

Financial Stability Report

Autumn 2024



Czech National Bank — Financial Stability Report — Autumn 2024

The Financial Stability Report – Autumn 2024 was discussed by the CNB Bank Board at its regular meeting on financial stability issues on 27 November 2024 and published on 13 December 2024. With a few exceptions, it contains information available as of 30 June 2024. 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. Selected financial stability indicators are also available there.

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

...

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 edition 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 CNB's macroprudential policy instruments. At its November meeting on financial stability issues, the Bank Board discussed the settings of the countercyclical capital buffer rate and credit ratios. It decided unanimously to leave the buffer rate at 1.25% and the upper limit on the LTV ratio at 80% and to keep the DTI and DSTI ratios deactivated. The decisions were based on traditional and new analyses of cyclical and structural risks in the domestic financial system, analyses you will find described in detail in this report.

The Czech economy has moved into a growth phase of the financial cycle as monetary policy rates have decreased and the economy has gradually recovered both at home and abroad. Residential property prices have started to grow, as has demand for loans among both firms and households. The shift in the cycle is still gradual, especially in real terms. For this and other reasons, the Bank Board does not assess the risks to financial stability as significantly elevated in this phase of the cycle, nor do we expect the share of highly risky loans and new systemic risks to the stability of the domestic financial sector to increase significantly in the near future. We assume that the economy will shift further into the growth phase. The speed of the shift and market credit standards will play a key role in our future decisions on the configuration of macroprudential instruments.

Future developments in the global and domestic economies are subject to uncertainty, with the economic growth of European economies remaining fragile. Uncertainty is associated especially with changes in some countries' trade policies and with geopolitical tensions. Although financial markets have proved resilient so far, some global assets remain overvalued and potentially susceptible to a significant market correction. We also see a specific source of potential risk in industrial European countries, including the Czech Republic. This risk relates to the structure of their economies, which – against a backdrop of deglobalisation and decarbonisation – may face a gradual loss of competitiveness and hence lower potential growth. This may increase the vulnerability of the financial sector in the medium term.

You will read in the report that the domestic financial sector is well prepared for the risk of adverse developments. Its strong capital and liquidity position is a result of its long-term profitability and the CNB's effective use of macroprudential and microprudential instruments. They help ensure that the financial sector maintains a prudent approach in favourable phases of the financial cycle and remains resilient at times of heightened financial stress. A stress test of the key segment of the financial sector – banks – also signals that they are highly resilient. This time the test focused on banks' ability to withstand a long downturn accompanied by the materialisation of climate risks. The transition to a carbon-neutral economy represents one of the key challenges to banking sector stability in the long term. We therefore subjected the sector to increased stress over a seven-year horizon to evaluate its resilience to a combination of physical and transition climate risks.

We currently see no increased vulnerability in other financial market segments either. The liquidity position of investment funds remains good and their leverage moderate despite buoyant growth in their assets. Insurance companies have maintained solid profitability and capitalisation despite the extensive floods in September 2024. The liquidity and capital position of pension companies also remains strong and has not been significantly affected by rising exits of clients from transformed funds as a result of legislative changes.

I would like to assure the public that the decisions 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 domestic and foreign conditions on each sector of our economy 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

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 27 November 2024 to leave the countercyclical capital buffer rate at 1.25% on the basis of an assessment of cyclical systemic risks. 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).

Central banks started a cycle of cautious lowering of interest rates during 2024. This was partly reflected in a decline in rates with longer maturities. Future developments in the global economy are still subject to uncertainty, with economic growth remaining very fragile, especially in Europe. Some global assets remain overvalued and may be susceptible to a significant market correction. Geopolitical tensions remain the primary source of global risks to the stability of the financial sector. Slow fiscal consolidation and limited fiscal space in many advanced countries amid rising debt service costs and greater pressure regarding defence expenditure are also a potential risk. A specific source of increasing risk in industrial European countries, including the Czech Republic, relates to the structure of their economies. Against a backdrop of deglobalisation and decarbonisation, the latter is limiting their potential growth and fostering a gradual loss of competitiveness, and may increase the vulnerability of the financial sector. The CNB reacted to this risk in June 2024 by setting a systemic risk buffer rate of 0.5% with effect from January 2025.

The domestic economy has moved into an expansionary phase of the financial cycle. Residential property prices have started to grow again and transaction activity is returning to its long-term average. According to the CNB's projections, year-on-year growth in residential property prices will exceed 6% at the close of 2024 and remain at similar levels throughout 2025. A turnaround in the cycle has also been visible in the domestic commercial property sector since early 2024. Although banks' lending activity is still cautious, transaction and construction activity on the market increased in the first half of 2024, while vacancy rates and rents remain relatively stable. The turnaround in the cycle and signs of renewed growth in prices are confirmed by data on the portfolios of real estate funds, which have become one of the key investors on the domestic commercial property market. The credit activity of non-financial corporations and households have also increased during 2024. Household borrowing went up in 2024 Q3 in response to legislative changes. According to the CNB's projections, year-on-year growth in outstanding loans will reach 5.5% for loans for house purchase, almost 11% for consumer credit and 6% for loans to non-financial corporations at the end of 2024. If the CNB's autumn forecast – which expects a gradual decline in interest rates and growth in income and investment – materialises, the growth rates of all loan segments should continue to rise gradually.

The CNB Bank Board decided to leave the countercyclical capital buffer (CCyB) rate at 1.25%, as cyclical systemic risks had not increased substantially. Although volumes of new loans were elevated in nominal terms, especially in the case of households, credit activity in real terms relative to income and based on the number of new loans remained slightly below average, including in the case of loans to non-financial corporations. The extent of newly accepted cyclical credit risks can still be regarded as subdued. Credit standards were not being eased across the board despite the recovery in credit growth. The economy entered the growth phase after a strong decline in lending, which was positively reflected in the current low debt ratio of both households and corporations. The set CCyB rate of 1.25% is slightly below the level indicated by the CNB's quantitative approaches and slightly above the standard CCyB rate of 1% covering the usual cyclical risks. These conditions give the CNB room to evaluate future developments and to take into account domestic and global uncertainties and the risks of the autumn forecast. If the economy continues to move in the growth phase of the financial cycle, the CNB stands ready to increase the CCyB rate.

The Bank Board decided to leave the upper limit on the LTV ratio at 80% (90% for applicants under 36 years financing owner-occupied housing). The recovery on the mortgage and property markets was accompanied by a rise in the average loan size and the value of collateral. Housing affordability indicators pointed to flat or worsening affordability in the first half of 2024. Apartment price overvaluation also stopped decreasing at the end of 2023 and remained elevated. The options of a median-income household for debt-financing an average apartment thus remained limited. Mortgage loans were still being provided mainly to high-income households. The volume of loans with riskier characteristics increased slightly, but the systemic dimension of risks stemming from newly provided loans remained low. For this reason, the Bank Board kept the upper DTI and DSTI limits deactivated. Should the recovery prove to be a sustained and accelerating one, the volume of highly risky mortgage loans could start creep up, under the assumption of a broad-based easing of credit standards. To mitigate the related potential risks, 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 financial sector remained resilient and profitable. With the exception of insurance companies, the financial sector recorded year-on-year growth in assets as of mid-2024. Investment funds continued to grow the fastest. Domestic banks remained resilient owing to their capitalisation and liquidity position. Despite falling monetary policy rates, their profitability did not decrease significantly, partly because of effective management of interest rate risk and low impairment losses. Credit portfolio quality remains a key risk. It may be affected by global risks with the potential to significantly dampen the development of the domestic and global economies, especially in the medium term. Another medium-term risk relates to the growing interconnection of the banking and sovereign sectors, which increased further.

The **list of other systemically important institutions** will expand to seven institutions with the addition of J&T Finance Group S.E. on 1 January 2025. The CNB increased the other systemically important institutions (O-SII) buffer rates applicable to this institution and to Česká spořitelna by 0.5 pp to 0.5% and 2.5% respectively at the same time. The total assets of O-SIIs account for about 85% of the assets of the domestic banking sector. The set rate increases their capital stability.

Overall, stress tests demonstrated that the banking sector is highly resilient. In the *Baseline Scenario*, which assumes continued economic growth accompanied by just a modest increase in credit risk, the overall capital ratio remains well above the regulatory minimum. The *Adverse Scenario* involved a climate stress test assuming the materialisation of transition and physical climate risks. The main risks tested included an increase in carbon taxes, a reduction in fossil fuel consumption, a transition to electromobility, a delayed transition to a low-emission economy, and an increase in the frequency of natural disasters. Against the backdrop of these risks, the economy would go through a long recession in the *Adverse Scenario*, accompanied by significantly higher credit losses for a long time. The latter would require the release or use of three out of the four macroprudential buffers. This confirms that their current settings enhance the resilience of the banking sector and its ability to lend to the real economy even in hypothetical adverse conditions.

Domestic non-bank financial corporations remain resilient at the aggregate level and are not a direct source of significant systemic risks. This is due to their sufficient capitalisation, good liquidity position and moderate use of debt in their activities. The investment funds segment recorded the fastest growth. It has a dominant position among non-bank financial corporations in terms of asset size. The main risk scenario for non-bank financial corporations is still growth in uncertainty on global financial markets accompanied by sharp repricing of risk premia, which could be reflected in a marked drop in the value of their assets and possibly a wave of fire sales.

The CNB will publish additional detailed analyses of risks to financial stability and information about the macroprudential policy settings in June 2025 in its publication *Financial Stability Report – Spring 2025*, 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

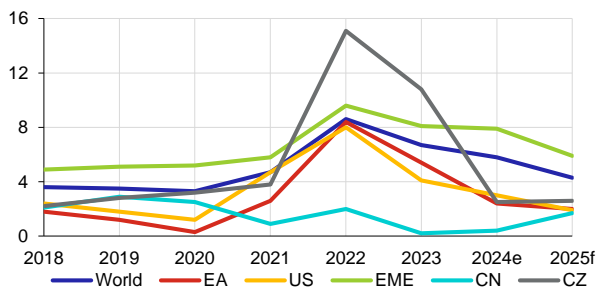
II.1.1 The international environment

Central banks have started to ease their monetary policies amid receding inflation...

Inflation has continued to decrease on the global scale in the second half of 2024, returning to central banks' inflation targets (see [Chart II.1](#)). As a result, central banks have generally begun to ease monetary policy (see [Chart II.2](#)). However, they continue to communicate a very cautious approach to further interest rate cuts, owing mainly to persisting sources of inflation risks. Market participants' expectations of a rapid decline in interest rates may thus be overly optimistic.

Chart II.1
Inflation in selected regions

(annual inflation rates in %)

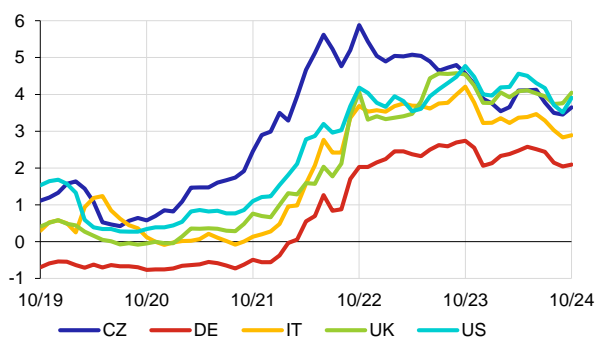


Source: IMF, CNB

Note: e = expected value, f = forecast. The forecast for the Czech Republic is based on the CNB's autumn forecast ([MPR – Autumn 2024](#)). The forecasts for the other economies are based on the IMF's October forecast published in *World Economic Outlook*, October 2024.

Chart II.3
Five-year government bond yields for selected countries

(%; average yield for month)



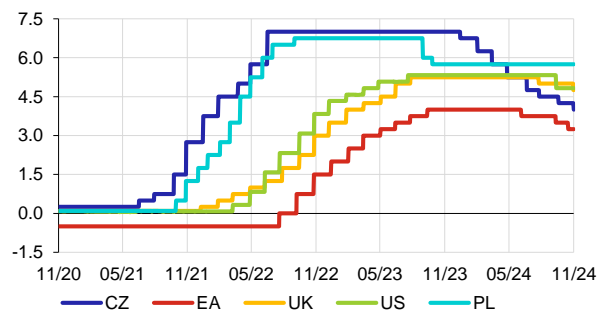
Source: LSEG

...and the long end of the yield curve has also declined

Interest rates with longer maturities have also declined, reflecting expectations of weaker economic growth (especially in the euro area) and lower inflation pressures in addition to monetary policy easing (see [Chart II.3](#)). However, the longer end of the yield curve remains relatively volatile, with market participants responding very sensitively to new macroeconomic data signalling persisting inflation pressures. The decline in interest rates may be counteracted by the ongoing quantitative tightening, i.e. the gradual reduction of central banks' balance sheets due to the maturing of the bonds they bought while applying unconventional monetary policy instruments, which is affecting the yield curve along its entire length (see [Chart II.4](#)). In the euro area, the larger amount of bonds on the market was absorbed by households and foreign entities

Chart II.2
Monetary policy rates of selected central banks

(%; latest observations as of 8 November 2024)

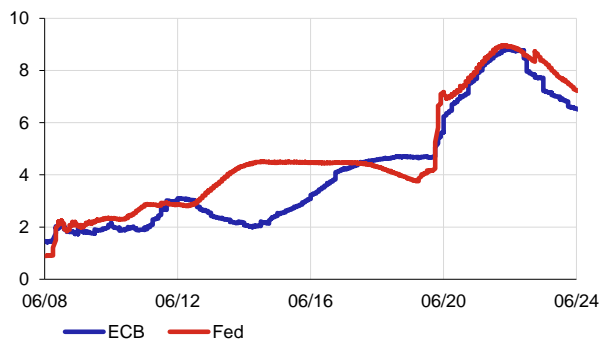


Source: LSEG

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

Chart II.4
Quantitative tightening from the perspective of the Fed and ECB balance sheets

(trillions of national currency)



Source: Federal Reserve Economic Data (FRED)

as well as domestic financial institutions, and the premium on riskier government debt did not increase significantly.¹ The combination of the current increased borrowing needs of governments, a lack of demand from central banks and a drop in market demand for government bonds is a risk that may lead to an increase in volatility along the entire yield curve.

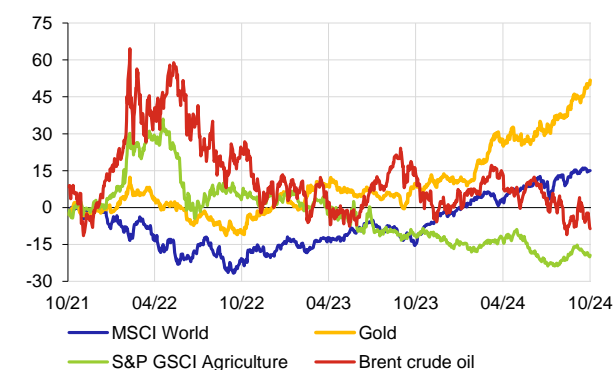
Financial market developments were favourable and some assets thus remain overvalued...

Stock indices went up significantly during 2024, exceeding historical highs (see [Chart II.5](#)). According to the CNB's estimates, equity risk premia remain well below their long-term averages despite having risen slightly (see [Chart II.1 CB](#)), while risk premia on corporate bonds stayed either close to their long term averages (investment grade; see [Chart II.6](#)) or below them (speculative grade). The prices of some assets on financial markets may thus still be significantly overvalued, and the risk of them falling and market volatility rising remains high.

Chart II.5

Performance of selected financial assets

(in cumulative terms in % since 31 December 2021)

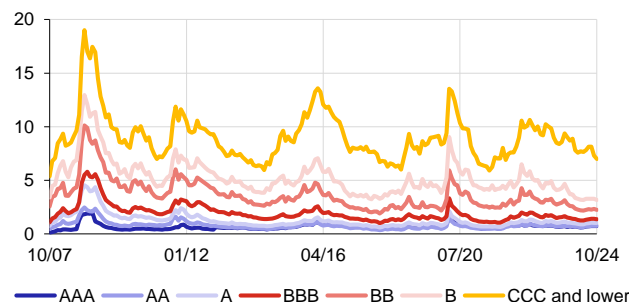


Source: LSEG

Chart II.6

Risk premia on corporate bonds by rating grade

(pp)



Source: Bank of America Merrill Lynch

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

...but there was perceptible nervousness in the markets despite low volatility and favourable risk assessments...

Indicators of the current degree of perceived market risk were on average below their long-term averages as well, so the assessment of financial conditions by market participants remained favourable overall (see [Chart II.2 CB](#)). However, there was significant nervousness in the markets, manifesting as sharp movements and reactions to even minor surprises and subsequent rapid calmdowns and renewed low risk pricing. This was observed during several brief episodes of sharp market downturns in the second half of 2024.² Nervousness in the market was also evidenced by growing demand for gold, which market participants commonly resort to at times of uncertainty (see [Chart II.5](#)).

...accompanied by significant geopolitical tensions and uncertainty regarding economic policies

Geopolitical tensions remain the primary source of risk to global financial stability. In the second half of 2024, they spread to the Middle East, where the risk of a wider conflict between Israel and Iran increased significantly. Besides creating general conditions for a wider international conflict and for economic and investment uncertainty, this would generate direct shocks to commodity prices and significantly increase volatility in the financial markets. Unclear economic policies in certain major economies with newly elected governments are also seen as a near- to medium-term risk by markets.³

The European financial cycle remains subdued and the related risks are still limited...

The real sector in Europe reduced its debt ratio in response to the growth in interest rates (see [Chart II.7](#)). The growth rate of residential property prices was also lower than in previous years. In most countries it was below 10%, while prices in the largest EU economies declined year on year (see [Chart II.8](#)). The risks to financial stability associated with current lending thus remain low. With the prospect of interest rates falling, demand for loans has stabilised and is rebounding gradually.⁴ The observed signals suggest that the European economy is at the start of a new growth phase of the financial cycle, although it will probably not turn into a strong expansion in the next few years given the economic outlooks.

¹ For details see the ECB Blog: [Who buys bonds now? How markets deal with a smaller Eurosystem balance sheet](#).

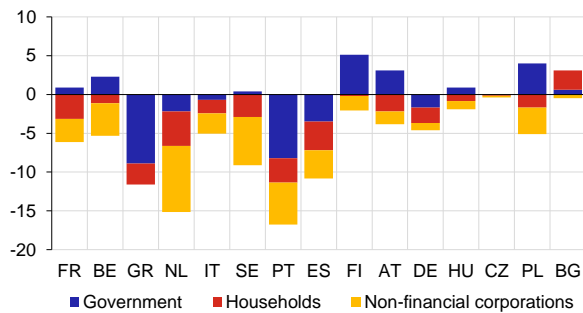
² In early August 2024, stock indices fell by more than 10% in just a few days (the Japanese Nikkei even dropped by 12% in one day) and volatility increased markedly, but prices returned to their original levels over the next few days. Similar developments were seen in the stock markets in early September. Bond markets rose sharply following the publication of surprisingly strong US labour market data in early October.

³ For details see [Global Financial Stability Report, October 2024](#), IMF.

⁴ [The euro area bank lending survey: Third quarter of 2024](#).

Chart II.7
Change in the debt ratios of economic agents in selected EU countries

(year-on-year change in pp as of 30 June 2024)

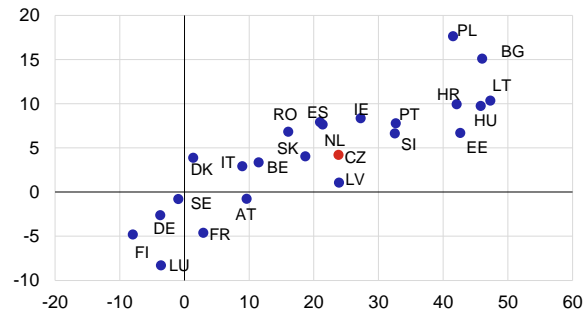


Source: ECB, Eurostat

Note: Change compared to 30 June 2023. Debt is expressed relative to GDP.

Chart II.8
Residential property price growth in selected EU countries

(%; x-axis: three-year growth; y-axis: one-year growth)



Source: Eurostat

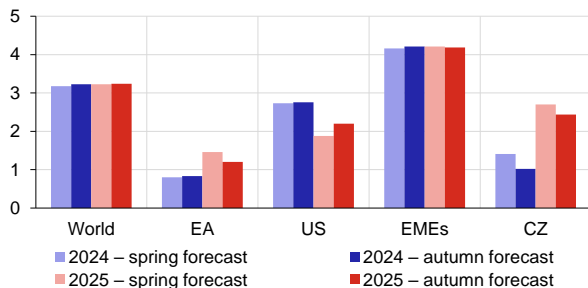
Note: Data as of 30 June 2024. Due to different methodologies, the data for SK differ from those published by the NBS.

...while a structural lag behind global economic rivals poses a specific long-term risk for European countries

An economic lag behind economic rivals, especially the USA and China, is a gradually materialising long-term risk for European economies, including the Czech Republic (see [Chart II.9](#) and [Chart II.10](#)). This is risk manifesting itself mainly in gradual loss of competitiveness of firms due to a lack of investment and innovation, an inefficient energy sector dependent on external resources, and excessive regulation of business and the labour market. This is resulting in growth in the vulnerability of the European economy, which may in turn be reflected in growth in risks to the financial sector. Although the materialisation of this risk will probably be gradual and will not take the usual form of relatively rapid emergence of macrofinancial risks, it may pose a significant challenge for the financial sector in the future.

Chart II.9
Economic growth forecasts for selected regions

(annual real GDP growth in %)

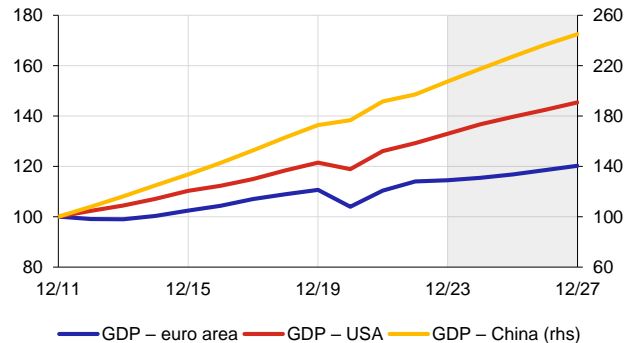


Source: IMF, CNB

Note: The forecast for the Czech Republic is based on the CNB's spring and autumn forecasts ([MPR – Spring 2024](#) and [MPR – Autumn 2024](#)). The forecasts for the other economies are based on the IMF's April and October forecasts published in *World Economic Outlook*, April 2024, and *World Economic Outlook*, October 2024.

Chart II.10
Real GDP growth in the largest global economies

(index: 2011 = 100)



Source: National Bureau of Statistics of China, Federal Reserve Economic Data (FRED), Eurostat, IMF (projections)

Note: The values in the grey area are projections.

Exposure to commercial property also remains a significant source of risk in advanced economies...

Risks also persist in other areas in advanced economies, especially in the commercial property segment.⁵ There are signs that property markets are beginning to recover gradually as interest rates fall and transaction activity stabilises. Staff are gradually returning to offices, the occupancy of which remains lower than before the Covid-19 pandemic but is gradually rising.⁶ However, the amount of non-marked-to-market commercial property in the balance sheets of investment funds and probably also other financial institutions remains significant, as evidenced by their divergence from US and UK exchange-

5 The significance of these risks is also evidence by European authorities' regulatory activities over the past two years. For example, [Hungary](#), [Latvia](#), [Norway](#) and [Sweden](#) have responded with various macroprudential instruments.

6 According to the data, this applies primarily to Europe ([Europe's return to the office reaches post-pandemic high](#)), while the USA is still lagging behind despite announced return-to-office mandates ([Despite return-to-office mandates, downsizing and vacancy upticks persist](#)).

traded (marked-to-market) real estate investment trusts (see [Chart II.3 CB](#)). Concerns that a price correction might pass through more strongly to the financial sector's balance sheets thus persist.

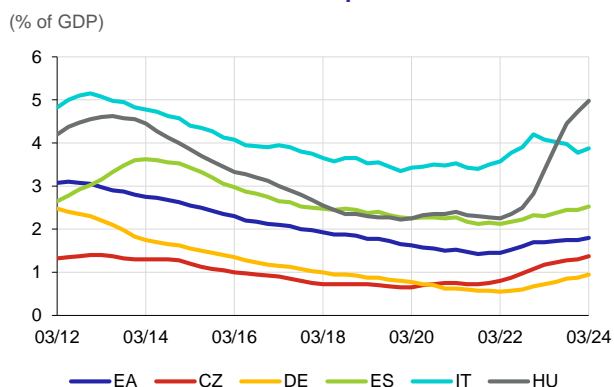
...as do highly indebted developers and local governments in China

The situation in China, where highly indebted property developers continue to face problems, remains a risk to the global economy. In 2024 Q3, the Chinese government unveiled a stimulus package to boost the slowing economy. The package includes support for the property sector,⁷ but it seems unlikely that the measures will eliminate the structural imbalances on the Chinese property market. Shares of Chinese property developers responded by rallying by more than 30% in just a few days. However, they are still almost 50% lower than they were over the past five years. Closely related to the problems in the property sector and rising rates in China is critical growth in the debt and deteriorating solvency of Chinese local governments. They delivered economic growth by investing in infrastructure projects, which they financed largely by selling land to developers. A potential crisis linked with default by Chinese local governments could spill over into increased volatility on global financial markets.

Governments' fiscal space is limited after the global pandemic and cost shocks...

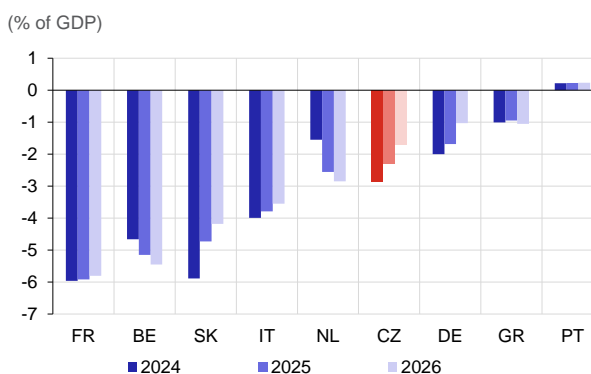
Global public debt exceeds 90% of global GDP and will increase further in the medium term. Following the global pandemic and subsequent high inflation, which required strong fiscal support, gradual fiscal consolidation efforts and a push to create fiscal space for potential future economic stimulation can be observed in advanced economies. However, the success of these efforts differs across countries, and some of them will have to make much bigger fiscal interventions to stabilise their debt than they are currently planning. The creation of fiscal buffers may reduce economic growth and increase the stress in part of the private non-financial sector in the short term, but it is necessary from the long-term perspective to ensure sustainable government finance and financial stability.

Chart II.11
Debt service of selected European countries



Source: Eurostat

Chart II.12
Projected public budget balances in selected countries



Source: IMF

Note: The projections are based on *Fiscal Monitor*, October 2024.

...and the deficits of some European countries remain high, amid gradual growth in debt service

Government debt has also been revalued gradually in the environment of higher interest rates. The debt service for euro area countries has increased only slightly so far, owing to long average debt maturity, so the acute risks associated with the high government debt ratios remain limited for now (see [Chart II.11](#)). Debt interest ratios will continue to rise because of continued deficit financing (see [Chart II.12](#)) accompanied by the already high debt (see [Chart II.4 CB](#)), weak economic performance and higher interest rates than in the previous ten years. This, together with the challenges of maintaining competitiveness and the need for higher defence expenditure in European economies, may sooner or later significantly reduce governments' support and social activities and negatively affect the financial condition of all sectors.

⁷ The stimulus package includes, for example, a reduction of the down payment ratio for purchasing property to 15% (i.e. the LTV limit is now 85%) and a reduction in rates for existing mortgages of approximately 0.5 pp.

II.1.2 The domestic environment

Monetary policy rates have been reduced in the domestic economy...

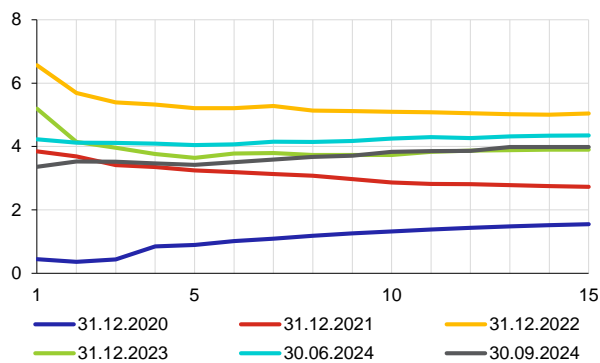
Inflation in the domestic economy has been in the tolerance band around the CNB’s target since the start of 2024 ([Monetary Policy Report – Autumn 2024](#)). This has enabled the rate reduction cycle to continue (see [Chart II.2](#)). The Czech government bond yield curve is rising again but is markedly higher than in the past ten years due to the risk-free component and the term premium (see [Chart II.13](#) and [Chart II.5 CB](#)). Alongside monetary policy expectations, developments in the international environment are also playing a major role at the longer end of the Czech yield curve. After the publication of strong US labour market data in October, investors revised their expectations about the pace of decline of the Fed’s interest rates. This was reflected in quite a large rise in domestic yields (see [section II.1.1](#), [Chart II.6](#) and [Chart II.7](#)).⁸

...without this affecting the exchange rate fundamentally...

The koruna has not reacted markedly to the gradually decreasing interest rate differential and has remained relatively stable. From the perspective of cross-currency basis spreads, demand for the Czech currency has not deviated from the long-term average (see [Chart II.6 CB](#)). The Czech banking sector’s foreign currency liabilities have long been broadly unchanged as well (see [Chart II.14](#)) and options prices also indicate no risk of an appreciable weakening (see [Chart II.15](#)).

Chart II.13
Czech government bond yield curve

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



Source: LSEG, CNB

Chart II.14
The Czech banking sector’s liabilities to non-residents

(CZK billions)

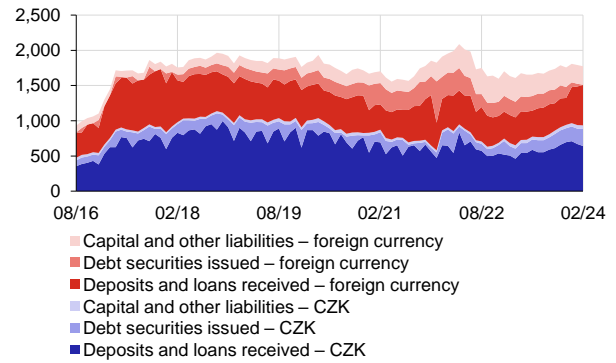
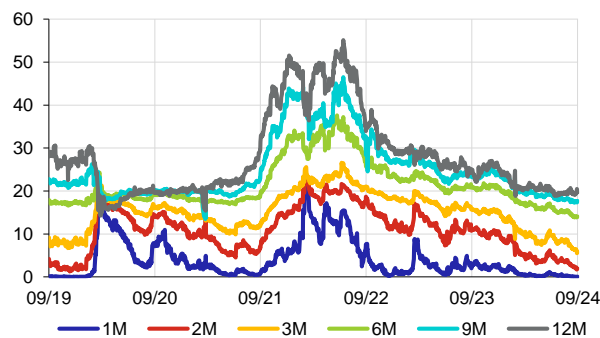


Chart II.15
Option-implied risk-neutral probabilities of exchange rate depreciation of more than 10%

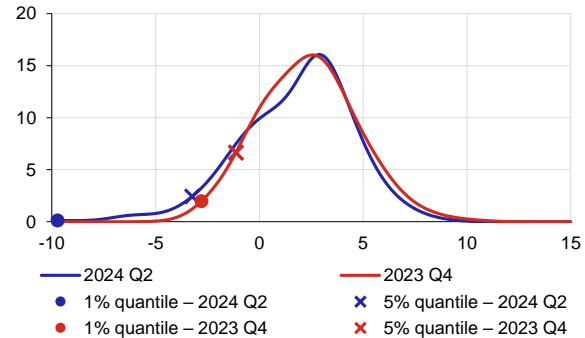
(%)



Source: LSEG

Chart II.16
Risk of adverse economic developments in the Czech Republic

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



...in an environment of weak economic growth and a worsening growth outlook...

Weaker corporate investment activity and slower household consumption have led to a downward revision of the domestic growth outlook (see [Chart II.9](#)). Consistent with this and with the growing global geopolitical tensions, the likelihood of an extremely adverse economic scenario has gone up (see [Chart II.16](#)). By contrast, the risks associated with the current phase of the financial cycle are growing only gradually (see [section IV.3](#)) and growth in cyclical risks is not expected to rise

⁸ Five-year koruna IRS rates, for example, increased by more than 40 bp in October.

markedly if the autumn forecast materialises. Gradual monetary policy easing and convergence towards the equilibrium rate has also reduced the acute risks linked with increased debt service for the real non-financial sector (see [section II.2.2](#)).

...which is also subject to a number of structural risks

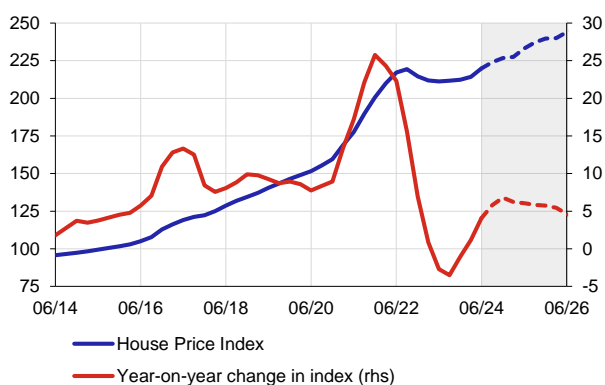
Like the European economy, the domestic economy is facing growing structural risks. There are concerns about the future performance of our largest trading partners, which are lagging behind their rivals. This applies in particular to Germany and its ability to cope with the consequences of its current energy, environmental and migration policies and with underinvestment and a falling working-age population⁹ amid persisting geopolitical tensions. The Czech economy's strong orientation towards the automotive industry amid the transition to electromobility and a zero-carbon economy may be another problem going forward (see [Box 2](#) for details). The transition may be a source of risk for both car companies themselves and their supply chains, which will be fully dependent on the ability of European car makers to adapt to the new market reality. Unsuccessful adaptation or a strongly delayed response to the existing challenges may lead to weaker economic growth, lower investment and, ultimately, rising vulnerability of non-financial corporations and households.

Residential property prices have started to grow again...

Transaction prices of residential property returned to year-on-year growth in the first half of 2024 (see [Chart II.17](#)). The growth was driven mainly by apartment prices (see [Chart II.7 CB](#) and [Chart II.8 CB](#)) and, to a large extent, was observed across regions (see [Chart II.18](#)). The latest available data for the apartment segment suggest that prices continued to rise in Q3, especially for some new builds (see [Chart II.7 CB](#)). This trend can thus be expected to show up in the official statistics for Q3 in the months ahead.

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

(2015 = 100; right-hand scale: %)

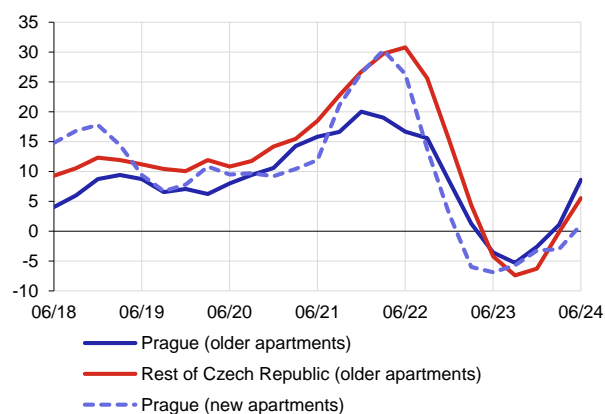


Source: CZSO, CNB

Note: The values in the grey area are projections based on the CNB's autumn forecast ([MPR – Autumn 2024](#)).

Chart II.18
Apartment transaction prices by region

(year-on-year growth in %)



Source: CZSO

...their year-on-year growth will exceed 6% at the end of 2024...

A residential property price projection based on the CNB's autumn forecast expects the upward trend to continue both in the second half of 2024 and in 2025. This will be due mainly to relatively buoyant nominal income growth and a slight decrease in interest rates on housing loans. A decomposition of the historical movements of apartment prices reveals that these two factors have long had the dominant impact on them, while the effects of other factors have generally been fading in recent quarters (see [Chart II.19](#)). The CNB's analyses suggest that the risks of the projection are tilted to the upside. This indicates potential for faster-than-expected growth and conversely a low probability of a decline in prices (see also [section IV.4.1](#) and [Chart IV.20](#)). The mismatch between property supply and demand caused by relatively low construction (see [Chart II.9 CB](#)) and a potential increase in demand pressures in selected regions (see [Box 1](#)) may contribute to the materialisation of a scenario of higher price growth.

...amid recovering transaction activity

Activity on the property market has also continued to recover in line with prices. The number of transactions was roughly equal to the long-term average at the end of August (see [Chart II.10 CB](#)). This reflected, among other things, improving household sentiment amid a sharp fall in domestic inflation and inflation expectations and renewed real wage growth. The

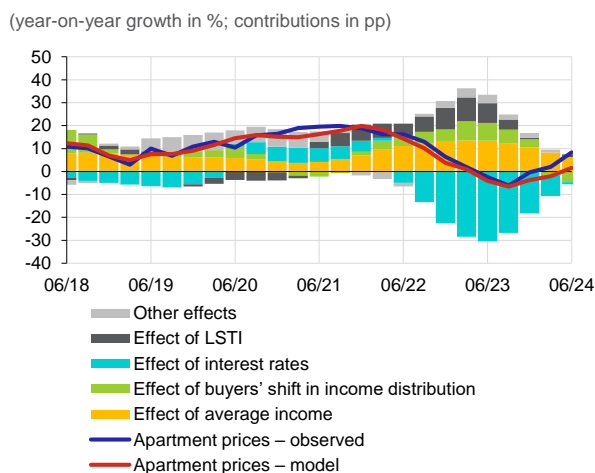
⁹ [Germany's real challenges are aging, underinvestment, and too much red tape](#), IMF.

recovery is also being aided significantly by a gradual decline in client rates on mortgage loans, whose share in the financing of residential property transfers is also gradually returning to the usual levels (see [Chart IV.14](#) in [section IV.4.1](#)).

Affordability indicators point to flat or worsening affordability in the first half of 2024...

