building up the CCyB.

93 [Recommendation](#) of ESRB on guidance for setting countercyclical buffer rates (ESRB/2014/1).

94 [The CNB's Approach to Setting the Countercyclical Capital Buffer](#) (Appendix 1).

95 [Review of the EU Macroprudential Framework for the Banking Sector, A Concept Note, March 2022](#).

96 Both terms are routinely used and can generally be regarded as synonyms.



The expected **timing of the activation of the standard CCyB rate** or the commencement of the process of raising the rate to the standard level is similar across countries. Activation occurs when the direct effects of previous credit risk materialisation have receded and the economy is returning to the upward phase of the financial cycle with the usual level of cyclical risks. Macroprudential authorities often describe this phase as **the “neutral” position in the financial cycle**. It is characterised by cyclical risks that are “neither too low nor too high”. The CNB analogously envisages setting the CCyB rate at the standard level in the “usual” expansionary phase of the financial cycle. Compared to other countries, however, it puts greater emphasis on the role of the standard rate at the very beginning of the expansionary phase, when it is quantitatively difficult to determine the true level of cyclical risks due to potential mixed signals from the indicators used. The primary aim of the CNB’s approach is to simplify the decision-making process and communication strategy in this phase of the cycle and to prevent a delayed sharp increase in the rate from making capital planning more difficult for banks.

There are relatively large differences in **the level of the standard CCyB rate**, which ranges between 0.5% and 2% in the countries under review. Based on its analyses,<sup>97</sup> the CNB has set the rate at 1% (see [Table 1](#)). The approaches used to set the standard rate are usually based on expert judgement across countries, while giving priority to general prudence. A smaller proportion of countries use stress test results as an additional indicator. The calibration of the standard rate often involves an assessment of factors in the context of each country’s historical experience.<sup>98</sup> This results in variability in its level.<sup>99</sup> The configuration of the other macroprudential instruments that macroprudential authorities consider when setting the standard CCyB rate may be an additional reason for different levels of the standard CCyB rate. One such example is Estonia, which also uses the standard CCyB rate to cover structural risks, which other countries address with the SyRB (see [section IV.2](#)).

The different levels of the standard rate are also closely linked with differences in its **use in later phases of the financial cycle**, i.e. after the CCyB rate reaches its standard level. Macroprudential authorities that apply the concept of a standard rate share the same approach in later phases when the financial cycle enters a strong downswing accompanied by the materialisation of cyclical systemic risks. In such cases, the CCyB rate may be lowered below the standard level, even to zero.

However, there are differences between countries if cyclical risks decrease in the absence of systemic credit losses in the banking sector. This applies to downturns in the financial cycle, when the cyclical systemic risks in banks’ balance sheets are decreasing.<sup>100</sup> In the countercyclical logic of the CCyB rate, the CNB maintains symmetry and, even in this case, bases its decisions on a wide range of quantitative indicators and methods (FCI conversion, conditional loss estimation, quantification of the impact of potential growth in risk weights). These provide crucial information and act as a basis for decisions on lowering the CCyB rate. This approach is in line with the relevant ESRB recommendation.<sup>101</sup> Some other countries (Denmark<sup>102</sup> and Cyprus) follow a similar approach to the CNB, i.e. they set the CCyB rate proportionately to the level of risks identified. By contrast, others (Sweden and Estonia) apply a partly asymmetric approach by not ruling out gradually lowering the CCyB rate in the downward phase of the cycle in the absence of systemic losses, but only to the standard rate, which is considered the floor in such conditions. A third group of countries (the Netherlands, the UK and Ireland) envisage keeping the CCyB rate unchanged or raising it further after it reaches the standard level and do not consider lowering the rate in the absence of systemic losses.

<sup>97</sup> See [The CNB’s approach to setting the countercyclical capital buffer](#).

<sup>98</sup> The Netherlands, for example, explicitly mentions the experience of the pandemic, when releasable capital buffers proved useful in countries which had created them, whereas the Netherlands had entered the pandemic with a zero CCyB rate. The Dutch approach emphasises the need to support credit supply through the release of capital buffers even during external shocks of a potentially non-cyclical nature.

<sup>99</sup> For details see [Behn, M., Pereira, A., Pirovano, M. and Testa, A. \(2023\): A Positive Neutral Rate for the Countercyclical Capital Buffer – State of Play in the Banking Union, Macroprudential Bulletin, ECB, vol. 21.](#)

<sup>100</sup> For example, when loan principal is gradually being repaid and the ratio of household income to loan instalments is increasing.

<sup>101</sup> Recommendation ESRB/2014/1 (Recommendation of the European Systemic Risk Board of 18 June 2014 on guidance for setting countercyclical buffer rates) states: “The countercyclical capital buffer can be released more gradually when the downswing of the financial cycle does not coincide with a materialisation of risks and when threats to the resilience of credit institutions from excessive credit growth have receded”.

<sup>102</sup> Denmark does not explicitly use the standard rate concept in its approach to setting the CCyB rate but does emphasise the need to build up the buffer early and gradually (as does Norway). Denmark also allows for a gradual lowering of the CCyB rate if cyclical systemic risks decline.

## IV.4 CREDIT INSTRUMENTS AND RISKS ASSOCIATED WITH MARKETS IN LOANS SECURED BY PROPERTY

### IV.4.1 Mortgage loans and credit ratios

#### The CNB regularly assesses systemic risks related to the mortgage loan market...

In accordance with the law, the CNB reviews whether a substantial change has occurred in the factors giving rise to systemic risks related to mortgage lending at least once every six months and, where necessary, adjusts the upper limits on the LTV, DTI and DSTI ratios.<sup>103</sup> The CNB also defines requirements limiting the risks associated with mortgage lending in its *Recommendation on the management of risks associated with the provision of consumer credit secured by residential property* (the “Recommendation”).<sup>104</sup> Based on the systemic risk review conducted in spring 2023, the CNB deactivated the upper limit on the DSTI ratio with effect from 1 July 2023.<sup>105</sup> The upper limits on the LTV of 80% (90% for applicants under 36 years for purchases of owner-occupied housing) and on the DTI of 8.5 (9.5) times net annual income were kept.

#### ...while closely monitoring new mortgage loans

Lending activity increased slightly in 2023 Q2 and Q3. However, the mortgage market remained subdued (see [Chart IV.15 CB](#)). The volume of mortgage loans provided in January–September 2023 (CZK 77 billion in total) was around 58% of the 2022 level (see [Chart IV.17](#)) and was well below the levels recorded in previous years.<sup>106</sup> The tight monetary and financial conditions were reflected in a shorter fixed-rate period and a lower average and median value of new loans (see [Table IV.3](#) and [Table IV.2 CB](#)). The average monthly repayment increased to almost CZK 20,000 year on year (see [Table IV.3](#)). The composition of new debtors – mainly high-income households – is consistent with this.<sup>107</sup>

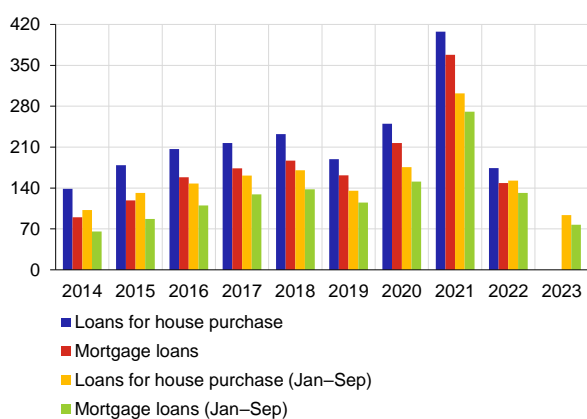
#### The share of apartment and house transfers financed using mortgage loans remained low

The slightly higher lending activity in 2023 Q2 and Q3 was reflected in growth in the share of mortgage-financed apartment and house transfers, which rebounded to almost 30% in August 2023 (see [Chart IV.18](#)). However, it was still well below the 2019–2020 levels. The share of mortgage loans provided for property construction also remained low. The slight recovery on the mortgage market in recent months is thus due primarily to property purchase loans (see [Chart IV.16 CB](#)).

**Chart IV.17**

#### Pure new bank loans for house purchase

(CZK billions)

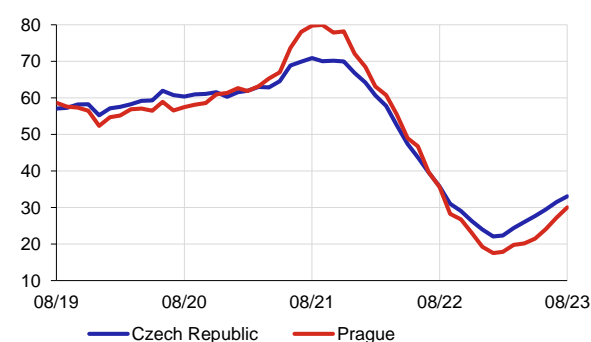


Note: All series include increases in existing loans. Mortgage loans fall within the category of loans for house purchase and, only for the purposes of this chart, are defined as loans provided to households that are secured at least partly by a lien on immovable property.

**Chart IV.18**

#### Share of apartment and family house transfers financed using mortgage loans

(% of total number; half-yearly moving averages)



Source: CNB, COSMC

Note: Calculated as the ratio of the number of pure new mortgage loans for purchasing property to the number of transactions registered by COSMC.

<sup>103</sup> The primary aim of the upper limits on the credit ratios is to ensure sustainable credit standards on the domestic mortgage market by limiting the provision of excessively risky mortgage loans. However, the limits are not intended to regulate the volume of mortgage loans provided or to dampen growth in residential property prices.

<sup>104</sup> See [Recommendation of 29 November 2023](#) and the [Official Information Archive](#).

<sup>105</sup> More information on the abolition of the upper DSTI limit is available in the [Provision of a general nature of 1 June 2023](#).

<sup>106</sup> The averages for the first nine months of 2015–2020 are CZK 154 billion for housing loans and CZK 122 billion for mortgage loans. Total lending is thus at 61% and 63% respectively of the 2015–2020 average in nominal terms and at 44% and 46% respectively in real terms (adjusted for the average year-on-year increase in loan size).

<sup>107</sup> The proportion of high-income households (the 80th–100th percentile of the income distribution of the population of households) taking out a mortgage loan rose to 46% in 2023, up from 36% in 2020. In the case of the principal applicant, i.e. from the perspective of the income distribution by individual and not by the household as a whole, the share of high-income applicants for new mortgage loans was 64% in 2023 and 55% in 2020.

**Table IV.3**  
Average values of the characteristics of new mortgage loans and loan applicants

	2018	2019	2020	2021	2022	2023		
						Q1	Q2	Q3*
Loan size (CZK millions)	2.2	2.3	2.7	3.3	3.2	2.9	3.0	3.1
Interest rate (%)	2.6	2.7	2.3	2.3	4.7	5.9	5.9	5.8
Instalment (CZK thousands)	11.7	11.3	12.0	15.5	17.5	18.3	18.8	19.3
Maturity (years)	26	26	26	26	26	26	26	26
Fixed interest rate period (years)	5.9	6.5	6.7	6.1	6.0	4.9	4.6	4.3
Collateral value (CZK millions)	3.7	4.0	4.5	5.5	6.2	5.5	5.7	5.7
Number of properties securing loan			1.2	1.1	1.1	1.1	1.1	1.1
LTV (%)	67.5	66.6	66.3	64.6	61.7	62.0	62.2	63.6
DTI (net annual incomes)	5.4	5.1	5.5	5.9	5.3	4.6	4.5	4.9
DSTI (%)	34.2	32.1	32.1	34.2	36.7	35.8	35.8	37.5
Net monthly income (CZK thousands)	50.8	54.4	71.5	64.4	77.7	80.1	85.7	85.1
Net monthly income adjusted for instalments (CZK thousands)	34.4	37.2	49.0	43.0	50.0	51.9	56.1	53.6
Number of loan applicants	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6
Number of borrowers under 36 years (%)	52.6	51.9	53.1	51.1	48.7	49.4	48.2	49.8

Note: The values in the table indicate the simple average for the given period. The exception is the share of borrowers under 36 years, which shows the ratio of the volume of loans provided to the principal loan applicant under 36 years to the total volume of loans provided in the given period. The data for 2023 Q3 are based on the figures for July and August. The DTI and DSTI ratios for 2018 are calculated from data for the second half of 2018, and the number of properties for 2020 is calculated from data for the second half of 2020.

#### As expected, the share of mortgage loans with DSTIs of over 45% rose...

The easing of lending conditions as of 1 July 2023 was reflected in an increase in the average DSTI for new loans from 35.8% to 37.5% (see [Table IV.3](#)).<sup>108</sup> The shares of mortgage loans with DSTIs of over 45% and over 50% also increased, respectively, to 35.3% (CZK 7.6 billion) and 15.1% (CZK 3.2 billion) of the total provided in July and August 2023 (see [Chart IV.19](#)). These shares thus reached levels similar to those observed just before the introduction of the upper limits on credit ratios in 2022 Q2. However, as regards distribution, loans were simply moved from the 40–45% DSTI band to the over 45% band; the volume of loans provided in the 60% band was minimal (CZK 0.69 billion in July and August 2023).

#### ...especially in the case of older applicants

The deactivation of the upper limit on the DSTI ratio was used primarily by applicants aged 36 or over, who were more bound by the limits than those under 36 years.<sup>109</sup> As regards the DSTI distribution of mortgage loans, this was reflected in an increase in loans provided to applicants aged 36+ with DSTIs of 45–50% (see [Chart IV.17 CB](#)). A detailed look at the characteristics of loans with DSTIs of over 45% shows that they were provided on average to high-income households with sufficient financial reserves even after their instalments are taken into account. In the medium term, the risk of higher debt service on existing loans with higher interest rates will be gradually reduced by the expected decline in interest rates (see [Table IV.3](#)).<sup>110</sup>

#### There was also an increase in the share of loans with DTIs of over 8 and LTVs of over 80%

The average and median DTI went up slightly to 4.9 and 4.7 times net annual income respectively (see [Table IV.3](#) and [Table IV.2 CB](#)). The share of loans with DTIs of over 8 also rose modestly (see [Chart IV.20](#)). However, their absolute volume in July and August was only CZK 1.34 billion (CZK 0.29 billion for DTIs of over 9). Loans with DTIs of over 8 were larger on average (CZK 4.4 million) than the overall average (CZK 3.1 million). The level of interest rates prevented greater migration to loans with higher DTIs, as a DTI of 8.5 times net annual income is equivalent to a DSTI of around 60% at an interest rate of 5.8% with a 30-year repayment term. The average net income of applicants for loans with DTIs of over 8 was consistent with this, standing at around CZK 90,000. The average LTV was below 64% and was thus slightly lower than in 2018–2021 (see [Table IV.3](#)).<sup>111</sup> The share of mortgage loans granted with LTVs of over 80% increased (to CZK 3.38 billion in July and August 2023). After dropping in the first half of 2022, this share returned to 15–20%, the level typical for the period of 2017–2020 (see [Chart IV.21](#)). However, the volume of loans with LTVs of over 90% was negligible (CZK 26 million in July and August 2023).

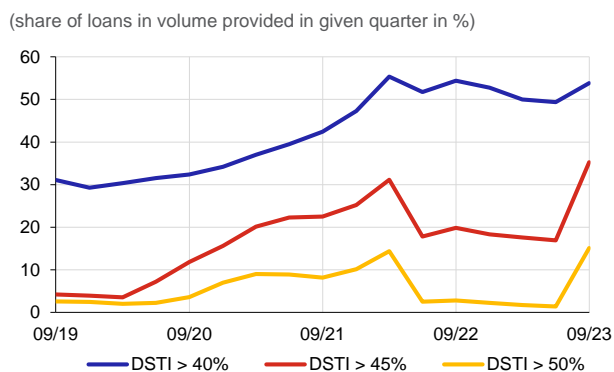
<sup>108</sup> The average DSTI weighted by loan amount rose from 37.8% to 40.3%.

<sup>109</sup> The upper limit on the DSTI ratio generally has a greater impact on older applicants, as they have a limited number of economically active years remaining and hence a limited maximum repayment period. This is reflected in higher loan instalments.

<sup>110</sup> New mortgage loans have shorter fixed-rate periods, so a decline in market rates is reflected in these loans in a relatively short period of time (3–5 years).

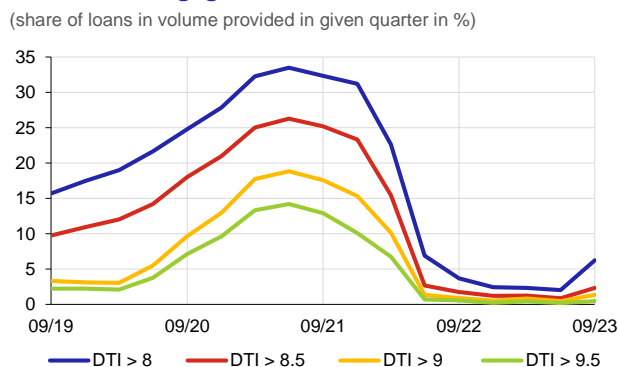
<sup>111</sup> The average LTV weighted by loan size was just under 70% and was also trending below the levels observed in 2018–2021. The same is true for the median values (see [Table IV.2 CB](#)).