After around 18 months, affordability has stopped improving due to the renewed price growth (see [Chart II.20](#)). This is evident from a return of the price-to-income (PTI) ratio to slightly higher levels. The Czech Republic thus still has one of the worst affordability levels of owner-occupied housing in the world. However, the overall indicator to some extent conceals large regional differences, as wage levels differ much less than property prices across regions.

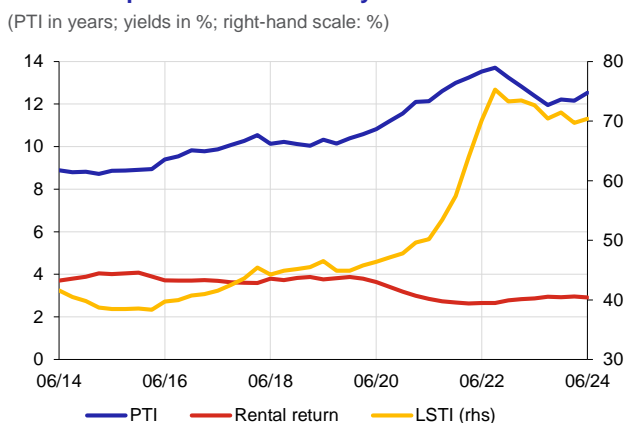
Chart II.19
Growth in apartment prices and its contributing factors



Source: CNB, CZSO

Note: The apartment price breakdown is based on a model of households' borrowing capacity (Plašil, M. and Andrlé, M., 2019: *Assessing house price sustainability*, Thematic Article on Financial Stability 1/2019, CNB), which assumes that the marginal buyer determining the price on the market is a liquidity-constrained household using debt financing to buy an apartment. The effect of buyers' shift in income distribution is proxied using the difference between the rate of growth of the average income provided in loan applications and the average income in the economy, and also includes changes in the average LTV. Other effects include changes in the average mortgage loan maturity and changes in the average floor area of the apartments purchased. The difference between the year-on-year change implied by the model and the sum of the contributions of the individual factors is due to the combined effect of all factors.

Chart II.20
Selected apartment affordability indicators



Source: CZSO, CNB, IRI, Deloitte/Dataligence

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 m² apartment in a regional capital. 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. The actual LSTI ratios for loan applicants can be found in [section IV.4](#).

BOX 1: The housing stock in the Czech Republic

The size and quality of the housing stock is a key factor for the overall housing supply and its evolution over time. Basic information on the housing stock can be found in the *Census of people, houses and flats*, the latest round of which took place in 2021.¹⁰ The data show that the size of the housing stock at the aggregate level increased continuously at a pace significantly exceeding population growth (see [Table 1](#)). This was due largely to apartment block construction, especially in housing estates with prefabricated buildings in the 1970s and 1980s, which still account for a significant, albeit now fairly outdated, part of the housing stock (see [Chart 1](#)). As a result, the average number of persons per occupied apartment fell from 3.18 to 2.39 between 1970 and 2021, in line with the situation in advanced European countries (1.9–2.6 persons).¹¹

10 The methodology (for example, the definition of an apartment and its occupancy) differs between the individual census rounds, complicating historical comparisons. The data presented must therefore be interpreted with some caution.

11 [Total number of dwellings in Europe in 2023, by country](#), Statista.

The quality of the housing stock, as measured by its age, has tended to worsen gradually. According to the CZSO, the average age of an occupied apartment block rose from 46.9 years to 52.9 years in 2001–2021.¹² On the one hand, this was due partly to a much lower rate of “removal”¹³ of older apartments from the housing stock than in the past. On the other hand, the ageing of the housing stock reflected slower new construction, which started to lag well behind previous decades in the 1990s (see Table 2). Simulations of scenarios up to 2030 assuming different combinations of the number of apartments removed and the size of new construction suggest that more than 40,000 new apartments a year (and in some scenarios many more; see Chart 2) would have to be constructed to maintain the average housing stock age and a similar average number of persons per apartment. This implies a need for faster new construction compared with the average for 2011–2020 (around 29,000 apartments/year, and around 37,000 apartments/year in 2022–2023).

Table 1 (Box 1)
Housing stock in the Czech Republic 1970–2021

(numbers of apartments and population in millions)

Census year	1970	1980	1991	2001	2011	2021
total	3.22	3.78	4.08	4.37	4.76	5.34
occupied	3.09	3.49	3.71	3.83	4.10	4.48
FHs (occupied)	1.65	1.60	1.53	1.63	1.80	1.97
ABs (occupied)	1.38	1.85	2.15	2.16	2.26	2.43
unoccupied	0.13	0.29	0.37	0.54	0.65	0.86
share of unoccupied (%)	4.0	7.6	9.1	12.3	13.7	16.1
population	9.81	10.29	10.36	10.27	10.49	10.70
growth in unocc. apts. (%)		13.1	6.0	3.3	7.2	9.1
population growth (%)		4.9	0.7	-0.9	2.1	2.1
persons/occupied apt.	3.18	2.95	2.80	2.68	2.57	2.39

Source: CZSO census

Note: FH: family house, AB: apartment block. Permanently occupied apartments in 1971–2001 and usually occupied apartments in 2011 and 2021. The population for the censuses in 1991–2021 is considered as of the end of the previous year.

Table 2 (Box 1)
Housing stock in Czech regions according to the 2021 census

(numbers of apartments and population in thousands)

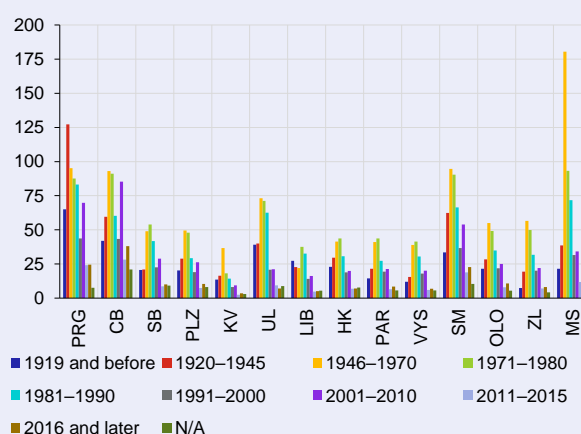
Region	PRG	CB	SB	PLZ	KV	UL	LIB	HK	PAR	VYS	SM	OLO	ZL	MS	CZ
total	721	682	341	302	149	402	227	282	256	247	573	310	275	573	5340
occupied	628	562	266	247	125	353	188	229	209	195	490	260	226	503	4480
unoccupied	94	120	75	55	23	49	40	54	47	52	83	50	49	70	860
share of unoccupied (%)	13.0	17.6	22.0	18.3	15.6	12.2	17.4	19.1	18.3	21.0	14.4	16.1	17.7	12.2	16.1
population	1335	1398	644	591	293	817	442	551	523	509	1195	631	580	1193	10702
apt. construction	39.1	43.9	25.0	30.6	16.5	12.6	19.1	23.1	25.0	24.1	33.2	23.9	18.9	19.6	27.7
growth in occ. apts. (%)	15.8	16.3	7.3	9.2	4.9	6.7	9.5	6.2	6.5	3.7	10.5	6.7	4.2	4.8	9.1
population growth (%)	8.2	10.5	1.2	3.5	-3.5	-1.4	1.0	-0.7	1.3	-0.7	2.7	-1.3	-1.7	-3.4	2.1
persons/occupied apt.	2.13	2.49	2.42	2.39	2.34	2.31	2.36	2.41	2.50	2.61	2.44	2.43	2.56	2.37	2.39
share of old apts. (%)	45.8	34.6	34.1	40.0	53.1	43.1	38.4	41.1	36.8	34.1	38.9	40.4	36.8	47.8	40.6

Source: CZSO

Note: The sources are the CZSO’s 2011 and 2021 censuses. Apartments in both family houses and apartment blocks. The population is considered as of the end of the previous year (the censuses took place in March). Growth figures are relative to the 2011 census. The apartment construction figure is for 2011–2020 relative to the mean of the population in the given period. The share of old apartments means the share of apartments more than 50 years old.

Chart 1 (Box 1)
Structure of occupied housing stock in Czech regions by period of construction

(thousands of apartments)



Source: CZSO

Note: Occupied apartments in both family houses and apartment blocks.

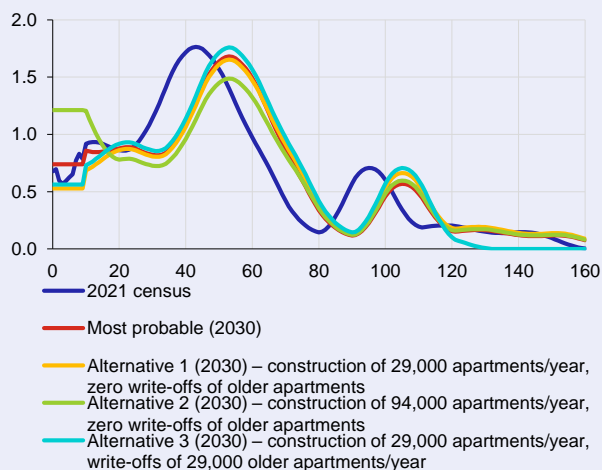
12 The age of an apartment block is defined by its period of construction, which according to the 2021 census means the period in which it was completed and handed over for use or in which it underwent significant reconstruction, involving the modernisation of apartments or the addition of new floors or apartments, which required official approval.

13 In this case, the removal of an apartment/apartment block from the housing stock means that it ceases to physically exist (for example, due to demolition). The frequency of this can only be estimated using the available data. The estimate may be affected by growth in the number of unoccupied apartments, differences in the way reconstructions of older apartments are recorded, and the aforementioned changes in the census methodology.

The ageing of the housing stock, coupled with slow construction, may reduce the number of apartments making up effective supply on the property market. The latter may thus be insufficient, especially given the ongoing demographic and structural changes fostering elevated demand pressures in certain regions (the shrinking average family size due to the “singles” urban phenomenon, rapid migration to Prague and Brno,¹⁴ the rising popularity of apartment purchases by households as an investment and the growing influence of institutional investors). Although the historical growth of the housing stock may seem sufficient at the aggregate level in relation to population growth, the situation is highly heterogeneous across regions.

Chart 2 (Box 1)
Distribution of the age of the housing stock in the Czech Republic

(x-axis: years; y-axis: share in total in %)

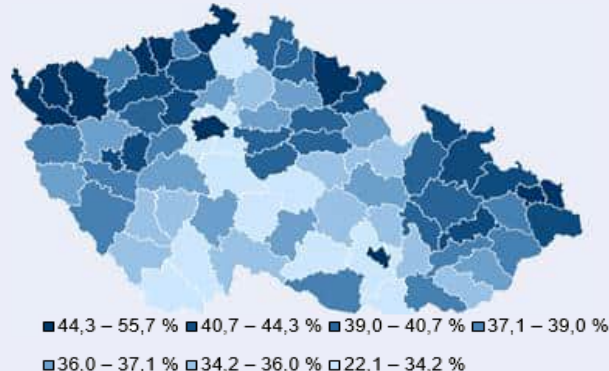


Source: CZSO, CNB

Note: Apartments in both apartment blocks and family houses. CNB estimate based on CZSO data. The curves are smoothed. The “Original” series corresponds to the 2021 census (i.e. the closest to the end of 2020) and the “Most probable” series to the CNB’s expert estimate of the end-2030 figures. The other series correspond to the stylised alternatives briefly described in the legend.

Chart 3 (Box 1)
Share of apartments more than 50 years old in the Czech Republic by district

(thousands of apartments)



Source: CZSO, CNB

Note: Data as of March 2021. Apartments in both family houses and apartment blocks. The intervals are open from the left and closed from the right.

New construction and growth in the number of occupied apartments exceeded the national average in Prague, Central Bohemia and South Moravia (Brno) (see [Chart 1](#)). On the other hand, the impacts of the above-mentioned changes are the strongest in these regions. The populations of Prague and Central Bohemia have risen by 8.2% and 10.5% respectively over the last ten years. This is significantly above the rate of population growth in the Czech Republic.¹⁵ The age of the housing stock in Prague and Brno is meanwhile among the highest (see [Chart 3](#)), exerting additional pressure for new construction to maintain at least the current level of supply on the local apartment market.

These factors are contributing to a regional mismatch between demand and supply, which has rapidly passed through to observed prices. This is evidenced by the degree of overvaluation as measured by the macroprudential approach, which is highest in and around Prague and in South Moravia and the Plzeň region (see [Chart II.22](#)).¹⁶ Given the size of new construction, the lengthy process of preparation of new development projects and the age of the housing stock, it can be assumed that supply will remain fairly inflexible and limited over the next ten years. Against a backdrop of ongoing changes on the demand side, this is likely to contribute to persisting or even widening excess demand in some regions. In the absence of sudden negative shocks, it is therefore possible that, in some regions, the presence of increasingly wealthy households in the market may rise and property price growth may exceed average income growth in the economy.

¹⁴ For details see, for example, Financial Stability Report – Spring 2022, p. 72 and Chart V.27.

¹⁵ The number of inhabitants in Prague and Central Bohemia rose by 101,000 and 133,000 respectively between 2011 and 2021.

¹⁶ This box discusses apartments in both family houses and apartment blocks, whereas the overvaluation of apartment prices pertains to apartment blocks only. However, the conclusions may be applied with some caution to apartments in general.

...this may continue to motivate some households to switch to the rental market

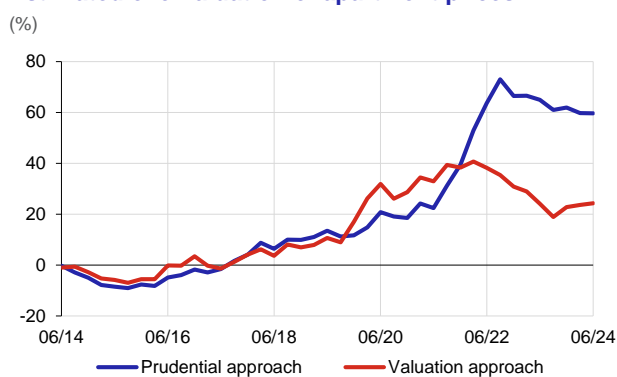
The worse affordability of owner-occupied housing was reflected in demand for rental housing and growth in new and continuing rental contracts, especially in 2024 Q2.¹⁷ The gap between the monthly instalment of an apartment purchase mortgage and the rent on that same apartment remains very wide for typical LTV levels (see [Chart II.11 CB](#)). The two options become comparable in terms of monthly expense only at LTV levels of less than 60% (see [Chart IV.14 CB](#)). This may foster growth in the share of households entering the rental market and drive rents up further. However, apartment rental returns have been flat so far in 2024 (see [Chart II.20](#)), remaining fairly low by historical standards.

Apartment price overvaluation stabilised in the first half of 2024, but at still elevated levels...

Under the macroprudential approach, apartments were overvalued by around 60%¹⁸ for a liquidity-constrained, median-income household in mid-2024 (see [Chart II.21](#)). The high values mean that this household has limited options for debt-financing an average apartment, as the loan size would exceed its ability to safely repay the loan from its available income. If the household entered the market, it could thus potentially be exposed to a high risk of future default. The degree of overvaluation of buy-to-let apartments (under the valuation approach) has been rising constantly over the last few quarters and was close to 24% in mid-2024 (see [Chart II.21](#)).

Chart II.21

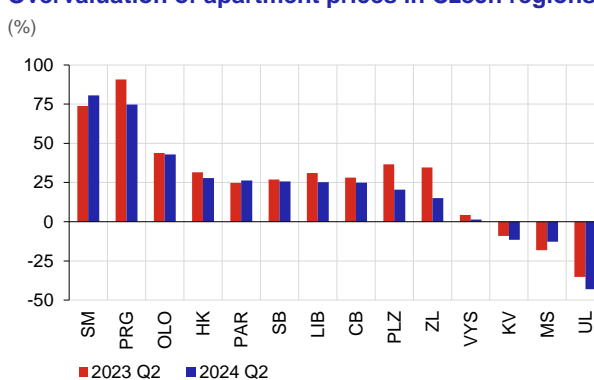
Estimated overvaluation of apartment prices



Note: The methodology of the indicators used 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 2024](#)).

Chart II.22

Overvaluation of apartment prices in Czech regions



Source: CZSO, CNB

Note: The chart refers to 68 m² apartments in regional capitals. Overvaluation is calculated using the macroprudential approach. A mortgage with an LTV of 80% and a maturity of 25 years is assumed. The estimated net income of the median household in each region is used.

...but the risks associated with the degree of overvaluation are rather low

Currently, mortgage loans are mostly provided to households in the highest income deciles. From the macroprudential point of view, the actually observed degree of overvaluation on the mortgage market is therefore much lower and implies quite low risks (see [section IV.4.1](#) for details).¹⁹ When assessing the overall degree of overvaluation, one should also take into account the marked heterogeneity across regions. Prices in South Moravia and Prague seem to be the most overvalued, whereas those in the Ústí nad Labem, Moravia-Silesia and Karlovy Vary regions remain below their fundamental levels (see [Chart II.22](#)). In many regions, the income situation of households thus enables them to debt-finance the purchase of housing without taking on a substantial risk of future repayment problems.

A turnaround in the cycle has been visible in the commercial property sector since early 2024

A turnaround in investment sentiment was visible in the commercial property sector in the first half of 2024. Commercial property prices did not decline any further on a quarter-on-quarter basis in 2024 Q2 and domestic investors' interest in new purchases increased. Accordingly, prime yields on commercial property stopped rising in the first half of 2024 (see [Chart II.23](#)). A stagnation followed by a modest rise is market participants' main scenario for prime yields in the quarters ahead. Overall, then, the commercial property segment has so far managed to cope with the period of elevated inflation with no major shocks, aided, among other factors, by its structural features, such as the relative shallowness of the market and the absence of a large number of regional centres, which tend to contribute to greater market volatility in adverse economic conditions.

¹⁷ According to Eurostat, 24% of households in the Czech Republic were living in rented dwellings in 2023.

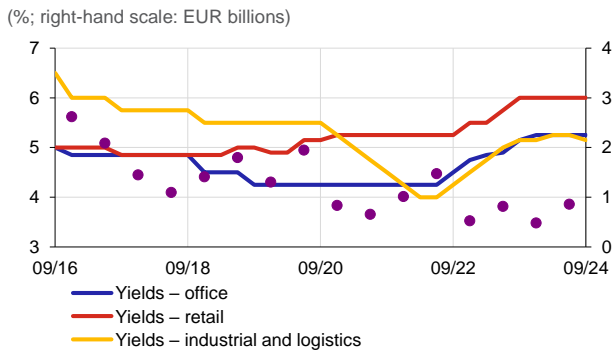
¹⁸ The degree of overvaluation is not in itself a predictor of how much property prices will fall.

¹⁹ See the [cnBlog](#) article [Nadhodnocení cen nemovitostí jako jedno z rizik hypotečního trhu](#) (Property price overvaluation as one of the risks of the property market, in Czech only).

Transaction and construction activity on the commercial property market increased in the first half of 2024...

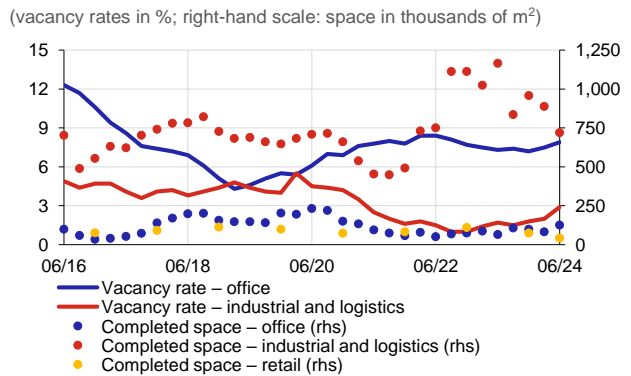
Following a downturn in the second half of 2022, transaction activity has been rising gradually (see [Chart II.23](#)). Construction activity is recovering in parallel, with new office projects and work on some industrial and logistical premises being launched after more than two years. Roughly one-third of industrial space is now being built without a prior contract with a lessor, under the assumption that it will be easy to lease later, which has been the case so far. Although this assumption may seem quite optimistic given the worsening economic outlooks, the figure of one-third is one of the lowest on record.

Chart II.23
Yields on commercial property and transaction volumes in the Czech Republic



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

Chart II.24
Vacancy rates and completed space for commercial property

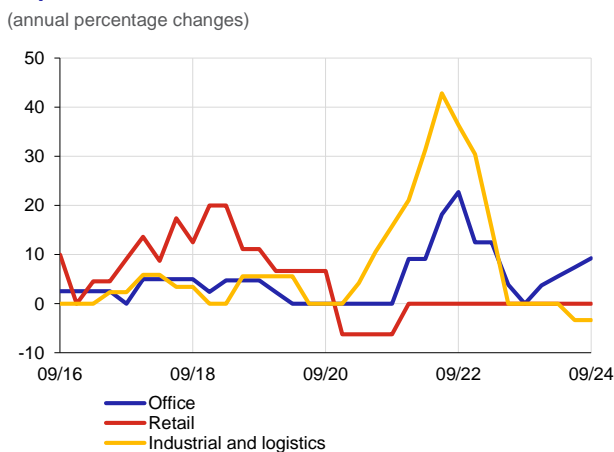


Source: iO Partners
Note: Stocks of completed space are reported as annual moving totals.

...while vacancy rates and rents remain relatively stable

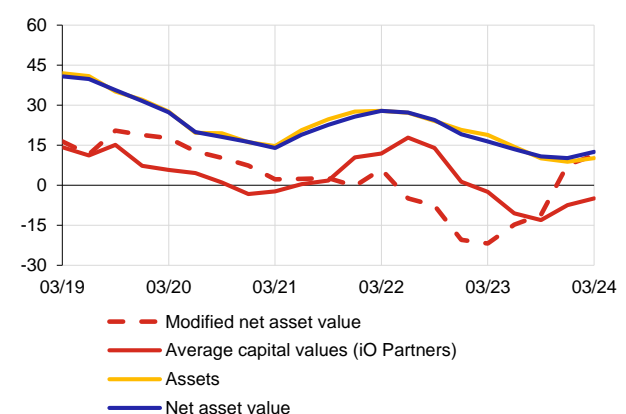
Vacancy rates have shown relative stability despite the recent market stress and have stayed low in all segments. This trend continued into the first half of 2024. The small increase in vacancy rates so far in 2024 should be only temporary, as it is related to a larger amount of new space on the market (see [Chart II.24](#)), which always has low occupancy immediately after entering the market. Besides vacancy rates, rents were also generally flat in the first half of 2024. Office buildings were the exception, recording a partial increase in rents amid a continuing return of staff to offices (see [Chart II.25](#)).

Chart II.25
Prime commercial property rents in the Czech Republic



Source: iO Partners

Chart II.26
Open real estate funds in the Czech Republic



Source: CNB, iO Partners
Note: The average capital values are theoretical values on the Czech prime commercial property market representing their prices as estimated by iOPartners. They therefore do not originate from real estate fund statements. The modified net asset value takes into account the fact that part of the growth in the value of the property located in the Czech Republic owned by funds is due to inflows of new investor funds rather than to growth in property prices. The change in prices of commercial property in the Czech Republic held by funds is thus estimated.

Commercial property prices continue to show signs of overvaluation

Domestic prime yields have not reacted very strongly so far, against the backdrop of the recent inflation episode and some persisting uncertainties. Partly with regard to these factors, the CNB assesses prime yields as still quite low relative to fundamentals. This points to persisting, albeit gradually decreasing, overvaluation of prices (see [Chart II.12 CB](#)). This may also be evidenced by the relatively low interest in investing on the Czech market by foreign investors, who do not view commercial property in the Czech Republic as very attractive given the relatively high domestic prices (compared to other countries).

Real estate funds have also recorded downward pressure on prices of commercial property in their portfolios, but the situation is turning around rapidly

In recent years, domestic real estate funds have become one of the key investors on the domestic commercial property market. The available data reveal that these funds experienced substantial downward pressure on the prices of their commercial property holdings in 2022 and 2023 (see [Chart II.26](#)). The pressure weakened gradually in the second half of 2023, and the value of Czech property holdings started to rise at the year-end, with the growth even reaching double figures in 2024 Q1. Overall, these alternative price data corroborate the picture obtained from primary data sources, confirming a turnaround in commercial property prices.

II.2 THE NON-FINANCIAL SECTOR

II.2.1 General government

The general government deficit will decrease gradually...

According to the CNB's autumn forecast, the general government deficit will decrease gradually in 2024–2026, albeit at a markedly slower pace than suggested in the spring forecast (see [Chart II.27](#)). A larger decrease in the deficit is expected only in 2024. In the following years, the deficit is expected to fall moderately and will remain below the 3% reference value specified in the Treaty on the Functioning of the EU over the entire horizon of the CNB forecast. This, among other things, was taken into account by Moody's and Fitch in their summer 2024 assessment, in which they confirmed that the Czech Republic has very high-quality long-term debt with a stable outlook (see [Table II.1 CB](#)).

Chart II.27
General government balance

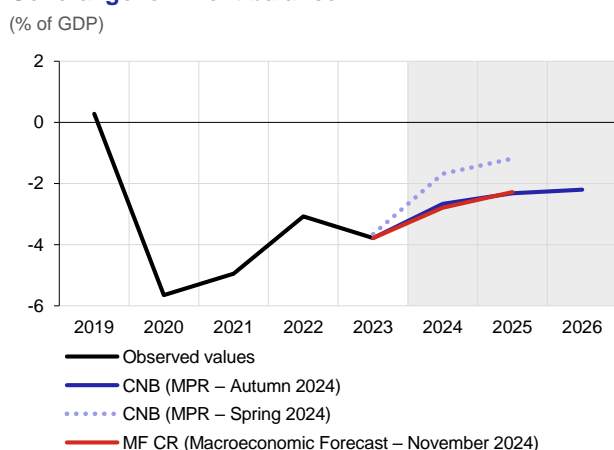
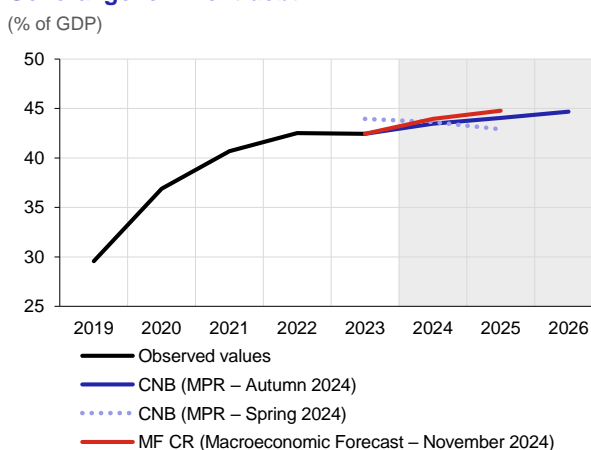


Chart II.28
General government debt



...general government debt will rise nonetheless...

The ongoing public finance consolidation process, which was positively reflected in the general government balance for 2024, has also fostered slower growth in public indebtedness. According to a Czech Fiscal Council projection, the breach of the debt brake of 55% of GDP has been postponed by as much as ten years (from 2028 to 2038). However, compared to the spring forecast, general government debt will rise slightly towards 45% of GDP, also due to unexpected flooding-related expenditure²⁰ (see [Chart II.28](#)). The fiscal space available to respond to a potential crisis thus remains relatively limited. An unexpected highly adverse economic shock could quickly reverse the new debt path and the debt brake could easily be exceeded.

...driven significantly by the long-term structural imbalance in the public finance system

According to the Czech Ministry of Finance forecast, the structural deficit will fall to 2.3% of GDP in 2024 due to fiscal consolidation, but the pace of reduction of the structural deficit will slow in the coming years (see [Chart II.29](#)). If the CNB's autumn forecast materialises (the CNB uses a slightly different methodology than the Ministry of Finance for calculating the structural balance²¹), the structural balance will reach the level of the expenditure rule set in the Act on Budget Responsibility in 2025. It will be necessary to continue with consolidation efforts in the years ahead to further reduce the structural deficit and increase the fiscal space in terms of both the current balance and the debt path. This is also desirable with a view to limiting growth in the risk to financial stability arising from excessive interconnectedness of the financial and government sectors. Not only does relatively limited fiscal space prevent a stronger economic policy response to crisis scenarios, but more persistent structural deficits also usually undermine foreign investor confidence and lead to higher risk premia and higher price volatility of government bonds, which are held mainly by financial institutions.

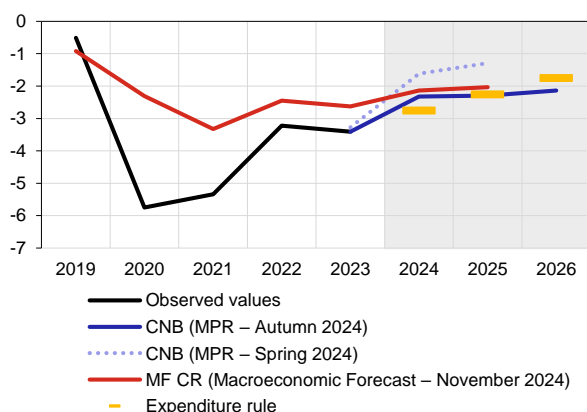
²⁰ An amendment to the Act on the State Budget of the Czech Republic for 2024 was approved in October 2024. This increased government expenditure by CZK 30 billion to deal with the September 2024 flood damage. Expenditure of CZK 10 billion is earmarked for flood damage in the draft state budget for 2025.

²¹ The CNB's methodology is based on the ESCB guidelines for the preparation of fiscal forecasts and thus differs from the European Commission's approach. The difference stems mainly from the identification of one-off measures for which the structural balance is adjusted. The Commission's approach takes into account a wider range of these measures than that of the ESCB, mostly on the expenditure side. As a result, in recent years the structural balance calculated under the Ministry of Finance methodology has been further away from the overall balance than the balance calculated using the CNB methodology.

Chart II.29

General government structural balance

(% of GDP)



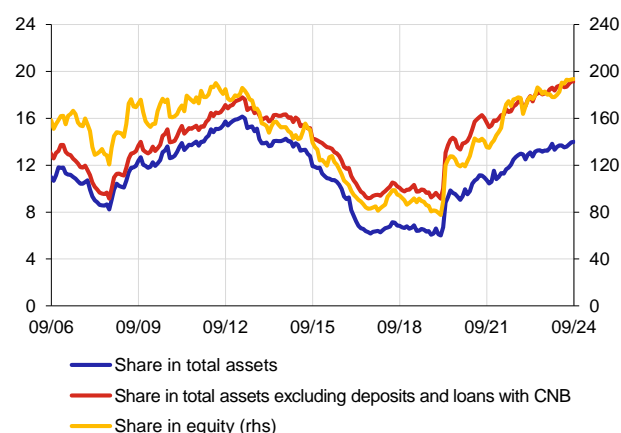
Source: CNB, Ministry of Finance of the Czech Republic

Note: The expenditure rule is defined in Act No. 23/2017 Coll., on Budget Responsibility. The CNB's methodology for calculating the structural balance is based on the ESCB guidelines for the preparation of fiscal forecasts.

Chart II.30

Share of general government debt securities on the balance sheets of domestic banks

(%)

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

The government's high borrowing requirement will continue to foster significant issuing activity (see [Chart II.13 CB](#)). The Czech banking sector is still central government's largest creditor, with Czech koruna government bond holdings totalling CZK 1.25 billion (see [Chart II.14 CB](#)). The temporary decline in government bonds held by domestic banks in favour of non-residents seen at the end of 2023 – caused by repo transactions between banks and non-residents (especially within financial groups) – was fully offset in 2024 Q3. The share of koruna debt securities in the Czech banking sector's total assets thus increased further to 14% (see [Chart II.30](#)) and the potential risk to financial stability in the sense of mutual transmission of an adverse shock between the banking sector and general government has thus increased slightly further over time. However, according to the results of the spring 2024 general government stress test (see [FSR – Spring 2024](#)), no additional capital is currently needed to cover excessive concentration of domestic banks' risk exposures.

II.2.2 The private non-financial sector

The unemployment rate remained stable and wages went up...

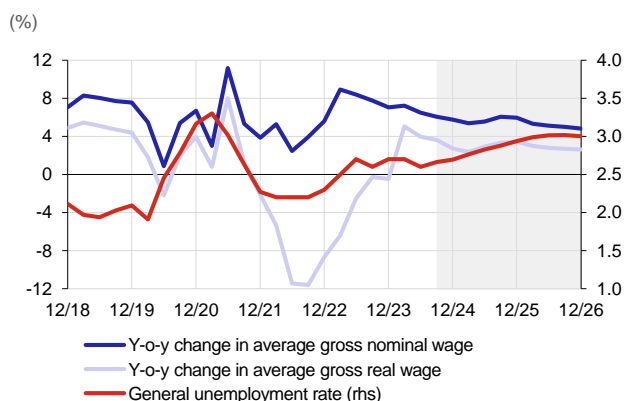
The subdued economic activity in the first three quarters of 2024 had only a limited effect on the unemployment rate, which remained low (see [Chart II.31](#)). The low unemployment made it possible to maintain brisk nominal wage growth and, due to the drop in inflation into the CNB's tolerance band, allowed real wages to start rising as well. If the CNB's autumn forecast materialises, year-on-year wage growth will average around 5.5% in nominal terms and 3% in real terms up to the end of 2026. The financial situation of households is thus not expected to weaken significantly despite a gradual rise in the unemployment rate to 3%.

...while the profit rate and investment rate fell moderately²²

Growth in personnel expenses in the first half of 2024 contributed to a drop in the profit rate of non-financial corporations, which nonetheless remains at a solid level (see [Chart II.32](#)). There was also a decline in the investment rate, due mainly to still elevated interest rate expenses on debt (see [Chart II.38](#)). The future performance of exporters will depend largely on the economic performance of Germany and the Czech Republic's other key trading partners and on the global trade and geopolitical environment (see [section II.1](#)).

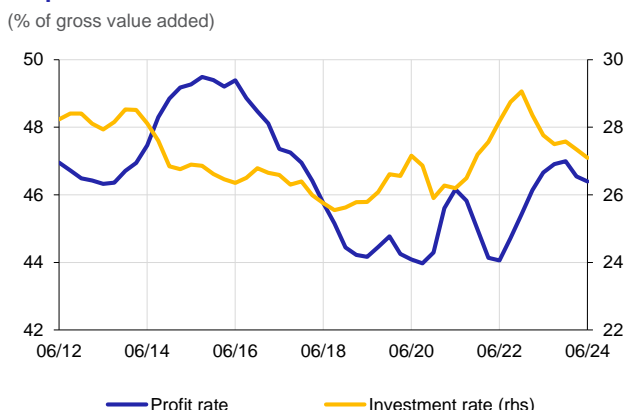
²² In 2024, there was a revision of the national accounts (see CZSO: [Extraordinary revision of the national accounts](#); in Czech only). This led to changes in the historically observed values of the indicators used. The data contained in previous FSRs are thus not comparable with the data published in this FSR.

Chart II.31
Labour market indicators



Note: The values in the grey area are based on the CNB's autumn forecast (MPR – Autumn 2024). The general unemployment rate is seasonally adjusted.

Chart II.32
Profit rate and investment rate in the non-financial corporations sector



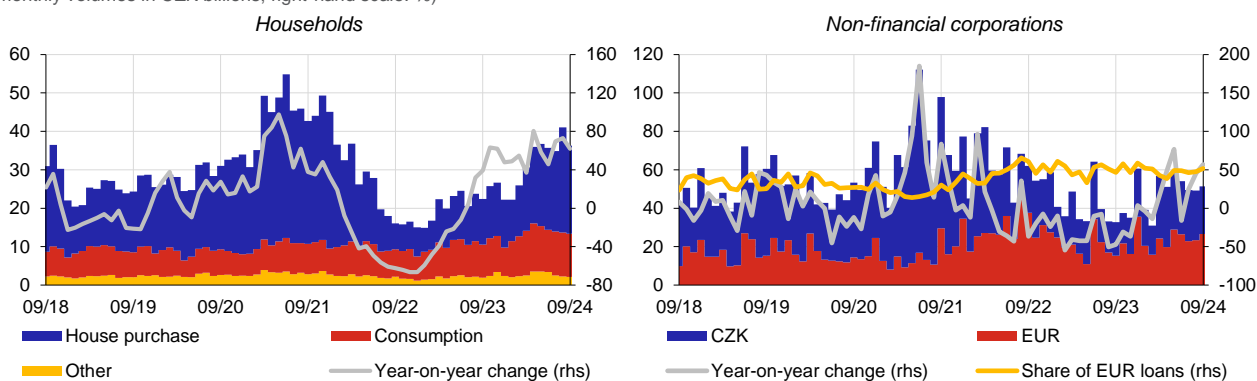
Source: CZSO
Note: Profit is defined as the annual moving total of gross operating surplus and investment as the annual moving total of gross fixed capital formation.

The amount of new housing loans to households rose...

Lending to households recorded nominal growth in 2024 (see Chart II.33). Along with a recovery in the residential property market (see section II.1), pure newly negotiated housing loans to households rose by CZK 20.9 billion and CZK 23.8 billion a month on average in 2024 Q2 and 2024 Q3 respectively. This is above the long-term monthly average for the period since 2014 (CZK 17.9 billion). However, taking nominal developments in the economy into account (see Chart II.34) it is clear that growth in new real household debt has remained slightly below average so far, while the growth in volumes has been driven by loan size and not by the number of loans (see section IV., Chart IV.4 CB). The temporary rise in August 2024 was due to efforts by some households to negotiate a loan before 1 September 2024, when a legislative amendment changing the conditions for early repayment came into force (see section IV.4).

Chart II.33
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.

...in real terms, the amount of new loans for consumption is in line with the long-term average

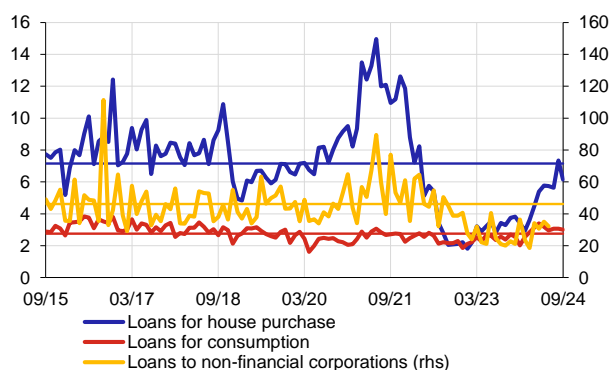
Nominal growth was also seen for pure new bank loans for consumption, which peaked in April 2024 (CZK 12.5 billion, as against a ten-year average of CZK 7.2 billion; see Chart II.33). The growth was due to nominal developments in the economy in previous years, which only showed up at the start of 2024, along with a rise in consumer confidence. In terms of the ratio of pure new loans for consumption to the aggregate gross disposable income of households,²³ a broadly constant to slightly declining level of aggregate real household debt via loans for consumption is apparent (see Chart II.34).

²³ Gross disposable income (GDI) represents households' total monthly after-tax income available for final consumption and saving. It includes not only wages, but also other income, such as social benefits, pensions, rental income and dividends. GDI and wages may thus grow at different rates, for example, due to the effect of inflation-indexed pensions when wages are flat.

In the case of non-specific loans to households for consumption, which are currently the biggest contributor to the growth of these loans, the real indicators were declining until the first half of 2024, when they started to rise again. However, this growth was not significantly distant from the historically observed levels. Special-purpose loans for goods and services recovered somewhat in 2023 but have not yet increased above their historically observed real level.

Chart II.34
Pure new loans to private non-financial sector, including increases

(% of GDI; right-hand scale: % of GOS)

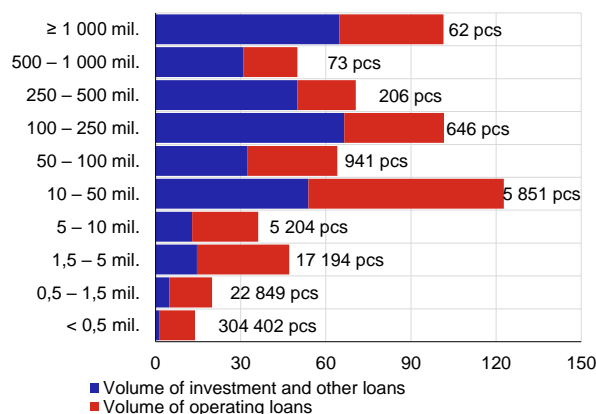


Source: CNB, CZSO

Note: The horizontal lines show the average for 2014–2023.

Chart II.35
Drawdown of loans by non-financial corporations by loan size since the start of 2024

(x-axis: CZK billions; y-axis: loan size in CZK millions; captions: number of loans)



Note: The chart shows drawdown of loans from January to August 2024. The intervals are closed from the left and open from the right.

The credit activity of non-financial corporations increased in 2024

Pure new loans to non-financial corporations rose to CZK 56.8 billion in March 2024 and have since been fluctuating around the long-term average (2014–2023) of CZK 53.1 billion, dipping just below CZK 50 billion in the summer (see Chart II.33). However, the ratio of pure new loans to the sector's gross operating surplus was below average (see Chart II.34). Banks' credit standards were unchanged for non-financial corporations (see Chart II.16 CB). The level of new loans drawn by non-financial corporations has also remained stable so far (see Chart II.17 CB). The exception was June, when there was an increase due to drawdown of loans mainly for investment purposes. Overall, drawdown has been affected in recent months by a lower number of large loans, used typically to finance investment projects (see Chart II.35).

The debt ratio of households remained low...

The household debt ratio bottomed out at the end of 2023 and increased slightly to 52.4% of gross disposable income in the first half of 2024 (see Chart II.36). This increase was due mainly to rising growth in the stock of bank loans for house purchase, which rose to 4.3% in Q3 (see Chart II.37). To a lesser extent, consumer credit also contributed to the rising debt ratio (year-on-year growth of 8.8% in Q3). However, both the debt ratio of households and year-on-year growth in loans for house purchase remain low from a historical perspective.

...and also stayed low for non-financial corporations despite growing slightly

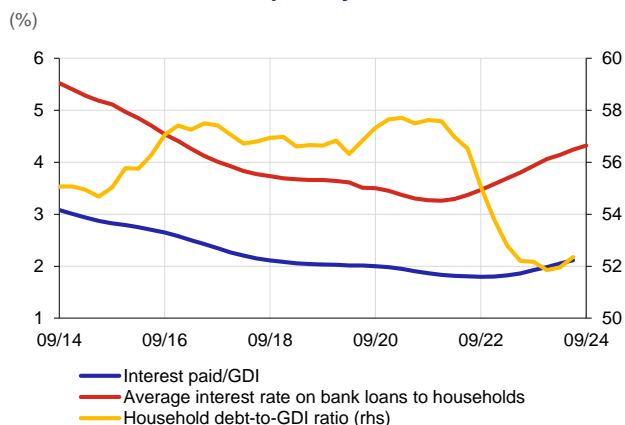
The debt ratio in the non-financial corporations sector increased by 10 pp in the first half of 2024, due mainly to a sharp rise in inter-company debt (24% year on year). The year-on-year growth rate of bank loans, which was 7.2% in the second half of the year, also contributed to growth in indebtedness. The growth rate slowed slightly to 6.8% at the end of 2024 Q3 (see Chart II.37). This notwithstanding, non-financial corporations' debt, at 210% of gross operating surplus, remained distinctly below the historical average (see Chart II.38; the average since 2014 is 222%).

Falling interest rates and rising income will lead to a further recovery in demand for housing loans...

If the CNB's autumn forecast²⁴ materialises, year-on-year growth in the stock of housing loans will continue to strengthen, due mainly to growth in households' nominal income and a gradual decline in interest rates. According to the projection, it will reach 5.5% at the end of 2024 and increase above 9% over the entire following two-year period (see Chart II.37). However, this projection is subject to uncertainty related to the robustness of the ongoing recovery of the mortgage market, in summer 2024. Consumer credit will reach 10.8% year on year at the end of 2024. After peaking in 2025 Q1, growth in the stock of these loans will slow gradually to 7.6% at the projection horizon.

²⁴ [Monetary Policy Report – Autumn 2024](#).

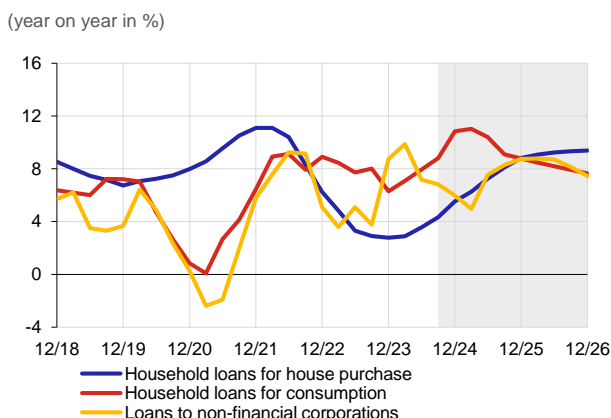
Chart II.36
Debt ratio and interest paid by households



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.37
Projections of growth of bank loans in the private non-financial sector

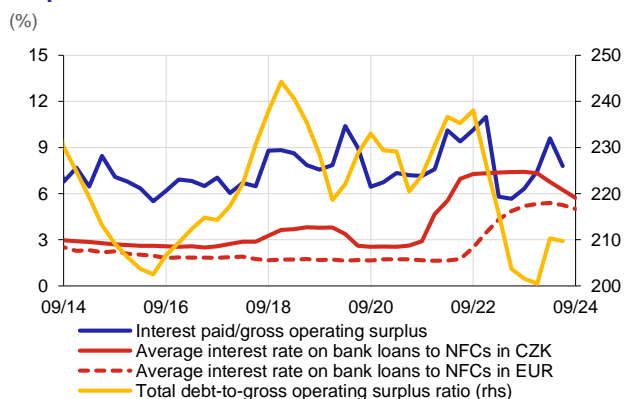


Note: The values in the grey area are based on a projection consistent with the CNB's autumn forecast ([MPR – Autumn 2024](#)).

...the expected increasing growth in investment will be reflected in lending to non-financial corporations

According to the projection, the annual growth rate of loans to non-financial corporations will slow to 6% in late 2024 (see [Chart II.37](#)), increasing again from mid-2025. The main reason is the assumed increase of 11.3% year on year in gross capital formation in 2025, which is closely linked with new investment borrowing by corporations²⁵ (see [Chart II.18 CB](#)). Annual growth in the stock of loans will stand at 8.7% at the end of 2025 and will slow slightly to 7.4% in 2026. The assumption of a relatively weaker koruna-euro exchange rate over the entire forecast period will also contribute to higher growth in loans through the repricing of euro-denominated loans.

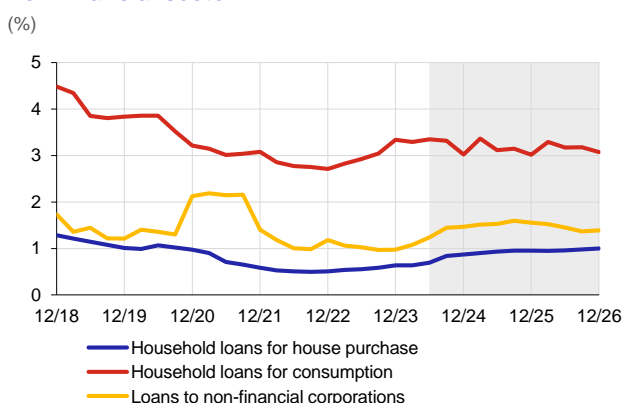
Chart II.38
Debt ratio and interest paid by non-financial corporations



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.

Chart II.39
12-month default rate on loans in the private non-financial sector



Note: The values in the grey area are based on a projection consistent with the CNB's autumn forecast ([MPR – Autumn 2024](#)).

The default rate rose slightly in the case of households...

The 12M default rate on loans to households for house purchase is showing a gradual upward trend and reached 0.7% in mid-2024. Despite this increase, it remained very low by historical standards (see [Chart II.39](#)). Households' higher costs associated with the rise in inflation and the refixing of loans at higher interest rates have not yet been reflected in the still relatively low materialisation of credit risk. If the CNB's autumn forecast materialises, the default rate will gradually increase in line with the unemployment rate, reaching 1% at the end of the period of interest (see [Chart II.39](#)). This rise may also be fostered by the relatively high volume of loans (around CZK 400 billion, i.e. almost one-quarter of the current stock) that

²⁵ Operating loans are usually linked to inflation in the economy. Assuming relatively stable inflation, the year-on-year growth rate of loans to non-financial corporations will thus be affected mainly by their investment activity.

will be refixed in 2026, in most cases (81% of loans) at higher interest rates than originally agreed. However, neither the current projection of the default rate, nor the spring household stress test ([FSR – Spring 2024](#)) indicates that mortgage repayment difficulties will affect a significant proportion of households.

...and non-financial corporations, where differences across sectors are evident

The 12M default rate²⁶ rebounded from a historical low at the end of 2023. It continued to rise in the first half of 2024, reaching 1.24% in June (see [Chart II.39](#)). It remained close to the 2018–2019 levels and below the long-term average. The average default rate since the start of 2014 is 1.53%. In terms of sectoral breakdown, the default rate in agriculture was higher in the first two quarters, while that in wholesale and retail trade increased slightly above the long-term average in the middle of the year, especially for suppliers specialising in technical products (see [Chart II.19 CB](#)). The share of Stage 2 loans decreased in all sectors compared to the end of 2023 (see [Chart II.20 CB](#)), helped by the downward trend in interest rates and a more stable energy market situation. If the CNB's autumn forecast materialises, the 12M default rate will stabilise at close to its long-term average by the end of 2026 (see [Chart II.39](#)). The default rates in agriculture, transport and real estate activities are expected to increase above the long-term average since 2014. However, default rates will stay at relatively low levels across sectors.

²⁶ The default rate is now measured using a revised methodology under which all a company's loans are included in the numerator of the indicator if more than 20% of them became non-performing in the period under review. If the share of the company's non-performing loans amounts to 20% or less of all its loans, only the amount of non-performing loans is included. [For details see cnBlog.](#)

III. THE FINANCIAL SECTOR

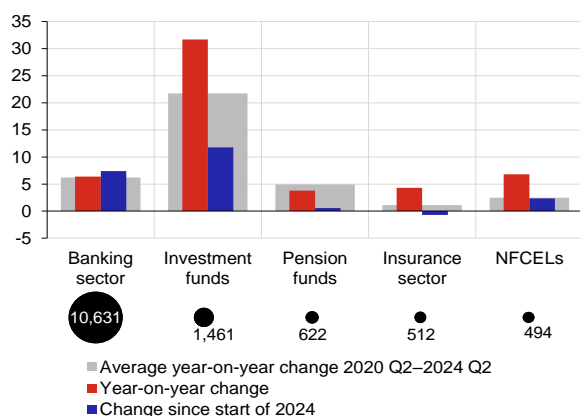
III.1 DEVELOPMENTS IN THE FINANCIAL SECTOR

Almost all parts of the financial sector recorded growth in the first half of 2024

The financial sector's total assets grew by 8.4% year on year to CZK 13.8 billion, i.e. 176% of GDP, as of mid-2024 (see [Chart III.1](#)). Since the start of 2024, investment funds recorded the fastest growth (11.8%). The other sub-sectors, with the exception of the insurance sector, also grew. Return on assets was comparable with the five-year average in the banking and insurance sectors and below average in pension funds (see [Chart III.1 CB](#)). As of mid-2024, the key banking sector accounted for roughly 77% of the assets of the financial system as a whole.

Chart III.1
Rates of growth of sub-sectors of the financial sector

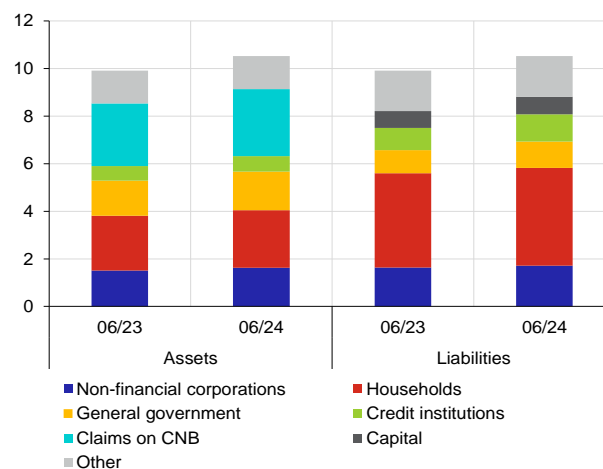
(%; as of 30 June 2024)



Note: NFCELS = non-bank financial corporations engaged in lending. The sizes of the circles show the value of the sub-sectors' assets in CZK billions as of 2024 Q2. The banking sector also includes credit unions.

Chart III.2
Selected items of the domestic banking sector's balance sheet

(CZK trillions)



III.2 BANKING INSTITUTIONS²⁷

III.2.1 Assets, liabilities and profitability

All the important items of assets and liabilities contributed to the growth in the banking sector's total assets

The banking sector's total assets rose by 6.4% year on year to CZK 10.5 billion as of mid-2024 (see [Chart III.2](#)). On the asset side, claims on the CNB (CZK 183 billion), loans to non-financial corporations (CZK 117 billion) and loans to households (CZK 113 billion) recorded the largest absolute year-on-year growth. On the liability side, household deposits (CZK 321 billion) and liabilities to credit institutions (CZK 231 billion) contributed the most to the year-on-year growth.

Profitability remained solid

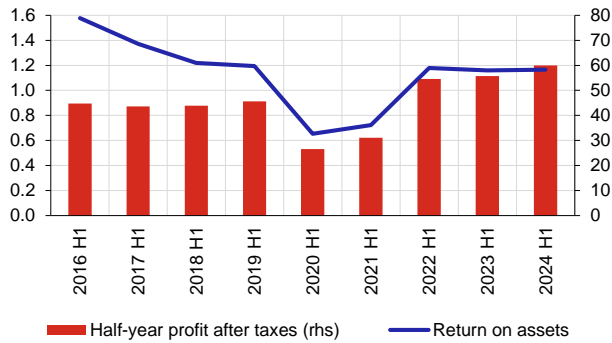
The profit for the first half of 2024 was CZK 59.9 billion, a year-on-year increase of CZK 4.3 billion (see [Chart III.3](#)). Given the similar rate of growth of assets, return on assets was virtually unchanged year on year at close to 1.2% as of mid-2024. Interest profit remained a key source of profit. It fell by CZK 0.4 billion to CZK 81.5 billion year on year for the first half of 2024. The solid profitability was also due to low asset impairment losses in both absolute and relative terms (CZK 0.4 billion annualised, or 1 bp of client loans and 0.4 bp of total assets; see [Chart III.4](#)). Impairment losses were affected by the gradual release of part of the provisions set aside by banks in past years to cover risks associated with the pandemic and rising inflation. A relatively high level of cost-effectiveness – as measured by the cost-to-income ratio – of 44% (down 1 pp year on year) is also having a favourable effect on profitability.²⁸

²⁷ The Czech Export Bank and the National Development Bank are excluded from the analysis 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.

²⁸ The cost-to-income ratio is calculated as a weighted average of the supervisory reporting of individual banks at the individual level and is relatively volatile in the course of the year. This value is lower than in previous FSRs. These reported the value of this indicator according to data from the EBA, which uses a different methodology.

Chart III.3
Return on assets and profit

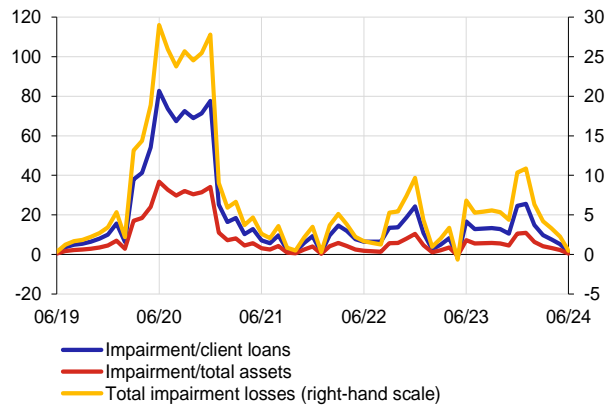
(%; right-hand scale: CZK billions)



Note: Return on assets is based on the profit for the first half of the year and is annualised.

Chart III.4
Asset impairment losses

(bp; right-hand scale: CZK billions)



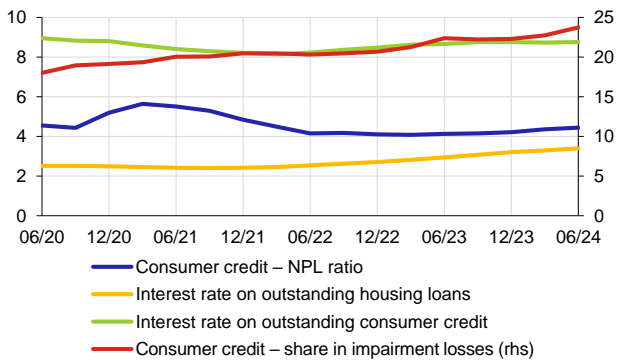
Note: Impairment losses are annualised. Client loans comprise loans to the private sector.

The contribution of loans to households for consumption to profitability has decreased in recent years

The inflation of recent years has been accompanied by growth in loans for consumption, which have thus maintained a relatively stable role in the targeted financing of higher household expenditure and in the broad coverage of their other financial needs (see section II.2.2). Interest income on loans for consumption thus started to rise gradually in nominal terms in 2023. This increase was due mainly to growth in the portfolio and only to a limited degree to rising interest rates (see Chart III.5). In addition, banks’ interest income on housing loans grew more quickly, due mostly to a faster rise in interest rates on new and refixed loans. This led to a drop in the ratio of interest income on loans for consumption to total interest income on loans to households (see Chart III.6). In addition, part of the interest income on loans for consumption is linked to a higher risk mark-up on these loans to cover losses arising from more frequent defaults (see Chart II.39). As of mid-2024, the share of banks’ impairment losses on loans for consumption had risen to a quarter of all bank loan impairment losses (see Chart III.5). Overall, longer-term consumer credit returns and losses show that their contribution to banks’ profitability has been falling gradually.

Chart III.5
Interest rates on outstanding loans to households and indicators of losses on consumer credit

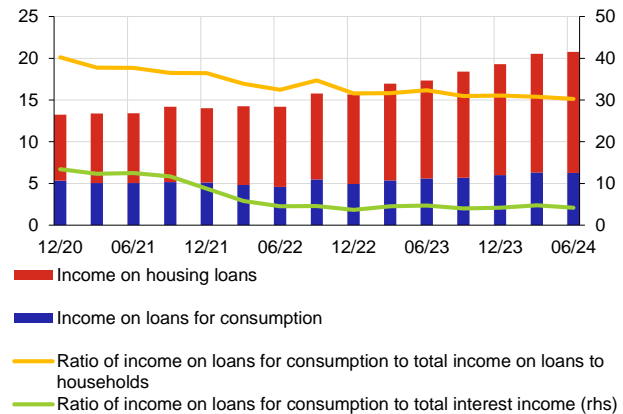
(%)



Note: The share of impairment losses is the share of these losses on the consumer credit portfolio in total impairment losses.

Chart III.6
Quarterly interest income from the main segments of loans to households

(CZK billions; right-hand scale: %)



Interest income and costs started to decrease...

Banks’ interest income and costs started to fall gradually as monetary policy rates came down in the first half of 2024. In 2024 Q2, total quarterly interest income was 10% below its previous high (2023 Q4). In a similar manner, interest rate expenses saw a 12% decrease. Interest rate expenses saw a 12% decrease. Matching of interest income and costs meant that interest profit was little changed, fluctuating at a monthly level of CZK 13–15 billion, or 1.5–1.8% of total assets, in the first half of 2024 (see Chart III.7).

...with varying speed and intensity depending on the type of asset and liability

As regards the key components of interest income, banks' income on operations with the CNB, which responds directly to monetary policy rates, fell faster during the first half of 2024 (see Chart III.8). Conversely, the other components of interest income, which reflect changes in monetary policy with a lag, recorded a slower decline overall in 2024 Q2 (5% relative to the 2023 Q3 high). The CNB's share in interest income thus fell from over 40% in 2022–2023 to 31% in 2024 Q2. On the liability side, the decline in interest costs involved all the main components (see Chart III.8), including deposits on term accounts. Their share in total deposits and the average interest rate on them have both been falling in 2024 (see Chart III.9).

Chart III.7
Decomposition of interest profit

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

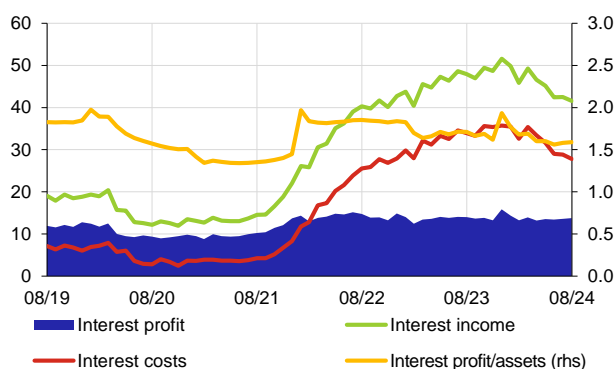
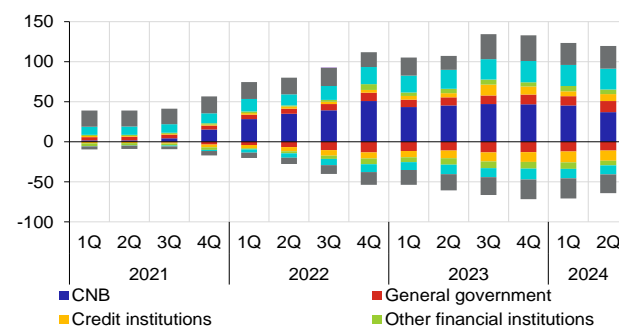


Chart III.8
Quarterly interest income and costs by counterparty

(CZK billions)



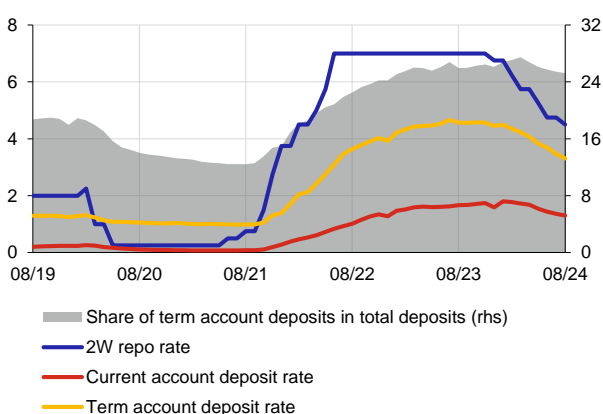
Note: For each segment, the positive value is its interest income and the negative value its interest costs. As regards instruments, interest income and costs arising from the bonds, loans and deposits of each segment are included.

Margins management stabilised interest profit

As of mid-2024, interest rates on new koruna loans²⁹ were down 2 pp year on year for loans to non-financial corporations and 0.7 pp for loans to households. Conversely, rates on new koruna deposits were down 0.4 pp. Interest margins on new koruna loans were down 1.6 pp and 0.2 pp year on year for loans to non-financial corporations and consumer loans respectively, while they were broadly flat in the case of housing loans (see Chart III.10). However, the decrease in koruna margins was offset by an increase in pure new loans (see Chart II.33). This helped to keep interest profit stable (see Chart III.7), as did high-quality interest rate risk management by banks amid generally stable deposits and a strong liquidity position of the sector (see section III.2.3).

Chart III.9
Interest rates on term and current accounts

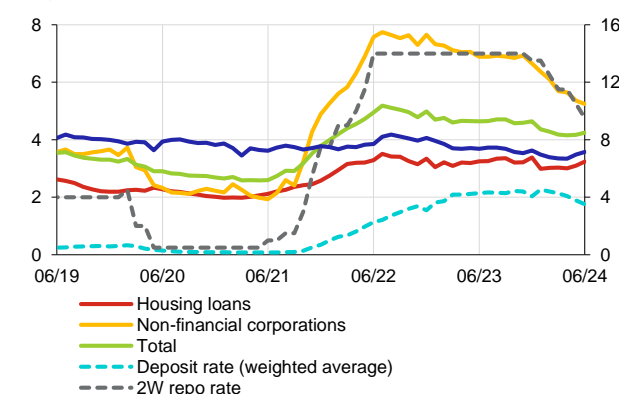
(%)



Note: The figures refer to rates and amounts in respect of the outstanding amounts of deposits in banks' balance sheets.

Chart III.10
Interest margins on new koruna loans

(margins in pp; rates in %)



Note: Margins are calculated as loan rates for the given sector minus the average deposit rate. Total new loans (including refinancing and other renegotiations) are included. The non-financial corporations item excludes revolving loans and credit cards.

²⁹ Unlike in other parts of the FSR, total new loans (i.e. including refinancing and other renegotiations, the interest rates and margins on which are also relevant as regards the ability of banks to generate profit) are monitored here for the purposes of calculating margins.

III.2.2 Own funds and eligible liabilities

The capitalisation of the banking sector remained high

The sector's capital rose by CZK 19 billion to CZK 693 billion in the first half of 2024, with 90% of the capital consisting of the highest-quality common equity Tier 1 capital. The overall capital ratio remained at 22.6%, virtually unchanged compared with the start of 2024 (see [Chart III.11](#)). It was affected by a drop in risk weights (contribution to the ratio +1.5 pp) and growth in capital (+0.6 pp). An increase in total exposures had the opposite effect (-2.1 pp). The non-risk-weighted leverage ratio has fallen by 0.5 pp to 6.1% since the start of 2024 (see [Chart III.2 CB](#)).³⁰

Chart III.11
Structure of the overall capital ratio

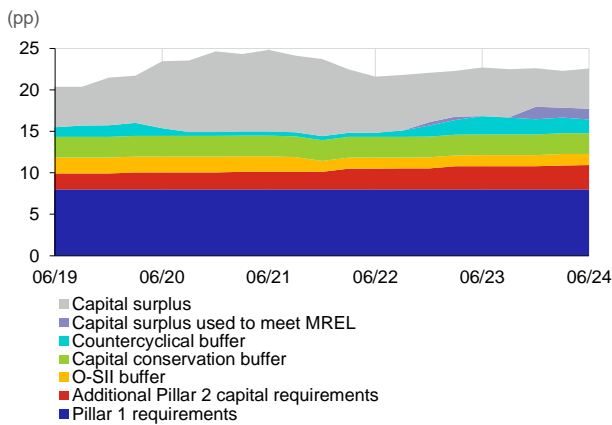
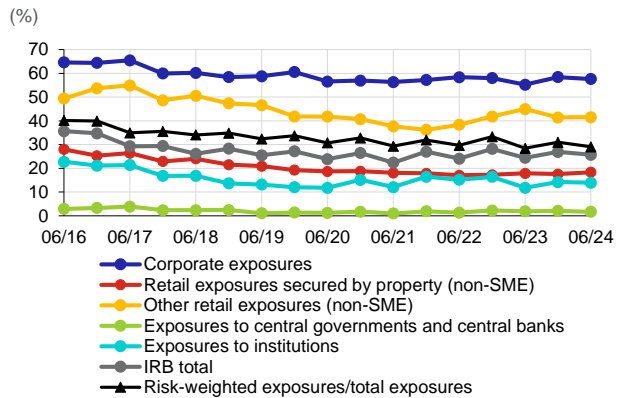


Chart III.12
Average risk weights of the main categories of banks' exposures under the IRB approach

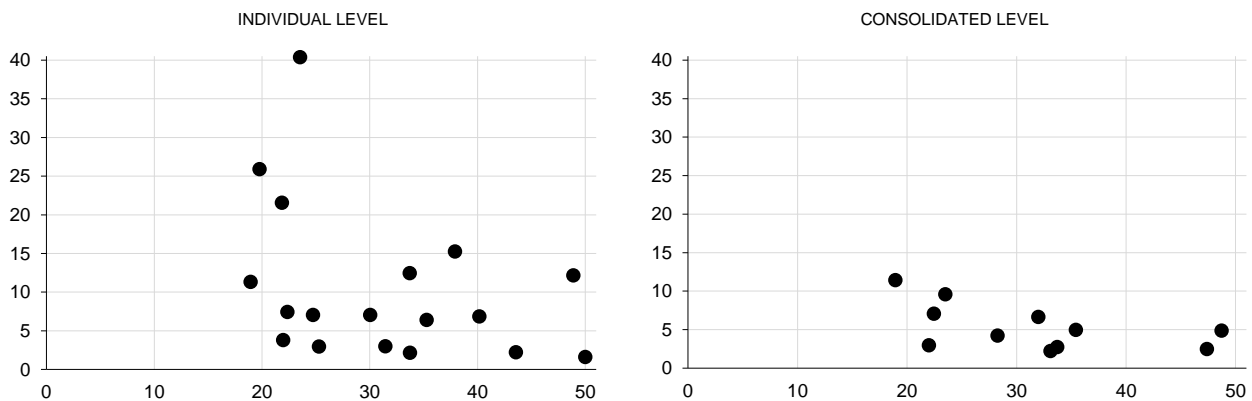


Aggregate risk weights decreased slightly...

The average risk weights on the exposures of banks that use internal models (the IRB approach) fell by 1.2 pp to 25.7% at the aggregate level of the entire portfolio in the first half of 2024 (see [Chart III.12](#)). The main cause of the decline was a change in the structure of exposures in favour of portfolios with lower risk weights. In terms of the individual categories, there was a very slight drop in the risk weights on corporate exposures (of 0.8 pp to 57.6%) and on exposures to institutions (of 0.3 pp to 13.9%). Conversely, risk weights on secured exposures to households increased (by 0.8 pp to 18.3%).

Chart III.13
Capital surpluses and risk weights of exposures for individual banks

(x-axis: risk weight in %; y-axis: capital surplus in % of total risk exposure)



Note: For better readability, the charts do not show the two small banks (accounting for less than 1% of the assets of the banking sector) with the largest capital surpluses.

³⁰ In the domestic banking sector, the leverage ratio is significantly affected by high exposures to the CNB. Adjusted for them, the leverage ratio would have been a high 8.5% as of mid-2024.

...while the capital surplus was unchanged

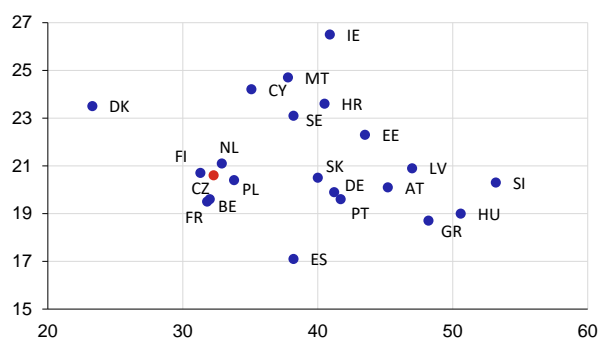
As of mid-2024, domestic banks held total capital above the risk-weighted capital requirement with a surplus of CZK 190 billion.³¹ This was unchanged from the start of 2024, remaining at 6.2% of risk-weighted exposures. Systemically important financial institutions reported a ratio of 3.8%. The heterogeneity across banks is partly related to risk weights, as higher capital surpluses tend to be reported by institutions with lower aggregate risk weights (see [Chart III.13](#)).

The capital position of the sector is around the EU average

According to the data and calculation methodology of the IMF, the domestic banking sector's overall capital ratio and risk weights were slightly below the average of the EU banking sectors at the end of 2023 (see [Chart III.14](#)). This also partly explains the relevance of the existing capital buffer settings (see [section IV.1](#)).³² A recent EBA report can also be used to make an international comparison. This report analyses the capital surplus above each capital requirement – the risk-weighted requirement, the unweighted requirement and the MREL requirement – across EU banks.³³ The European banks evaluated³⁴ had an average capital surplus of 3.9% of the total risk exposure at the end of 2023. This is similar to the level for domestic banks at the consolidated level (see [Table III.1](#)). The European banks reported a lower average capital surplus above the non-risk-weighted requirement (leverage ratio) – 1.9%, as against 2.8% for domestic banks at the consolidated level. European banks held more eligible liabilities above the MREL recapitalisation amount (0.5 pp of the capital ratio) than domestic banks. Domestic banks mostly do not hold surplus eligible liabilities. Some use both eligible liabilities (CZK 252 billion) and own funds (CZK 40 billion, or 1.3 pp of the capital ratio; see [Chart III.11](#)) to meet the recapitalisation amount. This reduces their surplus of eligible liabilities and own funds above the MREL.

Chart III.14
International comparison of capital ratios and risk weights at the end of 2023

(%; x-axis: risk weight; y-axis: overall capital ratio)



Source: IMF FSI

Note: The domestic banking sector is highlighted in red. The data are presented at a consolidated level for the entire banking sectors. Data are not available for Lithuania and Italy. The domestic banking sector's capital ratio and risk weight differ from the figures presented in this section due to the use of a different data source.

Table III.1
Capital surplus above each capital requirement
(% of total risk exposure)

	EBA survey	CZ (consolidated level)		CZ (individual level)	
		Total	O-SIIs	Total	O-SIIs
Risk-weighted requirement	3.9	3.8	3.3	6.2	3.8
Non-risk-weighted requirement	1.9	2.8	2.7	3.1	2.5

Source: EBA, CNB

Note: The EBA analysis sample consists of 53 institutions (36 of which are systemically important) from 24 EU countries at the consolidated level. The figures represent the weighted average of the values for the banks analysed (weighted by the values of total risk-weighted exposures or the total exposure depending on the specific ratio).

31 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 and evaluation process in Pillar 2 (an average of 2.9% for the sector) and capital buffers (an average of 5.5% for the sector). It is designed to make the banking sector sufficiently resilient to shocks.

32 Data from the IMF's FSI database covering a country's entire banking sector at the consolidated level.

33 EBA, [Report on stacking orders and capital buffers](#).

34 The sample consists of 53 institutions from 24 EU countries – eight global systemically important institutions, 28 other systemically important institutions and 17 systemically unimportant institutions.

III.2.3 Credit risk³⁵**The share of loans with increased risk continued to decline...**

Client loans rose by CZK 156.7 billion (3.7%) in the first half of 2024. Stage 1 client loans (loans with no significant increase in credit risk) continued to rise in line with the trend seen in late 2023, increasing by CZK 268 billion in the period under review, due mainly to a recovery in loans to households (see [Table III.1 CB](#), [section II.2](#) and [section III.2.1](#)). By contrast, Stage 2 client loans (loans with increased credit risk compared to when the loan was provided) continued to decline in the said period (by CZK 115 billion). Their share in total loans fell to 11.7% (–3.2 pp since the end of 2023). This trend was apparent across the loan portfolios of households and corporations (see [Chart III.15](#) and [Chart III.16](#)). The drop was caused by the gradual re-evaluation of the riskiness of loans classified as Stage 2 in the past and their return to Stage 1. In the first half of 2024, loans moved from Stage 1 to Stage 2 totalled CZK 134 billion and loans moved from Stage 2 back to Stage 1 totalled CZK 205 billion (see [Chart III.17](#)).³⁶

Chart III.15
Structure of loans to households by credit quality

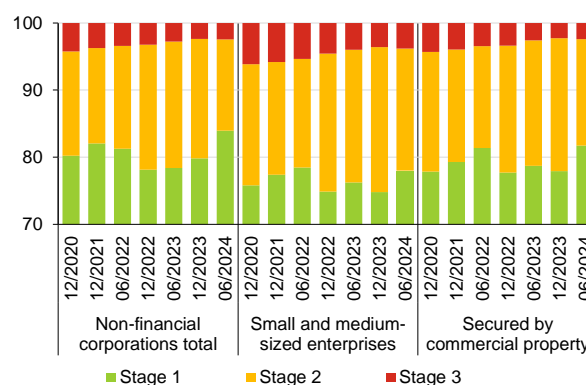
(%)



Note: Loans secured by residential property and consumer credit account for 91% of loans to households. The stages are the credit quality stages under IFRS 9.

Chart III.16
Structure of loans to non-financial corporations by credit quality

(%)



Note: Loans to SMEs and loans secured by commercial property account for 93% of loans to non-financial corporations. The stages are the credit quality stages under IFRS 9.

...but the decline in credit-impaired loans halted

Stage 3 loans to non-financial corporations (credit-impaired assets) decreased in 2023 (by CZK 10 billion over 2023 as a whole and by 20.2% year on year as of the end of 2023; see [Table III.2 CB](#)). In the first half of 2024, however, the decline halted and there was a very slight increase of CZK 2.2 billion. The share of Stage 3 loans in total loans to non-financial corporations was 2.5% as of mid-2024 (see [Chart III.16](#)) and stayed below the three-year average of 3.2%. Stage 3 loans to households had already started to rise gradually during 2023 (by CZK 1.6 billion, or 5.6%; see [Table III.1 CB](#)) and continued to go up during the first half of 2024 (by CZK 1.6 billion). Their share in total loans to households remained close to 1.3%, i.e. below the three-year average of 1.4% (see [Chart III.15](#)). The shares of Stage 3 loans thus remain close to historical lows. The halt in their decline reflects the economy entering a growth phase of the financial cycle and an end to the disappearance of risks from the banking sector's balance sheet (see [section IV.3](#)). At the same time, the ratio of credit-impaired loans (or NPLs) is still below the European average in the Czech Republic (see [Chart III.7 CB](#)).