**Chart IV.19**  
Pure new mortgage loans with DSTIs in selected bands



Note: The data may also contain undrawn loans. The figures for 2023 Q3 (09/23) contain data for July and August only.

**Chart IV.20**  
Pure new mortgage loans with DTIs in selected bands

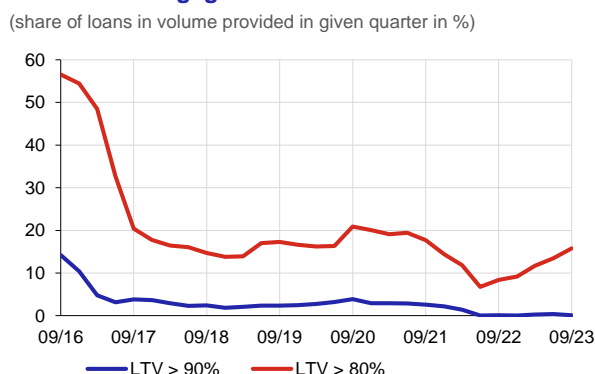


Note: The data may also contain undrawn loans. The figures for 2023 Q3 (09/23) contain data for July and August only.

**Loans falling under the volume exemption were granted mainly to applicants aged 36+**

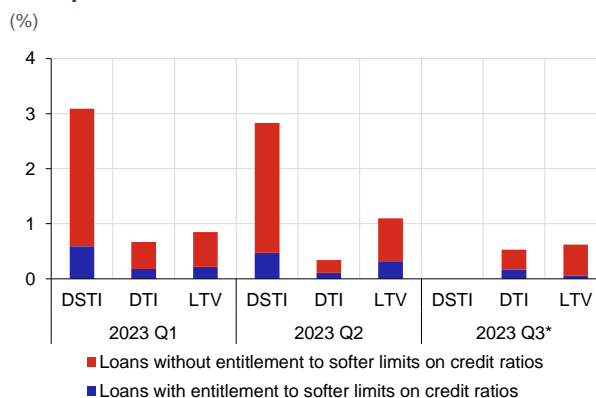
Banks were compliant with the regulatory requirement applying to mortgage loans falling under the volume exemption in 2023 Q1 and Q2 (see [Chart IV.22](#)).<sup>112</sup> Loans in excess of the DSTI, DTI and LTV limits were granted mostly to applicants aged 36+ or applicants financing a loan to purchase property for purposes other than owner-occupied housing. In the first half of 2023, mortgages in excess of the limits on at least one of the credit ratios accounted for less than 4% (CZK 2.5 billion) of total lending in the period. The low share of mortgage loans falling under the volume exemption shows that despite the deactivation of the upper DSTI limit, there was no major increase in demand for mortgage loans facing LTV or DTI constraints.

**Chart IV.21**  
Pure new mortgage loans with LTVs in selected bands



Note: The data may also contain undrawn loans. The figures for 2023 Q3 (09/23) contain data for July and August only. The chart provides information on current changes in risks taken on from the LTV perspective, not on formal (non-)compliance with the binding upper limits on the LTV ratio.

**Chart IV.22**  
Share of mortgage loans falling under the volume exemption



Note: The figures for 2023 Q3 (09/23) contain data for July and August only. The DSTI limits were deactivated as of 1 July 2023.

**The systemic risks associated with mortgage lending remained low...**

The main indicators used by the CNB to identify systemic risks associated with mortgage lending were in line with the CNB's spring 2023 expectations (see [Chart IV.25a–h](#)) and remained relatively low (see [Chart IV.23](#)).<sup>113</sup> The growth rates of new mortgage loans and total outstanding consumer credit were weak and below their long-term averages (see [Chart IV.25a–b](#)). The debt ratio of households fell further below 58% of gross disposable income (see [Chart IV.25d](#)). Residential property prices also fell year on year in mid-2023 (see [Chart IV.25c](#)). However, the ratios of property prices to income and rent remained above their long-term averages, mainly because of structural imbalances on the residential property market<sup>114</sup> (see [Chart IV.25e–f](#)).

<sup>112</sup> Banks may provide loans in excess of the limits on credit ratios under a volume exemption of 5% of the total amount of mortgage loans provided in the previous calendar quarter (for details see [Article 45a\(1\) of the Act on the CNB](#)).

<sup>113</sup> These indicators correspond to the factors giving rise to systemic risk defined in Article 45b(2) of Act No. 6/1993 Coll., on the Czech National Bank.

<sup>114</sup> For details see [section II.1](#).

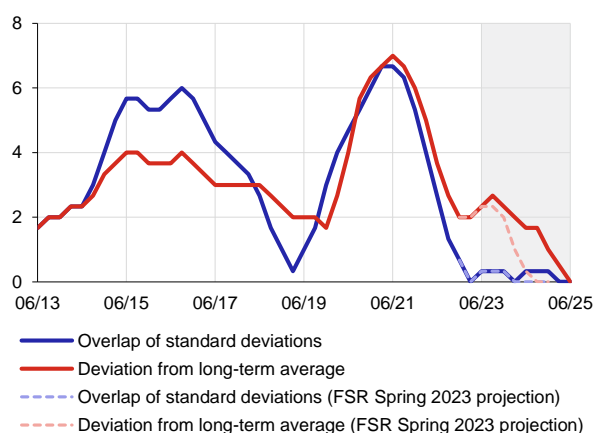
### ...and are not expected to increase at the forecast horizon

According to the CNB's autumn macroeconomic forecast,<sup>115</sup> economic activity will increase in year-on-year terms over the next two years and inflation will return to the target. This will be reflected in a gradual recovery of the mortgage market (see [Chart IV.25](#)). This recovery may be more gradual than in the forecast owing to a slower decrease in monetary policy rates.<sup>116</sup> It will also be affected by the probability of the Czech economy staying in an environment of positive real interest rates. The cyclical and partly also structural systemic risks associated with developments on the mortgage market should decline further at the forecast horizon. Despite showing slight volatility in late 2023, the composite risk perception indicators suggest a gradual decrease to zero by mid-2025 (see [Chart IV.23](#)).<sup>117</sup> The non-zero risk of a larger fall in residential property prices persists, but its probability has decreased further over time (see [Chart IV.24](#)). Simulations conducted by the CNB using a stress test of households confirmed a low level of potential systemic risks over the forecast horizon. The outcome of the simulations indicated that the difference between the current configuration of the upper limits on credit ratios and the full deactivation of those limits is relatively small in the context of the default rate and credit losses.

**Chart IV.23**

#### Composite risk perception indicators by overlap of standard deviations and deviation from the average

(min. 0; max. 8)

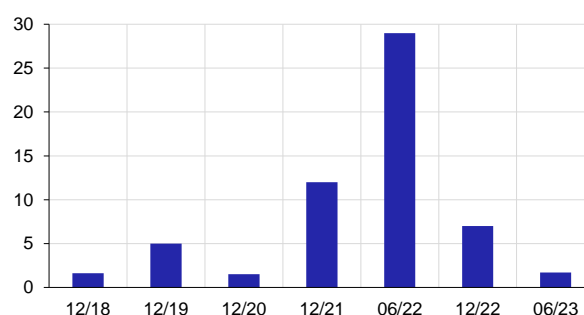


Note: The indicators are smoothed by the 9-month moving average.

**Chart IV.24**

#### Probability of average apartment prices falling by more than 10% over the next two years

(%)



### The Bank Board decided to leave the upper limit on the LTV ratio unchanged and to deactivate the upper limit on the DTI ratio

At its meeting on 29 November 2023, the Bank Board decided to amend the provision of a general nature of 25 November 2021 setting upper limits on credit ratios.<sup>118</sup> Given the projected macroeconomic developments and the monetary policy stance in the Czech Republic and abroad, the Bank Board does not expect significant growth in either cyclical or structural systemic risks stemming from mortgage markets to occur over the next two years. For this reason, the Bank Board decided to deactivate the upper limit on the DTI ratio. In view of the persisting uncertainty surrounding residential property prices and the related risk of a marked price correction, the Bank Board left in effect the upper limit on the LTV ratio at 80% (90% for applicants under 36 years purchasing owner-occupied housing). The Bank Board also decided to retain the official information for lenders recommending that the upper limit on the LTV ratio of no mortgage loan should exceed 100% and applications for mortgage loans with DSTIs of over 40% and DTIs of more than 8 times net annual income should be assessed with an increased level of prudence. The Bank Board stands ready to react flexibly and to change the upper limits on credit ratios where necessary in the future if the results of analyses conducted during the regular review indicate a change in systemic risk associated with mortgage lending.

<sup>115</sup> [CNB – Autumn 2023](#) forecast.

<sup>116</sup> [Statement of the Bank Board for the press conference following the monetary policy meeting on 2 November 2023](#).

<sup>117</sup> A temporary rise in the indicator will be caused by a substantial year-on-year increase in new mortgage loans due to 2023 base effects.

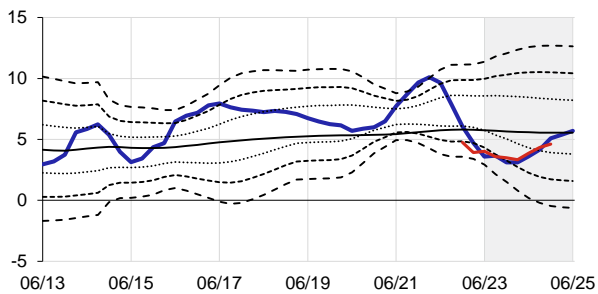
<sup>118</sup> [Provision of a general nature of 25 November 2021](#), as amended by [provision of a general nature of 1 June 2023](#).



**Chart IV.25**  
**Indicators of systemic risk associated with mortgage lending**

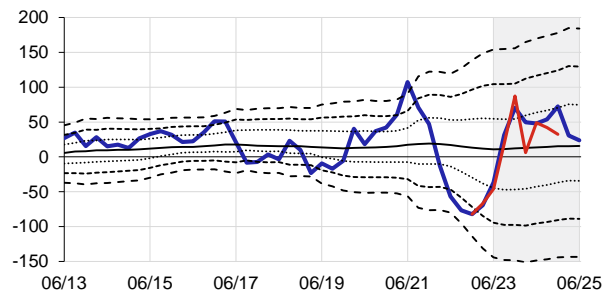
(%; ratio of apartment prices/loan size to gross annual income; ratio of apartment prices/rent in multiples of annual rent)

**a) Year-on-year change in consumer credit**



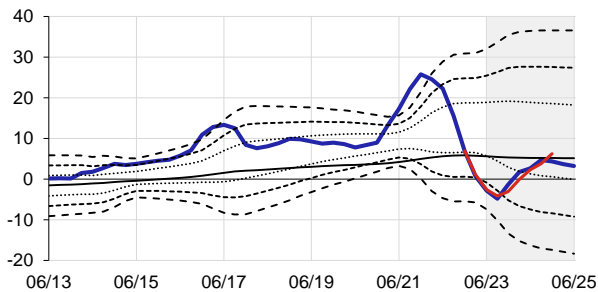
The chart is based on total outstanding consumer credit to households and is adjusted for the Sberbank portfolio.

**b) Year-on-year change in new mortgage loans**



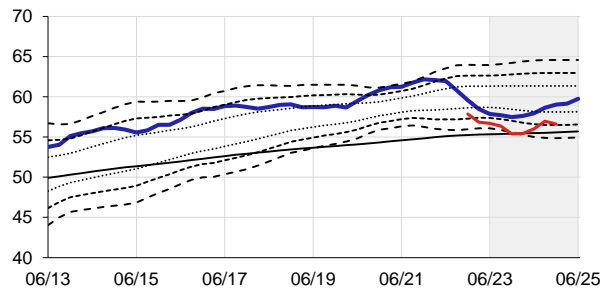
The chart shows pure new mortgage loans for house purchase, including increases.

**c) Year-on-year change in residential property prices**



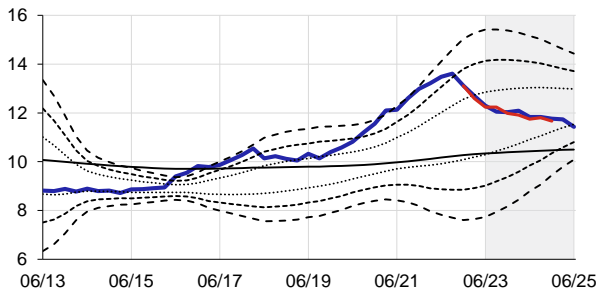
The chart depicts the housing price index, including land.

**d) Consumer credit-to-gross disposable income ratio**



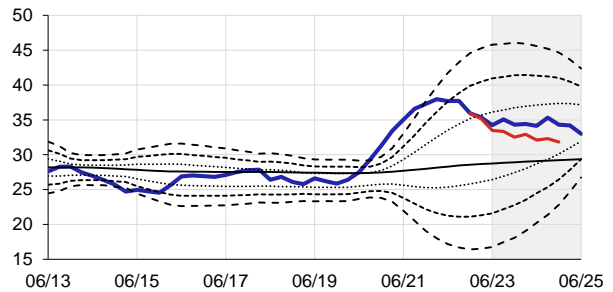
The chart depicts the total amount of loans to households adjusted for the Sberbank portfolio relative to the gross disposable income of households.

**e) Apartment price-to-income ratio**



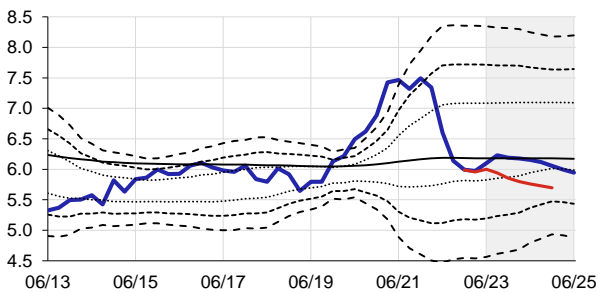
The chart shows the transaction price of a 68 m<sup>2</sup> apartment relative to average gross annual income.

**f) Apartment price-to-rent ratio**



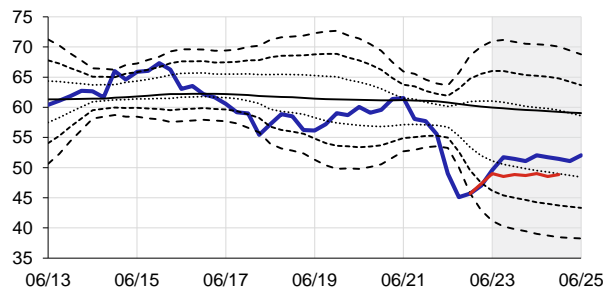
The chart shows the apartment transaction price per m<sup>2</sup> relative to annual rent per m<sup>2</sup>.

**g) Mortgage loan size-to-income ratio**



The chart shows the average mortgage loan size relative to average gross annual income.

**h) Mortgage loan size-to-apartment price ratio**



The chart shows the average mortgage loan size relative to the transaction price of a 68 m<sup>2</sup> apartment.

Note: The dashed black lines show spreads of one, two and three standard deviations from the average over the last 20 quarters. The black solid line shows the long-term average calculated using the time series starting in 2006–2010 (depending on the specific indicator). The grey area shows the projected values consistent with the autumn forecast ([MPR – Autumn 2023](#)). The red line shows the spring 2023 projection ([FSR – Spring 2023](#)).



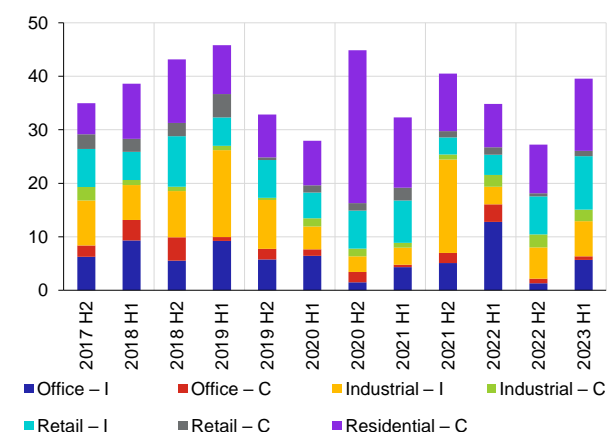
## IV.4.2 Risks associated with the provision of loans secured by commercial property

**The provision of loans secured by commercial property is fairly subdued**

New loans amounted to around CZK 40 billion in the first half of 2023 (see [Chart IV.26](#)).<sup>119</sup> The volume of loans was close to the long-term average in nominal terms but represents relatively subdued lending activity if the increase in construction-related costs is taken into account. Lending activity has been affected by the domestic monetary policy stance and related low (transaction) activity on the commercial property market (see [section II.1](#)). Lending for retail space and residential construction dominates in terms of purpose. By contrast, lending for office space remains greatly limited. This may be due to the already low returns in this segment relative to the risk undertaken (see [Chart II.15 CB](#)).