Other indicators do not suggest a material rise in credit risk

The change in the share of Stage 3 client loans 90 days past due did not indicate any change in the dynamics of credit losses either.³⁷ In mid-2024, this share was 59.9% for loans to non-financial corporations (as against 55.8% at the end of 2023) and 44.9% for households (as against 47.3% at the end of 2023) and was little changed in year-on-year terms (see [Chart III.18](#)). The aggregate collateralisation of loans was also broadly flat year on year (see [Chart III.5 CB](#)). The share of Stage 2 loans 30–90 days past due decreased slightly across the segments monitored (see [Chart III.6 CB](#)). Despite increasing gradually, the default rates on loans to households and non-financial corporations remained below their historical averages (see [section II.2](#)).

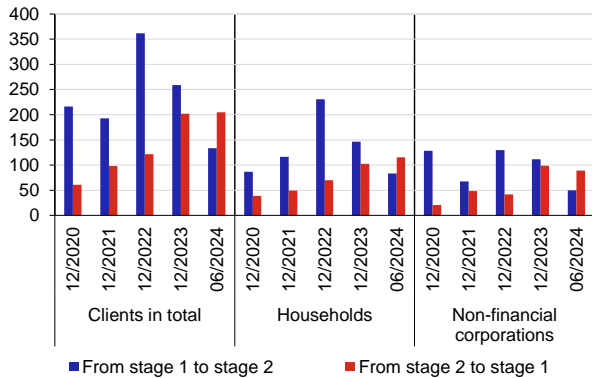
³⁵ In terms of accounting terminology, the term "loan" in this section includes financial assets designated at amortised cost in the loans and other receivables sub-category. Unless indicated otherwise, the value of loans is recorded in gross book value.

³⁶ Based on the data available at the end of August 2024, this growth was slowing slightly, but the migration of loans from Stage 2 back to Stage 1 remained higher than in 2021–2023.

³⁷ 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.

Chart III.17
Migrations of loans between Stages 1 and 2

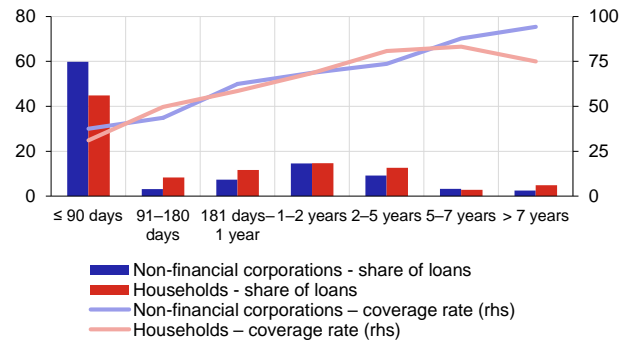
(CZK billions)



Note: The stages are the credit quality stages under IFRS 9.

Chart III.18
Structure of loans and coverage rates in Stage 3

(%; as of 30 June 2024; x-axis: past-due period)



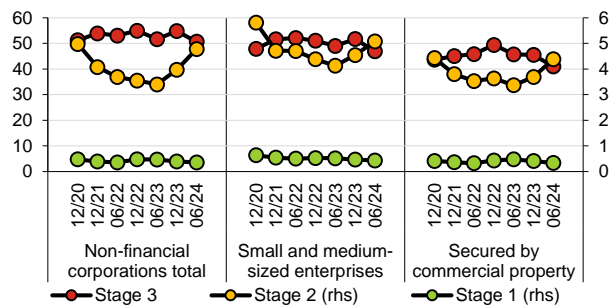
Note: The share of loans is the share of the given sector's loans with the given past-due period in the sector's total Stage 3 loans under IFRS 9. The coverage rate is the ratio of provisions to the given sector's loans with the given past-due period.

These effects were reflected in a decrease in overall provisioning...

In the first half of 2024, total provisions in the non-financial corporations segment decreased in line with the factors influencing the loan quality structure (by CZK 1.2 billion, or 3.3%; see [Table III.2 CB](#)). Provisions decreased mainly for Stage 2 and Stage 3 loans. However, in the case of Stage 2 loans they fell more slowly than the volume of loans. This caused the Stage 2 coverage rate to increase by 0.8 pp to 4.8% in the first half of 2024. In Stage 3, the decline in provisions was also reflected in the coverage rate, which fell by 4.2 pp to 50.7%. The Stage 1 and Stage 3 coverage rates stayed close to the 2021–2023 average. The Stage 2 coverage rate was higher at the end of June 2024 than at the end of 2023 and relative to the 2021–2023 average, as the higher migration of loans back to Stage 1 was not fully reflected in the release of provisions (see [Chart III.19](#)). Total provisions in the loans to households segment fell only slightly in the period under review (by CZK 0.5 billion, or 0.15%; see [Table III.2 CB](#)), as the fall in provisions for Stage 2 loans (CZK 1.3 billion) was partly offset by a rise in provisions for Stage 3 loans (CZK 1 billion). At the end of June 2024, the coverage rates in the individual stages were close to the 2022 and 2023 levels (see [Chart III.20](#)). Coverage of non-performing client loans by provisions in the Czech Republic remains above the European average (see [Chart III.8 CB](#)).

Chart III.19
Coverage of loans to non-financial corporations by credit quality

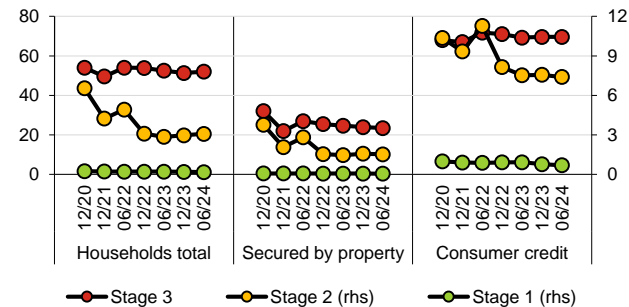
(%)



Note: Loans to SMEs and loans secured by commercial property account for 93% of loans to non-financial corporations.

Chart III.20
Coverage of loans to households by credit quality

(%)



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

...and the CNB will continue to closely monitor provisioning

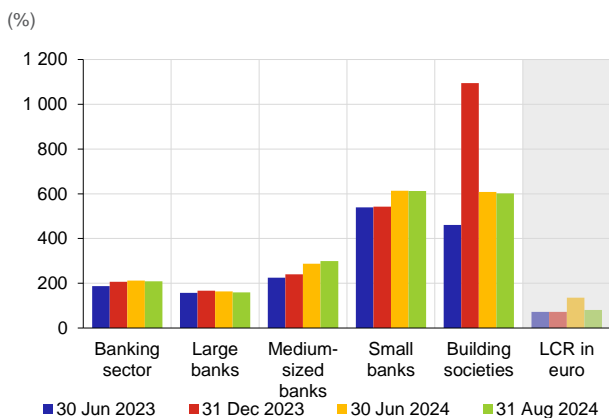
According to the CNB's assessment, some geopolitical, macroeconomic and financial uncertainties generally persist (see [section II](#)). From a financial stability perspective, any further drop in provisions or continued reclassification of loans back to lower stages to an extent exceeding the effect of the decreasing risks may indicate over-optimism of banks in their forward-looking credit risk assessments. In this regard, the CNB continues to evaluate in detail the risk management practices of banks at the macroprudential level and is also prepared to adjust its macroprudential instruments to ensure that the banking sector remains resilient. The countercyclical capital buffer (CCyB) is particularly relevant in this respect (see [section IV.3](#)). Some medium- to long-term structural systemic risks are also taken into account by the systemic risk buffer which will take effect in 2025 (see [section V.2 of Financial Stability Report – Spring 2024](#)).

III.2.4 Liquidity

The liquidity position of the banking sector remained strong from the perspective of the liquidity ratios

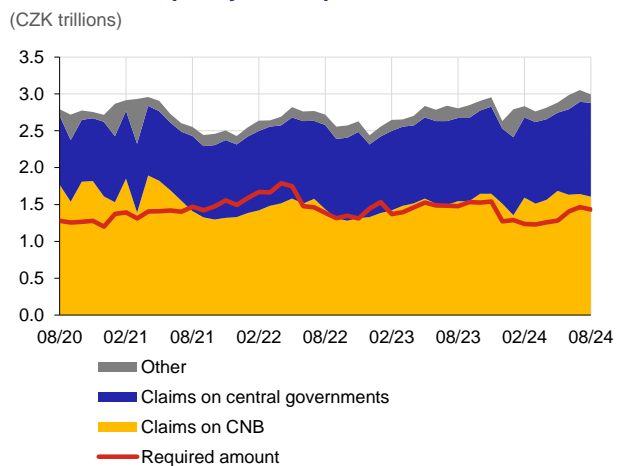
The aggregate LCR³⁸ was 209% in August 2024, an increase of 3 pp since the start of the year (see Chart III.21). This increase was mainly due to a rise in the value of high-quality asset portfolios due to claims on the CNB (up CZK 97 billion) and central governments (up CZK 252 billion), which increased the sector’s resilience to liquidity shocks (see Chart III.22).³⁹ The LCR was also well above the limit in each month of 2024, averaging 218.5%. All domestic banks were compliant with the regulatory minimum of 100% throughout this period. The aggregate LCR in euros,⁴⁰ which is important in terms of the risks associated with the share of euro-denominated corporate loans (see section II.2), continued (with some volatility) to rise gradually to 80% at the end of August 2024 (see Chart III.21, right-hand side). The NSFR⁴¹ (177% as of mid-2024, up 6 pp compared to the end of 2023) confirmed that the funding of domestic banks was stable (see Chart III.23). The euro NSFR also rose compared to the end of 2023 (to 93%), due mainly to an increase in stable euro funding available to non-financial customers (up 35%) and financial institutions (up 8%).

Chart III.21
Evolution of the LCR



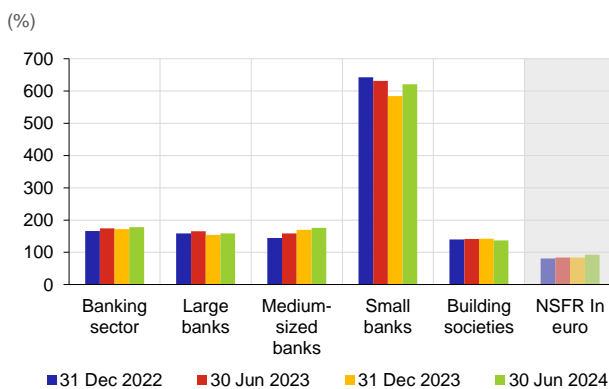
Note: The results take liquidity subgroups into account.

Chart III.22
Items in the liquidity buffer portfolio



Note: The required amount is the liquidity buffer with which the banking sector would achieve a 100% LCR in the given period.

Chart III.23
Evolution of the NSFR



Note: The results take liquidity subgroups into account.

38 The LCR is the ratio of the liquidity buffer to the net liquidity outflow of banks over a 30-day stress horizon as defined by EC Regulation 2015/61.
 39 This increase was due mostly to the fading out of the effect of end-of-year operations in December 2023. The year-on-year rise in high-quality liquid assets was CZK 60 billion for claims on the CNB and CZK 140 billion for claims on central governments.
 40 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.
 41 The NSFR is the ratio of available stable funding to required stable funding as defined by Basel III. Each asset on the bank balance sheet requires a certain amount of stable funding (required stable funding) and part of each liability on the bank balance sheet is considered to be stable (available stable funding). An NSFR requirement above 100% indicates that the bank should have more available stable funding than required stable funding.

III.3 NON-BANK FINANCIAL CORPORATIONS

The sector's assets were affected in the first half of 2024 by growth in funds managed by investment funds...

The situation in the domestic non-bank financial corporations sector in the first half of 2024 confirms the long-running stagnation of the assets of insurance companies and pension funds and the dynamic development of investment funds (see [Chart III.24](#)), which continued to benefit from the effect of prices on equity and bond markets on their assets (see [Chart III.24](#)). This trend is generally linked with the gradual easing of monetary conditions⁴² that the world's leading central banks also embarked on during 2024 (see [section II.1](#)).

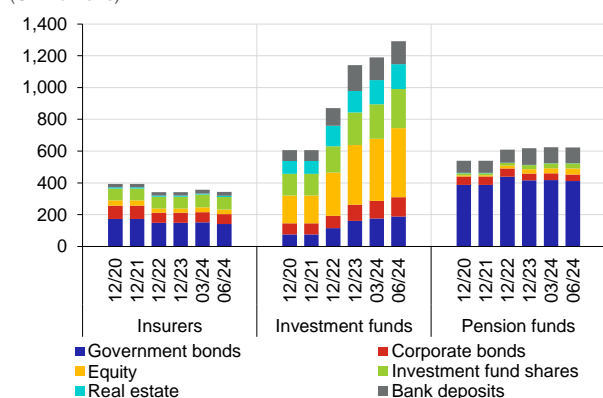
...with a high net inflow of funds...

The main factor driving the observed growth in the assets of investment funds, which in mid-2024 were managing assets of CZK 1,461 billion (up by CZK 154 billion compared with December 2023), was an inflow of new funds from investors. However, growth in the value of the assets was also a major contributor (see [Chart III.25](#)). Collective investment bond funds and funds for qualified investors recorded the largest inflows in the first half of the year (see [Chart III.9 CB](#)).

Chart III.24

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

(CZK billions)

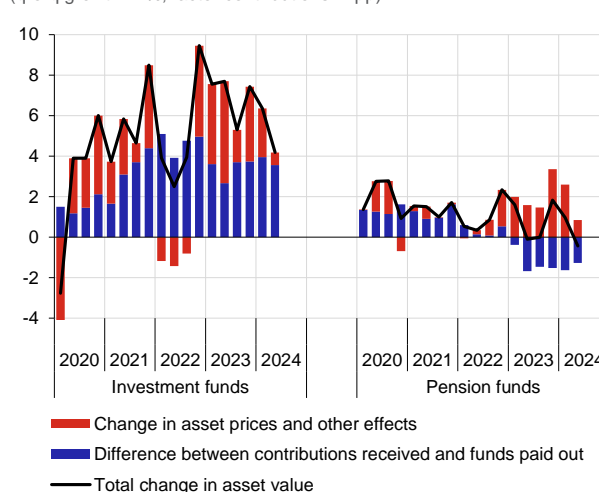


Note: The difference between the sectors' investment assets and total assets (see [Chart III.1](#)) is significant for insurance companies and investment funds. Non-investment assets include, for example, insurance claims and reinsurance recoverables in the case of insurers and loans and receivables 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.

Chart III.25

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

(q-o-q growth in %; factor contributions in pp)



Note: For pension funds, change in asset prices 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.

...but their contribution to risks to financial stability remains limited...

The risks to financial stability stemming from investment funds' activities arise primarily from maturity mismatches between assets and liabilities, excessive leverage, or a large market footprint.⁴³ The relatively high and stable share of liquid assets in funds' balance sheets at present limits liquidity mismatch risk (see [Chart III.10 CB](#)). In addition, a large part of investments in foreign assets are allocated to ETFs or foreign equities and bonds of major global companies, which are also highly liquid (see [Chart III.11 CB](#)).

...thanks in part to only moderate use of leverage...

The CNB conducts quarterly assessments of alternative investment funds⁴⁴ to monitor the contribution of highly leveraged (indebted) funds to risks associated with fire sales, lending by funds and the interconnectedness of funds and other

42 The CNB began easing monetary policy earlier than the main central banks. This partly explains why longer Czech koruna rates fell most of all in 2023. In the first half of 2024, the longer end of the Czech yield curve was relatively stable, though it still recorded a modest decrease. This generally led to growth in yields on the Czech government bond portfolio, which primarily affected transformed funds, collective investment bond funds and insurance companies (excluding unit-linked life insurance).

43 The risks arising from investment funds are described in more detail in the cnBlog article: [Vše, co jste kdy chtěli vědět o investičních fondech \(a báli jste se zeptat\)](#) (Everything you ever wanted to know about investment funds (but were afraid to ask); in Czech only).

44 Alternative investment funds comprise funds for qualified investors and special collective investment funds (funds that do not meet the requirements of Directive 2009/65/EC – UCITS IV – and so are not standard funds). The CNB has a legal duty to conduct such assessments 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 took effect. The assessment methodology is compliant with ESMA guidelines, which are detailed here: [Guidelines on Article 25 of Directive 2011/61/EU](#).

domestic financial corporations. The mid-2024 assessment did not indicate excessive risks to domestic financial stability, as domestic firms have so far been relative cautious about using leverage (see [Table III.2](#)). The leverage ratio differs significantly across the different types of funds, but, with few exceptions, domestic investment funds make only moderate use of leverage.

...and a relatively small market footprint

In terms of market footprint (concentration),⁴⁵ funds have quite a significant position on the market for Czech government bonds, which consistently make up about 10% of their total assets (see [Chart III.24](#)). Despite gradual growth, however, domestic funds currently only hold roughly 6% of the total amount of Czech government bonds, and their contribution to the risk of market contagion via fire sales is low.⁴⁶ If it continues to grow, the investment fund sector's contribution to the above systemic risks may steadily increase. The CNB could respond to this by applying relevant macroprudential tools.

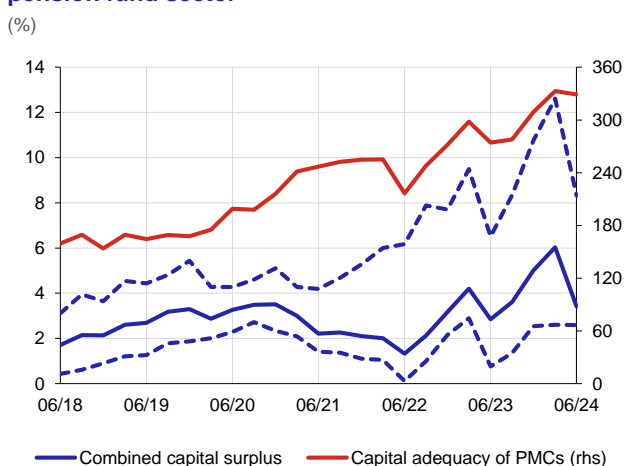
Table II.2
Leverage ratios of alternative funds based in the Czech Republic

(as of 30 June 2024)

Quantile	50	75	95	Maximum	Share
Total	1.02	1.17	2.24	89.97	78%
Special funds	1.01	1.04	1.4	2.02	32%
Funds for qualified investors	1.03	1.25	2.68	89.74	45%
Funds of funds	1.01	1.01	1.27	1.84	5%
Real estate funds	1.08	1.34	1.85	58.16	16%
Other funds	1.02	1.16	2.22	89.97	50%
Private equity funds	1.04	1.17	2.18	5.84	3%
Hedge funds	1	1.55	35.52	46.78	1%

Note: Alternative funds comprise funds for qualified investors and those collective investment funds which do not meet the conditions in the UCITS directive (special funds). The second breakdown of alternative funds is based on statement OFZ (ČNB) 35-04. The leverage ratio is calculated using the commitment method. It is expressed as the ratio of a fund's exposures to its net asset value (NAV). Netting and hedging are accounted for in the commitment method. "Share" denotes the assets managed by the given fund type as a percentage of investment funds' total assets.

Chart III.26
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 PMCs and (2) the difference between the assets and liabilities of TFs to the assets of TFs.

The amount of money in the pension fund sector recorded mixed trends as a result of legislative changes...

The legislative changes that took effect in July 2024 consisted mainly in the abolition of the government contribution for old-age pensioners. As expected, they had the biggest negative effect on transformed funds (TFs), as the government contribution represents a major incentive to participate in TFs given their relatively low long-term return on assets (RoA). The value of the assets in TFs thus dropped by around CZK 25 billion in the first half of 2024. By contrast, the value of the assets in participation funds (PFs) rose by CZK 28.6 billion on the back of solid RoA and an inflow of new funds due in part to the migration of clients from TFs⁴⁷ (see [Chart III.12 CB](#)). Generally, the decline in the koruna yield curve in 2023 and the first half of 2024 favourably affected the return on the bond portfolio, especially in TFs, where Czech government bonds make up the overwhelming majority of the portfolio (see [Chart III.24](#) and [Chart III.11 CB](#)). On the other hand, the share of bonds held at amortised cost in TFs' balance sheets remains consistently high (see [Chart III.13 CB](#)), generally reducing the impacts of changes in interest rates.

45 Market footprint (concentration) risk consists in the concentration of a large proportion of assets in one particular asset class. It materialises when funds have to sell off a large part of a concentrated portfolio. This can strongly affect the market price and increase market volatility.

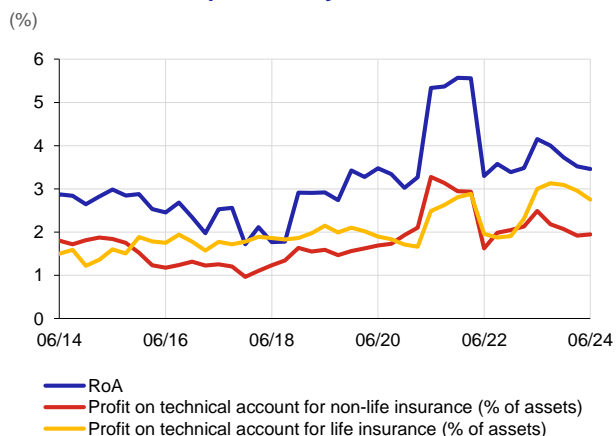
46 See also the results of the stress test of collective investment funds and PMC PFs in [Financial Stability Report – Spring 2024, section IV.2.3](#).

47 The number of TF participants fell by 207,000 to 2.2 million in the first half of 2024, while the number of PF participants rose by 100,000 to 1.9 million. Approximately CZK 12.8 billion was transferred from TFs to PFs.

...but pension management companies (PMCs) safely met the capital requirements

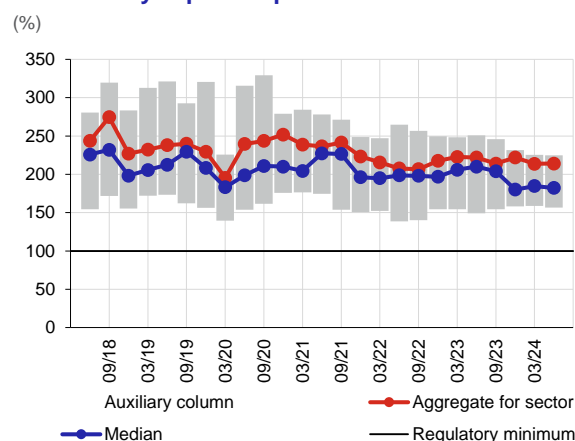
The above developments were positively reflected in the surplus of assets over liabilities in TFs (see [Chart III.14 CB](#)) and in the combined capital surplus (see [Chart III.26](#)). However, this growth was offset by the return of previous capital injections from TFs to PMCs and by dividend payments.⁴⁸ A continuing (expected) outflow of clients in the coming quarters is a risk for TFs and PMCs. This risk has already materialised partially, but PMCs have managed to deal with it through prudent liquidity management. The absence of guaranteed non-negative returns means that the investment risks observed for PFs are similar to those to which investment funds are exposed.

Chart III.27
Insurance sector profitability



Note: The four-quarter sum is used for the calculation. The values exclude the Export Guarantee and Insurance Corporation and the Czech Insurers' Bureau.

Chart III.28
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 long-running stagnation in the insurance sector continued ...

The insurance sector recorded a modest decline⁴⁹ in assets in the first half of 2024 (of CZK 6 billion to CZK 483 billion), mainly due to dividend payments. Dividends also had a minor impact on the asset structure, as they were paid partially out of maturing Czech government bonds, whose share in assets thus decreased (see [Chart III.24](#) and [Chart III.11 CB](#)). By contrast, the volume of assets tied to unit-linked life insurance went up moderately (by CZK 4.8 billion to CZK 90 billion, or 18% of assets). This reflects returns on investment and also the general long-term downward trend in traditional life insurance at the expense of investment and risk life insurance. In addition, premiums written⁵⁰ in non-life insurance rose sharply (see [Chart III.15 CB](#)). However, claim settlement costs in non-life insurance increased at a similar pace. A significant factor in both cases was higher insured sums due to the higher price level. Net of reinsurance and other (technical) costs, the non-life insurance result nonetheless remains relatively stable and the combined ratio stands at around 88%.

...but the sector still has a high level of solvency

Aggregate profitability stayed above the long-term average in the first half of 2024, although RoA dropped by 0.3 pp to 3.5% compared with the start of the year (see [Chart III.27](#)). The sector's profitability nonetheless remains above the European average as well (the median RoA at the level of individual insurance companies in the EU is about 1%). In the second half of the year, profitability will be strongly affected by the floods that hit large areas of the Czech Republic.⁵¹ The aggregate solvency ratio has long been above 200%, well above the regulatory minimum of 100% (see [Chart III.28](#)). A disorderly price correction on financial markets, especially the market for Czech government bonds, which are the biggest item in insurance companies' portfolio, remains the main risk (see [Chart III.11 CB](#)). In the area of non-life insurance, there is still a medium-term risk stemming from a potential deterioration in insurers' ability to reflect the growth in claim settlement costs in their premiums and a risk arising from the extent and prices of reinsurance.

48 The surplus of assets over liabilities is also affected every year by the crediting of participants' returns for the past year, which shows up in the accounts in the first half of the following year. During 2024, a total of CZK 10 billion was credited to participants for 2023.

49 The insurance sector inclusive of branches likewise saw a modest decline in assets to CZK 512 billion (a decrease of CZK 3.5 billion).

50 This holds true in both gross terms and net of reinsurance. Generally, the ratio of net premiums written to gross premiums written has long stood at around 70%. The ratio is similar for claim settlement costs.

51 The damage is estimated at around CZK 18 billion, but extraordinary reporting and stress test results indicate that a large proportion is reinsured. Generally, though, climate change is affecting reinsurance costs. Reinsurance is usually negotiated for one year, so this event can be expected to lead to higher reinsurance prices next year.

III.4 MACRO STRESS TEST OF THE BANKING SECTOR

The solvency macro stress test (SMST)⁵² is a tool for assessing the domestic banking sector's resilience to hypothetical adverse economic developments. In the spring Financial Stability Reports, we usually assess the impacts of the materialisation of risks over a three-year horizon, while the scenarios in the autumn Reports are typically used to test the banking sector's resilience to the impacts of specific risks with longer-term effects.⁵³ This year's test is focused on climate risks and follows up on the first climate stress test conducted by the CNB in autumn 2022.

The climate stress test assesses resilience to the materialisation of climate shocks...

The aim of the climate test is to assess the resilience of the banking sector to hypothetical economic developments caused by the materialisation of selected climate change-related transition risks arising predominantly from political decisions made outside the Czech Republic⁵⁴ and physical risks (hereinafter referred to jointly as "climate shocks"). In the climate test, we map climate risks that could affect the Czech economy and analyse how significant the impacts of the materialisation of these risks could be. The *Adverse Scenario* is thus not a classical "cyclical" stress test assuming a weakening of GDP due to traditional economic shocks, but a scenario based on the hypothetical materialisation of selected climate risks concentrated into the period from mid-2024 to the end of 2030. These risks may intersect with some other current structural and geopolitical risks. The selected risks include the risk of potentially slower adjustment of the economy to the ongoing processes associated with climate change.

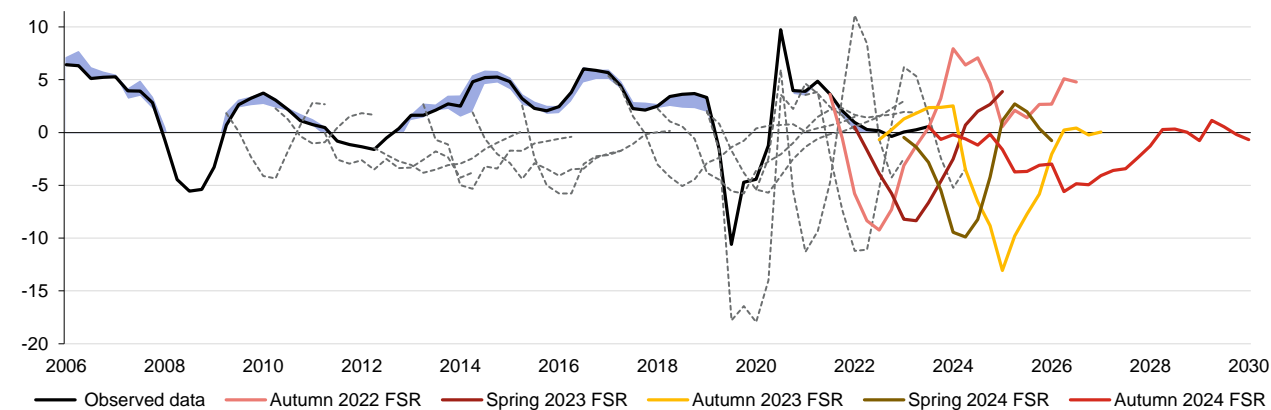
...and dovetails with current initiatives at EU level

The test horizon – 2030 – is a milestone for assessing the fulfilment of climate and energy commitments, as the EU countries, which are aiming to achieve climate neutrality by 2050, are supposed to reduce net emissions by 55% by 2030 compared to 1990.⁵⁵ The ECB used the same time horizon in its one-off "Fit-for-55" climate stress test, which covered not only the banking sector, but also insurance companies and pension and investment funds, and which aimed at assessing the resilience of the system in meeting the Fit-for 55 requirements.⁵⁶ The results of the CNB's climate test are thus partially comparable with those of the ECB test, although some parameters of the domestic scenario may be more conservative.

Chart III.29

Adverse scenarios in Financial Stability Reports 2010–2024

(change in real GDP; year on year %)



Note: The blue area denotes revisions of the historical data and the grey dashed lines other adverse scenarios.

The stress applied in the *Adverse Scenario* is extremely long-lasting...

In terms of economic performance, the current climate scenario differs from the post-Covid *Adverse Scenarios* in that the maximum depth of the GDP decline each year is smaller but the period for which GDP declines is far longer (see Chart III.29). The overall economic contraction is thus large (see Charts III.30 A–D and Table III.3). Together with the other

52 For details see the [methodology of the solvency macro stress test of the domestic banking sector](#)

53 The time series of variables for the third to the seventh year of the *Baseline Scenario* and all years of the *Adverse Scenario* were created solely for stress testing purposes. For this reason, neither the *Baseline Scenario* beyond the forecast horizon, nor the *Adverse Scenario* is the CNB's official forecast.

54 The scenario for developments abroad is based on the [NGFS scenarios](#) (see Kotlář, M., Motl, M. and Komárková, Z. (2023): [The impact of selected long-term climate scenarios on the Czech economy](#), Thematic Article on Financial Stability 1/2023), specifically on a combination of the *Net Zero 2050* and *Delayed Transition* scenarios. Developments abroad in turn affect the scenario for the domestic economy, which is complemented with specific domestic climate shocks that could affect the Czech Republic.

55 ["Fit for 55": delivering the EU's 2030 Climate Target on the way to climate neutrality](#)

56 [One-off Fit-for-55 climate risk scenario analysis](#)

assumptions made, the climate scenario represents an unusually high degree of stress. The aim is to test the banking sector's resilience to parallel strong and sustained climate and economic shocks concentrated in the medium term. Although the likelihood of all the assumptions materialising in full is very low from the historical perspective (see [Charts 18](#) and [19 CB](#)), the uniqueness of the current climate challenges requires us to take a prudent approach and test banks' resilience even in an environment of significant materialisation of multiple potential sources of risk.

...transition climate risks are tested...

The set of transition risks in the *Adverse Scenario* is linked with political decisions to increase carbon taxes and to transition to electromobility and a low-emission economy. The scenario includes the same types of shocks that were used in the 2022 climate stress test: (i) a significant increase in carbon taxes, which go up by USD 10/t every quarter starting in 2025 Q1 and jump by USD 120/t in 2026; (ii) a reduction in consumption of fossil energy sources (coal, oil, natural gas); (iii) an increase in the share of renewable energy sources; (iv) a negative demand shock related to the transition from cars with internal combustion engines to electric cars, which will lead to a slight decline in global industrial production; and (v) a surge in negative consumer and investor sentiment in response to the uncertainty associated with the economic consequences of the climate-protection measures being introduced. The scenario now also includes shocks associated with the slow decarbonisation of the Czech economy, which may lead to declining carbon footprint competitiveness, reflected in falling exports and an outflow of investment (see [Box 2](#)).

...along with physical climate risks...

The set of physical risks assumed to materialise in the climate scenario is similar to that in the 2022 climate stress test and includes an increase in the frequency and severity of natural disasters. The scenario takes into account global droughts (leading to a decrease in productivity and a rise in global food prices) and local floods.

...while additional risks related to the transition to a climate-neutral economy are taken into account ...

As in the 2022 climate stress test, in order to capture the impacts of the transition to a climate-neutral economy more precisely, an additional stress going beyond the scenario is applied to bank loans and securities based on the emission-intensity of each sector. The risk margins applied correspond to the expected phase-out of technology producing high carbon dioxide emissions. As regards loans to non-financial corporations, exposures are broken down by sector (CZ-NACE). Compared with the scenario-based path, their risk parameters (PD) are increased depending on carbon dioxide emissions per unit of turnover⁵⁷ for sectors with above-average emissions. The risk parameters may thus increase almost twofold. Equity and debt securities are repriced in a similar way, with the additional increase in the riskiness of these securities depending on the issuer's emission intensity.

...and current fiscal policy is maintained

The scenarios take into account the current fiscal policy support for the economy, which is being financed by the issuance of government bonds. This is reflected in an increase in the proportion of government bonds in banks' balance sheets in both the *Baseline Scenario* and the *Adverse Scenario*, which assume that fiscal policy remains accommodative in all years, with the debt-to-GDP ratio converging towards the 55% "debt brake". The increase in the share of government bonds in banks' balance sheets could, under certain assumptions, positively affect their profits. However, the growth in concentration could also increase the risks associated with the link between banks and the state. The impacts of the windfall tax are taken into account in both scenarios.

BOX 2: Transition risks associated with decarbonisation

Decarbonisation, i.e. cutting carbon emissions and transitioning to a carbon-neutral economy, is a key political goal worldwide.^{58,59} This box shows how the Czech Republic is faring in decarbonisation compared with other EU countries and outlines some of the transition risks associated with this process for the Czech economy.

57 Broken down into divisions, i.e. the one-digit NACE level for sectors of non-financial corporations.

58 About 140 countries have fixed a target date for becoming carbon neutral. In order of share of global emissions in 2023, China (30% of emissions, 19% of global GDP) has pledged to achieve carbon neutrality by 2060 and to increase the share of non-fossil energy to 25% by 2030; the US (11% of emissions, 15% of GDP) joined the Paris Agreement in 2021 with a goal of neutrality by 2050; India (8% of emissions, 15% of GDP) has set 2070; and the EU (6% of emissions, 8% of GDP) aims to reach neutrality by 2050. All the other major emitters such as Brazil (2050), Japan (2050) and Canada (2050) have also pledged to achieve neutrality. [IEA 2024 Report](#).

59 For more details on the Paris Agreement targets and on how the world is faring, see the cnBlog article: [Green transformation: summary of objectives and importance of critical minerals](#).

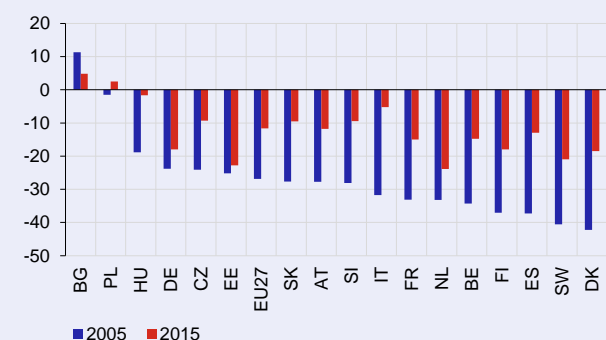
The process of decarbonisation of the Czech economy is slowing compared with other EU countries

Decarbonisation in Europe can be assessed by comparing current emissions with those in 2005, when the EU's key tool for reducing greenhouse gas emissions – the EU Emissions Trading System (EU ETS) – was launched. Since then, the Czech Republic has cut emissions by 24% (see [Chart 1](#)). This ranks it in 19th place among the EU Member States (see [Chart III.16 CB](#)). While some countries have made significant progress with decarbonisation, the Czech Republic is advancing more slowly and has cut emissions by just 9% over the last seven years. Overall, then, it is lagging behind most European nations in the pace of decarbonisation.

Chart 1 (Box 2)

Comparison of change in emissions in selected EU countries

(change in % between 2022 and 2005 and between 2022 and 2015)

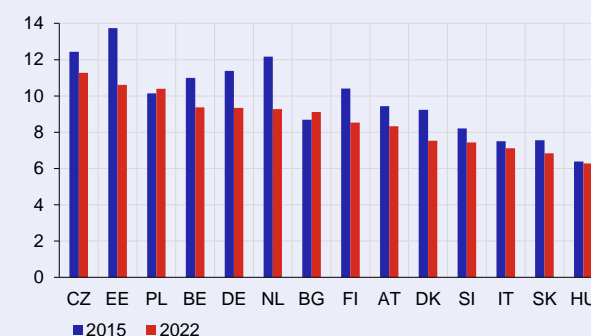


Source: Eurostat

Chart 2 (Box 2)

Emissions in selected EU countries

(millions of tonnes of CO₂e per capita per year)



Source: Eurostat

Note: The chart excludes emissions for land use, land use change and forestry (LULUCF).

In the Czech Republic, the decarbonisation process will mainly affect the energy sector and industry

The Czech Republic has one of the most emissions-intensive economies in the EU. In 2022, per capita CO₂e emissions stood at 11.3 tonnes per year, while the EU average was 7.8 tonnes (see [Chart 2](#)). The energy sector and industry account for the largest shares of emissions in the Czech Republic. The key metric for comparing energy sustainability across countries is emissions intensity, which reflects differences in carbon footprint per unit of energy (kWh) depending on energy sources and technologies used. Unlike, say, Denmark, Austria and Germany, which have substantially reduced their dependence on fossil fuels by investing in renewable energy sources, the Czech Republic and the other Central and Eastern European countries still rely on fossil fuels. This is slowing their decarbonisation (see [Chart 3](#)). Another sector where the Czech Republic may need to reduce emissions is industry. Industrial emissions in the Czech Republic are the fourth highest in the EU, while economic value added per capita is lower than in countries with more efficient resource utilisation (see [Chart 4](#)). Decarbonising industry is therefore a key challenge. The goal is not just to cut emissions in absolute terms, but also to maintain or even increase the economic value of output. Investment in new technology will be crucial for Czech industry to stay competitive and adapt to stricter environmental standards.