**Chart IV.26****Amount of new loans secured by commercial property**

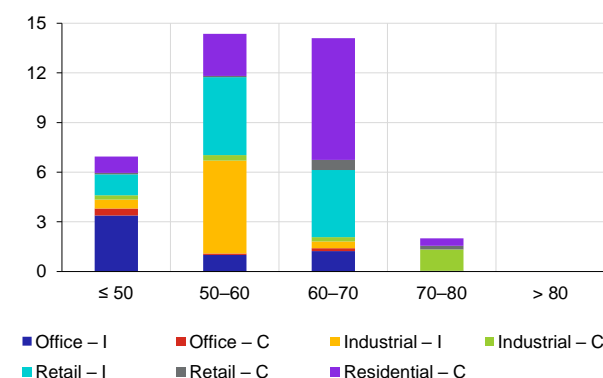
(CZK billions)



Note: I: investment in existing property, C: construction. Results based on data for selected banks.

**Chart IV.27****LTV distribution of new loans secured by commercial property in 2023 H1**

(CZK billions; x-axis: LTV in %)



Note: I: investment in existing property, C: construction. Results based on data for selected banks. Interval closed from the right.

**The risks associated with commercial property markets remain limited**

The share of exposures secured by commercial property in the total loans of the domestic banking sector is relatively low.<sup>120</sup> In the past, foreign investors financed from abroad played an important role on the commercial property market, so the risks associated with a potential rise in the rate of default on a large part of debt financing in this segment were largely transferred to foreign entities. In the last five years, however, the share of domestic financing in total investment in this sector has increased, mostly via the investment fund sector.<sup>121</sup> A deterioration of the domestic commercial property market situation could therefore have some effect on Czech investment funds and, in turn, household wealth. In general, however, this segment is currently not a direct source of systemic risk for the domestic financial sector given its relatively high profitability and limited use of external financing. However, in the event of highly adverse financial conditions, fire sales on the commercial property market could become a significant factor that could contribute to exacerbating domestic shocks and increasing their duration.

**Banks applied a prudent approach to the provision of loans secured by commercial property**

Give the persisting uncertainties about future economic developments, banks continued to apply a prudent approach to lending in the first half of 2023. They provided no loans with LTVs of over 80% and further limited lending in the riskier categories (a lower share of loans with LTVs of between 70% and 80%). Loans with LTVs of between 50% and 60% were generally predominant in terms of volume, followed by loans with LTVs of between 60% and 70%, the volume of which was only slightly lower (see [Chart IV.23 CB](#) and [Chart IV.27](#)). Overall, this suggests that funding was provided to relatively conservative investment projects with a high degree of collateral. From the DSCR perspective, new loans with a DSCR of between 1.2 and 1.4, which can be regarded as slightly riskier, increased somewhat. However, the volume of the riskiest category with a DSCR of less than 1.2 remains very low (see [Chart IV.28](#)). Banks' prudent approach is also evidenced by their strict requirement for a high degree of collateral for loans falling in the riskier DSCR categories. The share of new

<sup>119</sup> The results are based on a semi-annual survey of loans secured by commercial property, conducted usually among seven banks covering around 70% of the market.

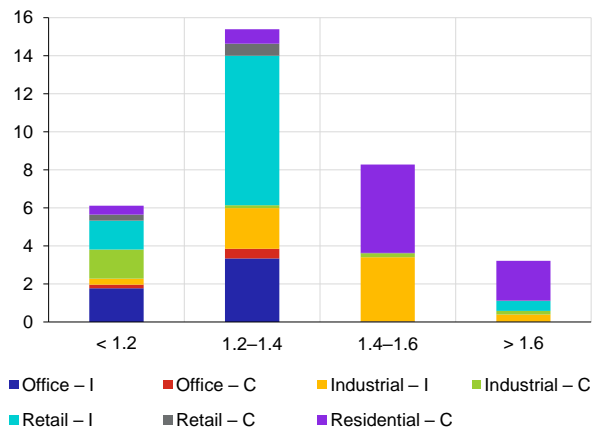
<sup>120</sup> The total share of exposures secured by commercial property in the total outstanding amount of client loans of the domestic banking sector is around 15%. The share of loans for project financing (specialised lending) secured by commercial property in the total outstanding amount of loans is 8%.

<sup>121</sup> Primarily real estate funds and funds for qualified investors specialising in property construction and management. The assets of these funds totalled about CZK 230 billion in mid-2023 and around CZK 90 billion were collective investment funds. In this case, however, part of the assets are invested outside the Czech Republic. Domestic entities became predominant on the market around 2016.

loans with a DSCR of less than 1.2 and simultaneously an LTV of more than 70% in total loans provided remained very low in the first half of 2023 and was close to the average for the last four years (see Chart IV.29).

**Chart IV.28**  
**DSCR distribution of new loans in 2023 H1**

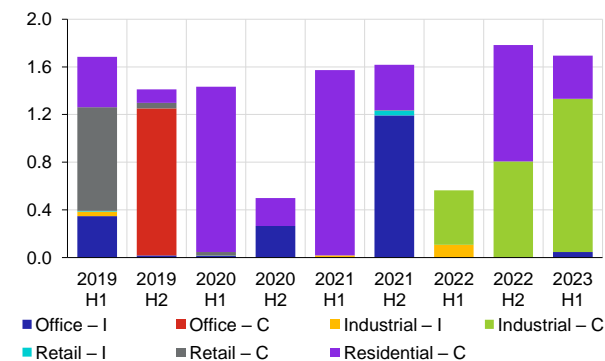
(CZK billions; x-axis: DSCR in %)



Note: I: investment in existing property, C: construction. Results based on data for selected banks. Interval closed from the right.

**Chart IV.29**  
**Amount of new loans secured by commercial property with an LTV of more than 70% and a DSCR of less than 1.2**

(CZK billions)

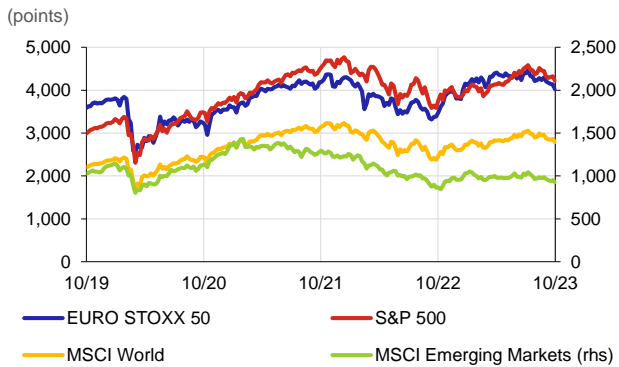


Note: I: investment in existing property, C: construction. Results based on data for selected banks. Interval closed from the right.

## V. CHARTBOOK

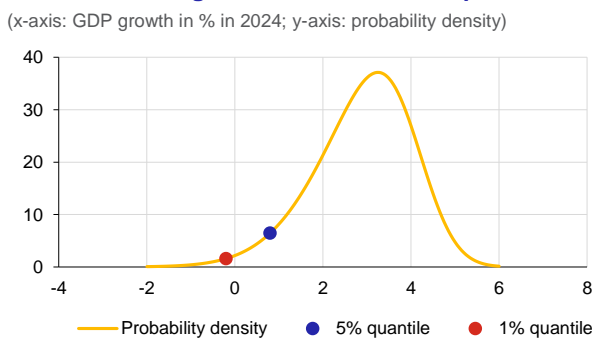
### SECTION II

**Chart II.1 CB**  
**Key global stock indices**



Source: Refinitiv

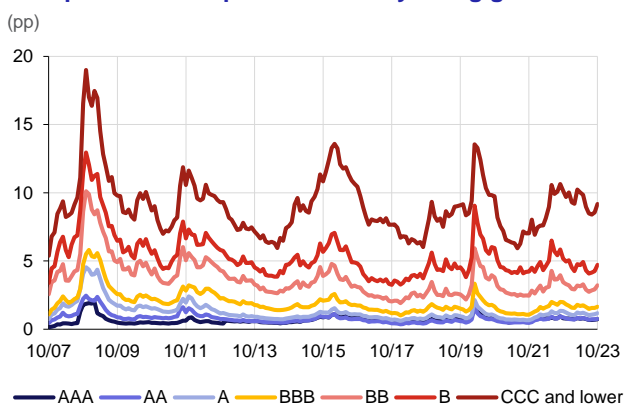
**Chart II.3 CB**  
**Risk of adverse global economic developments**



Source: IMF

Note: The chart shows the distribution of real GDP growth in 2024. The data are based on the October IMF forecast (WEO, October 2023). The skewed Student t-distribution is used to obtain the probability distribution.

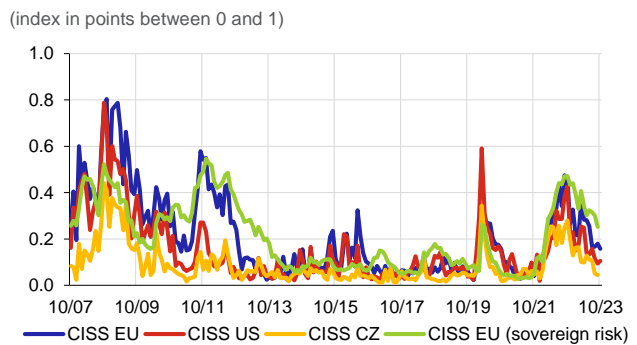
**Chart II.5 CB**  
**Risk premia on corporate bonds by rating grade**



Source: Bank of America Merrill Lynch

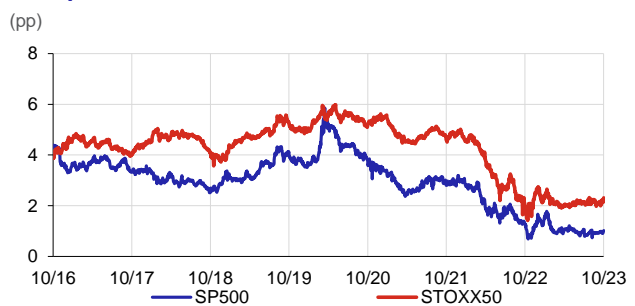
Note: Risk premia are expressed as the spread of corporate bond yields over government bond yields.

**Chart II.2 CB**  
**Composite indicator of systemic stress in financial markets (CISS)**



Source: ECB, CNB, Refinitiv

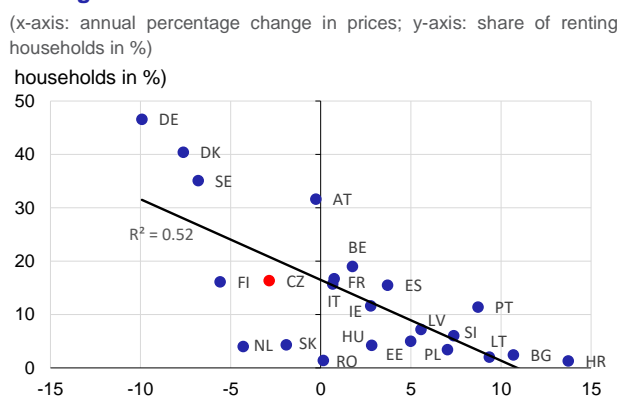
**Chart II.4 CB**  
**Risk premia for the S&P 500 and Euro Stoxx 50**



Source: ECB, Fed, Refinitiv

Note: The risk premium is calculated using the dividend discount model. Estimates of future dividends are based on dividend futures. Discount factors are calculated using the US swap curve. For details see Časta, M. (2022): *Deriving Equity Risk Premium using Dividend Futures*, North American Journal of Economics and Finance 60.

**Chart II.6 CB**  
**Growth in residential property prices and the share of renting households**

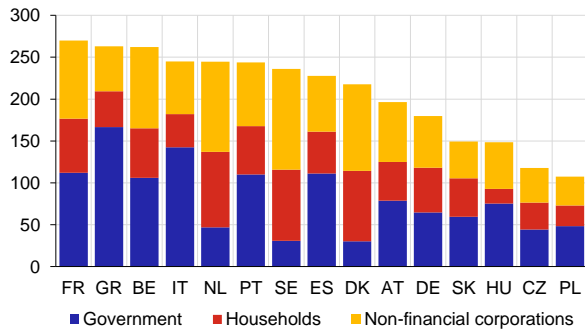


Source: ECB, Eurostat

Note: Share of households renting a dwelling at the market price as of 31 December 2022, i.e. excluding households renting a dwelling at regulated rent, living with relatives at lower rent etc. Change in residential property prices between 30 June 2022 and 30 June 2023.

**Chart II.7 CB**  
**Debt ratios of economic agents in selected EU countries**

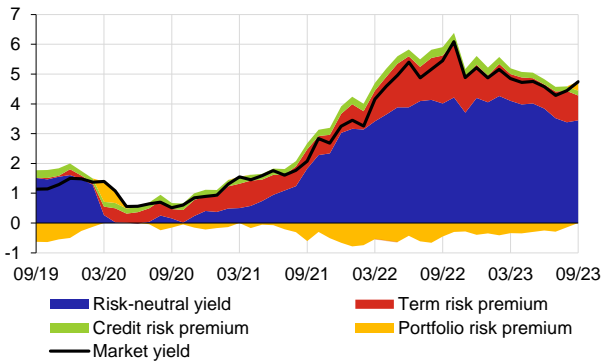
(% of GDP as of 30 June 2023)



Source: ECB

**Chart II.9 CB**  
**Decomposition of the five-year Czech government bond yield**

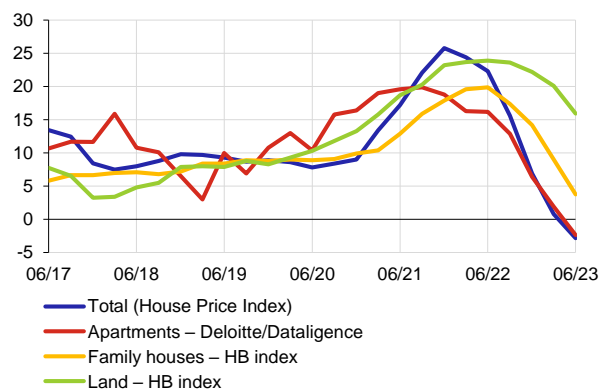
(%)



Source: Refinitiv, CNB

**Chart II.11 CB**  
**Transaction prices by type of property**

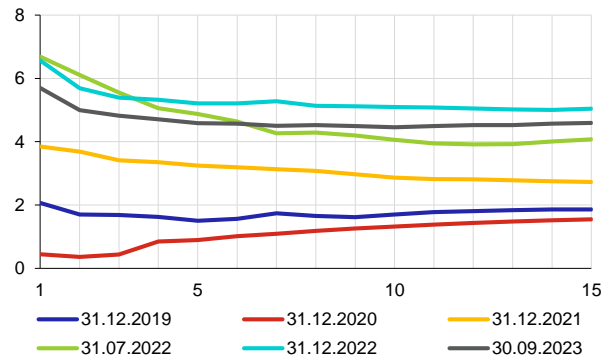
(year-on-year growth in %)



Source: CZSO, Deloitte, Dataligence, HB index

**Chart II.8 CB**  
**Czech government bond yield curve**

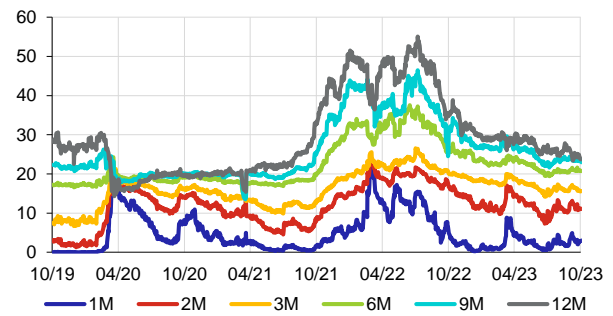
(%; x-axis: residual maturity in years)



Source: Refinitiv, CNB

**Chart II.10 CB**  
**Option-implied risk-neutral probabilities of a depreciation of more than 10%**

(%; latest observations as of 9 October 2023)

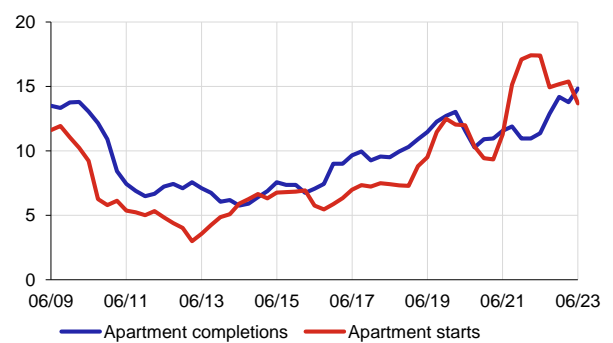


Source: Refinitiv Datastream

Note: Risk-neutral probabilities obtained using the Vanna–Volga method. Mx denotes the probability associated with the various option maturities.

**Chart II.12 CB**  
**Size of housing construction**

(annual moving totals in thousands of apartments)

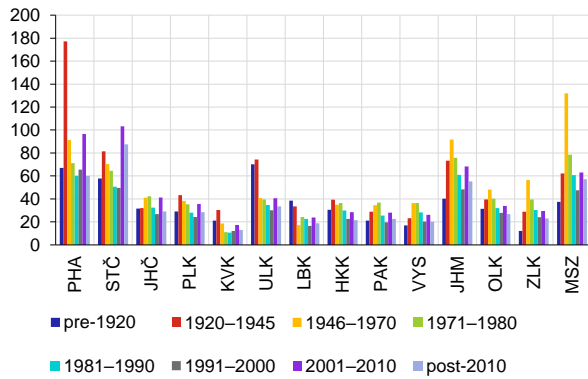


Source: CZSO

Note: Number of apartments in apartment blocks.

**Chart II.13 CB**  
**Structure of housing stock by period of construction**

(thousands of apartments)

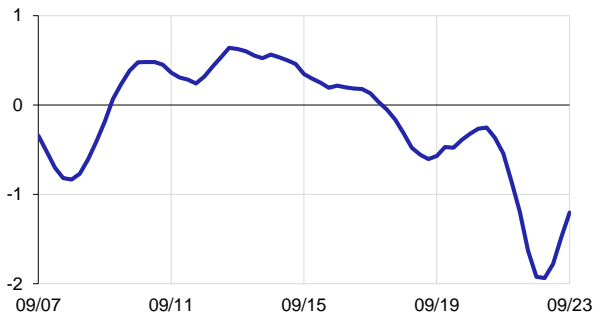


Source: CZSO

Note: This is only an approximation. The size of the housing stock is obtained using data on the period of construction and the average number of apartments in an inhabited apartment block.

**Chart II.15 CB**  
**Risk premium for yields on commercial property**

(pp)



Note: The risk premium is calculated as the difference between the observed yield and the model-implied value.

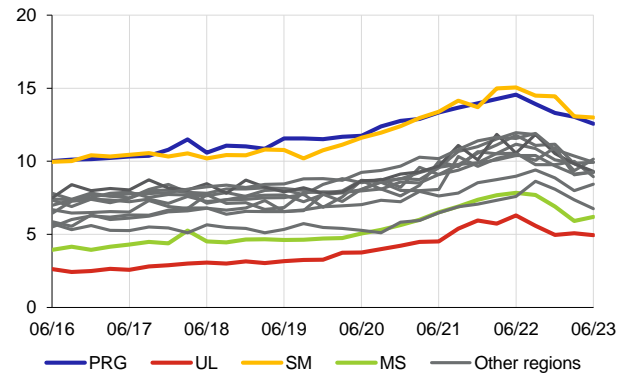
**Table II.1 CB**  
**The Czech Republic's ratings**

Rating agency	Rating	Outlook
Moody's	Aa3	Stable
S&P Global Ratings	AA	Stable
Fitch Ratings	AA-	Negative
JCR	AA	Stable
R&I	AA-	Negative
Scope Ratings	AA-	Stable
Dagong Global Credit Rating	A+	Stable
ACRA Europe	AA	Stable
ACRA	AA	Stable

Source: Ministry of Finance of the Czech Republic

**Chart II.14 CB**  
**PTI by region**

(years)

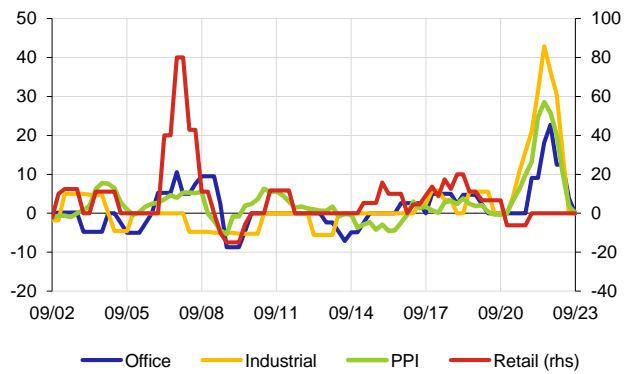


Source: Deloitte, Dataligence, CZSO

Note: PTI denotes the price-to-income ratio. The apartment price is defined as the average price of a 68 m<sup>2</sup> apartment.

**Chart II.16 CB**  
**Commercial property rents**

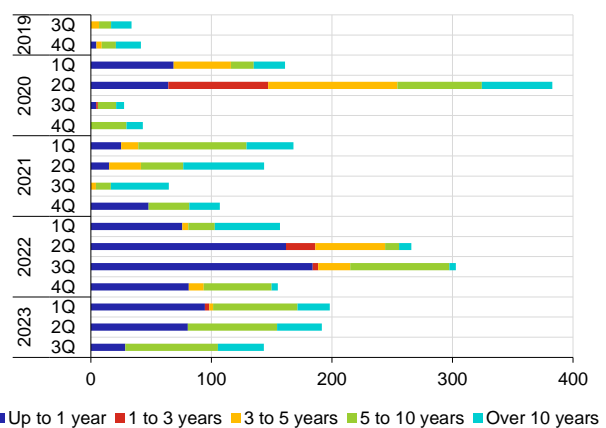
(year-on-year growth in %)



Source: iO Partners, CZSO

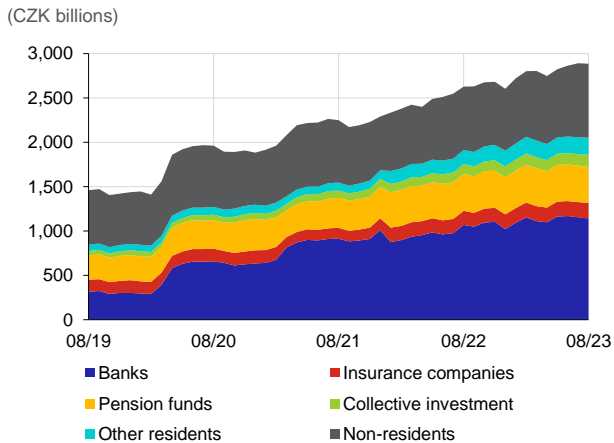
**Chart II.17 CB**  
**New koruna-denominated Czech government bond issue volumes by maturity basket**

(CZK billions)



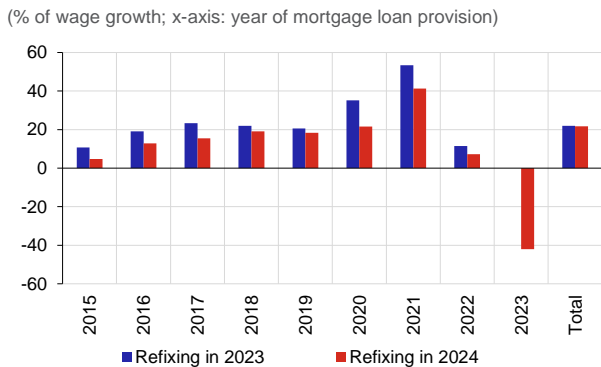
Note: Intervals are right-closed

**Chart II.18 CB**  
**Holdings of koruna-denominated Czech government securities**



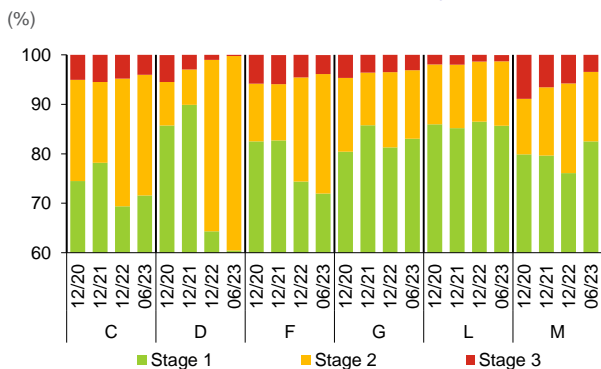
Source: Ministry of Finance of the Czech Republic

**Chart II.20 CB**  
**Indicator of interest rate repricing risk**



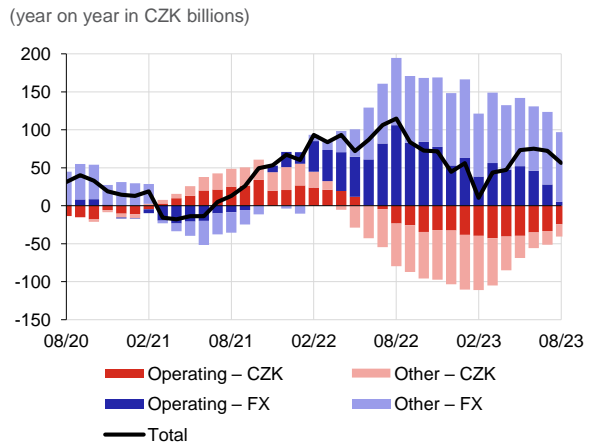
Note: The calculation is based on the *Survey of consumer loans secured by residential property* and covers new loans only. The calculation assumes that the loans provided have not been repaid early (in full or in part) or refinanced before the end of the contractual fixed-rate period and that default has not occurred. In addition, it is assumed that the maturity agreed in the original contract remains unchanged upon refixing and that the new interest rate agreed upon refixing reflects the average market evolution of mortgage rates. Net monthly income after refixing is based on net monthly income when the loan was granted, which is increased over time by the average year-on-year growth rate of wages in the economy.

**Chart II.22 CB**  
**Loans to non-financial corporations by sector**



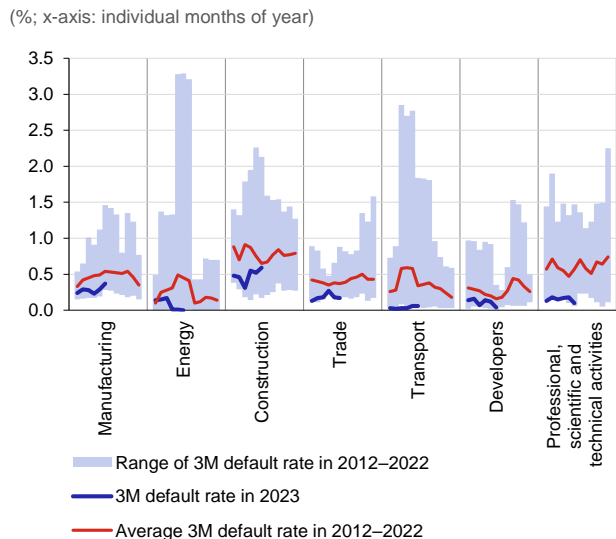
Note: The letters denote NACE sectors: C – Manufacturing, D – Energy, F – Construction, G – Wholesale and retail trade, L – Real estate activities, M – Professional, scientific and technical activities.

**Chart II.19 CB**  
**Change in the stock of loans to non-financial corporations by currency and purpose**



Note: FX stands for foreign currency loans.

**Chart II.21 CB**  
**3M default rate in selected NFC sub-sectors**



Note: The 3-month default rate is a forward-looking indicator defined as the flow of non-performing loans in the next three months divided by the total stock of loans in the starting period.

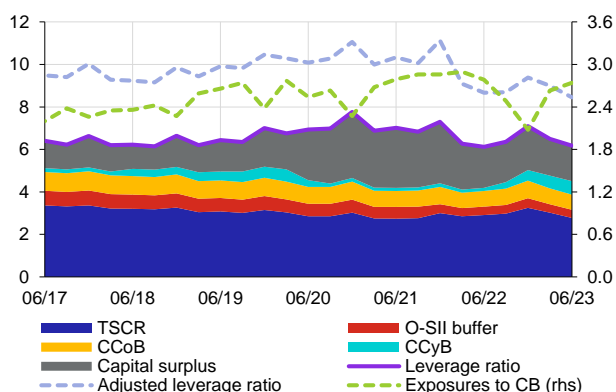


## SECTION III

Chart III.1 CB

## Structure of the leverage ratio by capital source

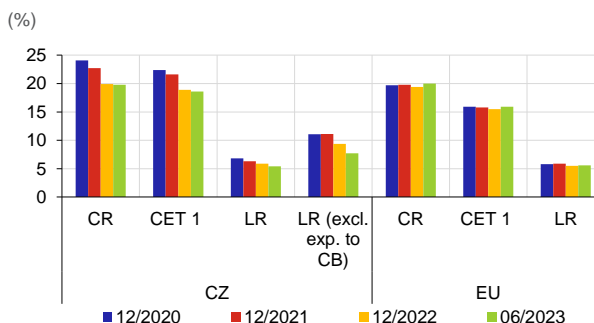
(%; right-hand scale: CZK trillions)



Note: TSCR = sum of Pillar 1 and Pillar 2 requirements. Adjusted leverage ratio = Tier 1/total exposures excluding CB.

Chart III.2 CB

## Capitalisation in the domestic and European banking sectors



Source: EBA

Note: CR = capital ratio, CET1 = Common Equity Tier 1 capital ratio, LR = leverage ratio. The values in the chart are based on EBA data. In view of the different source, they may not be identical to the values given in section III.2.1. The leverage ratio adjusted for exposures to the central bank is also given for the domestic banking sector because of their significant share in total assets (26%).

Table III.1 CB

## Exposures, provisions and coverage ratios by risk stage in the household segment

Households		Exposures		Provisions		Coverage ratio	
Stage	Date	Volume (CZK billions)	Change (%)	Volume (CZK billions)	Change (%)	Ratio (%)	Change (pp)
Total	12/19	1,734		24.8		1.43	
	12/20	1,854	7.0	31.4	26.3	1.69	0.26
	12/21	2,089	12.7	29.5	-6.2	1.41	-0.28
	12/22	2,266	8.5	29.3	-0.4	1.30	-0.12
	08/23	2,347	3.6	30.4	3.6	1.30	0.00
S1	12/19	1,601		2.8		0.18	
	12/20	1,687	5.3	3.9	37.8	0.23	0.05
	12/21	1,873	11.0	3.9	-0.1	0.21	-0.02
	12/22	1,906	1.8	3.9	-0.5	0.20	-0.01
	08/23	1,938	1.7	3.8	-1.3	0.20	-0.01
S2	12/19	102		4.1		4.01	
	12/20	133	30.2	8.8	114.7	6.61	2.60
	12/21	183	37.4	8.1	-7.5	4.45	-2.16
	12/22	332	81.4	10.3	26.1	3.09	-1.36
	08/23	378	14.1	10.8	5.0	2.85	-0.25
S3	12/19	30		17.9		59.61	
	12/20	34	13.4	18.7	4.4	54.83	-4.78
	12/21	33	-4.4	17.4	-6.8	53.43	-1.40
	12/22	28	-13.4	15.2	-12.7	53.89	0.46
	08/23	30	7.2	15.8	3.9	52.22	-1.67

Table III.2 CB

## Exposures, provisions and coverage ratios by risk stage in the non-financial corporations segment

NFCs		Exposures		Provisions		Coverage ratio	
Stage	Date	Volume (CZK billions)	Change (%)	Volume (CZK billions)	Change (%)	Ratio (%)	Change (pp)
Total	12/19	1,298		29.4		2.27	
	12/20	1,304	0.4	43.0	45.9	3.30	1.03
	12/21	1,359	4.2	39.1	-9.0	2.88	-0.42
	12/22	1,457	7.2	40.9	4.7	2.81	-0.07
	08/23	1,546	6.1	36.4	-10.9	2.35	-0.45
S1	12/19	1,155		3.1		0.27	
	12/20	1,046	-9.4	4.7	54.5	0.45	0.19
	12/21	1,116	6.6	4.2	-11.1	0.38	-0.08
	12/22	1,139	2.1	5.4	27.7	0.47	0.09
	08/23	1,221	7.2	5.7	4.7	0.46	-0.01
S2	12/19	101		2.6		2.54	
	12/20	202	100.4	9.8	283.7	4.86	2.32
	12/21	193	-4.8	7.4	-24.3	3.87	-1.00
	12/22	271	40.6	9.6	29.0	3.55	-0.32
	08/23	284	5.1	9.3	-3.4	3.26	-0.29
S3	12/19	42		23.8		56.64	
	12/20	55	31.7	28.4	19.2	51.27	-5.37
	12/21	51	-8.4	27.4	-3.4	54.08	2.82
	12/22	47	-7.4	26.0	-5.4	55.29	1.20
	08/23	41	-13.5	21.4	-16.9	52.80	-2.16

Chart III.3 CB

## Migrations of credit exposures from Stage 1 to Stage 2

(CZK billions)

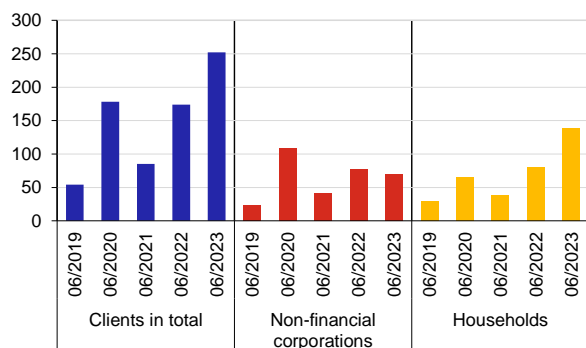
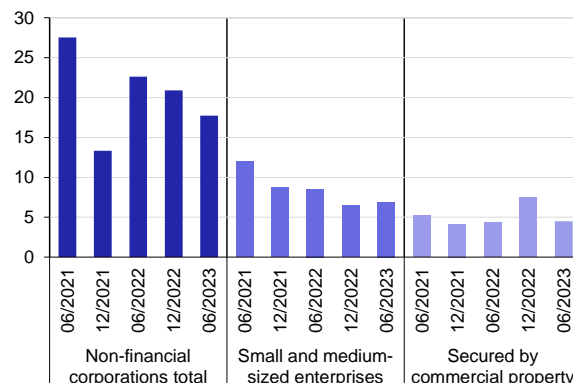


Chart III.4 CB

## Semi-annual increases in exposures in Stage 3 in the non-financial corporations segment

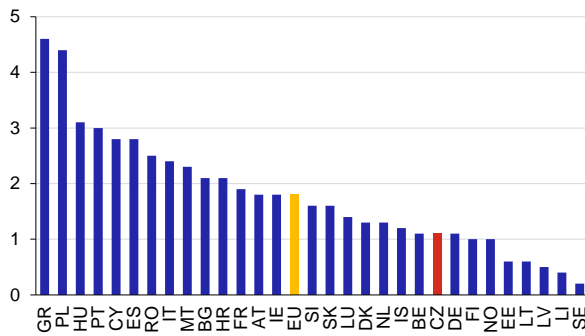
(CZK billions)



Note: Loans to SMEs and loans secured by commercial property account for 82% of loans to non-financial corporations.