Slow decarbonisation may be associated with higher transition climate risks

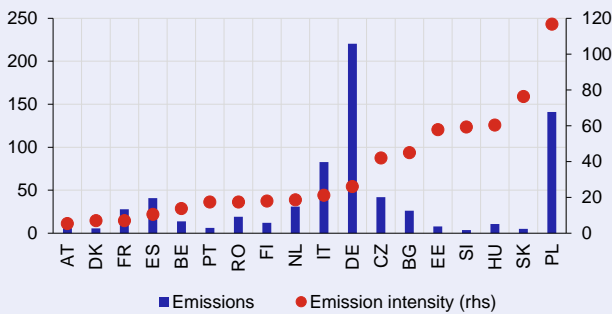
The decarbonisation process differs significantly across countries over time in terms of both the emissions reduction rate and the effectiveness of the measures introduced. The whole decarbonisation process by its nature continues to face high uncertainty, but slow decarbonisation may imply greater transition risks for the Czech Republic and other countries. Countries that are slow in cutting their emissions may lose competitiveness in the long term compared to those that invest more quickly and heavily in zero-emissions innovation and technologies.

One **risk of slow decarbonisation is an increase in the cost of energy and commodities**. This may make the transition to a low-emission economy more expensive in the future. EU firms face rising costs of emission allowances, which they need to cover their carbon emissions. In 2021, such allowances cost about EUR 60 per tonne – much higher than in previous years, when the price ranged between EUR 10 and EUR 20 per tonne. This sharp rise poses a particular challenge for energy providers such as power stations and heat plants, whose economic performance is directly affected by prices of emission allowances. The Czech Republic plans to phase out its coal-fired power stations by 2030, but it is unclear yet whether it will succeed in replacing them with renewable sources and what the impact will be on the price of electricity.⁶⁰

⁶⁰ In September 2024, the Czech think-tank Fakta o klimatu (Facts on Climate Change) published a study [Výroba elektřiny v Česku bez uhlí](#) (Coal-free electricity generation in the Czech Republic; in Czech only) modelling issues linked with the security of electricity supplies, with the import balance and

Chart 3 (Box 2)
Emissions and emissions intensity in the energy sector in selected EU countries

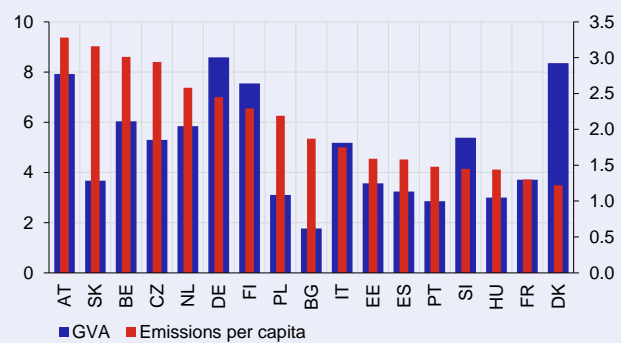
(emissions in millions of tonnes of CO₂e; right-hand scale: emissions intensity in tonnes of CO₂e/EUR millions of GVA; 2022 data)



Source: Eurostat

Chart 4 (Box 2)
Emissions and gross value added in manufacturing in selected EU countries

(emissions in millions of tonnes of CO₂e per capita; right-hand scale: GVA per capita in EUR millions; 2022 data)



Source: Eurostat

The rising costs of emission allowances are also affecting industry – both directly and indirectly through increasing energy costs. Firms that fail to reform their production processes effectively risk a loss of market share and face negative effects on profits and employment, especially compared to firms from countries that are quicker to adapt to low-carbon technology and whose companies thus have lower emissions costs. Slow decarbonisation is thus associated with a **risk of losing price competitiveness**.

The potential risk of losing competitiveness is indicated not only by the aforementioned pace of decarbonisation, but also, for example, by investment in sustainable technologies and innovation. Long-term competitiveness will hinge not only on the pace and effectiveness of decarbonisation, but also on the ability of companies to adapt to new regulations and societal expectations.

Current regulations require the transparent disclosure of companies' environmental impacts and climate related risks. This includes detailed emissions reporting.⁶¹ Societal pressure for sustainability is also growing. Firms are therefore aware of their responsibilities not only because of regulations, but also due to potential reputational risks. Companies can thus be expected to take into account data on their business partners' direct emissions (Scope 1) and emissions associated with the consumption of energy (Scope 2), as well as emissions of suppliers (Scope 3), when optimising value chains. While Scope 1 emissions can be directly influenced by the technologies firms use, Scope 2 emissions depend primarily on the country's energy mix. Companies from countries with fossil energy sources therefore have higher Scope 2 emissions than those from countries with renewable energy. This subsequently increases the Scope 3 emissions of their customers. Insufficient decarbonisation can lead to a loss of business opportunities. Companies may find themselves at a disadvantage compared to those that actively promote sustainable technologies. The newly established emissions transparency regulations will reveal inefficient links in the value chain in terms of Scope 3 emissions, and those companies might then face falling demand for their products and an outflow of investment. For the Czech economy, which is highly export-oriented, falling behind in decarbonisation could mean lower demand for Czech products on other markets. **A risk of carbon footprint competitiveness** is therefore emerging, in addition to falling price competitiveness.

Decarbonisation may also be associated with a **risk of investment in new technologies** that prove to be unsustainable or quickly become obsolete. This can lead to the formation of stranded assets, i.e. assets of greatly diminished value or of no further use. If firms invest in technologies that turn out to be efficient in the short run but not in the long run, such investments may lose value and become a financial burden. Stranded assets may include energy sources, facilities or infrastructure that lose value due to the rapid development of more sustainable technologies or stricter regulations.

with electricity generation prices in the Czech Republic. A report [Hodnocení zdrojové přiměřenosti ES ČR do roku 2040](#) (Assessment of the resource adequacy of the Czech electricity sector up to 2040; in Czech only) published by ČEPS in October 2024 contains possible paths of the Czech electricity sector up to 2040 under two scenarios.

61 For more details on the sustainability-related disclosure duty, see the cnBlog article: [Klimatické riziko: výzvy při jeho analýze a hodnocení](#) (Climate risk: Challenges in analysing and assessing it; in Czech only).

In the Adverse Scenario, the economy would go through a long recession...

The materialisation of climate risks on a global scale would be accompanied by initial growth in energy costs and food prices. Industrial production would fall and consumer and investment sentiment would go down. This would be reflected in a decrease in domestic GDP, due mainly to foreign trade and investment, and a fall in consumption, a rise in unemployment and depreciation of the koruna against the euro (see [Charts III.30A–D](#), [Table III.3](#) and [Charts III.17A,B CB](#)). The adverse developments abroad would be intensified by shocks related to the slow decarbonisation of the Czech economy, which could lead to it losing carbon footprint competitiveness. The materialisation of this domestic transition risk would exacerbate the decline in GDP in the first half of the scenario and prevent an economic recovery in the second half. Following an initial increase due to the developments abroad and the weakening of the koruna, inflation would turn negative and both the ECB and the CNB would lower interest rates in response. The impacts of climate risks would be dampened by governments’ investment activity, but as the projects are demanding and not ready yet, this would not occur until 2027, when governments would invest 75% of the income from the increase in carbon taxes in the economy. The impacts of physical climate shocks, represented by global waves of drought and local floods, would decline gradually as economies adjust to the “new normal”.

Chart III.30A
Alternative scenarios: real GDP

(CZK billions; quarterly data)

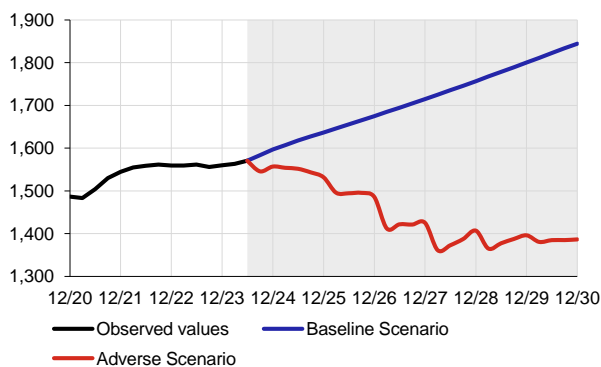


Chart III.30B
Alternative scenarios: 3M PRIBOR

(%)

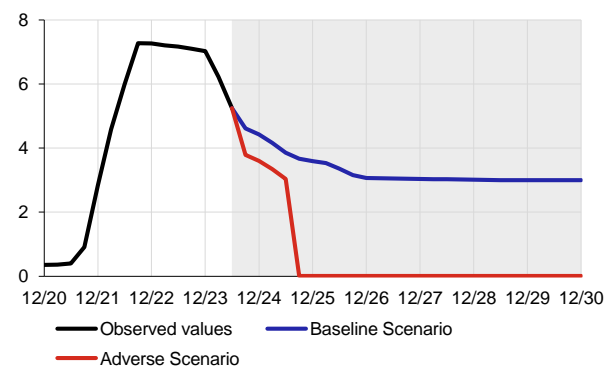


Chart III.30C
Alternative scenarios: unemployment rate

(%)

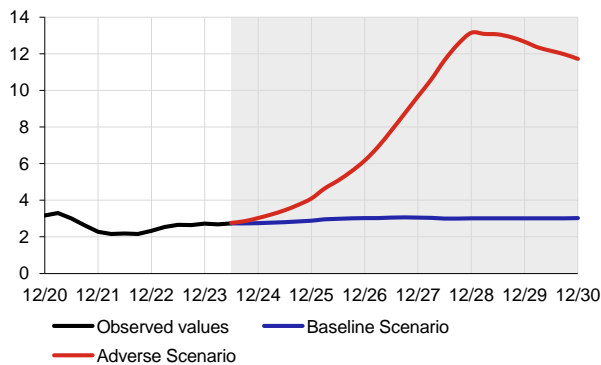
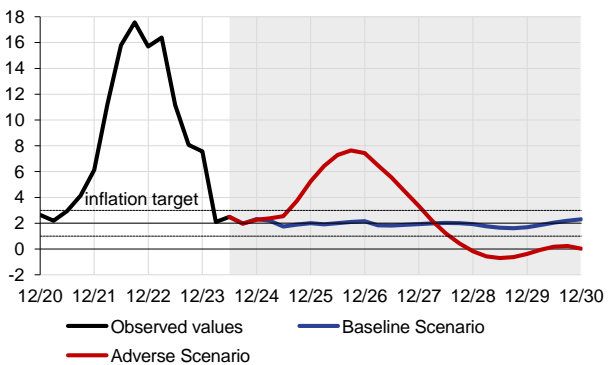


Chart III.30D
Alternative scenarios: inflation

(year on year in %)



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

The adverse economic developments would be reflected in worsening credit risk parameters among both non-financial corporations and households. Growth in the default rate of non-financial corporations would peak in 2027 and then remain elevated (see [Table III.3](#)). The default rate of households would increase over the entire scenario horizon, owing to a rise in the unemployment rate. The rising unemployment, coupled with a decrease in property prices and a fall in the profitability of non-financial corporations, would lead to an increase in loss given default for households and corporations alike. Growth in loans to non-financial corporations would slow, as the initial effect of loan growth due mainly to a weaker exchange rate of the koruna ⁶² against foreign currencies would dissipate. The growth rate of loans to households for house purchase and consumption would decline following initial growth, turning slightly negative in the second half of the scenario.

62 Given the large share of foreign currency loans to non-financial corporations, their volume in koruna terms would increase.

By contrast, the *Baseline Scenario* assumes economic growth over the entire horizon...

The *Baseline Scenario* assumes economic growth of around 1% in the first year, accelerating to around 2.5% in the subsequent years. The recovery will be driven mainly by household consumption, supported by renewed growth in real wages, stable inflation close to the 2% inflation target and a decrease in the saving rate. Export growth will have a positive effect due to recovering external demand. The unemployment rate will be flat at around 3% in the scenario. General government consumption will grow at a subdued pace. The exchange rate will appreciate gradually to CZK 23.5 to the euro over the seven-year horizon of the scenario.

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

In the *Baseline Scenario*, lending increases on the back of a decline in interest rates and the materialisation of deferred demand. While growth in loans to non-financial corporations and loans to households for house purchase does not peak until the second half of the scenario, growth in consumer credit does so at the beginning. The default rates and loss given default on loans to non-financial corporations and households stagnate around their initial levels due to the economic growth and low unemployment (see Table III. 3).

Table III.3**Key variables in the alternative scenarios**

	Actual value	<i>Baseline Scenario</i>							<i>Adverse Scenario</i>						
	2023	2024	2025	2026	2027	2028	2029	2030	2024	2025	2026	2027	2028	2029	2030
Macroeconomic variables (averages for given periods in %)															
Real GDP growth (y-o-y)	0.1	1.2	2.8	2.4	2.3	2.4	2.5	2.5	0.0	-0.9	-3.4	-4.9	-2.7	0.0	0.2
Inflation rate	5.1	2.2	2.0	2.0	1.9	2.0	1.7	2.0	2.2	3.5	7.2	4.9	0.9	-0.6	0.1
Unemployment rate*	2.7	2.7	2.8	3.0	3.0	3.0	3.0	3.0	2.8	3.6	5.4	8.3	12.0	12.9	12.0
Nominal wage growth (y-o-y)	8.0	8.2	6.6	5.4	4.6	4.5	4.6	4.6	8.4	6.7	6.5	6.9	4.2	3.3	2.0
Real EA GDP growth (y-o-y)	0.3	0.5	1.1	1.2	1.2	1.2	1.2	1.2	0.5	-0.1	-1.3	-1.8	-0.2	0.4	0.6
Growth in loans (y-o-y, averages for given periods in %)															
Non-financial corporations	5.3	7.0	4.1	6.0	8.3	10.7	8.6	6.0	6.6	10.6	14.2	8.8	6.6	4.1	2.1
Loans for house purchase	3.4	4.7	7.9	9.0	9.3	9.1	8.7	8.2	4.5	4.4	2.5	1.4	-0.3	-0.6	-0.8
Consumer credit	7.6	8.9	9.8	8.1	6.9	5.8	5.0	4.7	8.9	9.3	6.8	5.7	3.0	1.0	-0.4
Default rate															
Non-financial corporations	1.2	1.6	1.6	1.4	1.3	1.2	1.4	1.5	2.5	3.6	4.3	5.1	4.1	4.1	4.4
Loans for house purchase	0.6	0.9	0.9	1.0	1.1	1.1	1.0	1.1	0.9	1.0	1.4	2.4	3.4	3.7	3.7
Consumer credit	3.3	3.0	3.0	3.0	3.1	3.2	3.1	3.2	4.1	4.9	5.2	6.0	7.0	7.5	7.5
Loss given default (LGD) (averages for given periods in %)															
Non-financial corporations	33	32	32	33	34	34	34	34	32	31	38	46	51	51	50
Loans for house purchase	14	14	14	15	16	17	18	18	14	14	15	21	24	27	28
Consumer credit	44	42	42	43	44	45	46	46	42	42	43	50	53	56	56
Asset markets (averages for given periods in %)															
3M PRIBOR	7.1	5.1	3.8	3.3	3.0	3.0	3.0	3.0	4.7	1.6	0.0	0.0	0.0	0.0	0.0
5Y IRS CZK	4.4	3.6	3.4	3.4	3.5	3.6	3.7	3.8	3.4	2.0	1.4	1.6	1.6	1.6	1.6
5Y Czech GB yield	4.6	3.8	3.6	3.4	3.5	3.6	3.7	3.8	3.6	2.5	1.9	2.1	2.1	2.1	2.1
3M EURIBOR	3.4	3.3	2.9	2.6	2.5	2.5	2.5	2.5	3.7	2.9	2.6	1.3	0.0	0.0	0.0
5Y IRS EUR	3.1	3.0	2.9	2.6	2.6	2.6	2.6	2.6	2.8	2.2	1.5	1.1	0.9	0.9	0.9
Residential property (y-o-y)	-1.6	4.6	5.3	4.4	3.9	3.7	3.8	4.0	4.5	6.2	3.9	-0.9	-8.4	-4.6	-7.5
Equities (y-o-y)	20.7	7.3	1.7	-1.4	-4.5	-1.2	1.3	1.0	7.3	-2.6	-20.9	-7.5	-2.0	0.0	0.0

Source: CNB, BRCI

Note: * The unemployment rate is calculated using the ILO methodology.

...and banks' operating profit thus increases...

Owing to the economic recovery, pre-tax profit in the *Baseline Scenario* rises gradually (with the exception of the second year) at an average pace of around 4.7%, from an initial level of CZK 116.3 billion to CZK 160.3 billion in the final year of the scenario (see Table III.4). This is due to growth in profit to cover losses (operating profit), which goes up mainly because of growth in interest income supported by growth in loans provided and by continued purchasing of government bonds by banks (growth in the portfolio of CZK 807.1 billion over the entire test horizon). The increase in the portfolio volume outweighs the opposite effect of falling interest rates. Credit losses increase from their current low level to CZK 22.5 billion in the second year of the scenario and rise further in the subsequent years, reaching CZK 33.6 billion. Banks' profitability, as measured by RoA, is just below 1%.

...strengthening the sector's ability to accumulate capital

The decomposition of the change in the overall capital ratio (see Chart III.31) shows that profit to cover losses (+29.3 pp) contributes a sizeable 15.9 pp to the increase in the capital ratio after taking into account credit losses (-4.7 pp), market risk profits (0.4 pp) and taxes (-5.3 pp). 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 1.0 pp and 2.8 pp respectively), has a negative effect (-3.8 pp) on the resulting capital ratio. The latter thus increases from 22.2% to 35.7% before dividends are taken into account.

Table III.4
Impact of the alternative scenarios on the banking sector

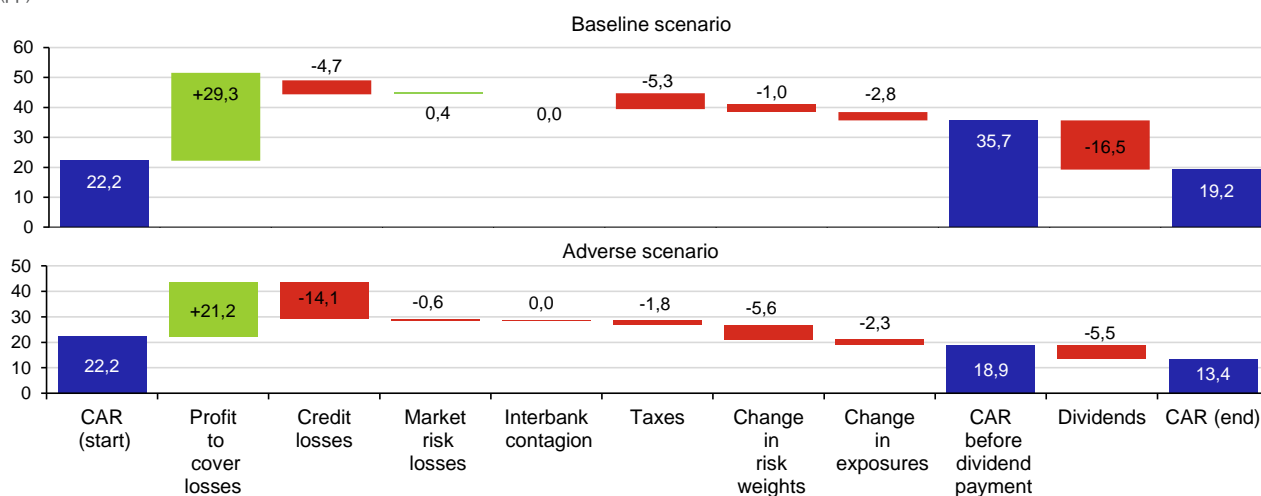
	Actual value		Baseline Scenario							Adverse Scenario						
	2023	2024	2025	2026	2027	2028	2029	2030	2024	2025	2026	2027	2028	2029	2030	
Items in P/L statement and OCI (CZK billions)																
Profit to cover losses*	110.5	124.1	141.7	151.6	159.8	170.5	181.2	193.7	118.0	126.5	137.5	132.1	126.1	122.0	122.0	
Credit losses*	-3.6	-3.9	-22.5	-24.0	-26.0	-28.9	-31.7	-33.6	-10.4	-61.1	-98.4	-100.3	-102.1	-98.4	-78.0	
in stages 1 and 2		4.6	-3.4	-3.6	-3.4	-4.1	-4.0	-2.6	-0.3	-29.6	-51.8	-19.2	-9.4	3.7	29.4	
in stage 3		-8.4	-19.1	-20.4	-22.6	-24.7	-27.8	-30.9	-10.0	-31.6	-46.6	-81.1	-92.7	-102.1	-107.4	
Profit from market risks (P/L)	14.2	8.0	0.5	0.2	0.2	-0.1	0.0	0.1	8.7	1.8	-0.1	0.1	-0.2	-0.1	-0.4	
Pre-tax profit	116.3	127.3	119.7	127.8	134.0	141.6	149.5	160.3	115.4	67.2	39.0	31.9	23.9	23.4	43.6	
Profit from market risks (OCI)	13.7	0.6	1.8	2.0	3.7	1.0	1.7	1.9	3.6	2.1	1.1	-4.9	-10.9	-3.5	-13.3	
Interbank contagion		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.3	-0.3	-0.1	0.0	
Balance-sheet items (CZK trillions; end of period)																
Assets	9.1	10.3	10.7	11.3	11.9	12.6	13.2	13.8	10.3	10.7	11.1	11.4	11.6	11.7	11.9	
Client loans (net)	4.4	4.7	5.0	5.4	5.9	6.4	6.8	7.3	4.7	5.1	5.4	5.5	5.7	5.7	5.7	
Debt securities holdings	1.9	2.1	2.2	2.3	2.4	2.6	2.6	2.8	2.1	2.2	2.3	2.4	2.6	2.6	2.8	
Regulatory capital	0.7	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.6	0.7	0.7	0.7	0.7	0.7	0.7	
TREA	3.0	3.1	3.2	3.4	3.6	3.8	4.1	4.2	3.2	3.5	3.8	4.2	4.6	4.9	5.0	
TEM	9.6	10.7	11.1	11.6	12.2	12.8	13.4	14.0	10.7	11.2	11.6	12.0	12.3	12.5	12.7	
Regulatory indicators (% as of end of period)																
Overall CAR (% of TREA)	22.5	20.1	20.1	19.9	19.7	19.5	19.3	19.2	19.8	18.9	17.5	16.1	14.6	13.7	13.4	
CET 1 CAR (% of TREA)	20.5	17.9	18.0	17.9	17.8	17.7	17.7	17.6	17.7	17.0	15.8	14.5	13.1	12.3	12.0	
Leverage ratio (% of TEM)	6.6	5.4	5.5	5.5	5.5	5.5	5.5	5.5	5.4	5.5	5.4	5.3	5.1	5.0	4.9	
MREL* (% of TREA)	30.2	28.4	28.4	28.2	28.0	27.8	27.6	27.4	28.1	26.7	24.9	23.2	21.6	20.6	20.4	
MREL* (% of TEM)	9.3	8.3	8.3	8.3	8.3	8.3	8.4	8.3	8.3	8.3	8.2	8.1	8.0	8.0	8.0	
Other																
Dividends for given year*	170.1	81.1	59.2	74.6	75.5	72.4	83.5	101.1	69.0	15.0	14.8	13.9	13.8	14.9	19.0	
Loss rate* (%)	-0.1	-0.1	-0.5	-0.4	-0.5	-0.5	-0.5	-0.5	-0.2	-1.2	-1.8	-1.8	-1.7	-1.6	-1.3	
RoA* (%)	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.5	0.3	0.2	0.1	0.1	0.3	

Source: CNB, BRCI

Note: * Profit to cover losses represents pre-tax profit adjusted for credit losses and market risk losses. 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. The dividend for 2023 and the following years is the maximum possible amount to be paid in dividends after the capital requirements and the MREL are met. RoA is calculated as after-tax profit divided by average assets at the end of the period.

Chart III.31
Decomposition of the change in the banking sector's overall capital ratio in the alternative scenarios

(pp)



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 framework⁶³ (CZK 717.6 billion) reduce the resulting capital ratio from 35.7% to 19.2% (see [Chart III.32](#)). However, the ratio stays above the overall capital requirement (OCR) by a sufficient margin. No systemically important bank⁶⁴ would breach the O-SII buffer requirement in the *Baseline Scenario* (see [Chart III.33](#)) and no other bank would breach the SREP capital requirement (TSCR). The banking sector as a whole and all the individual banks also remain above the binding 3% leverage ratio requirement by a sufficient margin in the *Baseline Scenario*. The windfall tax will not have a significant effect on the sector's resilience, as its impact on banks if the *Baseline Scenario* materialised would be minimal.

The banking sector would not fall into a loss even in the Adverse Scenario...

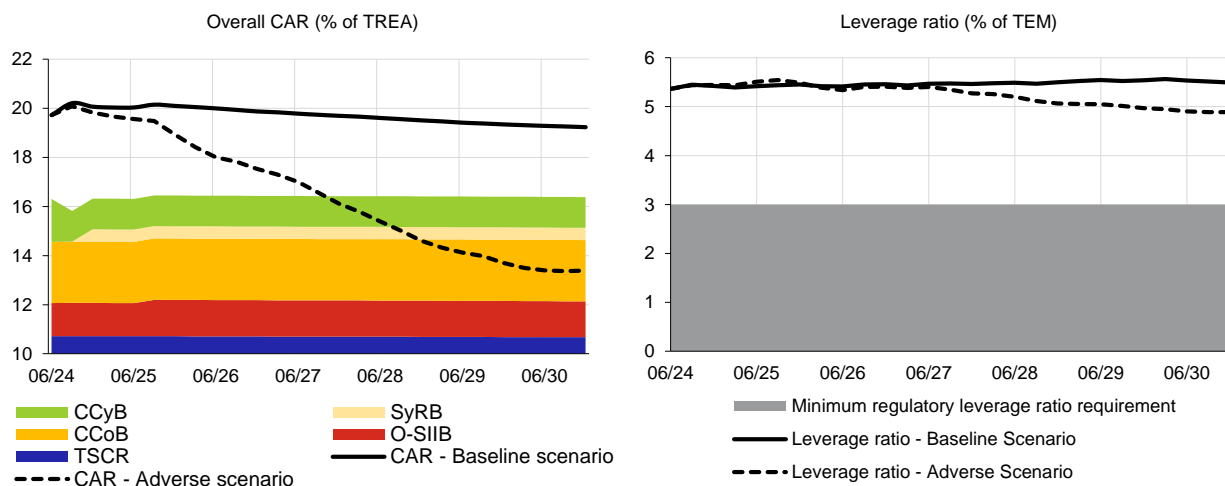
Pre-tax profit decreases gradually in the *Adverse Scenario*, but the banking sector would not fall into a loss in any year of the scenario. Stable profit to cover losses, which would be between CZK 118.0 billion and CZK 137.5 billion in all years, would sufficiently exceed the rise in credit losses. The stability of profit to cover losses in the individual years would be ensured by a drop in deposit expenses on the back of a decline in monetary policy rates, coupled with a rise in income on newly purchased government securities (a total increase in the portfolio of CZK 807.1 billion over the test horizon as a whole). The sharp decrease in economic activity and the marked rise in unemployment in the scenario would cause credit losses to surge to around CZK 100 billion, where they would remain between the third and sixth years of the scenario. As regards market risk, the impact on financial performance would be relatively low, as the decline in swap rates would be outweighed by growth in risk premia. Profitability as measured by RoA would reach a trough (0.1%) in the fifth and sixth years but would subsequently increase thanks to a decline in credit losses.

...and would remain profitable...

The decomposition of the change in the overall capital ratio (see [Chart III.31](#)) shows that the contribution of profit to cover losses (+21.2 pp) would cover the substantial credit losses (-14.1 pp), the market risk losses (-0.6 pp) and the negligible interbank contagion and tax losses (-1.8 pp) and would contribute 4.7 pp to the increase in the capital ratio. However, growth in the total risk exposure amount (TREA) would cause capitalisation to decline by 7.9 pp to 18.9% (with growth in risk weights contributing -5.6 pp and growth in exposures -2.3 pp). Given its minimal impact, the windfall tax would have no major effect on the sector's resilience in the *Adverse Scenario* either.

Chart III.32

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



63 For details on the treatment of dividends in the stress test modelling framework, see the [methodology of the solvency macro stress test of the domestic banking sector](#).

64 Five banks with an O-SII buffer level set for 2024 are considered systemically important.

...but would have to use three out of the four macroprudential capital buffers

Dividend payments (totalling CZK 330.5 billion) would cause the resulting overall capital ratio to fall to 13.4% (see Chart III.32).⁶⁵ In this situation, the CNB would respond by fully releasing the CCyB, enabling it to be used to absorb the banking sector’s losses. The climate-related/structural nature of the shocks would also signal a possible release of the SyRB. The banking sector would also make partial use of the CCoB and would therefore get into a situation of restrictions on distributions.⁶⁶ Two systemically important banks (see Chart III.33) would require capital injections totalling CZK 55.8 billion due to breach of the O-SII requirement and the TSCR. One systemically unimportant bank would require capital injections totalling CZK 10.0 billion due to breach of the O-SII buffer. Four systemically unimportant banks would require capital injections totalling CZK 12.0 billion due to breach of the TSCR. The leverage ratio of the banking sector in the *Adverse Scenario* would fall to 4.9%, thus staying well above the 3% minimum. However, one systemically important bank and three systemically unimportant banks would be individually non-compliant and would require capital injections of CZK 10.6 billion and CZK 10.0 billion respectively to satisfy the regulatory minimum. In terms of compliance with the minimum requirement for own funds and eligible liabilities (MREL), the significant growth in the TREA in the *Adverse Scenario* would generate a need to replenish the MREL with both own funds and eligible liabilities totalling 6.8% of the TREA (see Chart III.34).

The results indicate sufficient resilience to the potential materialisation of climate shocks

The resulting overall capital ratio shows that the banking sector as a whole would remain resilient to adverse economic developments caused by the materialisation of selected climate change-related transition and physical risks concentrated over in the next seven years. The result also confirms that the current capital buffer settings in the given scenario enhance the banking sector’s resilience and its ability to lend to the real economy.

Chart III.33
Need and method for replenishing own funds at different capital requirement levels

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

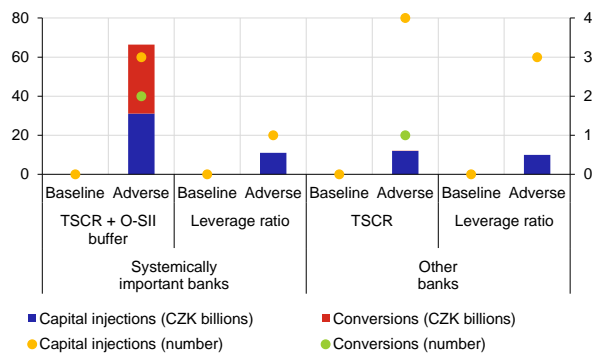
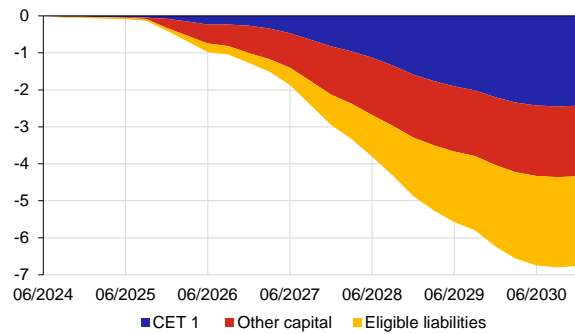


Chart III.34
MREL shortfall and its structure

(% of TREA)



65 The outcome would thus be 5.9 pp worse than in the *Baseline Scenario*, where, however, CZK 383.7 billion more would be paid out in dividends. The stress test model generally assumes that the dividend for 2023 and the following years is always the maximum possible amount to be paid in dividends after the capital requirements and the MREL are met. Therefore, a large part of the total dividend payments in the *Adverse Scenario* falls in 2023 and 2024, when dividends from retained earnings and 2024 profits – which were still high – were paid. The dividends paid in the following years are very low.

66 CRD V, Section III *Capital conservation measures*, Articles 141, 141a and 141b.

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. In conformity with its [Strategy](#) and 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. In its work, the CNB always carefully takes into account the [specific conditions](#) in the Czech Republic.

IV.1 THE CNB'S MACROPRUDENTIAL POLICY INSTRUMENTS

Four capital buffers and one credit ratio have been set in the Czech Republic

When setting capital buffers, the CNB reflects the extent and expected evolution of the structural risks (see [section IV.2](#))⁶⁷ and cyclical risks (see [section IV.3](#)) faced by the domestic banking sector. As of December 2024, these risks were covered by a combined capital buffer (the sum of all the set capital buffers) of 3.75–6.25%. At the start of 2025, the range will increase by 0.5 pp due to a new obligation for banks to hold a systemic risk buffer⁶⁸ (see [Table IV.1](#)). To mitigate systemic risks arising from the residential mortgage market, the CNB sets upper limits on the LTV, DTI and DSTI ratios. As of April 2022, upper limits were set for the LTV ratio only (see [section IV.4](#)).⁶⁹

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

Instruments	Rate	Change compared to FSR – Spring 2024
Capital conservation buffer (CCoB)	2.50%	unchanged (not set by CNB)
Countercyclical capital buffer (CCyB)	1.25%	unchanged
Buffer for other systemically important institutions (O-SIIs)	0.50–2.50%	one institution added to list of O-SIIs, rates increased for two institutions (from 1 July 2025)
Systemic risk buffer (SRB)	0.5% (from 1 January 2025)	unchanged
Upper LTV limit	80% (90%)*	unchanged
Upper DTI limit	not set**	unchanged
Upper DSTI limit	not set**	unchanged

* There is also a recommended upper limit on the LTV ratio of 100% above which no mortgage loans should be provided; loans may be provided in excess of the 80%/90% limits under a volume exemption of 5%. ** There are recommended upper limits on the DSTI and DTI ratios of, respectively, 40% and 8 times net income, above which only very prudently assessed mortgage loans may be provided.

The buffer requirement does not differ from the approaches adopted by other EU states

Domestic banks had an average combined buffer rate (CBR) of 5.6% as of mid-2024. The average for systemically important institutions was 6.1%, corresponding to the 83rd percentile CBR for systemically important banks in the EU (see [Chart IV.1](#)).⁷⁰ The reduction of the countercyclical capital buffer (CCyB) rate in the Czech Republic as of 1 July 2024 caused the average CBR to decrease to 5.1% overall and to 5.6% for systemically important institutions (the 75th percentile in the EU). It thus remained in line with the CBRs set in the EU (see [Chart IV.2](#)), while reflecting the CNB's conservative macroprudential policy strategy. As recently as 2019, the average CBR of domestic systemically important banks was above the 95th percentile for European systemically important banks. This was the period for which the ESRB retrospectively alerted some European macroprudential authorities to potentially insufficient releasable buffers (primarily the CCyB) in its review of the EU macroprudential framework.⁷¹ The conclusions of the review proposed legislative changes that should lead to macroprudential authorities responding more proactively and consistently to emerging systemic risks.

67 The CNB assesses the level of structural systemic risks and their possible implications for financial stability once a year. The assessment is published in the spring Financial Stability Report. For more details on the procedure for assessing structural risks and the process of setting the SyRB, see [The CNB's approach to setting the systemic risk buffer](#).

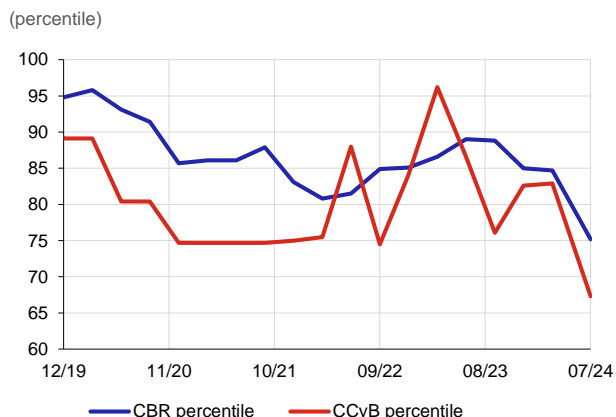
68 [Provision of a general nature of 6 June 2024 on setting the systemic risk buffer rate](#)

69 To mitigate housing market risks, the CNB also uses a [Recommendation of the CNB on the management of risks associated with the provision of consumer credit secured by residential property](#), by means of which it also sets upper limits and other rules.

70 The sample contains 182 European banks at the individual level that have a non-zero capital buffer rate mitigating risks associated with systemic importance.

71 ESRB (2022), [Review of the EU Macroprudential Framework for the Banking Sector](#).

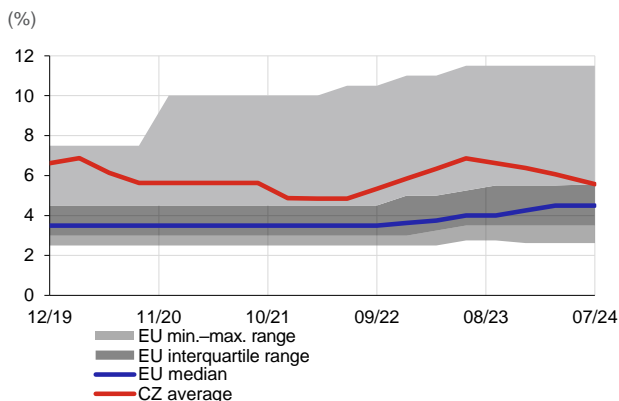
Chart IV.1
Comparison of buffer rates of domestic and European systemically important institutions



Source: ESRB

Note: The sample contains around 180 European systemically important banks at the individual level. In the case of domestic other systemically important institutions, the chart shows the weighted average CBR/CCyB rate weighted by risk-weighted exposures.