**Chart III.5 CB**  
**Shares of non-performing client loans in EEA countries**

(%; as of 30 June 2023)

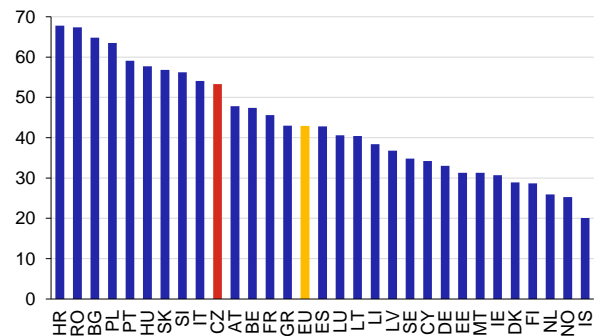


Source: EBA

Note: The figures in the international comparison may differ from the CNB's figures due to a different data source.

**Chart III.6 CB**  
**Coverage rates of non-performing client loans by provisions in EEA countries**

(%; as of 30 June 2023)

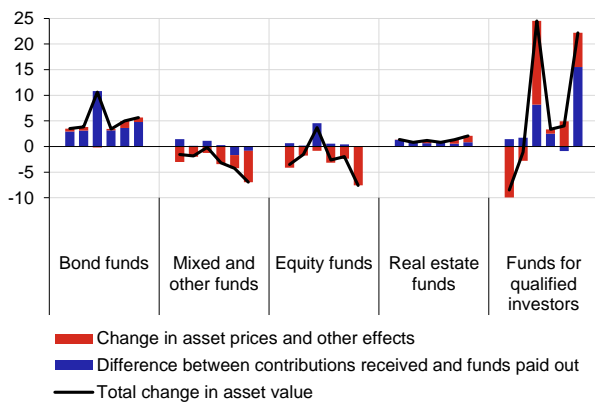


Source: EBA

Note: The figures in the international comparison may differ from the CNB's figures due to a different data source.

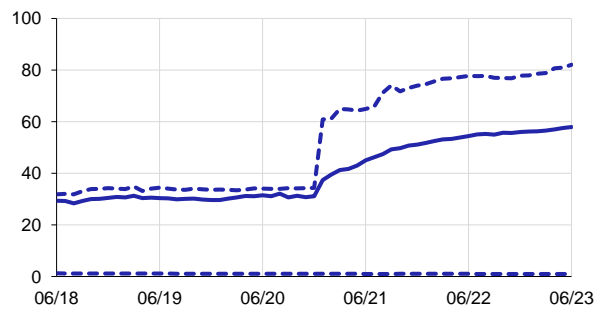
**Chart III.7 CB**  
**Decomposition of the change in the value of investment funds' assets by investment policy in 2023**

(CZK billions; x-axis: January–June 2023)



**Chart III.8 CB**  
**Share of bonds not marked to market held by transformed funds**

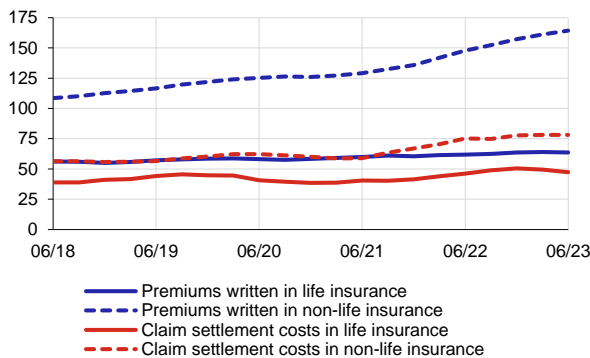
(% of total value of bonds held by transformed funds)



Note: Bonds not marked to market mean bonds at amortised cost and, before 2021, bonds classified as held to maturity. Dashed lines denote the minimum and maximum values across TFs.

**Chart III.9 CB**  
**Developments in the insurance sector**

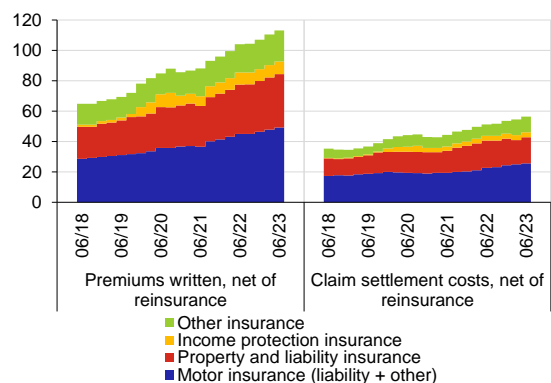
(four-quarter sum; CZK billions)



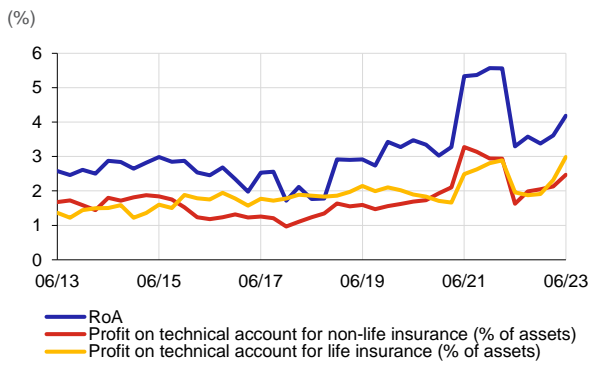
Note: The values are in gross terms, i.e. unadjusted for reinsurers' share.

**Chart III.10 CB**  
**Premiums and claim settlement costs in non-life insurance**

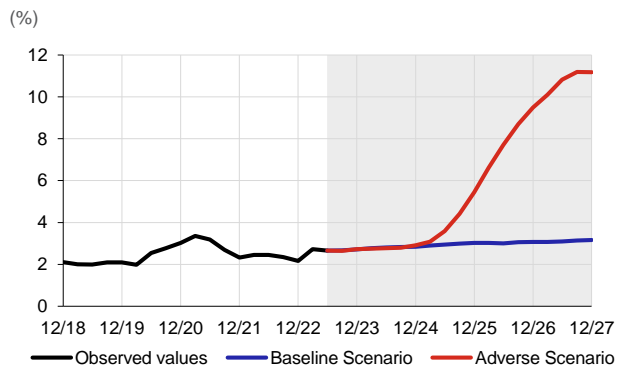
(CZK billions)



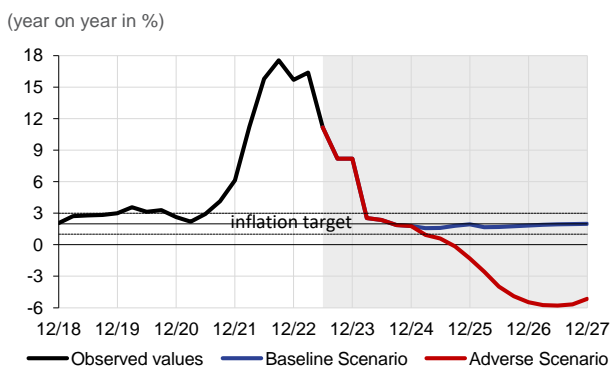
**Chart III.11 CB**  
Insurance sector profitability



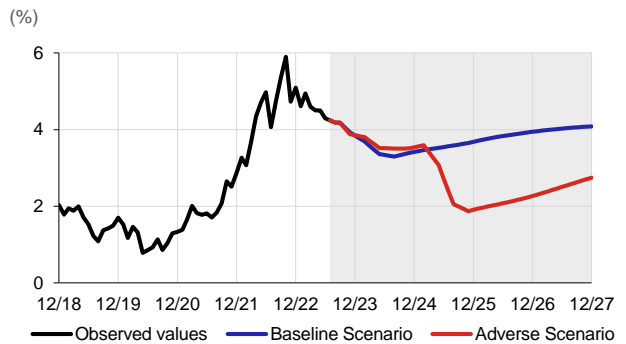
**Chart III.12A CB**  
Alternative scenarios: unemployment rate



**Chart III.12B CB**  
Alternative scenarios: inflation

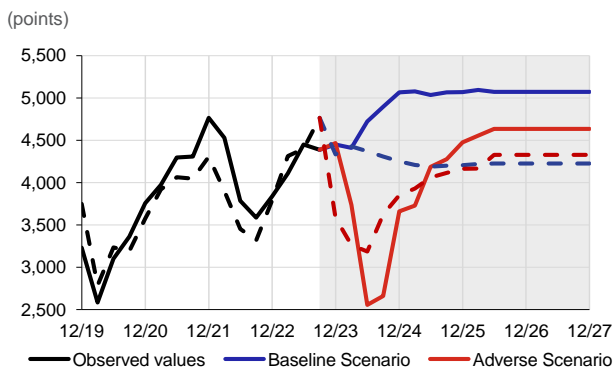


**Chart III.12C CB**  
Alternative scenarios: ten-year Czech government bond yield



Source: CNB, Refinitiv

**Chart III.12D CB**  
Alternative scenarios: stock indices



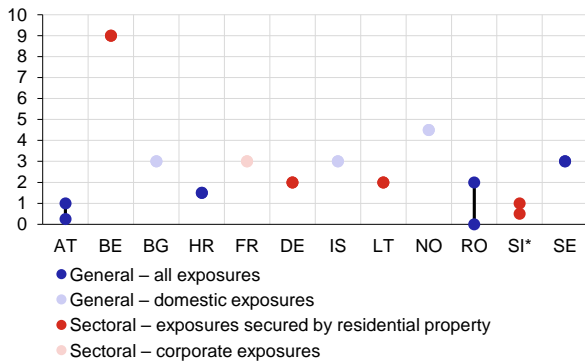
Source: CNB, Refinitiv

Note: The solid line denotes the S&P 500 index and the dashed line the EURO STOXX 50 index.

SECTION IV

**Chart IV.1 CB**  
**SyRB rates in European countries**

(%; rates applicable as of 2 November 2023)

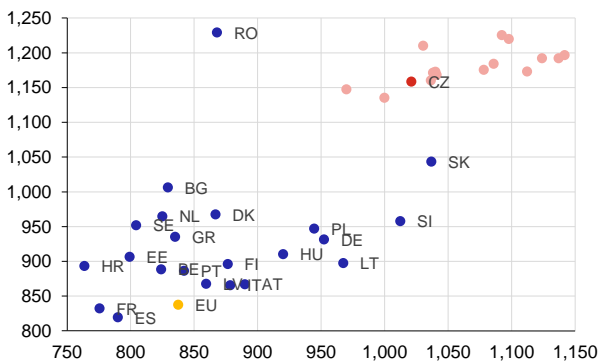


Source: ESRB

Note: In the case of Slovenia, a rate of 1% applies to exposures secured by residential property and a rate of 0.5% to all other exposures to natural persons.

**Chart IV.3 CB**  
**Concentration index for employment and economic activity in selected EU countries in 2021**

(HHI in points; x-axis: gross value added; y-axis: employment)

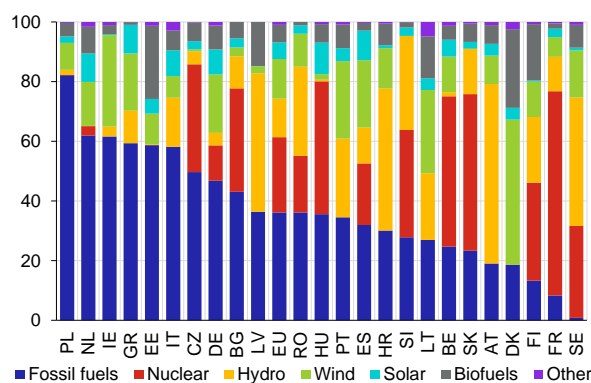


Source: Eurostat

Note: The light red points denote values for the Czech Republic in 2006–2020.

**Chart IV.5 CB**  
**Electricity production by source in selected EU countries**

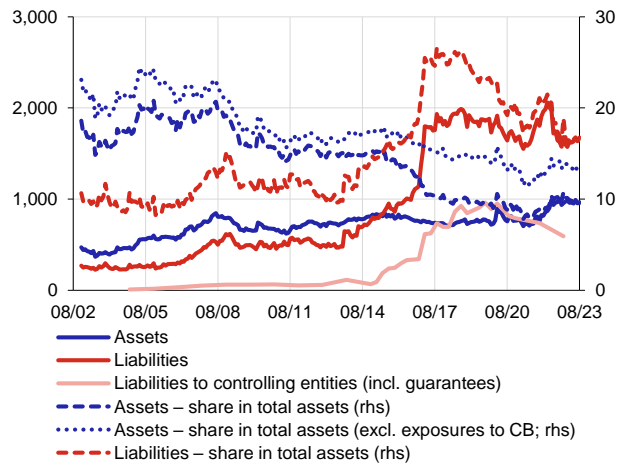
(share in gross electricity production in % in 2021)



Source: Eurostat

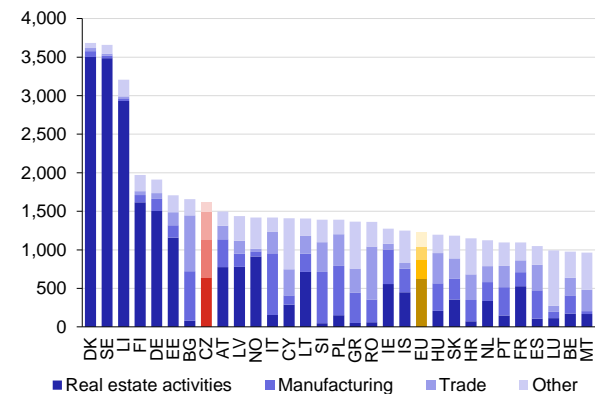
**Chart IV.2 CB**  
**Balance-sheet exposures to non-residents**

(CZK billions; right-hand scale: %)



**Chart IV.4 CB**  
**Concentration index for bank loans and receivables by sector in selected EU countries**

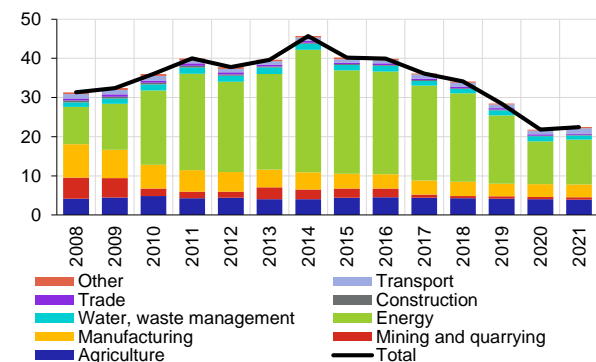
(contributions to HHI in points as of 31 December 2022)



Source: EBA

**Chart IV.6 CB**  
**Average emission intensity of credit exposures**

(in tonnes of CO<sub>2</sub> per CZK million of gross value added in sector)

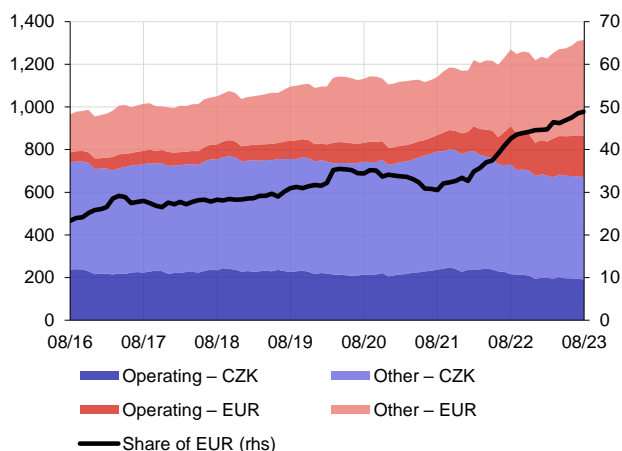


Source: CNB, Eurostat

Note: Calculated as the sum of the shares of emissions in gross value added in the given sectors, weighted by the shares of loans to each sector in total loans to non-financial corporations.