Chart IV.2
Combined capital buffer rate of systemically important institutions in the EU



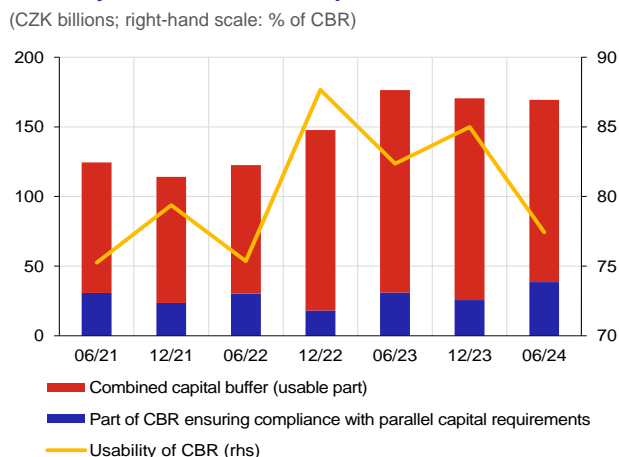
Source: ESRB

Note: The sample includes contains around 180 European banks at the individual level that have a non-zero capital buffer rate mitigating risks associated with systemic importance. The red line shows the weighted average CBR of domestic O-SiIs.

The CNB monitors the overlap between the capital buffers and the minimum capital requirements

Under the current regulations, banks may use capital from the combined capital buffer to meet the leverage ratio requirement and, in certain circumstances, to meet the MREL (the “parallel capital requirements”).⁷² When buffers are released, banks may only use the part that is not bound by the parallel capital requirements to absorb losses or to cover the risks of new lending. Otherwise, they would fail to comply with these requirements. As of mid-2024, overlaps between the capital buffers and the parallel capital requirements concerned ten banks and amounted to CZK 39 billion. For the first half of 2024, the usability of the combined capital buffer declined from 85% to 77% (see [Chart IV.3](#)), due mainly to a slight decrease in the aggregate risk weights on the exposures of systemically important institutions (see [section III.2.2](#)) and a reduction in the combined capital buffer. The CNB expects financial institutions to maintain at least the releasable part of the capital buffers (the CCyB and the SyRB) as usable. It will focus on the usability of the buffers in systemically important institutions when conducting macro stress tests and sensitivity analyses in the future. To that end, it will adjust the relevant scenarios accordingly. The CNB stands ready to respond with microprudential or macroprudential supervisory actions or resolution measures where necessary.⁷³

Chart IV.3
Usability of the combined capital buffer



72 For details on the overlap between the 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, CNB](#), and for details on the overlap between the capital buffers and the MREL see [Pfeifer, L. and Holub, L. \(2022\): The relationship between the MREL and macroprudential capital buffers. Thematic Article on Financial Stability 2/2022, CNB](#).

73 For details on usable instruments for reducing overlaps see [ESRB \(2021\): Report of the Analytical Task Force on the overlap between capital buffers and minimum requirements, section 4](#).

IV.2 STRUCTURAL CAPITAL BUFFERS

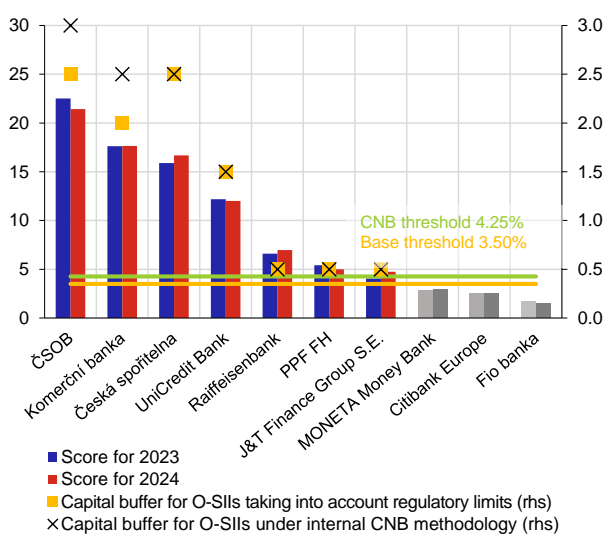
One institution was added to the list of O-SIIs and two O-SIIs had their rates increased

In September 2024, the CNB conducted a review of the systemic importance of institutions operating in the Czech Republic and assessed the O-SII buffer rates. For 2025, it identified seven institutions (see [Chart IV.4](#)),⁷⁴ accounting for around 85% of the total assets of domestic banking sector⁷⁵, as systemically important. Due to an increase in its significance score, J&T Finance Group S.E. was added to the list and assigned a rate of 0.5%. Česká spořitelna's rate was also raised by 0.5 pp to 2.5%, owing to an increase in its significance. The rates for ČSOB and Komerční banka were lower than the CNB's evaluation methodology would imply, due to the cap on buffer rates for subsidiaries stipulated in EU legislation (see [Chart IV.4](#)).⁷⁶ This limitation partly violates the level playing field principle in the Czech Republic and implies potential volatility should the macroprudential authority in the parent company's country make changes to the buffer rate that fail to reflect the situation in the Czech financial sector. The CNB has long opposed this regulation.⁷⁷

Chart IV.4

Systemic importance scores and O-SII buffer rates

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



Note: Grey denotes institutions not included in the list of other systemically important institutions for 2025. The regulatory limit means a limit of 1 pp above the O-SII or G-SII rate of the parent institution.

⁷⁴ For details see the CNB website: [List of other systemically important institutions](#).

⁷⁵ In this figure, the total assets of O-SIIs include financial holding companies at the consolidated level, while the assets of the domestic banking sector only include banks at the individual level.

⁷⁶ 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 OSIIs 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 home regulators as O-SIIs or G-SIIs and may thus be subject to the specific cap on the buffer rate for subsidiaries.

⁷⁷ See, for example, the [CNB's response to the targeted consultation on improving the EU's macroprudential framework for the banking sector](#).

IV.3 THE COUNTERCYCLICAL CAPITAL BUFFER⁷⁸**The CNB Bank Board left the CCyB rate unchanged at 1.25%**

The CNB Bank Board decided at its meeting on 27 November 2024 to leave the CCyB rate unchanged at 1.25% (see [Chart IV.5](#)). It agreed that in the first half of 2024, the Czech economy had moved to a growth phase of the financial cycle, due mainly to a recovery of household loans in 2024 Q3. If the CNB's autumn forecast materialises, the growth phase of the financial cycle will continue and gradually strengthen in the coming quarters (see [Chart IV.6](#)). The intensity of the further growth over the projection horizon is subject to uncertainty regarding the persistence of the recovery in housing loans and future developments on the property market (see [section II.2](#)). Cyclical risks have not grown significantly and are also expected to be sufficiently covered in the near term by the CCyB rate of 1.25%, which is close to the level indicated by quantitative methods (see [Chart IV.9](#)). The set rate slightly exceeds the standard CCyB rate level of 1%, in a situation where the economy has entered a growth phase after a strong decline in lending. These conditions give the CNB room to evaluate future developments and to take into account broader domestic and global uncertainties and the risks of the autumn forecast (see [section II.1](#)). If the economy continues to move in the growth phase of the financial cycle, the CNB stands ready to increase the CCyB rate.

Chart IV.5
Pending and applicable CCyB rate in the Czech Republic

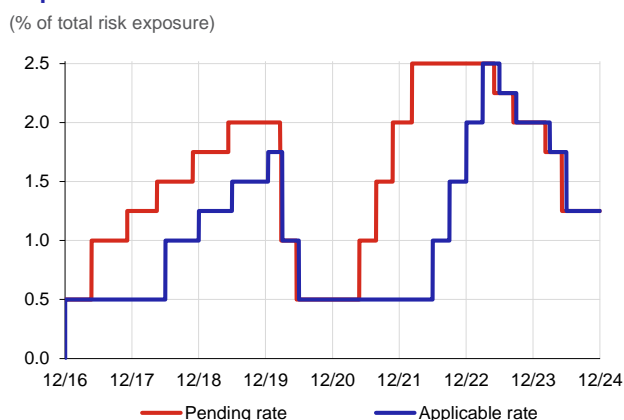
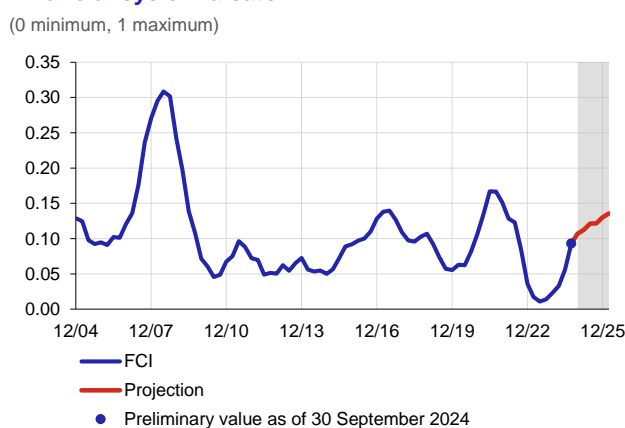


Chart IV.6
Financial cycle indicator



Source: CNB, CZSO

Note: The projection is based on the CNB's autumn forecast ([MPR – Autumn 2024](#)).

The FCI went up in Q3 and will continue to rise moderately

The FCI slightly exceeded 0.09 at the end of September (see [Chart IV.6](#)). According to an indicative conversion of the FCI value, this corresponds to a CCyB rate of 0.25% (see [Table IV.1 CB](#)).⁷⁹ Quarter-on-quarter growth of almost 0.04 pp was recorded compared to the value at the end of June. About two-thirds of the change was due to unusually strong growth in new loans to households in 2024 Q3 (see [Chart IV.1 CB](#), [section II.2](#)), which was largely related to households' behaviour before the entry into force of an amendment to the law regulating fees for early repayment of mortgage loans. The future evolution of the FCI and the potential movement of the Czech economy into a strong growth phase of the financial cycle will depend in the next few quarters on the persistence of growth factors. If the CNB's autumn forecast materialises, the upward trend in newly accepted cyclical risks will continue gradually, with growth in loans to households remaining the key factor (see [section II.2](#)).

The nominal growth in lending activity has not yet resulted in an increase in newly accepted cyclical risks in banks' balance sheets...

The nominal upswing in newly negotiated loans to households (see [section II.2](#)) has not led to a major increase in their real debt (see [Chart IV.7](#), [section II.2](#): [Chart II.34](#) and [Chart II.36](#), [section IV.4](#): [Chart IV.4 CB](#)). The total debt of non-financial corporations also stayed relatively low (see [Chart II.38](#)). In addition, the default rates of the two sectors remained below the historical average (see [Chart II.39](#)). In this situation, the CNB has more macroprudential policy room to monitor the rising credit growth and to assess to what extent the growing amount of new loans is showing signs of greater risk in real terms if banks were to ease their credit standards. The risk parameters of new loans in the fastest-growing housing

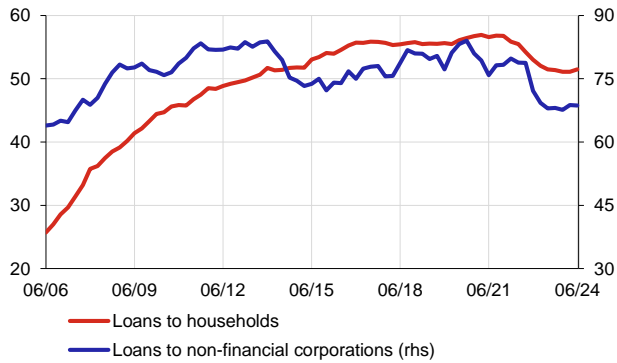
⁷⁸ Information on the purpose of the buffer, the methodology for setting the buffer rate and historical information can be found on the [CNB website](#).

⁷⁹ The IFC value and the corresponding CCyB rate in the indicative conversion reflect or cover "only" new risks arising from the current evolution of the cycle. Therefore, a CCyB rate of 0.25% does not cover potential cyclical risks that accrued in balance sheets in the previous growth phase of the cycle.

loans segment do not currently indicate that household indebtedness is rising (see section IV.4) and that banks are broadly or significantly easing their credit standards (see Chart II.16 CB, Table IV.2 and Table IV.2 CB). The CCyB rate of 1.25% is above the standard rate of 1% covering the usual cyclical risks and hence also covers a moderate rise in credit growth.

Chart IV.7
Ratio of the stock of bank loans to nominal income

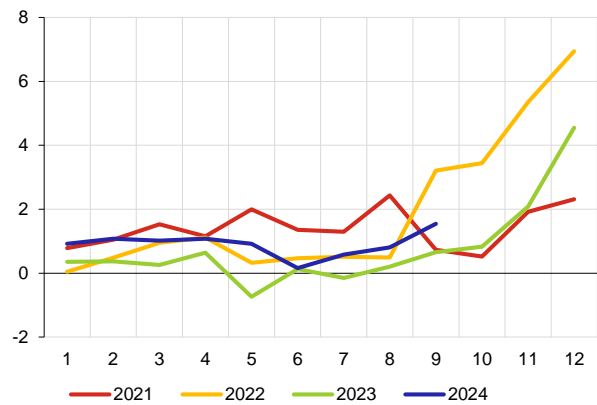
(% of GDI; right-hand scale: % of GOS)



Note: Latest observations as of 30 June 2024. For nominal income, annual gross disposable income is used for households and annual gross operating surplus is used for non-financial corporations.

Chart IV.8
Monthly accumulation of loan impairment losses

(CZK billions; x-axis: months of year)



...while the decline in cyclical risks in the banking sector’s balance sheet came to a halt

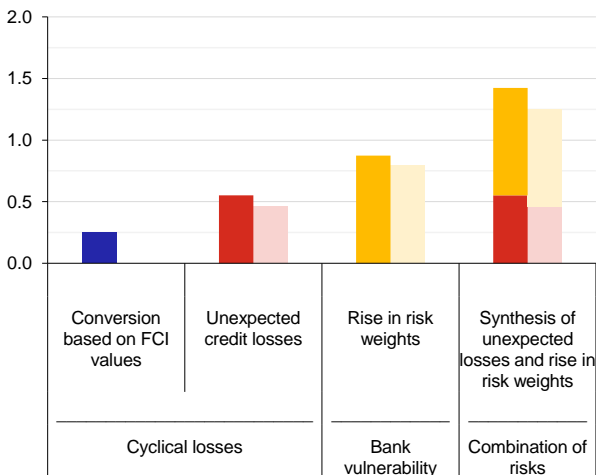
The decline in cyclical credit risks in the banking sector’s balance sheet – stemming mainly from the previous strong growth phase of the financial cycle – came to a halt. Credit portfolio quality and coverage by provisions stayed at relatively good levels (see section III.2.3). An end to the downward trend in accumulated cyclical risks is apparent in the shares of impaired (Stage 3) loans in loans to households and loans to non-financial corporations, which stopped falling but remained close to historical lows in the first half of 2024 (see section III.2.3). Depending on the projected default rate, they can be expected to start rising steadily in line with credit market growth. In Q3, the monthly accumulation of loan impairment losses remained just above the 2023 level, amounting to just a few billion koruna (see Chart IV.8).

Unexpected credit losses grew slightly...

According to an estimate based on the conditional distribution, unexpected credit losses amounted to CZK 16.9 billion. This represents a modest increase of CZK 2.7 billion compared to the previous assessment (see Chart IV.9). The unexpected losses would be covered by a CCyB rate of 0.55%. The estimate is consistent with the identified sources of vulnerability of the banking sector, which are related to expected growth in newly negotiated loans, flat provisioning and a potential slight increase in two-year default rates (see section II.2.2).

Chart IV.9
CCyB rate covering financial cycle effects monitored

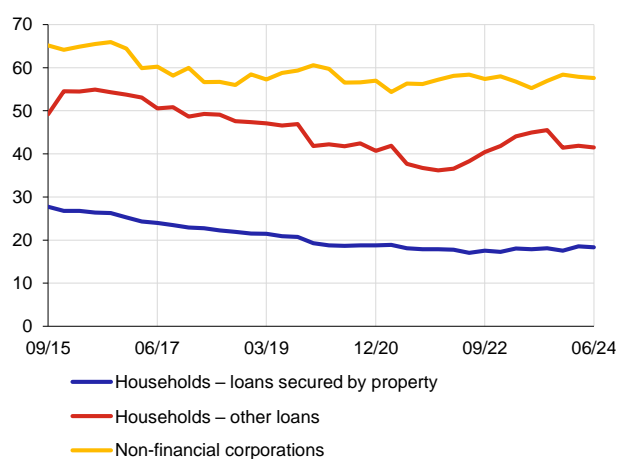
(% of total risk exposure)



Note: Columns in light colours represent results from the previous quarter.

Chart IV.10
Risk weights of the main categories of exposures

(%; average for banks using IRB approach)

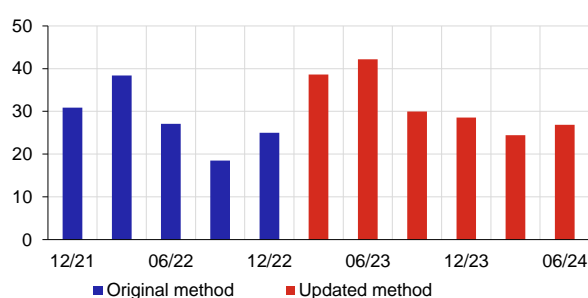


...as did the estimated effect of growth in risk weights

Risk weights on the credit portfolios of banks using the IRB approach (“risk weights” hereafter in [section IV.3](#)) are an indicator of the banking sector’s vulnerability over the financial cycle. Since 2020, the risks weights of the main categories of exposures have not shown a clear trend (see [Chart IV.10](#) and [section III.2.2](#)).⁸⁰ In addition to covering the manifestations of the financial cycle in the real economy (credit losses), the CCyB rate should, according to the CNB approach, 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 probability of default and loss given default. According to the estimate, the growth would lead to an increase in the capital requirement of CZK 26.9 billion in absolute terms (CZK 2.5 billion more than in the previous assessment; see [Chart IV.11](#)). This would be covered by a CCyB rate of 0.87% (see [Chart IV.9](#)). The main reasons for the change were a slight rise in the default rate in the household sector and strengthening growth of the financial cycle, from which the probability of default used to calculate the risk weights is derived.

Chart IV.11
Growth in the CCyB capital requirement implied by a cyclical deterioration in risk variables

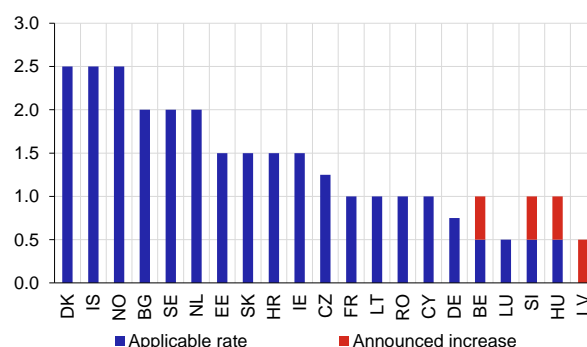
(CZK billions)



Note: The growth in the capital requirement 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.

Chart IV.12
CCyB rates in selected European countries

(% of total risk exposure; values as of 30 September 2024)



Source: ESRB

The CCyB rate remains generally unchanged across the European Union

Most countries of the European Economic Area have set CCyB rates in the range of 1–2.5% (see [Chart IV.12](#)). Some countries with pending CCyB rate increases are converging from current low levels towards their set positive neutral CCyB rates in order to build up a capital buffer in an environment where cyclical risks are at their usual level. No country has lowered its CCyB rate in the last year. The countries with highest rates are holding them at those levels, partly due to geopolitical risks or specific features of the domestic banking sector.

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 the law and an ESRB recommendation,⁸¹ 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. At the end of 2024 Q2, the ratio was 90.9% and the relevant deviation –5.9 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 0.52 pp (see [Chart IV.2 CB](#)), implying a zero CCyB rate. 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.⁸² This opinion was reflected in the ESRB’s concept note on the review of the macroprudential framework,⁸³ which recommends a broader set of indicators and methods for decisions on the CCyB rate.

⁸⁰ 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).

⁸¹ [Article 12r\(3\) of Act No. 21/1992 Coll., on Banks. Recommendation](#) (ESRB/2014/1) on guidance for setting countercyclical buffer rates.

⁸² [The CNB’s approach to setting the countercyclical capital buffer](#) (Appendix 1).

⁸³ [Review of the EU macroprudential framework for the banking sector. A concept note, March 2022](#).

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

IV.4.1 Mortgage loans⁸⁴ and credit ratios

The CNB regularly assesses the degree of systemic risk 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. Since April 2022, the upper limit on the LTV ratio has been set at 80% (90% for applicants under 36 years for purchases of owner-occupied housing).⁸⁵ The CNB further recommends that loans with an LTV exceeding 100% and consumer credit for housing with maturities exceeding 30 years should not be provided and that consumer credit for housing with a DSTI of over 40% and a DTI of more than 8 times net annual income should be assessed very prudently. The CNB monitors the characteristics of loans which exceed each of these limits and performs detailed analyses and assessments of their contribution to systemic risk.

After a slump in 2023, the mortgage market returned to its pre-pandemic level in nominal terms...

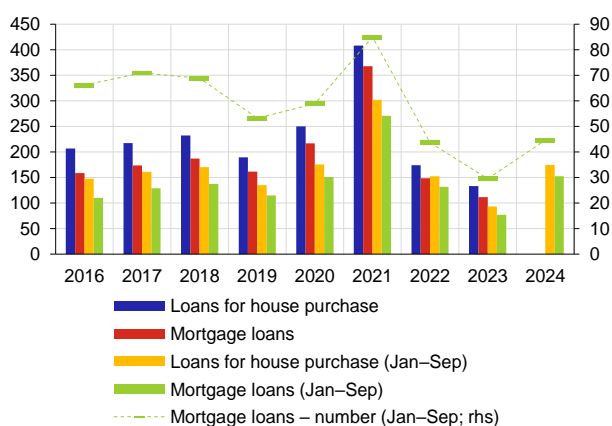
In January–September 2024, new mortgages amounted to CZK 152 billion and exceeded the average for 2016–2019 in nominal terms (see [Chart IV.13](#)). In real terms,⁸⁶ the mortgage market was still at around 75% of the average. This is also confirmed by the number of newly negotiated mortgages, which, despite rising in August, remained below the average for 2016–2019 (see [Chart IV.4 CB](#)). The mortgage market has thus bottomed out and is recovering, although in real terms it has not yet fully attained its long-term average. The deactivation of the DSTI and DTI ratios in 2023 and 2024 respectively was reflected in new loans primarily in terms of changed loan features (see [Table IV.2](#)). It had little effect on the total volume of new lending. By the CNB's estimation, the additional loans granted between the second half of 2023 and August 2024 related to the deactivation of borrower-based measures amounted to around CZK 11 billion⁸⁷ and 3,300 loans respectively (see [Chart IV.5 CB](#)). The share of apartment and family house transfers financed using mortgage loans grew in line with mortgage loans (see [Chart IV.14](#)), with Prague seeing faster growth than the rest of the country.

...supported significantly by unusual market developments in the summer months

The mortgage market recovery was significantly affected by developments in July and August 2024 due to an amendment of the Consumer Credit Act governing early loan repayment entering into effect in September.⁸⁸ Due to some frontloading, the seasonal slowdown typical of the summer months did not materialise. In fact, the amount of pure new mortgage loans provided went up significantly in August (see [Chart IV.6 CB](#)). However, the data for September indicate a decline in new loans back into the typical seasonal range.

Chart IV.13
Pure new bank loans for house purchase

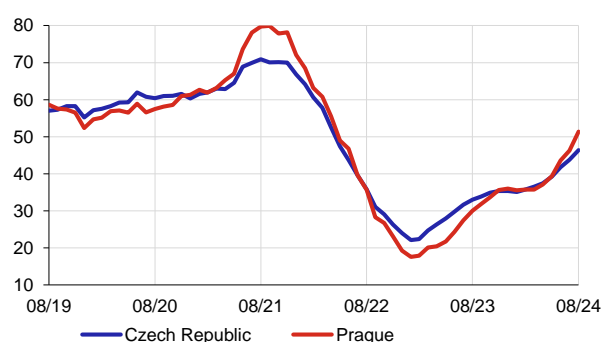
(CZK billions; right-hand scale: thousands)



Note: All series include increases in existing loans. Mortgage loans fall within the category of loans for house purchase.

Chart IV.14
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.

⁸⁴ In this part of the text, a mortgage loan is defined as a consumer loan secured by residential property.

⁸⁵ [Article 1 of Act No. 6/1993 Coll., on the Czech National Bank.](#)

⁸⁶ Adjusted for price growth using the house price index (HPI) and the average mortgage loan size, the mortgage market amounted to 73% and to 76% respectively of the average for 2016–2019 in January–September 2024.

⁸⁷ In this period, 62,300 pure new mortgage loans were issued, totalling CZK 215 billion.

⁸⁸ Article 117 and Article 117a of Act No. 257/2016 Coll., on Consumer Credit.

The average mortgage loan size increased in 2024...

The average size of new mortgage loans rose by more than 23% year on year to CZK 3.8 million in July and August 2024 (see [Table IV.2](#)), with a median of CZK 3.1 million (see [Table IV.2 CB](#)). The growth was driven not only by higher house price growth than expected in the CNB's spring forecast, but also by a larger share of loans transacted in Prague, which rose by about 3 pp year on year to 16%. The average size of loans with collateral in Prague was CZK 5.4 million in the first half of 2024 and reached CZK 5.9 million in July and August.⁸⁹ In the same period, the average size of loans with collateral outside Prague was CZK 3.4 million (see [Chart IV.7 CB](#)), with a median of CZK 2.9 million. Collateral value grew in line with the average loan size. The average LTV ratio in the first eight months of 2024 was therefore unchanged at 66%.

...which was reflected in income-based measures

So far this year, growth in the average loan size has outpaced growth in the net income of mortgage applicants. This has resulted in the average DTI ratio rising from 5.0 times net annual income in 2024 Q1 to 5.2 times net annual income for July and August 2024 (see [Table IV.2](#)). Similarly, the growth in loan size has led to an increase in the average DSTI ratio (from 37.7% to 38.1%), despite a moderate decline in interest rates. Mortgage loans are still taken out mostly by high-income applicants. This is apparent in applicants' average net income, which was just under CZK 91,000 (with a median of CZK 71,500) in July and August. For loans with collateral in Prague, income averaged CZK 138,000 and outside Prague CZK 76,000. Net income adjusted for instalments also increased. On average, it exceeded CZK 56,000, with a median of CZK 43,000. In real terms, i.e. adjusted for inflation, the average net income level has remained broadly constant since 2021.

Table IV.2

Average values of the characteristics of new mortgage loans and loan applicants

	2019	2020	2021	2022	2023	2024		
						Q1	Q2	Q3*
Loan size (CZK millions)	2.3	2.7	3.3	3.2	3.1	3.4	3.6	3.8
Interest rate (%)	2.7	2.3	2.3	4.7	5.8	5.4	5.1	5.1
Instalment (CZK thousands)	11.3	12.0	15.5	17.5	19.2	20.1	20.9	21.8
Maturity (years)	26	26	26	26	26	26	26.5	26.7
Fixed interest rate period (years)	6.5	6.7	6.1	6.0	4.2	3.2	2.8	3.0
Collateral value (CZK millions)	4.0	4.5	5.5	6.2	5.7	5.8	6.2	6.4
Number of properties securing loan		1.2	1.1	1.1	1.1	1.1	1.1	1.1
LTV (%)	66.6	66.1	64.6	61.7	63.2	65.9	65.9	65.7
DTI (net annual incomes)	8.1	5.5	5.9	5.3	4.7	5.0	5.1	5.2
DSTI (%)	32.1	32.1	34.2	36.7	36.8	37.7	38.0	38.1
Net monthly income (CZK thousands)	54.4	71.5	64.4	77.7	84.2	86.0	86.9	90.5
Net monthly income adjusted for instalments (CZK thousands)	37.2	49.0	42.9	50.0	53.9	54.1	54.5	56.5
Number of loan applicants	1.49	1.50	1.50	1.51	1.59	1.57	1.58	1.59
Share of borrowers under 36 years (%)	51.9	53.1	51.1	48.7	48.9	51.2	50.7	50.0

Note: The values in the table indicate the simple average for the given period. The exception is the share of applicants 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 number of properties for 2020 is calculated from data for the second half of 2020. The data for 2024 Q3 are based on the figures for July and August only.

The share of loans with DSTIs of over 40% increased to 57% in July and August...

The share of mortgage loans with DSTIs of over 40% provided in July and August exceeded 57%, the highest level since 2018 (see [Chart IV.15](#)). Despite this, the 12-month volume of pure new mortgage loans with DSTIs of over 40% was still at around 65% of its 2021 peak (see [Chart IV.8 CB](#)). The breakdown of loans with DSTIs of over 40% shows that the growth was driven mainly by loans with DSTIs of over 50%. In July and August, around CZK 9 billion of such loans were provided, i.e. just under 22% of total mortgage loans provided. These loans were mostly taken out by high-income households with an average net monthly income of CZK 105,000 and an average DTI ratio of 7.6 times the applicant's net annual income. Mortgage loans with DSTIs of over 60% were only provided in exceptional cases, the total volume for July and August being CZK 1.1 billion (2.6% of the total).⁹⁰

⁸⁹ The surge in new mortgage loans observed in August 2024 was thus driven primarily by a growing number of new loan contracts with collateral in Prague.

⁹⁰ For these applicants, the average net monthly income was CZK 135,000 and the DTI ratio was 8.7 times net annual income in July and August.

...the share of loans with DTIs of over 8 rose to almost 11%...

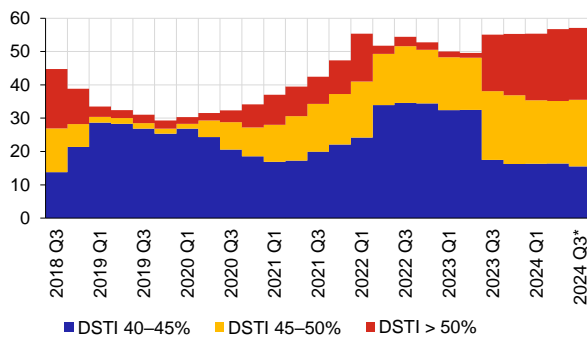
Turning to DTI, the high interest rates continue to dampen excessive household borrowing. In July and August 2024, the share of loans with DTIs of over 8 times net annual income was CZK 4.7 billion (see [Chart IV.16](#)). This was well below the peak of 2020–2021, as was the volume provided over the last 12 months (just under CZK 18 billion; see [Chart IV.8 CB](#)). However, the share of loans with DTIs of over 9 times net annual income recorded rather lower growth. In July and August, it exceeded 4% of the total, approaching CZK 1.8 billion. These loans were also provided mainly to high-income households with an average net monthly income of around CZK 111,000.

...while the share of loans with LTVs of over 80% fell and hardly any loans with LTVs of over 90% were provided

In July and August, the share of loans with LTVs of over 80% declined to 17% (see [Chart IV.17](#)). Most of these loans (15%) were provided to applicants under 36 years buying owner-occupied housing. At the same time, the majority of loans with LTVs of over 80% consisted of loans with LTVs of 90% (CZK 5.2 billion). Hardly any loans with LTVs of over 90% were provided (CZK 51 million in July and August 2024). In 2024, the total share of loans falling under the volume exemption provided by all mortgage lenders did not exceed 2% (see [Chart IV.9 CB](#)). The volume exemption was made up mostly of applicants aged 36 or over and of applicants taking out a loan for purposes other than owner-occupied housing. It is not apparent from the mortgage data that down payments are being made to a greater extent using unsecured consumer credit (loans for consumption). The share of mortgage loan applicants holding unsecured consumer loans at the time of loan origination dropped from 21% at the end of 2023 to 19% in August 2024.

Chart IV.15
Pure new mortgage loans with DSTIs of over 40%

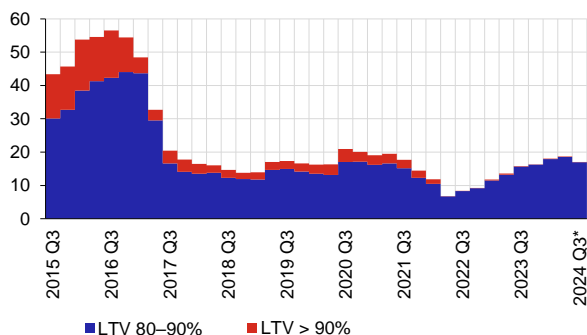
(share of loans in volume provided in given quarter in %)



Note: The data may also contain undrawn loans. The figures for 2024 Q3 contain data for July and August only. The chart provides information on current changes in risks taken on from the DSTI perspective, not on formal (non-)compliance with the binding upper limits on the DSTI ratio.

Chart IV.17
Pure new mortgage loans with LTVs of over 80%

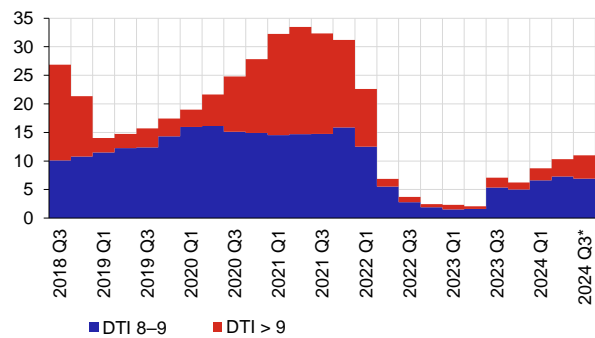
(share of loans in volume provided in given quarter in %)



Note: The data may also contain undrawn loans. The figures for 2024 Q3 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.16
Pure new mortgage loans with DTIs of over 8

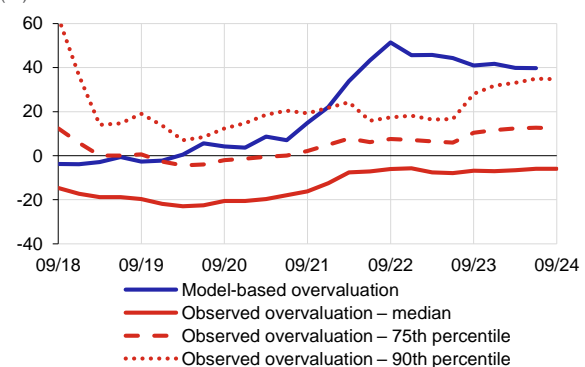
(share of loans in volume provided in given quarter in %)



Note: The data may also contain undrawn loans. The figures for 2024 Q3 contain data for July and August only. The chart provides information on current changes in risks taken on from the DTI perspective, not on formal (non-)compliance with the binding upper limits on the DTI ratio.

Chart IV.18
Observed and model-based property price overvaluation for a safe DSTI of 40%

(%)



Note: The figures for 2024 Q3 contain data for July and August only. The model-based overvaluation shows the affordability of housing for a Czech household with average income (CZK 56,100 as of June 2024) and limited own funds (a maximum of around CZK 1.4 million) buying an average apartment (around CZK 7 million as of June 2024). The observed overvaluation shows the risks associated with mortgage loans already provided to households in the given period.

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

With a few exceptions, banks' credit standards have not changed much overall in year-on-year terms in 2024. The volume of loans with DTI and DSTI ratios exceeding the prudential levels recommended by the CNB has risen. Loans with a DSTI of over 50% (or a DTI of over 9 times net annual income), which are associated with a higher risk of default, have not taken on systemic dimensions (CZK 29.9 billion in the case of DSTI and CZK 4.4 billion in the case of DTI for January–August 2024, as compared a total volume of CZK 152 billion).

...but some mortgage loans can now be considered highly risky

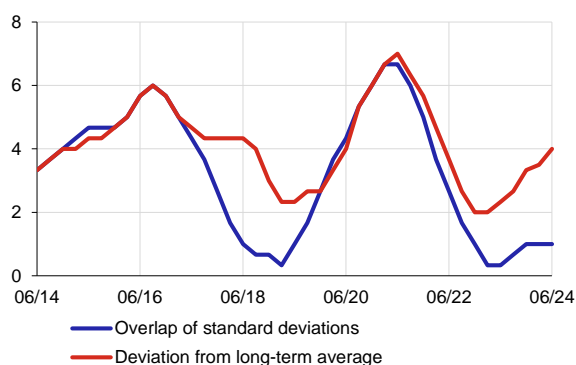
The observed degree of overvaluation indicates no major increase in systemic risk either. The overvaluation indicator is the difference between the price of an actually purchased property and the property value that a household can finance safely at a given interest rate and with an LTV of 80% (the “fundamental value”). The CNB considers a mortgage with a DSTI of 40% to be relatively safe to finance. A positive observed overvaluation indicates that a household is taking out a higher loan, or is buying a property at a higher price, than it can finance safely with its income and is therefore exposed to increased credit risk. The observed degree of overvaluation has not changed in 2024, with the median remaining negative (see [Chart IV.18](#)). A related factor is that mortgage loans are secured quite robustly, as the majority of loans are provided with a LTV of between 70% and 80%, and there are hardly any loans with LTVs of over 90% on the market (see [Chart IV.11 CB](#)). However, some characteristics of new loans were riskier on average. This reflects the 10% share of new loans (CZK 4.3 billion in July and August 2024) with an overvaluation of over 35% (see [Chart IV.18](#); observed overvaluation – 90th percentile). Most of these loans were provided with relatively high DSTIs and DTIs.⁹¹ The penetration of the loan portfolio with these loans was relatively low, and the volume of loans with observed overvaluation in the last decile provided between the beginning of the year and the end of August 2024 was about 0.84% of the total mortgage loan portfolio.

The mortgage market has been affected by rising property prices

In terms of the deviation from the long-term average, the composite risk perception indicator used by the CNB to assess the overall systemic risks arising from mortgage lending based on factors defined in the Act on the CNB (see [Chart IV.25, a–e](#)) and factors recommended by the BIS and the IMF (see [Chart IV.25, f–h](#))⁹² has reached exactly one half of its maximum level, confirming the upward trend seen in early 2024 (see [Chart IV.19](#)). The growth has been driven mostly by high transaction prices of properties, which accelerated in Q2 and contributed to the growth in the average mortgage loan size. For this reason, three ratios monitored – apartment price-to-income, apartment price-to-rent and loan size-to-income – exceeded the critical limit of one standard deviation from the long-term average and rose faster than expected in the CNB's spring projection (see [Chart IV.25, e–g](#)). In addition, the structural imbalance⁹³ in the property market will continue to prevent the gap between the measured levels of these ratios from closing. According to the CNB's autumn forecast, they are not expected to return to their long-term averages over the forecast horizon. A sharp drop in property prices over the next two years is very unlikely (see [Chart IV.20](#)).

Chart IV.19
Composite risk perception indicators by overlap of standard deviations and deviation from the average

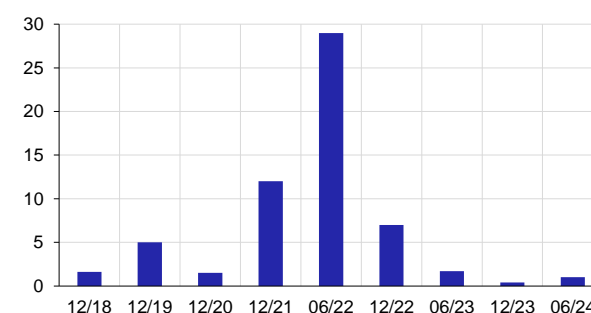
(min. 0; max. 8)



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

Chart IV.20
Probability of average apartment prices falling by more than 10% over the next two years

(%)



⁹¹ However, these loans were still relatively well secured and their average LTV was 76.2%.

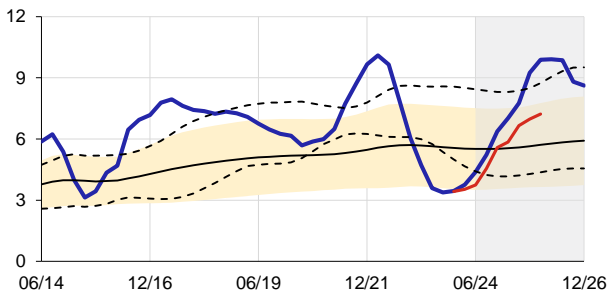
⁹² BIS (2012): *Operationalising the selection and application of macroprudential instruments*, CGFS Papers, No 48, and IMF (2014): *Staff guidance note on macroprudential policy*.

⁹³ A structural imbalance is a long-term structural mismatch between property supply and demand, caused mainly by persistent limited property supply in some localities of the Czech Republic.

Chart IV.21
Indicators of systemic risk associated with mortgage lending

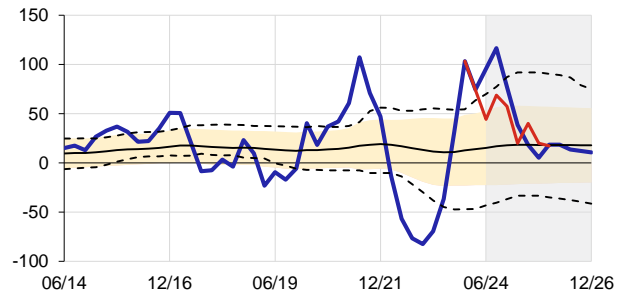
(%; ratio of apartment prices/loan size to gross annual income; ratio of apartment prices/rent in multiples of annual rent)

a) Year-on-year change in consumer credit



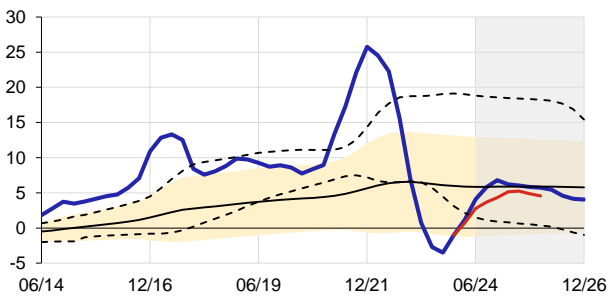
The chart is based on total outstanding consumer credit to households.

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



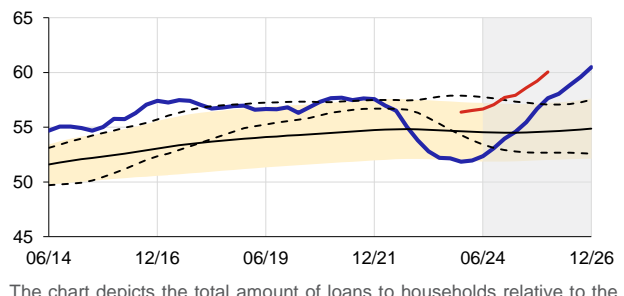
The chart shows pure new mortgage loans for house purchase, including increases.

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



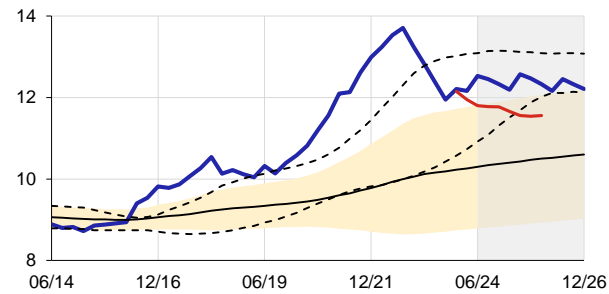
The chart depicts the housing price index, including land.

d) Consumer credit-to-gross disposable income ratio



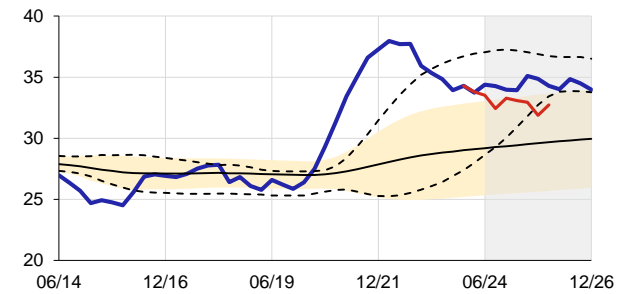
The chart depicts the total amount of loans to households relative to the gross disposable income of households. The significant deviation from the previous forecast is due to a revision of the national accounts.

e) Apartment price-to-income ratio



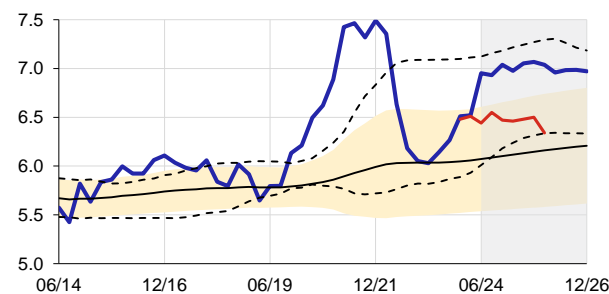
The chart shows the transaction price of a 68 m² apartment relative to average gross annual income.

f) Apartment price-to-rent ratio



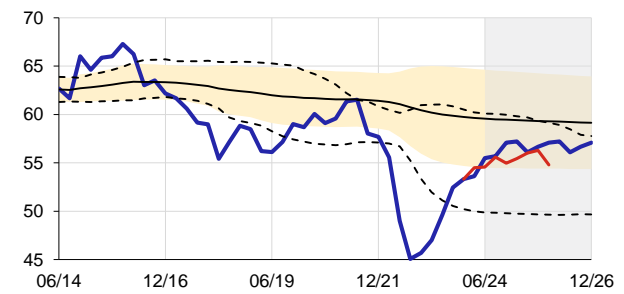
The chart shows the apartment transaction price per m² relative to annual rent per m².

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 m² apartment.

Note: The dashed black lines show a spread of one standard deviation from the average over the last 20 quarters. The black solid line shows the long-term average calculated using the time series starting in 2010. The yellow area shows a spread of one standard deviation from the long-term average. The grey area shows the projected values consistent with the autumn forecast ([MPR – Autumn 2024](#)). The red line shows the spring 2024 projection ([FSR – Spring 2024](#)).

The Bank Board decided to leave the upper limit on the LTV ratio unchanged...

At its meeting on 27 November 2024, the Bank Board decided to leave the upper limit on the LTV ratio at 80% (90% for applicants under 36 years financing owner-occupied housing), with a 5% volume exemption. At the same time, the Bank Board continues to recommend to all mortgage lenders that the LTV ratio should not exceed 100% for any mortgage loan. The main reason for retaining the upper limit is to limit potential growth in the volume and number of highly risky mortgage loans amid the ongoing recovery on the mortgage market and the (structurally imbalanced) property market in an environment of persisting overvaluation of house prices.

...and to keep the DTI and DSTI ratios deactivated

The Bank Board kept the upper DTI and DSTI limits deactivated, as it does not expect any significant rise in cyclical or structural risks arising from the mortgage market in the near term. At the same time, it emphasises that providers of consumer credit for housing should, in accordance with the Recommendation, very prudently assess applications for a loan with DTIs of over 40% and DSTIs of more than 8 times net annual income and not provide consumer credit for housing with maturities exceeding 30 years. If lenders relax their credit standards, which could result in a further increase in the share of high-risk loans in newly provided consumer credit for housing, the Bank Board stands ready to change its recommendation or reactivate the DSTI and/or DTI limits.

BOX 3: Forecasting delinquent loans

Borrower-based regulation generally contributes to a reduction in the risk of households becoming overindebted and unable to repay their mortgage loans. It strengthens the financial resilience of households, maintains the high quality of mortgage portfolios (see [Chart II.39](#)) and enhances the resilience of mortgage lenders (see [Chart III.15](#)) and of the financial sector as a whole (see [section III](#)).

It is clear from the construction of the various borrower-based measures that the DSTI and DTI ratios are designed to reduce the probability of default (PD), while the LTV ratio is intended to reduce the loss given default. A large body of empirical literature supports this fact.⁹⁴ The effect of LTV on the default rate is meanwhile ambiguous. A higher regulatory LTV generally implies a lower need to use own funds (for down payments) and in some instances may allow households to retain a larger amount of disposable assets as a buffer for unexpected adverse life events such as job loss or chronic illness. Should such events materialise, a very strict LTV limit may therefore increase the PD if it leads to a significant decrease in, or the complete depletion of, households' liquidity buffers. However, a relevant percentage of households in the Czech Republic meet the LTV requirement using property they already own, either directly (by pledging another property not purchased on loan) or indirectly (by selling a property to finance the necessary down payment). This applies, for example, to households who move from one property to another. To some extent, this weakens the relationship between the LTV limit and the default rate. In some countries – often those where non-recourse mortgages are provided (typically the USA) – there may even be a positive relationship between the LTV ratio and the default rate. If a household with a non-recourse mortgage defaults when the collateral on the loan falls in value, the lender is not entitled to claim any other assets in repayment of the debt apart from the property used as collateral. In an adverse economic situation accompanied by a fall in house prices, this, too, may cause strategic default. In other words, the household deliberately defaults on its mortgage if the value of the property drops below the principal of the mortgage loan.⁹⁵

This box uses Extreme Gradient Boosting (XGBoost), a machine-learning algorithm built on decision trees, to test the effect of credit ratios and other factors on mortgage delinquency forecasts. However, we should emphasise that delinquency does not necessarily mean default. Only when a loan reaches the 90+ day delinquency mark is it classified as being in default. Delinquency is thus a precursor to default. Adjusted data on individual mortgage loans provided since 2018 (534,000 loans) are employed to forecast delinquent loans. Even though the data set is highly imbalanced – non-delinquent loans predominate (less than 25,000 loans, i.e. 5% of the data set, are delinquent; see [Table IV.3 CB](#)) – the forecasting

94 Gross, M., and Poblacion, J. (2017): *Assessing the efficacy of borrower-based macroprudential policy using an integrated micro-macro model for European households*, Economic Modelling 61, pp. 510–528. Jurča, P., Klacso, J., Tereanu, E., Forletta, M., and Gross, M. (2020): *The effectiveness of borrower-based macroprudential measures: A quantitative analysis for Slovakia*, IMF Working Paper. Górnicka, L., and Valderrama, L. (2020): *Stress testing and calibration of macroprudential policy tools*, IMF Working Paper Series.

95 In the empirical literature, this effect is described using the theory of negative equity, which says that a fall in house prices motivates households to “strategically default” (even though they can afford to pay back their mortgages, they decide to default, as they are better off doing so). For example, an article on defaults on loans provided in the US in 2006 shows that the theory of negative equity explains defaults occurring during a major drop in house prices (50–60% of the initial property value; see Bhutta, N., Dokko, J., and H. Shan (2010): *The depth of negative equity and mortgage default decisions*, Fed Finance and Economics Discussion Series). However, in the Czech legislative environment, debtors are either personally liable for their loans, or an alternative guarantor is stipulated in the contract, so there is basically no incentive to strategically default in the Czech Republic, even when house prices fall sharply.

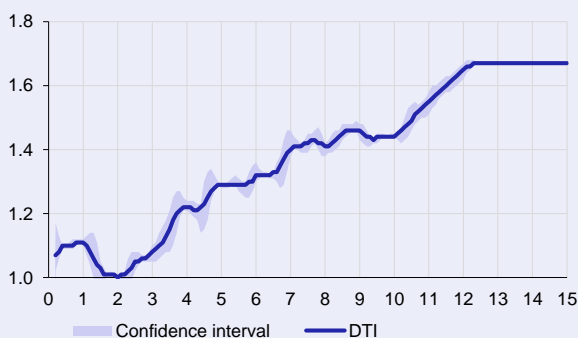
model achieves a relatively high Matthews correlation coefficient (over 0.64) and the forecast success rate is 99% for non-delinquent loans and 54% for delinquent loans.

An odds ratio is used to describe the specific effect of each variable in the model on the occurrence of default. The ratio expresses how much a change in a variable increases the odds of delinquency, assuming all other variables remain constant. The results show that in addition to the PD identified directly by the bank (the reported PD), the DTI and DSTI ratios are the strongest predictors of delinquent loans. As expected, DSTI has a slightly higher predictive power. The odds ratio for DTI is non-linear and is increasing from about 3.5 to 8.5 times net annual income (see [Chart 1](#)). It is then relatively flat up to 10.5 times net annual income and subsequently rises again. Mortgage loans with the highest DTI of over 12 times net annual income have 1.7 times higher odds of being delinquent than loans with the lowest observed odds (loans with a DTI of 2.2). The curve for the DSTI ratio is almost linear (see [Chart 2](#)). The delinquency odds ratio starts to rise at a DSTI of around 20% and stops rising at a DSTI of 65%. For this high level, loans have 1.7 times higher odds of delinquency relative to the lowest observed level (loans with a DSTI of 10%).

The odds ratio for LTV is low and strongly reflects the non-linear relationship. A continuous upward trend is only evident from about 65% (see [Chart 3](#)). The odds ratio for the observed overvaluation indicator is likewise low. Only at 50% does it start to increase significantly (see [Chart 4](#)).

Chart 1 (Box 3)
Delinquency odds ratio for DTI

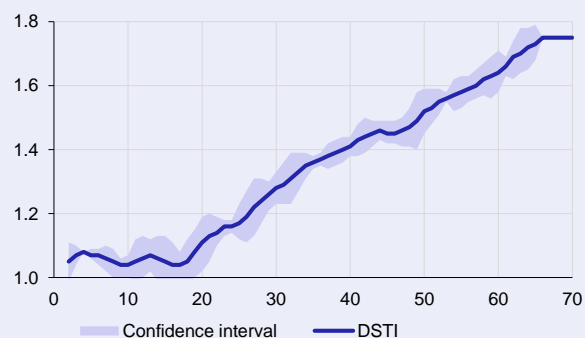
(odds ratio relative to lowest level; x-axis: DTI in net annual incomes)



Note: Smoothed by the 5-point centred moving average. The red line indicates an arbitrary upper limit indicating a higher risk level.

Chart 2 (Box 3)
Delinquency odds ratio for DSTI

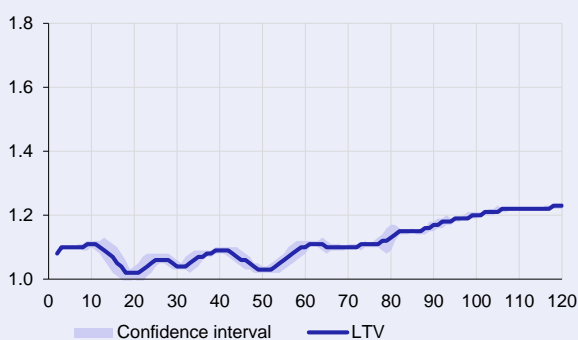
(odds ratio relative to lowest level; x-axis: DSTI in %)



Note: Smoothed by the 5-point centred moving average. The red line indicates an arbitrary upper limit indicating a higher risk level.

Chart 3 (Box 3)
Delinquency odds ratio for LTV

(odds ratio relative to lowest level; x-axis: LTV in %)



Note: Smoothed by the 5-point centred moving average. The red line indicates an arbitrary upper limit indicating a higher risk level.

Chart 4 (Box 3)
Delinquency odds ratio for observed overvaluation

(odds ratio relative to lowest level; x-axis: overvaluation in %)



Note: Smoothed by the 5-point centred moving average. The red line indicates an arbitrary upper limit indicating a higher risk level.

In addition to the borrower-based measures, we briefly refer to another six significant variables used in the forecasting model (see [Table 1](#)). Unsurprisingly, the PD identified directly by banks is by far the most significant variable. This implies that it is an appropriate predictor of default at the time of loan origination. The deviation of the interest rate on the loan from the average interest rate on all mortgage loans provided in the same month is another significant variable. The higher the interest rate relative to the average, the greater the odds of delinquency, which peak at a deviation of over 1.5 pp. Loan maturity also has a significant effect in the forecasting model. Loans with a maturity of over 30 years are found to be higher-

risk, in line with the CNB's recommendation. As expected, low-income households – specifically those with a net monthly income of less than CZK 30,000 (at 2024 prices) – also have higher odds of delinquency. The applicant's age is also an important factor. Applicants under 20 years have 1.8 times higher odds of delinquency than those aged 36, who have the lowest delinquency odds. Applicants with an outstanding consumer loan also have slightly higher delinquency odds.

Table 1 (Box 3)

Delinquency odds ratios for other significant variables in the forecasting model

PD identified by lender	0–1%	1–5%	5–10%	> 10%
	1	2.4	3	3.4
Deviation of interest rate from market average	< 0 pp	0–1 pp	1–1.5 pp	> 1.5 pp
	1	1.2	1.4	1.8
Loan maturity	< 10 years	10–20 years	20–30 years	> 30 years
	1	1	1.1	1.5
Net income at 2024 prices	< CZK 30,000	CZK 30,000–60,000	CZK 60,000–160,000	> CZK 160,000
	1.5	1.2	1	1.2
Age of applicant	< 20 years	20–25 years	25–55 years	> 55 years
	1.8	1.4	1.1	1.3
Outstanding consumer loan	YES	NO		
	1.2	1		

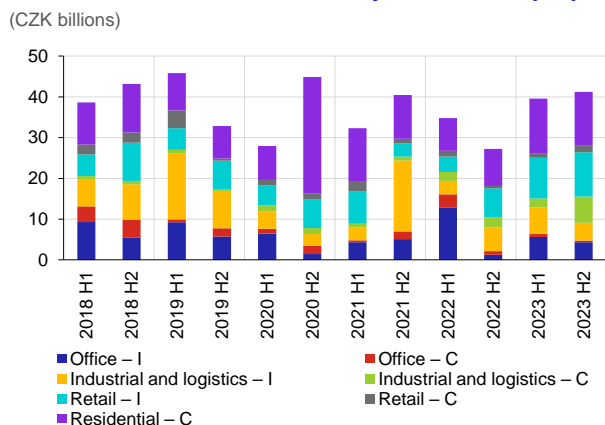
The above results confirm that borrower-based macroprudential measures have a part to play in macroprudential policy. Leaving aside the probability of default defined by individual mortgage lenders, such measures play the most significant role in the forecasting model. At the same time, we should emphasise that in a low default rate environment where idiosyncratic delinquency factors (such as divorce, death and chronic illness) are dominant, the odds ratios are relatively low. Should the economy transition to a high default rate environment characterised by a significant relaxation of credit standards and hence by lending to applicants with a high PD, we can expect the odds ratio curve to be steeper and DSTI and DTI limits therefore to be more efficient and effective.

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

The provision of loans secured by commercial property declined

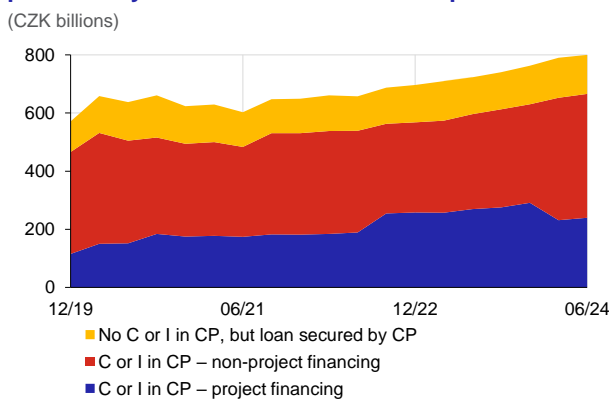
New loans amounted to CZK 27 billion in the first half of 2024 (see Chart IV.22). This is the second lowest nominal figure since the survey began⁹⁶ and the lowest ever if one takes into account the rising cost of construction work and prices of commercial property themselves. In terms of purpose, loans for residential construction predominated in the first half of the year, while lending in other segments was very limited. On one hand, this may reflect the only gradual pick-up in the construction of new commercial property. On the other, it probably reflects the growing share of domestic real estate funds among investors who raise funds mostly from unit holders rather than from financial institutions.

Chart IV.22
Amount of new loans secured by commercial property



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

Chart IV.23
Outstanding loans secured by commercial property provided by banks to non-financial corporations



Note: I: investment in existing property, C: construction. CP: commercial property.

The risks associated with the domestic commercial property market are increasingly concentrated in domestic real estate funds...

A gradual change in the investor base away from the previously predominant foreign investors and towards domestic investors, especially domestic investment funds, has been going on for the last five years or so.⁹⁷ Changes in the domestic commercial property market are therefore having a growing effect on the performance of these funds and, in turn, on household wealth. In general, however, the investment fund sector is currently not a direct source of systemic risk to the domestic financial sector given the still systemically relatively low level of the assets it manages and its limited use of external financing. The contribution of commercial real estate funds to systemic risk could strengthen in the event of highly adverse financial conditions, which would lead to fire sales. These, in turn, could exacerbate the initial shock and increase its duration.

...but domestic banks continue to face risks...

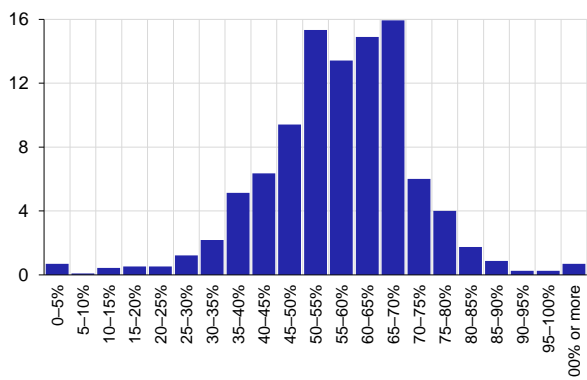
The share of exposures secured by commercial property in the total client loans of the domestic banking sector is relatively low at about 18%. In the case of non-financial corporations, the figure is around 50%, with about 87% intended directly for investment in, or construction of, commercial property as of mid-2024 (see Chart IV.23). In times of growing stress and adverse economic conditions, these exposures can bear increased risk due to the fluctuating value of collateral. This applies in particular to project financing loans, where commercial property is used as collateral yet is basically the only source of income to service the loan. Owing to banks' current prudent approach, the credit risk associated with such exposures remains limited and the relevant portfolio does not generally indicate excessively risky LTV or DSCR levels (see Chart IV.24 and Chart IV.25). It is mostly smaller banks that are potentially more exposed to the credit risk associated with the commercial property market. Given the typical size of the loans they issue, they may show higher concentration levels.

96 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. Data from 2015 onwards.

97 Primarily real estate collective investment funds and funds for qualified investors. In the first case, the assets of these funds totalled about CZK 100 billion at the end of the first half of 2024. In the second case, the figure is just under CZK 150 billion. However, part of the assets are located outside the Czech Republic.

Chart IV.24
LTV distribution of outstanding loans secured by commercial property

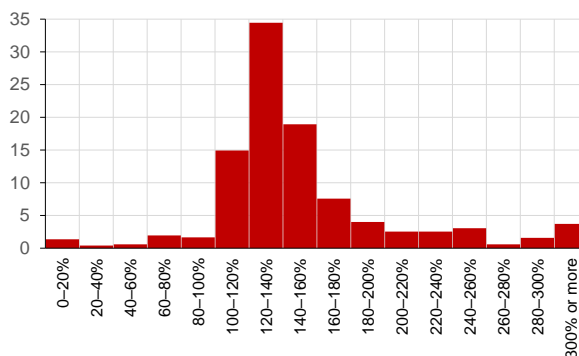
(%; as of 31 December 2023)



Note: Project financing loans only. Intervals closed from the left and open from the right.

Chart IV.25
DSCR distribution of outstanding loans secured by commercial property

(%; as of 31 December 2023)



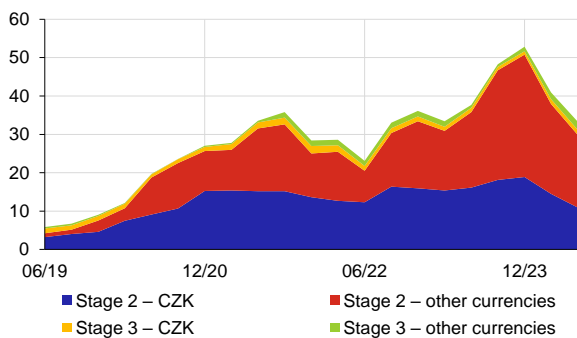
Note: Project financing loans only. Intervals closed from the left and open from the right.

...the risks associated with loans for funding commercial property decreased in domestic banks' balance sheets

During the pandemic, domestic banks transferred part of their loans secured by commercial property from Stage 1 to the riskier Stage 2 for precautionary reasons. This was a response to the expected and partly already ongoing price decline in the commercial property market. In the first half of 2024, the cycle reversed (see section II.1.2) and a large proportion of these loans – denominated in both the Czech koruna and other currencies – were moved back to Stage 1 (see Chart IV.26). The credit risk for foreign currency loans (most often euro denominated) remains slightly lower than that for koruna exposures in relative terms.

Chart IV.26
Loans to non-financial corporations for investment or construction of commercial property by impairment stage and currency

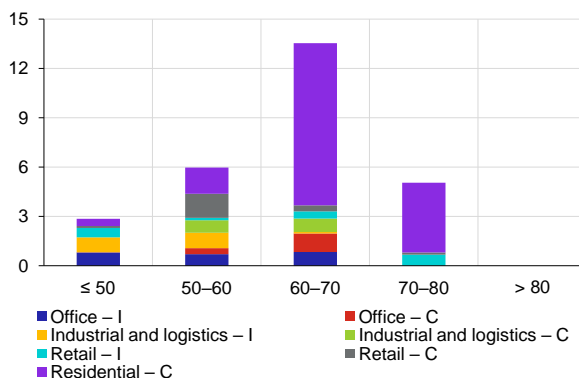
(CZK billions)



Note: Stages 2 and 3 are the second and third stages of loan impairment according to IFRS9. They only include loans for project financing (specialised lending).

Chart IV.27
LTV distribution of new loans secured by commercial property in 2024 H1

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



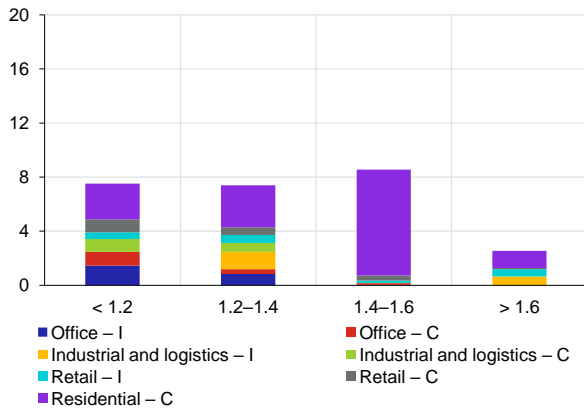
Note: I: investment in existing property, C: construction. Results based on data for selected banks. Interval closed from the right.

Banks continued to proceed prudently when providing new loans secured by commercial property in the first half of 2024

In view of the persisting uncertainty associated with future economic developments, banks continued to proceed prudently in terms of the LTV ratio when providing loans in the first half of 2024. No loans with LTVs of over 80% were provided, and lending in other riskier categories (LTVs of 70–80%) also remained subdued. Loans with LTVs of 60–70% were the most populous category (see Chart IV.3 CB and Chart IV.27). Compared to the second half of 2023, this generally represents a shift towards slightly riskier categories, but it was largely due to a high share of new loans for residential construction, where higher LTVs are common. As regards the DSCR ratio, domestic banks issued less risky loans in the said period than in the previous half-year (see Chart IV.28). The same applies to the risky combination of high LTV and low DSCR loans (see Chart IV.29).

Chart IV.28
DSCR distribution of new loans in 2024 H1

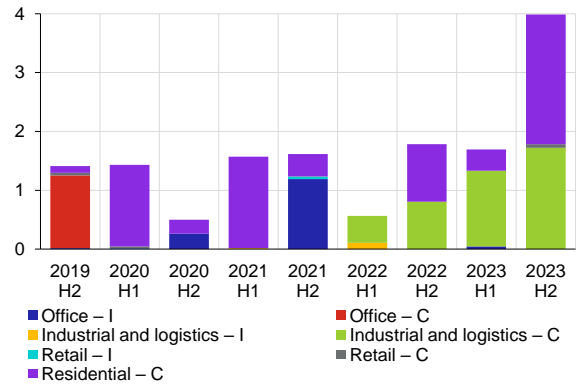
(CZK billions; x-axis: DSCR in %)



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

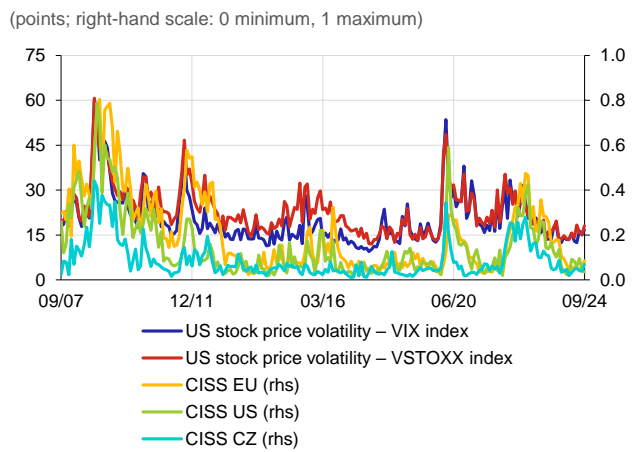
Chart II.1 CB
Risk premia for the S&P 500 and Euro Stoxx 50



Source: LSEG

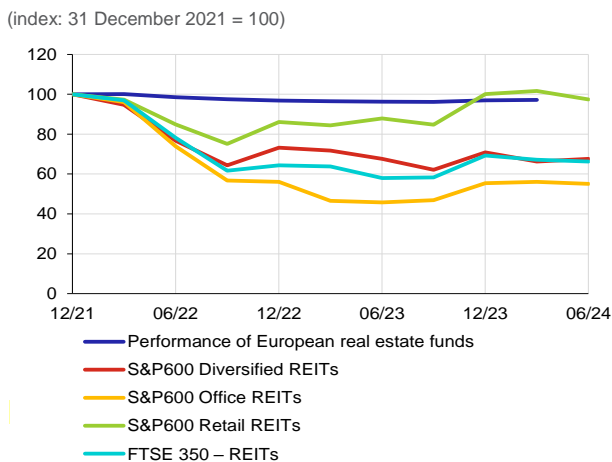
Note: The risk premium is calculated using the dividend discount model. Estimates of future dividends are based on dividend futures. Discount factors are calculated using the US swap curve. For details see Časta, M. (2022): *Deriving equity risk premium using dividend futures*, North American Journal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

Chart II.2 CB
Market stress indicators



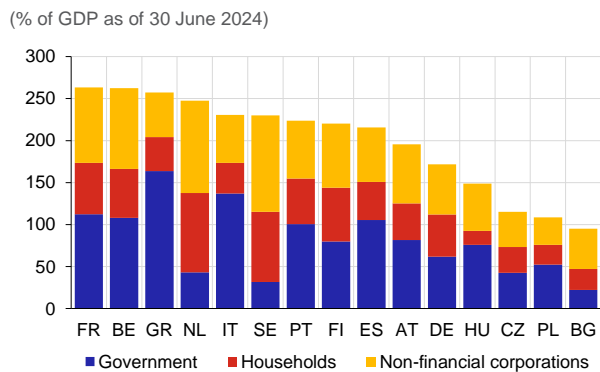
Source: LSEG, CNB

Chart II.3 CB
Performance of real estate funds



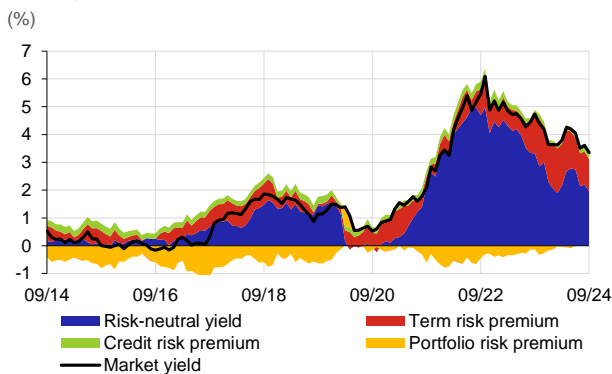
Source: LSEG, ECB

Chart II.4 CB
Debt ratios of economic agents in selected EU countries



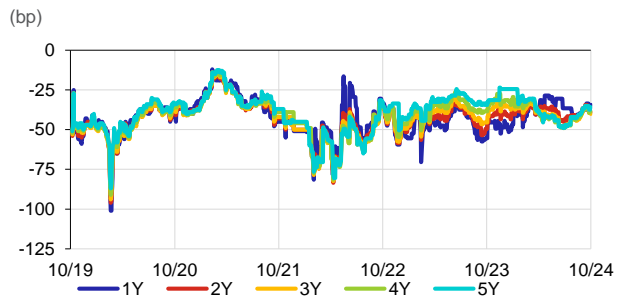
Source: ECB, Eurostat

Chart II.5 CB
Decomposition of the five-year Czech government bond yield



Source: LSEG, CNB

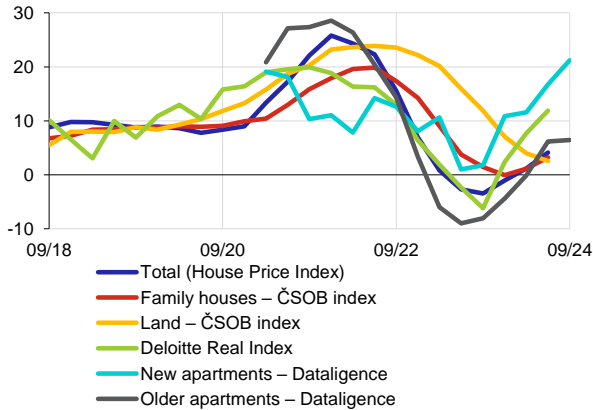
Chart II.6 CB
Cross-currency basis spread – CZK/EUR



Source: LSEG

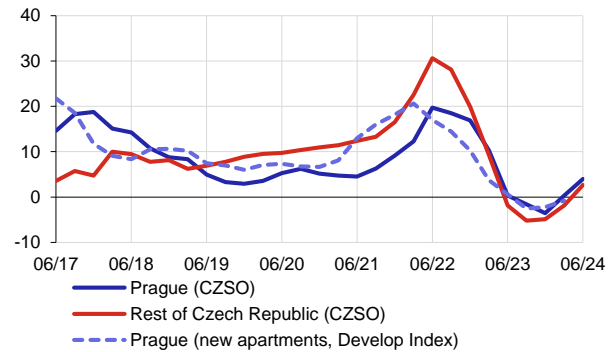
Note: The chart shows the cross-currency basis spread for CZK/EUR currency swaps. Currency swaps are derivatives contracts in which one party borrows a currency and simultaneously lends another currency to the counterparty. In the Czech Republic, FX swaps are a way of raising euro liquidity.

Chart II.7 CB
Transaction prices by type of property
 (year-on-year growth in %)



Source: CZSO, Deloitte, Dataligence, ČSOB index

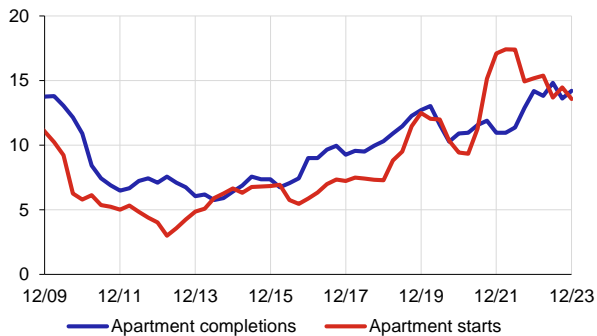
Chart II.8 CB
Apartment asking prices by region
 (year-on-year growth in %)



Source: CZSO

Note: As the Develop Index is published every two months, the figures for March and September up to and including 2023 were obtained as the average of the year-on-year growth rates in February and April and in August and October respectively.

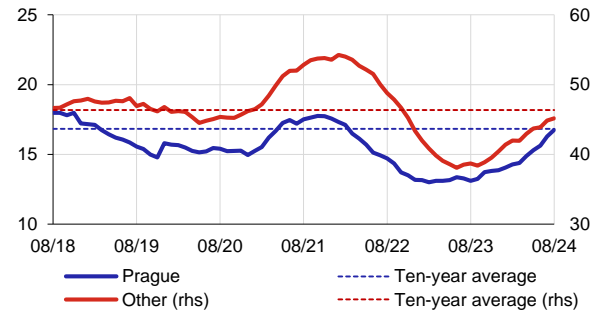
Chart II.9 CB
Size of housing construction
 (annual moving totals in thousands of apartments)



Source: CZSO

Note: Number of apartments in apartment blocks.

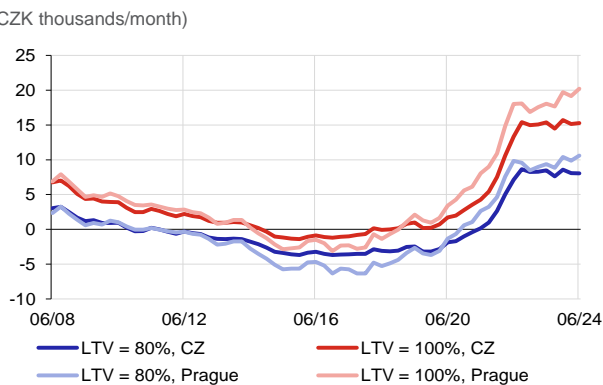
Chart II.10 CB
Housing transfers
 (thousands of transactions; annual moving totals)



Source: COSMC, Dataligence

Note: Only transfers using a purchase contract are included. Non-market transactions – e.g. privatisations and transfers within the family – are excluded.