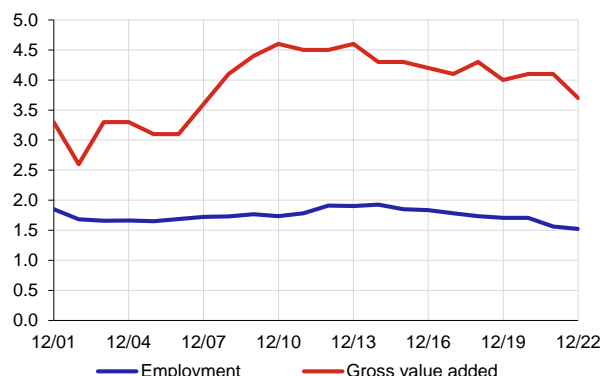
**Chart IV.7 CB**  
**Stocks of loans to non-financial corporations by currency**

(CZK billions; right-hand scale: %)



**Chart IV.8 CB**  
**Employment and gross value added in financial sectors**

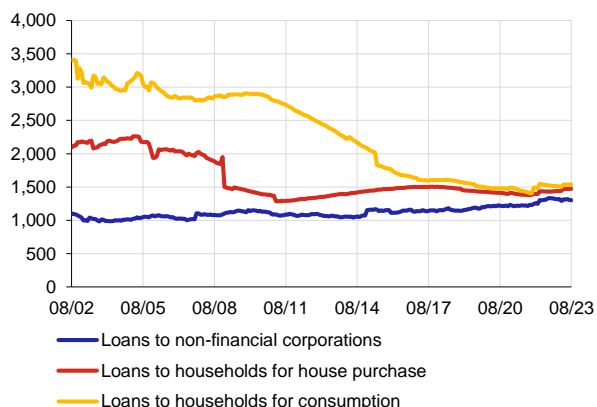
(share in total domestic economy in %)



Note: Calculated as the share of each indicator in section K – Financial and insurance activities in the total value for the economy.

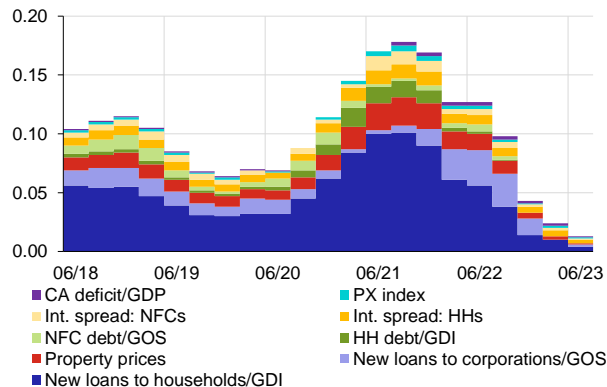
**Chart IV.9 CB**  
**Concentration of the main credit portfolios**

(HHI in points)



**Chart IV.10 CB**  
**Breakdown of the financial cycle indicator**

(0 minimum, 1 maximum)



Source: CNB, CZSO

Note: The interest rate spread is defined as the difference between the client rate on new loans and the relevant 3M interbank rate (PRIBOR for koruna loans and EURIBOR for euro loans).

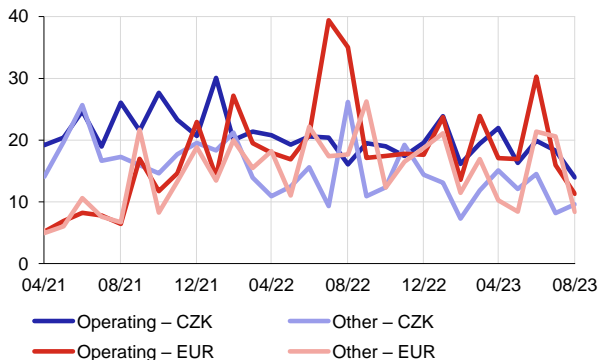
**Table IV.1 CB**  
**Conversion of FCI values into the countercyclical capital buffer rate**

Range of FCI values		CCyB rate
from	to	
0.00	0.09	0.00%
0.09	0.10	0.25%
0.10	0.12	0.50%
0.12	0.14	0.75%
0.14	0.16	1.00%
0.16	0.18	1.25%
0.18	0.21	1.50%
0.21	0.24	1.75%
0.24	0.27	2.00%
0.27	0.30	2.25%
0.30	1.00	2.50%

Note: The interval containing the current FCI value is indicated in red.

**Chart IV.11 CB**  
**Drawdown of loans to non-financial corporations**

(monthly volume in CZK billions)

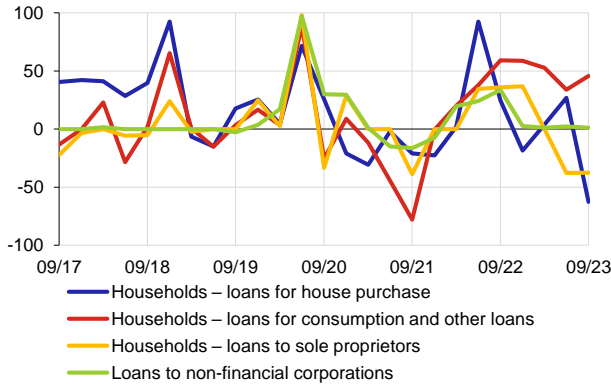


Note: The chart shows the estimate of total month-on-month growth in the volume of loans drawn for loans that (1) were not drawn in the previous month or (2) saw an increase in the amount drawn. The drawdown of loans drawn and repaid within one month is excluded. Foreign currency loans are adjusted for exchange rate effects.



**Chart IV.12 CB**  
**Credit standards in the Czech Republic**

(net percentages)

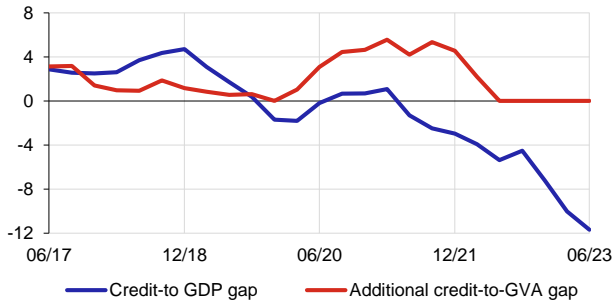


Source: [Bank Lending Survey](#), CNB

Note: The data represent the difference between the market share of banks that reported a tightening of lending standards and banks that reported an easing of lending standards in the past three months. More information on the indicator methodology can be found on the CNB website.

**Chart IV.14 CB**  
**Standardised credit-to-GDP gap and additional gap**

(pp)

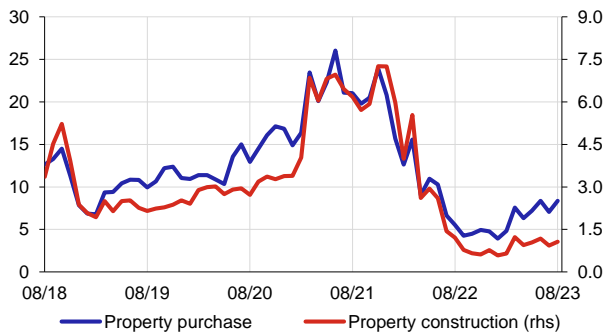


Source: CNB, CZSO

Note: The trend in the standardised gap is estimated using the HP filter ( $\lambda = 400,000$ ) over the entire time series. The additional gap – the expansionary credit gap – is calculated as the difference between the ratio of bank loans to the gross value added (GVA) of the private sector and the minimum level of this ratio over the past eight quarters.

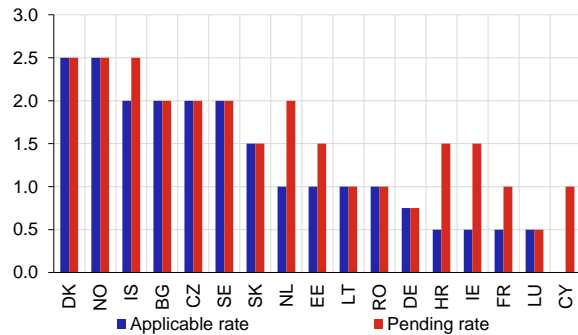
**Chart IV.16 CB**  
**Mortgage loans provided by purpose**

(CZK billions)



**Chart IV.13 CB**  
**CCyB rates in selected European countries**

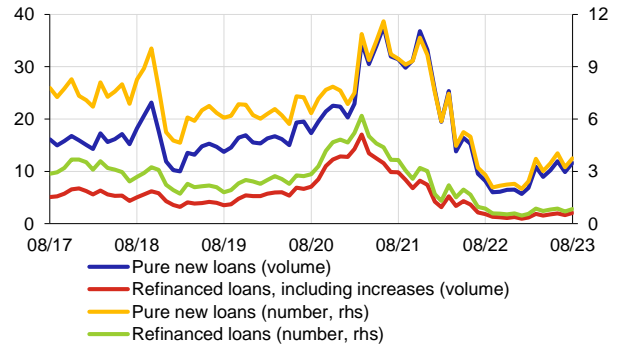
(% of total risk exposure; values as of 31 October 2023)



Source: ESRB

**Chart IV.15 CB**  
**Number and volume of new and refinanced mortgage loans**

(CZK billions; right-hand scale: thousands)



Note: The data are based on the CNB Survey and include mortgage loans and standard and bridging building society loans secured by residential property. They may also contain undrawn loans.

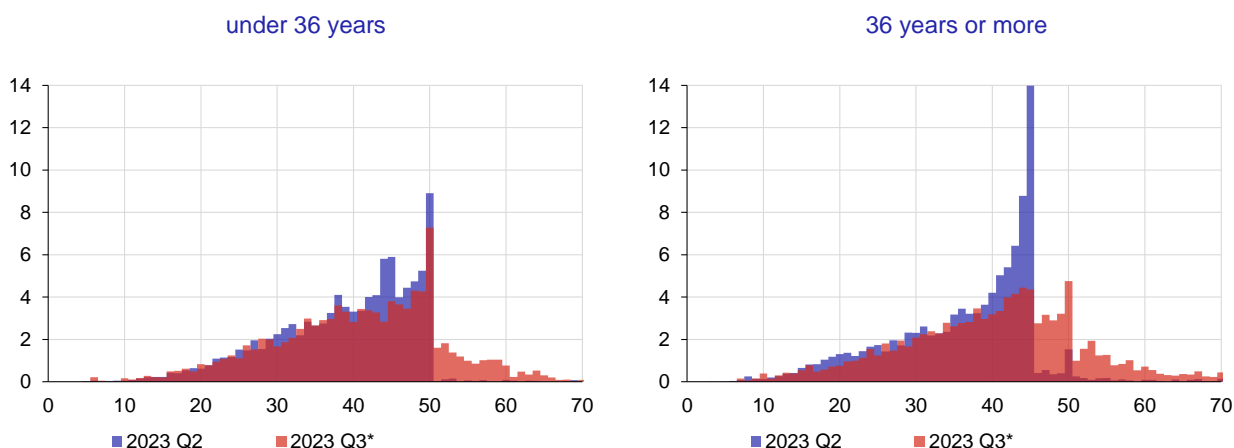
**Table IV.2 CB**  
**Median values of the characteristics of new mortgage loans and loan applicants**

	2018	2019	2020	2021	2022	2023		
						Q1	Q2	Q3*
Loan size (CZK millions)	1.8	1.9	2.3	2.8	2.6	2.4	2.5	2.5
Interest rate (%)	2.5	2.7	2.2	2.3	4.6	5.9	5.9	5.8
Instalment (CZK thousands)	8.3	8.8	9.7	11.6	14.4	14.9	15.2	15.7
Maturity (years)	30	30	30	30	30	30	30	30
Fixed-rate period (years)	5.0	5.8	6.9	5.0	5.0	4.9	4.9	4.9
Collateral value (CZK millions)	3.1	3.3	3.8	4.7	5.1	4.5	4.7	4.7
Number of properties securing loan			1.0	1.0	1.0	1.0	1.0	1.0
LTV (%)	74.2	72.2	74.0	70.2	67.2	67.0	66.7	69.0
DTI (net annual incomes)	5.2	5.0	5.4	5.9	5.3	4.6	4.6	4.7
DSTI (%)	34.2	33.0	32.8	34.8	38.6	37.5	37.6	38.4
Net monthly income (CZK thousands)	38.6	42.5	46.3	51.1	58.8	63.6	65.0	64.8
Net monthly income adjusted for instalments (CZK thousands)	25.3	28.5	31.0	32.9	36.3	40.3	41.1	39.8
Number of loan applicants	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0

Note: The values in the table indicate the median for the given period. The data for 2023 Q3 are based on the figures for July and August. The DTI and DSTI ratios for 2018 are calculated from data for the second half of 2018, and the number of properties for 2020 is calculated from data for the second half of 2020.

**Chart IV.17 CB**  
**DSTI breakdown of new mortgage loans in the age categories of under 36 years and 36 years or more**

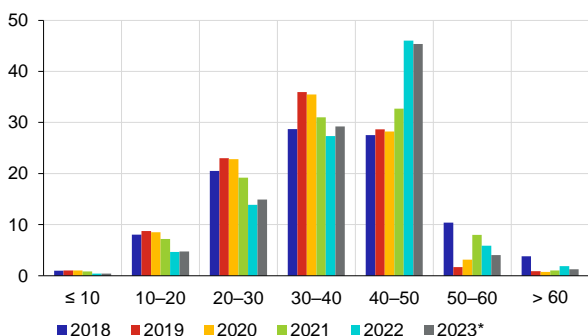
(% of total volume; x-axis: DSTI in %)



Note: The figures for 2023 Q3 contain data for July and August only.

**Chart IV.18 CB**  
**New mortgage loans by DSTI category**

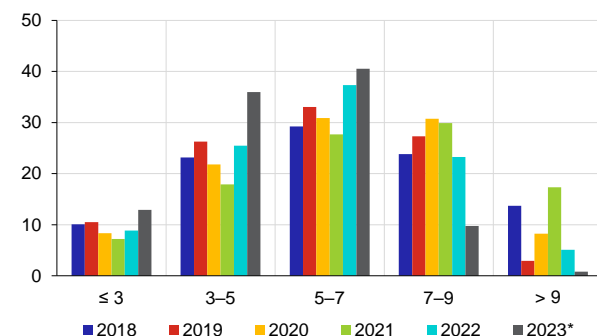
(% of total volume; x-axis: DSTI in %)



Note: Interval closed from the right. The figures for 2023 contain data from January to August 2023 only.

**Chart IV.19 CB**  
**New mortgage loans by DTI category**

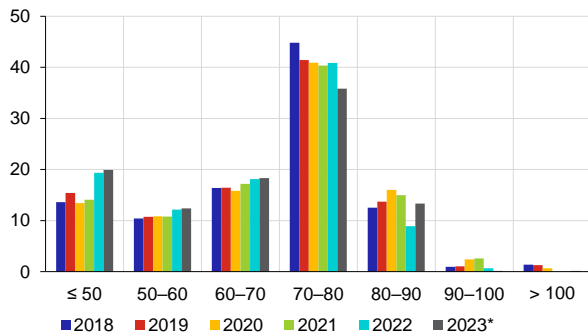
(% of total volume; x-axis: DTI in net annual incomes)



Note: Interval closed from the right. The figures for 2023 contain data from January to August 2023 only.

**Chart IV.20 CB**  
**New mortgage loans by LTV category**

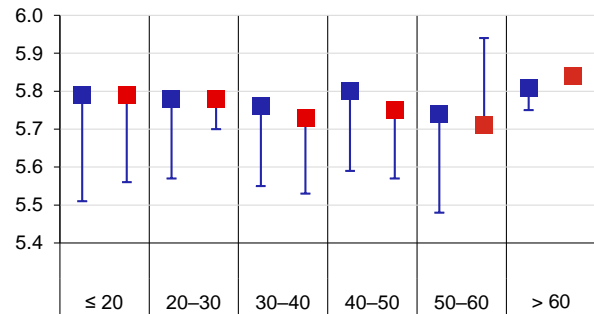
(% of total volume; x-axis: LTV in %)



Note: Interval closed from the right. The figures for 2023 contain data from January to August 2023 only.

**Chart IV.21 CB**  
**Average interest rates on mortgage loans by loan characteristics**

(average interest rate in %; x-axis: DSTI in %)



- Average interest rate – total loans
- Average interest rate on loans with LTV > 80%
- ⊥ Year-on-year change in interest rates

Note: Loans only include pure new mortgage loans. The data may also contain undrawn loans. Data for July and August 2023. Average interest rates are weighted by mortgage loan size. Interval closed from the right.

**Chart IV.22 CB**  
**Estimated affordability of a mortgage loan for a median-income household in terms of DSTI by region**

(%)

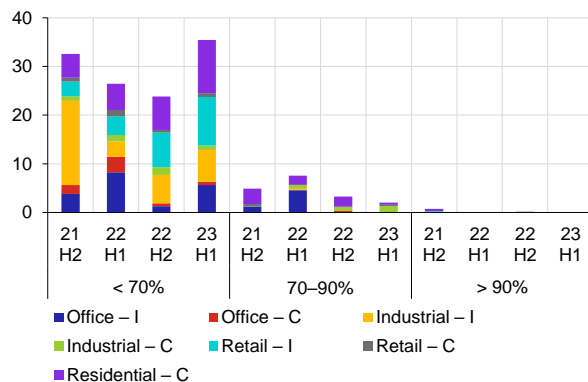


Source: CZSO, CenovaMapa.org, CNB

Note: The calculation for 2023 is consistent with the CNB's autumn forecast ([MPR – Autumn 2023](#)). The estimate assumes that LTV = 80% and the purchase price equals the value of collateral.

**Chart IV.23 CB**  
**LTV distribution of new loans secured by commercial property over time**

(CZK billions; x-axis: LTV in %)



Note: I: investment in property, C: construction.

# Glossary

**Bank Lending Survey:** A survey of bank lending conditions for non-financial corporations and households in the Czech Republic, the pilot round of which took place in 2012 Q1. The survey aims to obtain qualitative information on current perceptions of the situation on both the supply and demand side of the credit market.

**Basel III:** A regulatory framework issued by the Basel Committee on Banking Supervision in 2010 which sets standards for capital adequacy of banks and now also for their liquidity. Overall, Basel III introduces stricter rules than the previous framework and came into existence mainly as a reaction to the financial crisis.

**Breakdown of banks by total assets:** In some charts and tables in the FSR, banks are assigned to groups based on the amount of their total assets. The breakdown of banks into groups is revised at the end of each calendar year. As from 2016, the breakdown of banks by total assets is as follows: large banks with a share of more than 10% of the banking sector's assets, medium-sized banks with a share of 2%–10% of the banking sector's assets and small banks with a share of less than 2% of the banking sector's assets.

**Capital ratio:** The ratio of regulatory capital to total risk-weighted assets. The Tier 1 capital ratio is the ratio of Tier 1 capital to total risk-weighted assets (see also Tier 1).

**Capital requirement:** The capital requirement is the amount of capital a bank has to hold so as to cover all the risks it undertakes.

**Collective investment funds (CIFs):** Mutual and investment funds whose sole business activity is collective investment, i.e. collecting funds from investors and investing them. CIFs are broken down by investor type into funds intended for the public (dominated by open-ended mutual funds) and funds for qualified investors, and by asset risk into money market, bond, equity, mixed and real estate funds and funds of funds. Sometimes the category of funds of funds is not listed separately, but is included in the other categories according to the type of funds in which they invest.

**Consumer credit:** A deferred payment, monetary loan, credit or other similar financial accommodation provided or intermediated to a consumer (see Article 2(1) of Act No. 257/2016 Coll., on consumer credit).

**Consumer credit secured by residential property:** Consumer credit that is secured by residential property within the meaning of the directly applicable EU regulation governing prudential requirements or is secured by a right in rem to that residential property (see Article 45a(2) of Act No. 6/1993 Coll., on the Czech National Bank).

**Countercyclical capital buffer:** A macroprudential tool designed to increase the banking sector's resilience to cyclical risks associated with fluctuations in lending.

**Debt service-to-income (DSTI):** The ratio of total debt service to the net income of the loan applicant.

**Debt-to-income:** The ratio of debt to the net income of the loan applicant.

**Default:** Default is defined as a breach of the debtor's payment discipline. In regulatory terminology (Regulation (EU) No 575/2013), The debtor is in default at the moment when it is probable that he will not be able to repay his obligations in a proper and timely manner, without recourse by the creditor to settlement of the claim from the security, or when at least one repayment (the amount of which deemed by the creditor to be significant) is more than 90 days past due.

**Growth rate of outstanding loans:** The year-on-year change in outstanding loans as used in financial stability analyses. Not usually adjusted for reclassifications, write-offs and the exchange rate. Adjustment is only applied in the event of the creation or dissolution of institutions. The growth rate thus differs from that used by the CNB in the monetary policy context, which is fully adjusted in accordance with the ECB approach harmonised across the EU.

**IFRS 9:** The financial reporting standard IFRS 9 *Financial instruments*, the final version of which was introduced in July 2014 by the International Accounting Standards Board (IASB), took effect on 1 January 2018 pursuant to Commission Regulation (EU) 2016/2067, replacing the previously valid IAS 39 standard. IFRS 9 lays down requirements for the recognition, valuation, impairment and derecognition of financial assets and financial liabilities and general hedge accounting. It aims to provide financial statement users with relevant information for assessing the size, timing and uncertainty of an entity's future cash flows.

**Institutional investor:** Either (a) a bank executing trades in investment instruments on its own account on the capital market, a management company, an investment fund, a pension management company or an insurance company, or (b) a foreign entity authorised to carry on business in the same fields in the Czech Republic as the entities listed under (a).

**Interest margin:** The difference between a bank's loan rate and its deposit rate.

**Interest rate spread:** Also interest rate differential; the spread between the interest rate on a contract (deposit, security) and a reference interest rate.

**Leverage:** See Leverage ratio.

**Leverage ratio:** The CRD IV/CRR rules define the leverage ratio as capital to risk-weighted assets. The term leverage is also often used in financial economics. There, however, capital is the denominator in the ratio (e.g. assets/capital or debt/capital). When we say that a bank has high leverage, we generally refer to the definition consistent with the assets/capital ratio. However, such a bank has a low leverage ratio.

**Liquidity coverage ratio:** A requirement to cover net liquidity outflows over a 30-day time horizon with liquid assets. It is calculated as the ratio of the liquidity buffer to the net liquidity outflow.

**Loan for consumption:** Credit used to finance household consumption. It also includes bank overdrafts and debit balances and credit card credit.

**Loan for house purchase:** Consumer credit (a) secured with real property or a lien on real property; (b) the purpose of which is (1) to acquire, settle or maintain rights to real property or part of real property; (2) to build real property or part of real property; (3) to pay for a transfer of a share in a housing cooperative or to acquire a share in another legal entity in order to acquire the right to use a flat or a house, (4) to change a building in accordance with the Building Act or to connect it to public networks; (5) to cover costs related to obtaining a cash loan, credit or other similar financial service with the purpose referred to in (1)–(4), or (6) to repay credit, a cash loan or other similar financial service provided for purposes referred to in (1)–(6); or (c) provided by a building society in accordance with the act regulating building savings schemes.

**Loan service-to-income:** The ratio of loan-related debt service to the net income of the loan applicant.

**Loan-to-income (LTI):** The ratio of the amount of a loan to the net income of the loan applicant.

**Loan-to-value (LTV):** The ratio of the amount of a loan to the value of collateral.

**Loss given default (LGD):** The ratio of the loss on an exposure in the event of counterparty default to the amount owed at the time of default.

**Macroprudential policy:** A key component of financial stability policy. It focuses on the stability of the financial system as a whole. Its main objective is to help prevent systemic risk.

**Market liquidity:** The ability of market participants to carry out financial transactions in assets of a given volume without causing a pronounced change in their prices.

**Minimum Requirement for Own Funds and Eligible Liabilities (MREL):** A sufficient volume of eligible liabilities is necessary for a failed bank to be recapitalised using internal funds (bail-in). In the event of a crisis, the CNB writes off or converts these liabilities. A sufficient MREL together with the application of a suitable combination of resolution tools thus enables a failed institution to be resolved without the use of public money.

**Mortgage loan:** Consumer credit secured by residential property.

**Mortgage loan refinancing:** The process whereby a mortgage debtor accepts a new mortgage loan from a different lender and uses it to repay the mortgage loan with the original lender. He thus becomes a debtor of the other lender. This is usually possible only at the end of the original loan's fixation period.

**Mortgage loan refixation:** The process whereby at the end of the fixation period of a mortgage loan the debtor selects the length of the new fixation period and negotiates new conditions for this period with the creditor. In this case, the identity of the creditor does not change.

**Net stable funding ratio (NSFR):** A structural liquidity requirement monitored over a one-year time horizon. It is defined as the ratio of available stable funding to required stable funding.

**Non-bank financial corporations engaged in lending:** Financial leasing companies, other lending companies, including consumer credit, credit card and hire-purchase providers, and factoring and forfaiting companies.

**Non-performing loans:** A loan is non-performing if at least one of the following two situations occurs: a) the debtor is unlikely to pay its credit obligations in full without recourse to actions such as realising security, b) the debtor is past due more than 90 days on a credit obligation. For details, see Article 178 of Regulation (EU) No 575/2013 of the European Parliament and of the Council.

**Pension funds:** In the Czech environment, pension funds are transformed and participation funds which are managed by pension management companies. Participation funds are further classed into obligatory conservative funds and other funds. Obligatory conservative funds are only allowed to invest in a significantly restricted group of assets.

**Pillar 1:** The first part of the CRD directive, focused on the determination of minimum capital requirements for all credit institutions to cover credit, market and operational risks.

**Pillar 2:** The second part of the CRD directive, requiring credit institutions to assess whether the Pillar 1 capital requirement is sufficient to cover all the risks to which they are exposed. This assessment process is reviewed by the supervisory authority under the supervisory review and evaluation process (SREP). The supervisory authority then can apply a wide range of instruments, including setting an additional capital requirement, for example to cover concentration risk.

**Prague InterBank Offered Rate (PRIBOR):** The reference interest rate on the interbank deposit market for deposit sales. Reference banks quoting the PRIBOR must be important participants in the interbank market.

**Price-to-income (PTI):** A housing affordability indicator calculated as the ratio of the property price to the annual income of the household or loan applicant.

**Price-to-rent (PTR):** The ratio of the price of an apartment to the annual rent. The price-to-rent ratio is the inverse of the rental return.

**Property asking prices:** Property sale asking prices in estate agencies. Asking prices should be higher than transaction prices. Property asking prices in the Czech Republic are published, for example, by the CZSO and the Institute for Regional Information (which also publishes data on market rent supply prices).

**Property developers/developments:** Companies/projects whose aim is to build a complex of residential and commercial property. Property developers' work includes choosing an appropriate site, setting up a project, obtaining the necessary permits, building the necessary infrastructure, constructing the buildings and selling the property. Developers also often organise purchase financing for clients and frequently lease or manage the property once it is built (especially in the case of commercial property). Given the combination of construction activity and speculative property purchases, developers' results are strongly dependent on movements in property prices.

**Property transaction prices:** Prices of actual transactions on the property market, which should be the closest to actual market prices. The CZSO has been publishing two types of data on property transaction prices since 2011. Prices based on Ministry of Finance statistics from property transfer tax returns and published by the CZSO are the older source. These data contain time series from 1998 and are available in a relatively detailed breakdown (by region, degree of wear and tear and type of property). On the other hand, they do not include transactions which are not subject to property transfer tax (i.e. primarily transactions in new property) and the index is published with a lag of at least half a year. The second, new source of data on property transaction prices is data from CZSO surveys in estate agencies. They cover new property, but are not available in such a long time series and such a detailed breakdown.

**Return on assets (RoA):** The ratio of pre-tax profit and interest to total assets of a firm.

**Risk premium:** The risk premium an investor demands on investments in riskier financial instruments.

**Sovereign risk:** The risk that a government will default on its obligations, leading to national bankruptcy or restructuring of government debt.

**Systemic risk:** The risk of a threat to the stability of the financial system or of financial instability.

**Tier 1:** The highest quality and, for banks in the Czech Republic, also the most significant part of regulatory capital. The dominant components of Tier 1 are equity capital, retained earnings and mandatory reserve funds.

**VIX:** An index of expected 30-day volatility of US stocks (S&P 500 index), derived from market prices of options traded at the Chicago Board Options Exchange. A higher value indicates higher expected volatility of the stock index, and therefore higher market uncertainty.

**Volatility adjustment:** A Solvency II measure enabling insurance (reinsurance) companies to adjust risk-free interest rates in order to reflect the effect of short-term volatility of bond spreads.



# Abbreviations

AEs	advanced economies	EIOPA	European Insurance and Occupational Pensions Authority
BCBS	Basel Committee on Banking Supervision	EL	expected loss
BEA	Bureau of economic analysis (U.S. Department of commerce)	EMs	emerging market economies
BIS	Bank for International Settlements	EMIR	Regulation on OTC derivatives, central counterparties and trade repositories
bp	basis point	EMU	European Monetary Union
BRCI	Bank Register of Client Information operated by Czech Credit Banking Bureau	ESA	Joint Committee of European Supervisory Authorities
C	construction	ESFS	European System of Financial Supervision
CB	central bank	ESMA	European Securities and Markets Authority
CBCB	Czech Banking Credit Bureau	ESRB	European Systemic Risk Board
CBR	combined buffer requirement	EU	European Union
CCoB	capital conservation buffer	EUR	euro
CCyB	countercyclical capital buffer	EURIBOR	Euro InterBank Offered Rate (reference interest rate on the interbank market)
CDS	credit default swap	FCI	financial cycle indicator
CEB	Czech Export Bank	FCLs	foreign currency loans
CEE	Central and Eastern Europe	Fed	Federal Reserve System
CET1	common equity Tier 1	FI	financial institution
CF	Consensus Forecast	FINREP	Financial Reporting
CISS	Composite Indicator of Systemic Risk	FSR	Financial Stability Report
CI	credit institution	G20	Group of Twenty
CLO	collateralised loan obligation	GB	government bond
CNB	Czech National Bank	GDI	gross disposable income
CNCB	Czech Non-Banking Credit Bureau	GDP	gross domestic product
COREP	The Common Reporting Framework	GFSR	Global Financial Stability Report
Coll.	collection	GNI	gross national income
CPI	Consumer Price Index	G-SII	Global systemically important institution
CRD	Capital Requirements Directive	H	half-year
CRR	Capital Requirements Regulation	HBS	Household Budget Statistics
CSDB	Centralised Securities Database	HHI	Herfindahl-Hirschman Index
CZK	Czech koruna	I	investment
CZSO	Czech Statistical Office	IAS	International Accounting Standards
DSCR	debt service coverage ratio	IFRS	International Financial Reporting Standards
DSTI	debt service-to-income	ILO	International Labour Organization
DTI	debt-to-income	IMF	International Monetary Fund
EA	euro area	IPCC	Intergovernmental Panel on Climate Change
EAD	exposure at default	IPFCs	investment and pension funds and companies
EBA	European Banking Authority	IR	Inflation Report
EC	European Commission	IRB	Internal Rating Based Approach, an approach within the Basel II framework for capital adequacy of banks
ECB	European Central Bank		
ECL	expected credit loss		
EGAP	Export Guarantee and Insurance Company		
EIB	European Investment Bank		

IRI	Institute for Regional Information	OFIs	other financial intermediaries
IRS	interest rate swap	O-SII	Other systemically important institutions
ISR	sovereign risk indicator	PD	probability of default
IT	information technology	PEPP	Pandemic emergency purchase programme
LAA	loss absorption amount	P/L	profit/loss
LCR	liquidity coverage ratio	PMC	pension management company
LGD	loss given default	PMI	Purchasing Managers' Index
LLP	loan loss provision	pp	percentage point
LSTI	loan service-to-income	PRIBOR	Prague InterBank Offered Rate (reference interest rate on the interbank market)
LTI	loan-to-income	PTI	price-to-income
LTV	loan-to-value	Q	quarter
M	month	QA	quick assets
MBs	mortgage bonds	RCA	recapitalisation amount
MF CR	Ministry of Finance of the Czech Republic	RoA	return on assets
MIT	Ministry of Industry and Trade	RPN	Research and Policy Notes
MM	money market	S&P	Standard & Poor's
MPR	Monetary Policy Report	SCR	Solvency Capital Requirement
MREL	minimum requirement for own funds and eligible liabilities	SHI	social and health insurance
MREL <sub>TEM</sub>	Minimum requirement for own funds and eligible liabilities – total exposure measure	SMEs	small and medium-sized enterprises
MREL <sub>TREA</sub>	Minimum requirement for own funds and eligible liabilities – total risk exposure amount	SMST	solvency macro stress test
MSCI	Morgan Stanley Capital International	SOLUS	Sdružení na ochranu leasingu a úvěrů spotřebitelům (Association for the Protection of Leasing and Loans to Consumers)
NACE	General Industrial Classification of Economic Activities	SyRB	systemic risk buffer
NBER	The National Bureau of Economic Research	STA	standardised approach to credit risk
NDB	National Development Bank	SFA	stock flow adjustments
NFC	non-financial corporation	TEM	see MREL <sub>TEM</sub>
NFCEL	non-bank financial corporations engaged in lending	TF	transformed fund
NP	natural person	TLTRO	Targeted Longer-Term Refinancing Operations
NPISH	non-profit institutions serving households	TP	technical provision
NPL	non-performing loan	TREA	see MREL <sub>TREA</sub>
NRCI	Non-bank Register of Client Information	TSCR	total supervisory review and evaluation process capital requirement
NSFR	net stable funding ratio	TTC	through the cycle
OCI	other comprehensive income	ULI	Unit Linked Insurance
OCR	overall capital requirement	VIX	Volatility index
OECD	Organisation for Economic Cooperation and Development	WGI	Worldwide Governance Indicators
		WP	Working Paper
		Y	year

## Country abbreviations

AT	Austria	IT	Italy
AU	Australia	JP	Japan
BE	Belgium	KR	South Korea
BG	Bulgaria	KZ	Kazakhstan
BR	Brazil	LT	Lithuania
CA	Canada	LU	Luxembourg
CL	Chile	LV	Latvia
CN	China	MT	Malta
CY	Cyprus	MX	Mexico
CZ	Czech Republic	MY	Malaysia
DE	Germany	NG	Nigeria
DK	Denmark	NL	Netherlands
EA	euro area	NO	Norway
EE	Estonia	NZ	New Zealand
ES	Spain	PL	Poland
FI	Finland	PT	Portugal
FR	France	RO	Romania
GR	Greece	RU	Russia
HK	Hong Kong	SE	Sweden
HR	Croatia	SI	Slovenia
HU	Hungary	SK	Slovakia
CH	Switzerland	TH	Thailand
ID	Indonesia	TR	Turkey
IE	Ireland	UK	United Kingdom
IL	Israel	US	United States
IN	India	ZA	Republic of South Africa
IS	Iceland		

## Abbreviations of regions

HK	Hradec Králové Region
SB	South Bohemian Region
SM	South Moravian Region
KV	Karlovy Vary Region
LIB	Liberec Region
MS	Moravian-Silesian Region
OLO	Olomouc Region
PAR	Pardubice Region
PRG	Prague
PLZ	Plzeň Region
CB	Central Bohemian Region
UL	Ústí nad Labem Region
VYS	Vysočina Region
ZL	Zlín Region

# Selected indicators

## FINANCIAL STABILITY INDICATORS – PART 1

	2017	2018	2019	2020	2021	2022	I.	2023 II.	III.	
<b>Macroeconomic environment</b>										
ME.1	Real GDP growth (year on year, %)	5.2	3.2	3.0	-5.5	3.6	2.4	-0.4	-0.6	-0.6
ME.2	Consumer price inflation (average annual index growth, %)	2.5	2.1	2.8	3.2	3.8	15.1	16.4	11.2	8.1
ME.3	General government balance / GDP (%)	1.5	0.9	0.3	-5.8	-5.1	-3.2			
ME.4	General government debt / GDP (%)	34.2	32.1	30.1	37.7	42	44.2			
ME.5	Trade balance / GDP (%)	5.1	3.7	4.1	4.9	1.1	-1.5	4.7	4.4	
ME.6	External debt in % of banking sector external assets	114.0	113.8	108.7	103.2	102.3	117.1	117.5	115.0	
ME.7	Balance of payments current account / GDP (%)	1.5	0.4	0.3	2.0	-2.8	-6.1	2.0	-1.6	
ME.8	Monetary policy 2W repo rate (end of period, %)	0.50	1.75	2.00	0.25	3.75	7.00	7.00	7.00	7.00
<b>Non-financial corporations</b>										
NC.1	Return on equity (%)	10.7	10.2	10.7	7.3	10.2	14.1			
NC.2	Debt (% of total liabilities)	49.7	49.3	48.4	46.6	41.9	42.1	41.0	42.3	
NC.3	Credit indebtedness (% of GDP)	50.3	53.1	48.2	49.9	47.6	46.5	44.8	43.5	
NC.4	– loans from Czech banks (% of GDP)	20.0	20.0	19.3	19.7	19.5	18.2	18.2	18.2	
NC.5	– loans from Czech non-bank financial corporations (% of GDP)	4.5	4.5	4.3	4.4	4.1	4.0	4.0	4.1	
NC.6	– other (including financing from abroad. % of GDP)	25.8	28.6	24.5	25.5	24.0	24.2	22.6	21.2	
NC.7	Interest coverage (pre-tax profit + interest paid / interest paid, %)	26.8	25.2	15.0	14.7	18.4	12.6	13.2	14.0	
NC.8	12M default rate (%)	1.0	1.2	1.0	1.9	1.1	0.9	0.8	0.8	0.9
<b>Households (including sole traders)</b>										
H.1	Total debt / gross disposable income (%)	58.9	59.2	59.2	61.0	62.4	58.9	58.0	58.0	
H.2	Total debt / financial assets (%)	25.8	24.3	24.0	22.9	23.7	23.4	23.3	23.2	
H.3	Net financial assets (total financial assets – total liabilities, % of GDP)	82.7	92.2	93.7	107.0	105.4	100.9	100.2	100.6	
H.4	Debt / GDP (%)	31.2	31.7	31.5	33.8	34.7	32.6	32.1	32.1	
H.5	– loans from Czech banks to households (% of GDP)	28.1	28.7	28.5	30.9	31.9	30.2	29.7	29.7	
H.6	– loans from Czech non-bank fin. corporations to households (% of GDP)	1.2	1.2	1.2	1.1	1.0	1.0	0.9	0.9	
H.7	– loans from Czech banks to sole traders (% of GDP)	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	
H.8	– loans from Czech non-bank fin. corporations to sole traders (% of GDP)	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	
H.9	– other (including financing from abroad. % of GDP)	1.1	1.0	1.0	0.9	0.9	0.8	0.8	0.7	
H.10	Net interest expenses / gross disposable income (%)	2.3	2.2	2.1	2.1	2.0	2.0	2.0	2.1	
H.11	12M default rate (% excluding sole traders)	1.8	1.5	1.3	1.0	0.8	1.0	1.0		
<b>Financial markets</b>										
FM.1	3M PRIBOR (average for period, %)	0.4	1.3	2.1	0.9	1.1	6.3	7.2	7.2	7.2
FM.2	1Y PRIBOR (average for period, %)	0.6	1.5	2.2	0.9	1.4	6.5	7.3	7.2	7.2
FM.3	10Y government bond yield (average for period, %)	1.0	2.0	1.5	1.1	1.9	4.3	4.5	4.6	4.7
FM.4	CZK / EUR exchange rate (average for period, %)	26.3	25.6	25.7	26.5	25.6	24.6	24.0	23.7	23.7
FM.5	Change in PX stock index (% year on year, end of period)	17.0	-8.5	9.8	-5.2	38.8	-10.0	-7.2	-0.8	0.4
<b>Property market</b>										
PM.1	Total change in residential property prices (transaction prices, % year on year)	8.4	9.8	8.9	9.0	25.8	6.9	0.8	-2.8	
PM.2	Change in apartment prices (asking prices according to CZSO, % year on year)	11.6	6.5	10.8	16.4	18.8	6.4	1.9	-2.4	
PM.3	Apartment price / average annual wage	10.3	10.1	10.4	11.6	13.0	13.1	12.7	12.3	
PM.4	Apartment price / annual rent (according to IRI)	27.8	26.1	25.9	31.3	37.3	35.9	35.3	34.8	
<b>Financial sector</b>										
FS.1	Financial sector assets / GDP (%)	173.2	170.2	165.8	176.9	178.2	168.0	177.0	178.0	
FS.2	Shares of individual segments in financial sector assets (%)									
FS.3	banks	78.7	78.7	78.5	78.6	78.1	77.8	78.7	78.6	
FS.4	credit unions	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.1	
FS.5	insurance companies	5.7	5.6	5.1	4.9	4.8	4.3	4.0	3.9	
FS.6	pension management companies and funds	5.0	5.1	5.3	5.3	5.3	5.2	4.9	4.8	
FS.7	investment funds*	5.4	5.5	6.3	6.7	7.7	8.5	8.5	8.7	
FS.8	non-bank financial corporations engaged in lending	4.6	4.6	4.5	4.1	3.9	3.8	3.6	3.6	
FS.9	investment firms	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.2	
<b>Non-bank financial corporations</b>										
NI.1	Share in financial sector assets (%)	20.9	21.0	21.2	21.1	21.7	22.0	23.2	21.4	
<b>Insurance companies</b>										
NI.2	Premiums written / GDP (%)	3.0	2.9	2.9	3.0	2.9	3.0	2.9	2.9	
NI.3	Ratio of eligible own funds to the solvency capital requirement (in %)	230.0	243.6	202.4	251.3	230.5	224.0	226.5	226.8	
NI.4	Change in financial investment of insurance companies (% year on year)	4.2	1.4	-6.7	0.6	4.0	-10.1	-7.1	1.0	3.6
NI.5	Return on equity of insurance companies (%)	14.7	15.8	24.1	18.4	36.6	23.1	18.3	23.3	22.0
NI.6	Claim settlement costs / net technical provisions (life, %)	14.4	15.3	16.6	14.2	14.4	19.3	20.0	19.0	
NI.7	Claim settlement costs / net technical provisions (non-life, %)	59.4	57.8	62.7	58.4	55.1	58.7	59.6	58.9	
<b>Pension management companies (PMCs) and PMC funds</b>										
NI.8	Change in assets of funds managed by PMCs (%)	10.8	5.6	8.0	6.8	6.0	4.4	5.3	4.7	
NI.9	Nominal change in value of assets of PMC funds	3.6	-1.7	0.9	-0.3	-0.6	1.0	5.6	4.8	
<b>Investment funds</b>										
NI.10	Growth in net assets (= equity; year on year, %)	20.9	6.4	21.5	10.6	23.7	16.0	24.7	31.5	
<b>Non-bank financial corporations engaged in lending</b>										
NI.11	Growth in loans from non-bank financial corporations engaged in lending (%):									
NI.12	total	7.8	4.6	2.9	-2.2	0.9	7.3	8.8	7.3	
NI.13	households	0.1	-0.4	6.9	-8.5	2.6	4.5	1.1	2.1	
NI.14	non-financial corporations	10.0	6.3	2.6	0.1	0.6	8.2	11.2	8.6	

## FINANCIAL STABILITY INDICATORS – PART 2

	2017	2018	2019	2020	2021	2022	2023 Jan.	2023 Feb.	2023 Mar.
<b>Banking sector</b>									
BS.1 Bank assets / GDP (%)	132.7	130.6	126.9	135.5	136.7	140.0	140.4		
BS.2 Assets structure (% end of period)									
BS.3 loans to central bank	32.9	32.0	32.2	29.0	27.7	23.5	27.2	27.7	
BS.4 interbank loans	3.6	3.3	2.9	2.8	2.3	3.0	3.6	3.6	
BS.5 client loans	44.7	46.0	46.2	45.8	46.1	47.3	43.6	43.5	
BS.6 bond holdings	13.9	13.9	13.3	16.4	17.8	18.8	19.0	19.0	
BS.7 – government bonds	8.1	8.3	7.7	11.6	12.4	13.3	12.8	14.2	
BS.8 – Czech government bonds	7.2	7.5	7.4	10.9	11.9	12.9	12.5	13.8	
BS.9 other	4.9	4.8	5.4	6.0	6.1	7.4	6.7	6.2	
BS.10 Liabilities structure (% end of period)									
BS.11 liabilities to central bank	0.3	0.3	0.1	0.5	0.5	0.4	0.4	0.0	
BS.12 interbank deposits	16.2	15.3	12.9	8.2	7.8	8.3	8.5	9.2	
BS.13 client deposits	61.0	62.5	64.0	66.1	66.0	67.7	69.8	70.4	
BS.14 bonds issued	11.2	10.9	11.4	12.7	13.0	9.6	8.4	8.3	
BS.15 other	11.3	11.0	11.6	12.4	12.7	14.0	13.0	12.0	
BS.16 Client loans / client deposits (%)	73.3	73.6	72.3	69.2	69.9	69.8	62.5	61.8	
BS.17 Sectoral breakdown of total loans (%)									
BS.18 non-financial corporations	33.1	32.7	32.5	30.2	30.9	30.4	30.5	30.7	31.1
BS.19 households	46.6	46.9	47.8	47.7	50.6	52.6	52.4	52.5	52.4
BS.20 sole traders	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
BS.21 others (including non-residents)	19.0	19.1	18.4	20.9	17.2	18.3	17.1	16.8	16.5
BS.22 Growth in loans (% end of period, year on year):									
BS.23 total	4.6	7.2	4.4	4.2	7.0	5.8	4.9	6.2	5.5
BS.24 non-financial corporations	4.8	5.7	3.7	0.3	5.8	4.1	2.8	5.9	4.3
BS.25 – real estate activity (NACE L)	-1.7	5.2	7.5	4.8	0.9	7.1	8.9	8.9	7.6
BS.26 households	8.0	7.9	6.4	6.9	10.5	5.1	3.9	5.3	4.9
BS.27 – loans for house purchase	9.0	8.5	6.7	8.0	11.1	4.8	3.4	4.8	4.4
BS.28 – loans for consumption	4.1	6.4	7.2	0.8	6.5	7.2	7.0	9.8	9.9
BS.29 sole traders	10.1	5.6	8.1	2.2	1.3	-2.2	-2.8	1.2	1.1
BS.30 Non-performing loans / total loans (%):									
BS.31 total	4.0	3.3	2.5	2.7	2.4	2.0	1.9	1.8	1.8
BS.32 non-financial corporations	4.2	3.6	3.2	4.2	3.8	3.2	3.0	2.8	2.7
BS.33 households	2.5	2.1	1.6	1.7	1.4	1.3	1.2	1.3	1.3
BS.34 – loans for house purchase	1.8	1.5	1.2	1.1	0.9	0.7	0.7	0.7	0.7
BS.35 – loans for consumption	6.0	5.1	4.0	5.1	4.7	3.9	3.9	3.9	4.0
BS.36 sole traders	6.7	5.0	4.3	6.1	6.4	5.1			
BS.37 Coverage of non-performing loans by provisions (%)	54.8	58.2	57.8	52.0	53.8	54.4	53.6	51.8	51.9
BS.38 Capital ratio (%)	19.4	19.8	21.5	24.7	23.7	22.3	22.5	23.0	
BS.39 Tier 1 capital ratio (%)	18.8	19.3	21.0	23.9	23.0	21.5	21.8	22.0	
BS.40 Leverage (assets as a multiple of Tier 1)	15.3	15.2	14.4	13.0	13.7	14.5	15.5	15.6	
BS.41 Leverage ratio (Tier 1 capital / total exposures)	6.6	6.6	7.0	7.7	7.3	7.1			
BS.42 Return on assets (%)	1.1	1.1	1.2	0.6	0.8	1.1	1.0	1.1	
BS.43 Return on Tier 1 (%)	29.6	27.5	28.4	30.7	32.7	27.8	27.7	28.4	28.5
BS.44 Quick assets / total assets (%)	57.0	58.5	59.9	62.2	62.1	63.1	60.1	60.3	59.4
BS.45 Quick assets / client deposits (%)	68.0	65.1	62.8	61.5	61.7	57.0			
BS.46 Net external position of banking sector (% of GDP)	-21.3	-20.2	-17.8	-15.6	-16.9	-10.8	-9.7	-9.7	
BS.47 Banking sector external debt / banking sector total assets (%)	25.9	24.8	23.0	20.6	20.9	18.9	16.7	16.8	

## ADDITIONAL INFORMATION ON THE INDICATORS

Owing to data revisions, some historical values of the indicators may not be comparable to those published in previous publications. Also, owing to a different date of update, the values of the indicators may not be the same as those referred in the text of this FSR. Missing values were unavailable at the time of preparation of the table.

ME.6 Total external debt in % of external assets held by MFIs and the CNB.

PM.1 Property prices based on the House Price Index, source: CZSO

PM.2 Apartment prices based on data from Společnost pro cenové mapy, s.r.o., apartment size 68 m<sup>2</sup>.

FS.7 Act No. 240/2013 Coll., on Management Companies and Pension funds, was adopted in 2013, introducing the term "investment funds". Investment funds comprise collective investment funds and funds for qualified investors.

BS.25 Real estate activities (NACE L) comprise above all the activities of lessors, agents or brokers in the area of selling or purchasing property, renting property and the provision of other services related to property.

BS.37 Loans provided by the Czech Export Bank and the National Development Bank were excluded from the calculation.

BS.44, BS.45 Assets readily available to cover liabilities. They comprise cash and claims on central banks, claims on credit institutions and other clients payable on demand and bonds issued by central banks and general government.

NI.2 to NI.7 These indicators comprise domestic insurance companies (excluding the EGAP) and branches of foreign insurance companies.

NI.2 Premiums written include total gross premiums written for 12 months by domestic insurance companies including branches of foreign insurance companies (excluding EGAP).

NI.9 Change in the assets of pension funds adjusted for contributions and benefits.

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