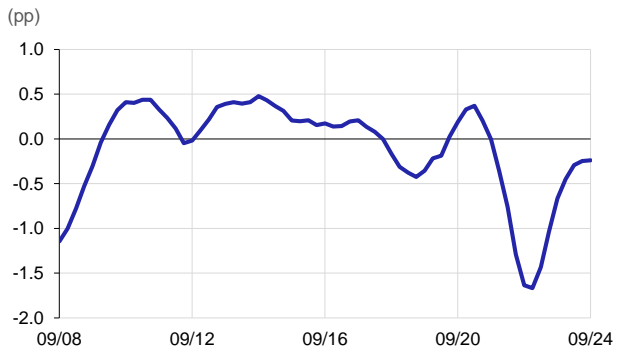
Chart II.11 CB
Gaps between mortgage loan instalments and apartment rents
 (CZK thousands/month)



Source: CNB, IRI, Sreality, Deloitte, Dataligence

Note: The gap shows the difference between the instalment and the rent. The chart refers to 68 m² apartments in regional capitals. Rents are represented by the Deloitte Rent Index and apartment prices by the Deloitte Real Index. A 30-year repayment term is assumed. Sreality and IRI data were used to estimate some missing values for the pre-2020 period.

Chart II.12 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.

Chart II.13 CB
New koruna-denominated Czech government bond issue volumes by maturity basket

(CZK billions)

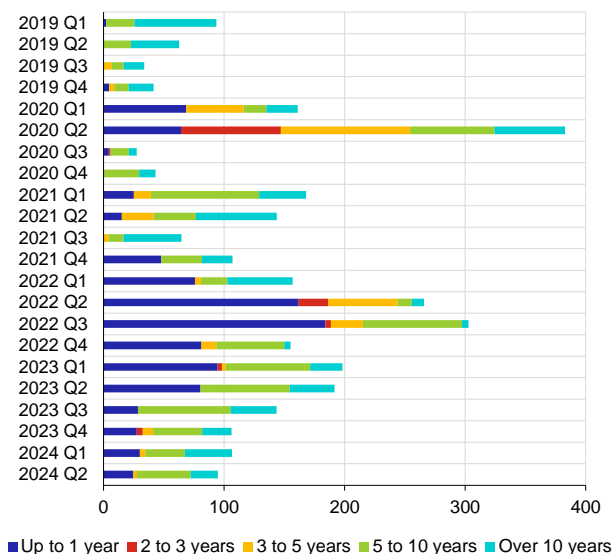
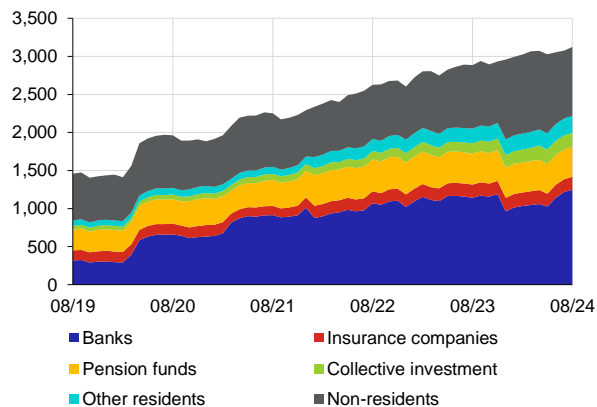


Chart II.14 CB
Holdings of koruna-denominated Czech government securities

(CZK billions)



Source: Ministry of Finance of the Czech Republic

Table II.1 CB
The Czech Republic's ratings

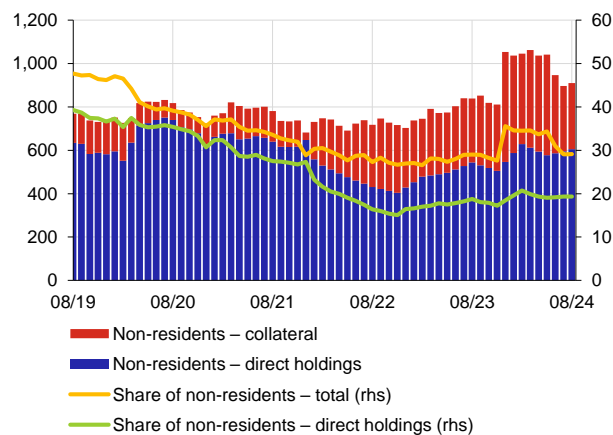
Rating agency	Rating	Outlook
Moody's	Aa3	Stable
S&P Global Ratings	AA	Stable
Fitch Ratings	AA-	Stable
JCR	AA	Stable
R&I	AA-	Stable
Scope Ratings	AA-	Stable

Source: Ministry of Finance of the Czech Republic

Note: The Czech Republic's ratings of long-term debt in domestic currency.

Chart II.15 CB
Holdings of Czech government bonds by non-residents

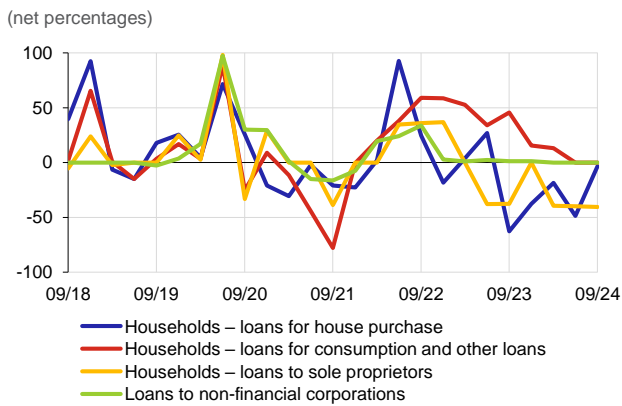
(CZK billions; right-hand scale in %)



Source: Ministry of Finance of the Czech Republic, CNB

Note: CNB estimate based on Ministry of Finance data and custody data. A methodological change regarding direct holdings of non-residents was made in 2022 and the quarterly data are linearly interpolated from the start of that year.

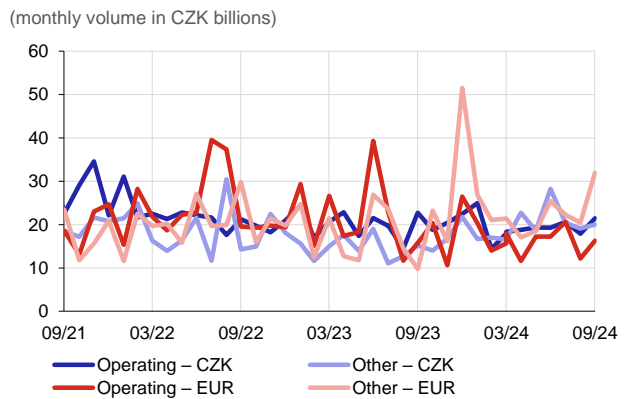
Chart II.16 CB
Credit standards in the Czech Republic



Source: CNB

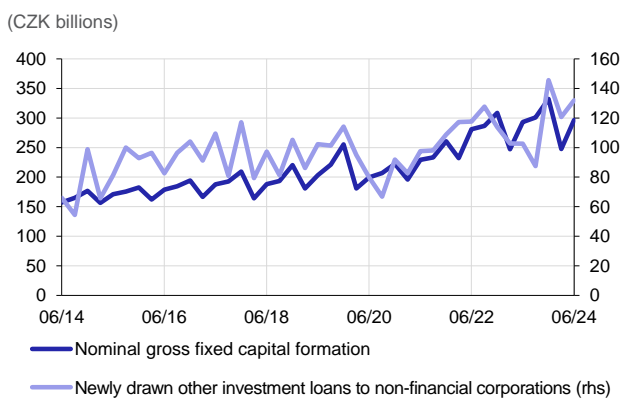
Note: The data represent the difference between the market share of banks that reported a tightening of lending standards and banks that reported an easing of lending standards in the past three months. More information on the indicator methodology can be found on the CNB website.

Chart II.17 CB
Drawdown of loans to non-financial corporations



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 II.18 CB
Investment loans and investment



Source: CNB, CZSO

Note: Gross fixed capital formation covers the non-financial corporations sector only. Newly drawn investment loans comprise all loans other than operating loans.

Chart II.19 CB
3M default rate in selected NFC sub-sectors

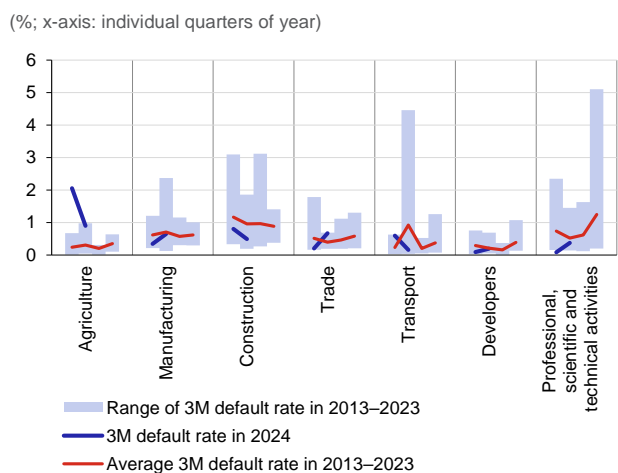
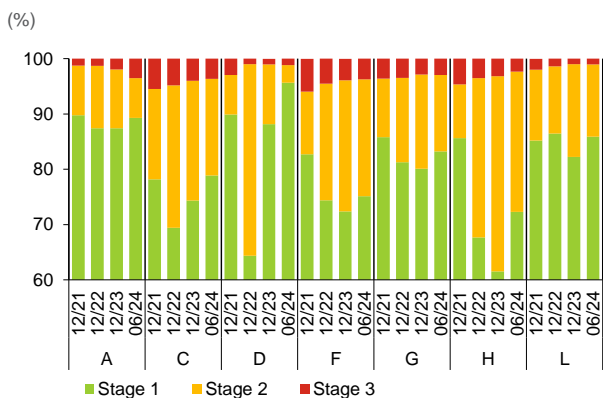


Chart II.20 CB
Structure of loans to non-financial corporations by sub-sector



Note: The stages are the credit quality stages under IFRS 9. The letters denote NACE sectors: A – agriculture, C – manufacturing, D – energy, F – construction, G – wholesale and retail trade, H – transporting and storage, L – real estate activities.

SECTION III

Table III.1 CB

Exposures, provisions and coverage rates by risk stage in the loans to households segment

Households		Exposures		Provisions		Coverage rate	
Stage	Date	Volume (CZK billions)	Change (%)	Volume (CZK billions)	Change (%)	Ratio (%)	Change (pp)
Total	12/20	1,964		32.5		1.65	
	12/21	2,165	10.2	30.4	-6.3	1.40	-0.25
	12/22	2,266	4.7	29.4	-3.5	1.30	-0.11
	12/23	2,378	4.9	29.2	-0.4	1.23	-0.07
	06/24	2,442	2.7	28.8	-1.5	1.18	-0.05
S1	12/20	1,788		4.2		0.24	
	12/21	1,944	8.7	4.2	-0.6	0.22	-0.02
	12/22	1,906	-1.9	3.9	-8.4	0.20	-0.01
	12/23	2,006	5.2	3.8	-2.4	0.19	-0.01
	06/24	2,122	5.8	3.6	-4.6	0.17	-0.02
S2	12/20	140		9.2		6.55	
	12/21	188	33.7	8.3	-9.2	4.45	-2.10
	12/22	332	76.8	10.3	23.0	3.09	-1.35
	12/23	342	3.0	10.1	-1.2	2.97	-0.13
	06/24	288	-15.6	8.9	-12.5	3.08	0.11
S3	12/20	35		19.0		54.02	
	12/21	34	-4.9	17.9	-6.3	53.25	-0.77
	12/22	28	-15.7	15.2	-14.7	53.88	0.64
	12/23	30	5.6	15.3	0.6	51.35	-2.54
	06/24	31	5.2	16.3	6.6	52.03	0.68

Table III.2 CB

Exposures, provisions and coverage rates by risk stage in the loans to non-financial corporations segment

NFCs		Exposures		Provisions		Coverage rate	
Stage	Date	Volume (CZK billions)	Change (%)	Volume (CZK billions)	Change (%)	Ratio (%)	Change (pp)
Total	12/20	1,343		44.6		3.32	
	12/21	1,395	3.9	40.7	-8.7	2.92	-0.40
	12/22	1,457	4.4	40.8	0.2	2.80	-0.12
	12/23	1,580	8.4	36.7	-10.2	2.32	-0.48
	06/24	1,614	2.2	35.4	-3.3	2.19	-0.13
S1	12/20	1,079		5.1		0.47	
	12/21	1,145	6.2	4.4	-12.9	0.39	-0.08
	12/22	1,139	-0.5	5.4	21.9	0.47	0.09
	12/23	1,262	10.7	4.9	-8.4	0.39	-0.08
	06/24	1,355	7.4	4.8	-2.0	0.36	-0.03
S2	12/20	207		10.3		4.98	
	12/21	197	-4.8	8.1	-22.0	4.08	-0.90
	12/22	271	37.1	9.6	19.4	3.55	-0.53
	12/23	281	3.8	11.2	16.1	3.97	0.42
	06/24	220	-21.8	10.5	-6.0	4.78	0.81
S3	12/20	57		29.2		51.26	
	12/21	52	-8.0	28.3	-3.2	53.93	2.67
	12/22	47	-10.4	25.8	-8.7	54.95	1.02
	12/23	37	-20.2	20.5	-20.4	54.81	-0.14
	06/24	40	5.8	20.1	-2.2	50.66	-4.15

Chart III.1 CB
Profitability of individual financial sector segments

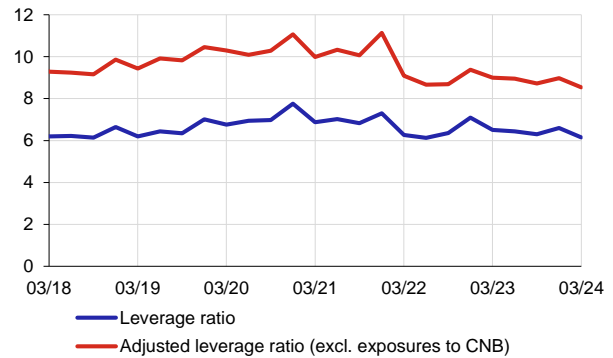
(return on assets in %)



Note: Return on assets for pension funds includes pre-tax profit and payments to pension management companies.

Chart III.2 CB
Leverage ratio

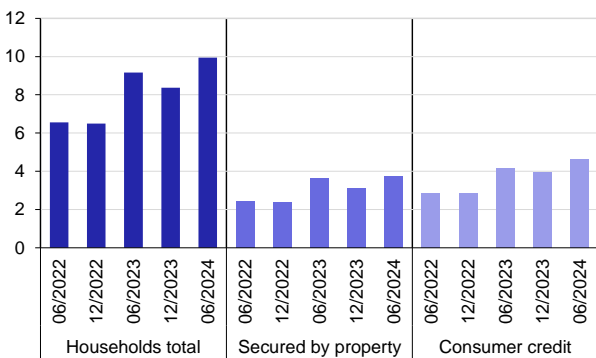
(%)



Note: Adjusted leverage ratio = Tier 1/total exposures excluding exposures to central banks.

Chart III.3 CB
Semi-annual increases in credit exposures in Stage 3 in the household segment

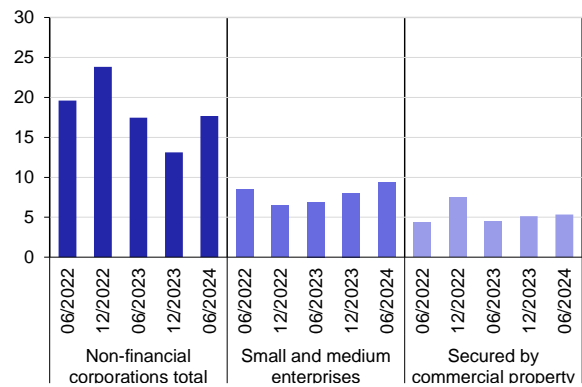
(CZK billions)



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

Chart III.4 CB
Semi-annual increases in exposures in Stage 3 in the non-financial corporations segment

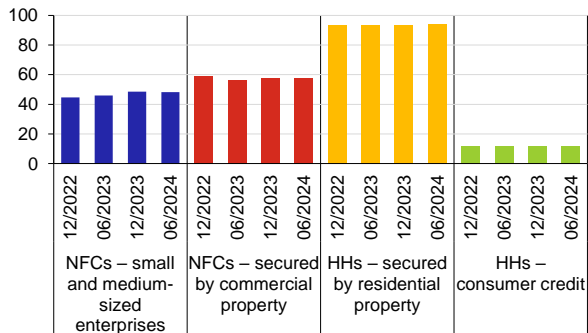
(CZK billions)



Note: Loans to SMEs and loans secured by commercial property account for 93% of loans to non-financial corporations.

Chart III.5 CB
Aggregate collateralisation of loans by segment

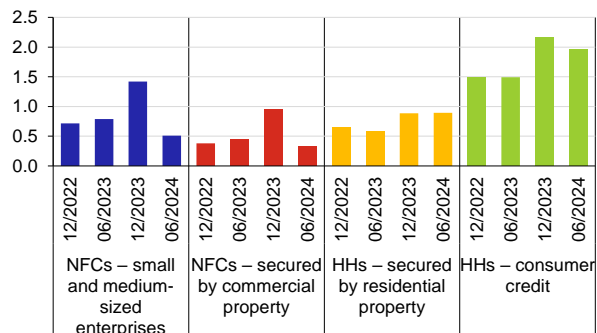
(%)



Note: Performing loans only. Loans secured by residential property and consumer credit account for 91% of loans to households (HHs). Loans to SMEs and loans secured by commercial property account for 93% of loans to non-financial corporations (NFCs).

Chart III.6 CB
Shares of Stage 2 loans 30–90 days past due

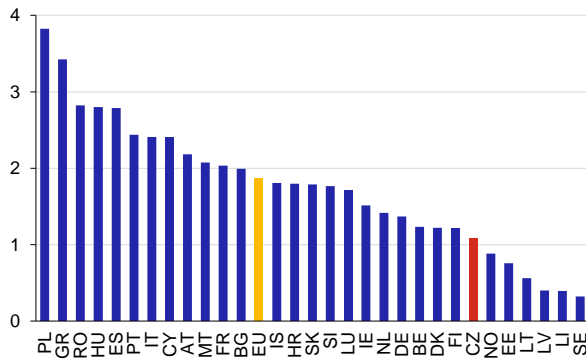
(% of total Stage 2 loans in given segments)



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 93% of loans to non-financial corporations.

Chart III.7 CB
Shares of non-performing client loans in selected EU countries

(%; as of 30 June 2024)

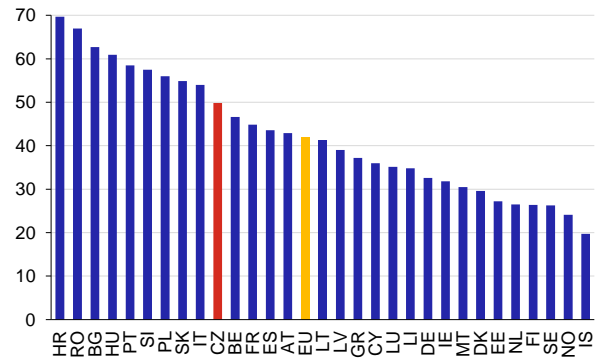


Source: EBA

Note: The figures in the international comparison may differ from the CNB's figures due to a different data source. The EBA Risk Dashboard methodology restricts the sample of entities for aggregation at the national level depending on the domicile of the reporting entity's parent company. As a result, only three reporting entities enter the aggregation of the indicator for CZ.

Chart III.8 CB
Coverage rates of non-performing client loans by provisions in selected EU countries

(%; as of 30 June 2024)



Source: EBA

Chart III.9 CB
Decomposition of the change in the value of investment funds' assets by investment policy in 2024

(CZK billions; x-axis: January–June 2024)

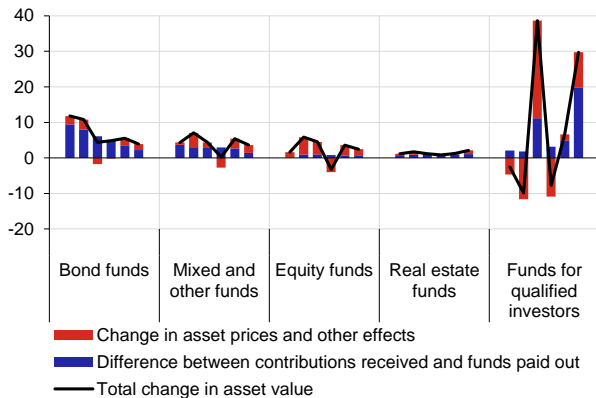
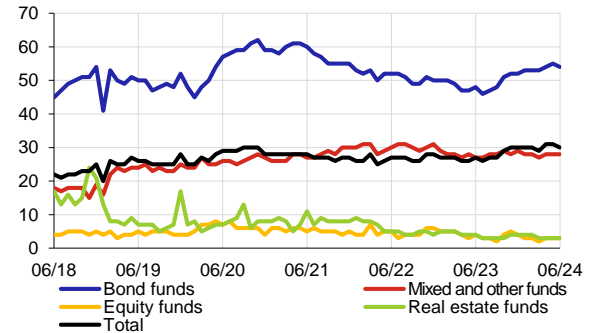


Chart III.10 CB
Share of liquid assets on the balance sheets of collective investment funds

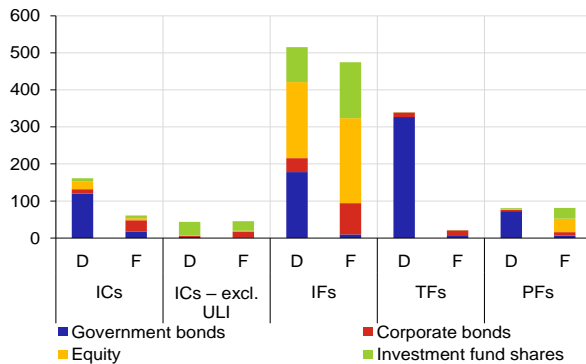
(%)



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.11 CB
Selected investment assets of domestic non-bank institutional investors by issuer country

(CZK billions; as of 30 June 2024)



Note: ICs excl. ULI = insurance companies (excl. unit-linked life insurance assets), ICs ULI = insurance companies (unit-linked life insurance assets), IFs = investment funds, TFs = transformed funds, PFs = participation funds. D = domestic assets, F = foreign assets.

Chart III.12 CB
Decomposition of the change in the value of pension funds' assets

(CZK billions)

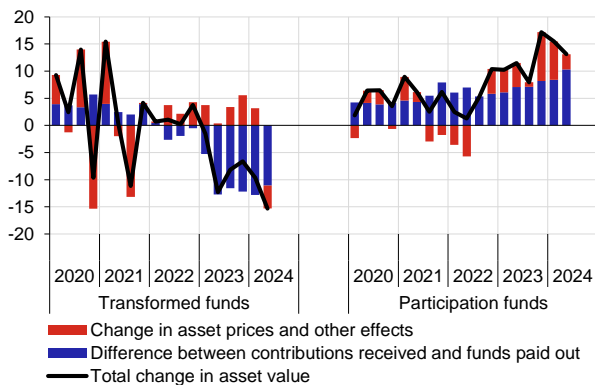
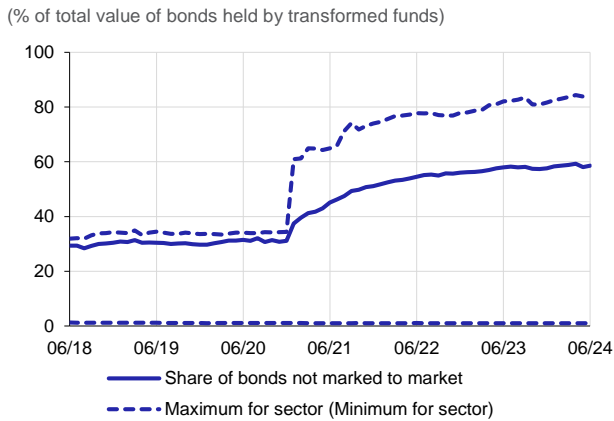
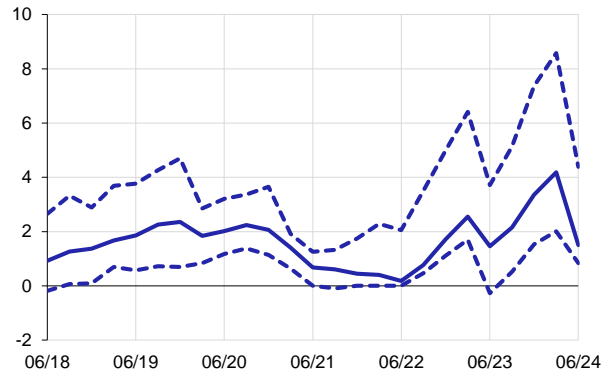


Chart III.13 CB
Share of bonds not marked to market held by transformed funds



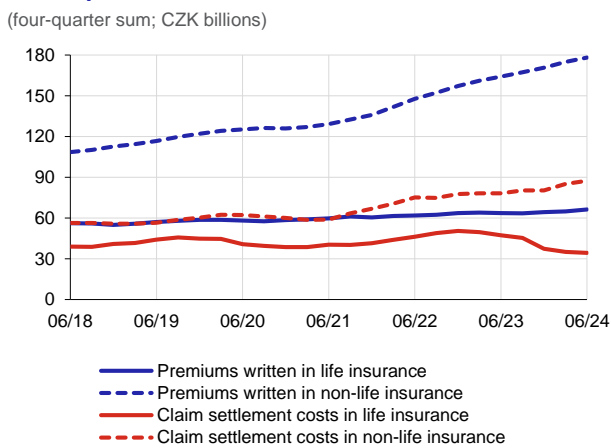
Note: Bonds not marked to market mean bonds at amortised cost or, before 2021, bonds classified as held to maturity.

Chart III.14 CB
Surplus of assets over liabilities of transformed funds
 (% of total assets of transformed funds)



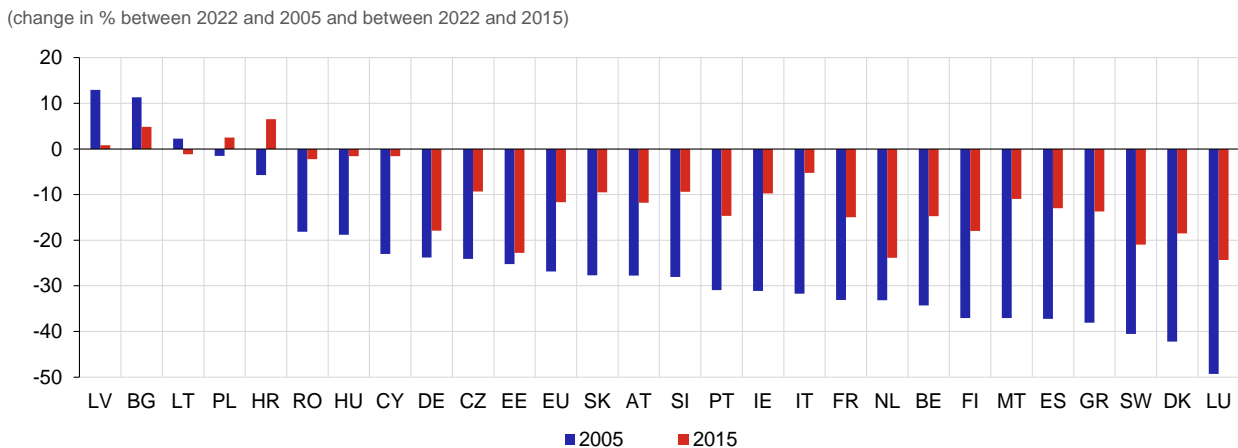
Note: Dashed lines denote the minimum and maximum values across transformed funds.

Chart III.15 CB
Developments in the insurance sector



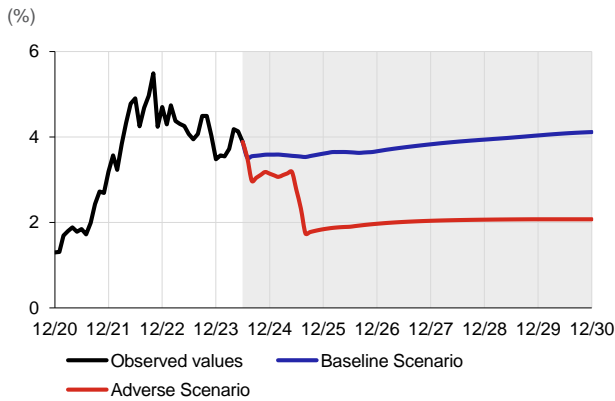
Note: The values are in gross terms, i.e. unadjusted for reinsurers' share.

Chart III.16 CB
Comparison of change in emissions in EU countries



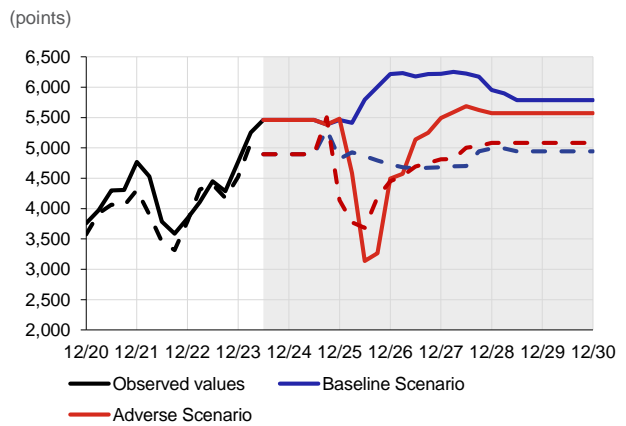
Source: CNB, Eurostat

Chart III.17A CB
Alternative scenarios: ten-year Czech government bond yield



Source: CNB, Refinitiv

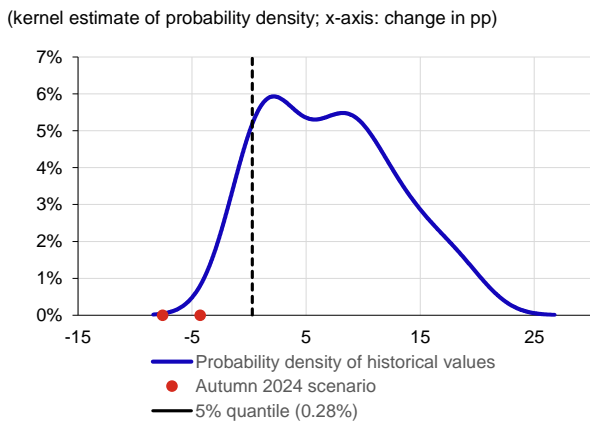
Chart III.17B CB
Alternative scenarios: stock indices



Source: CNB, Refinitiv

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

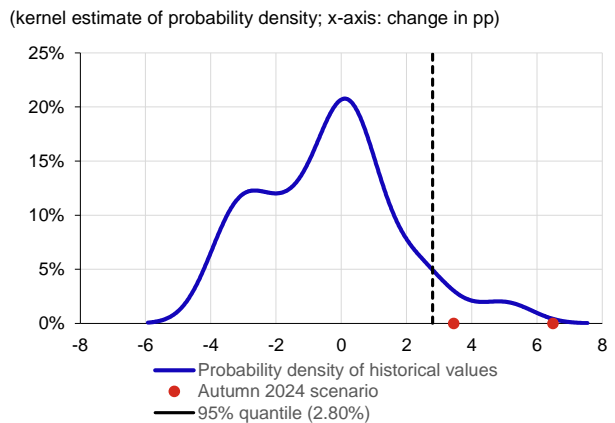
Chart III.18 CB
Comparison of the probability density of the historical GDP growth values with the projections in the autumn 2024 scenario



Source: CZSO, CNB

Note: The probability density curve is based on the observed three-year cumulative values. The autumn 2024 scenario is captured using two points representing the cumulative change in the first to third and fourth to sixth year of the scenario.

Chart III.19 CB
Comparison of the probability density of the historical changes in the unemployment rate with the projections in the autumn 2024 scenario



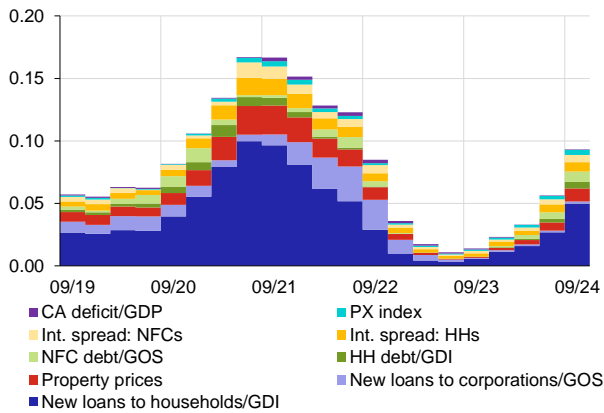
Source: CZSO, CNB

Note: The probability density curve is based on the observed three-year cumulative values. The autumn 2024 scenario is captured using two points representing the cumulative change in the first to third and fourth to sixth year of the scenario.

SECTION IV

Chart IV.1 CB
Breakdown of the financial cycle indicator

(0 minimum, 1 maximum)

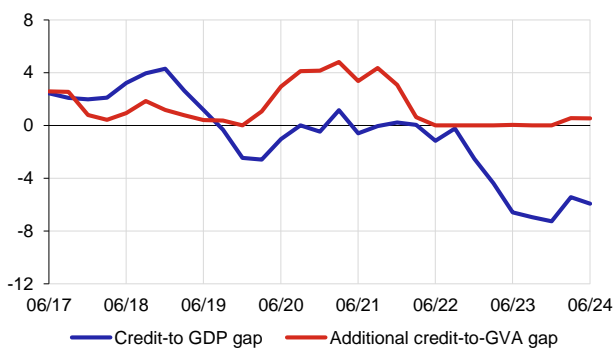


Source: CNB, CZSO

Note: The interest rate spread is defined as the difference between the client rate on new loans and the relevant benchmark interbank rate (3M PRIBOR for koruna loans to corporations, 3M EURIBOR for euro loans to corporations and 5Y IRS for loans to households).

Chart IV.2 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.

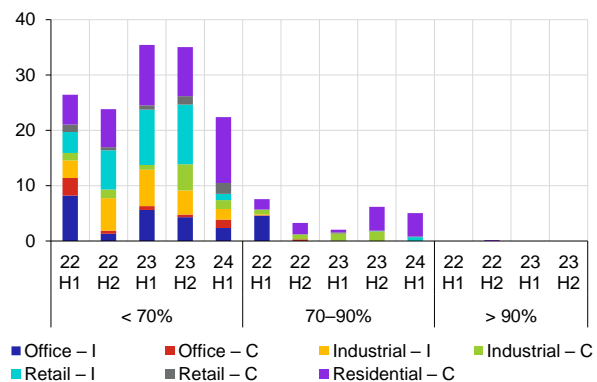
Table IV.1 CB
Conversion of FCI values into the countercyclical capital buffer rate

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	0.20	1.50%
0.20	0.23	1.75%
0.23	0.26	2.00%
0.26	0.29	2.25%
0.29	1.00	2.50%

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

Chart IV.3 CB
LTV distribution of new loans secured by commercial property over time

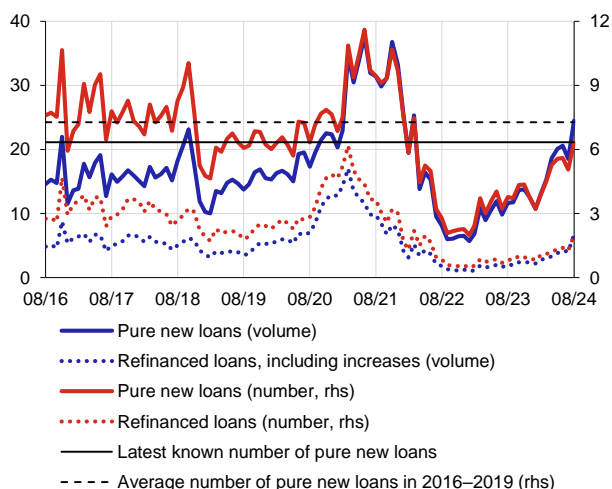
(CZK billions; x-axis: LTV in %)



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

Chart IV.4 CB
Number and volume of new and refinanced mortgage loans

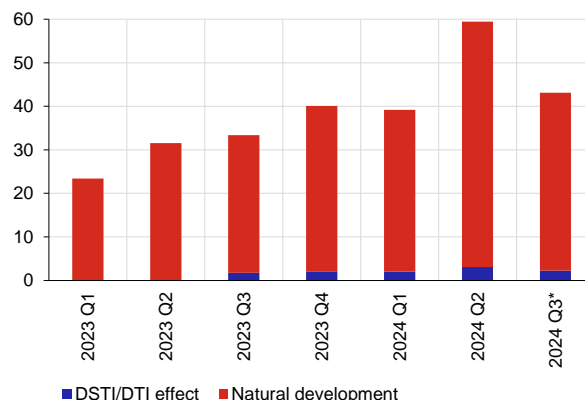
(CZK billions; right-hand scale: thousands)



Note: Refixed loans are not taken into account in the chart.

Chart IV.5 CB
Estimated effect of the deactivation of DSTI/DTI on the volume of newly provided mortgage loans based on distributions

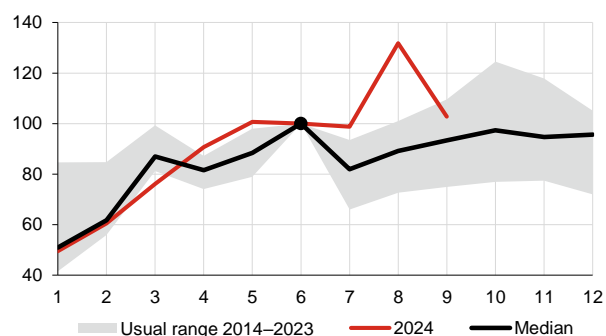
(CZK billions)



Note: The figures for 2024 Q3 contain data for July and August only.

Chart IV.6 CB
Index of the monthly volume of pure new loans

(index: June of given year = 100; x-axis: months in year)



Note: The usual range does not take into account outliers observed in the past.

Chart IV.7 CB
Average size of pure new mortgage loans and share of contracts with collateral in Prague

(CZK millions; right-hand scale: %)

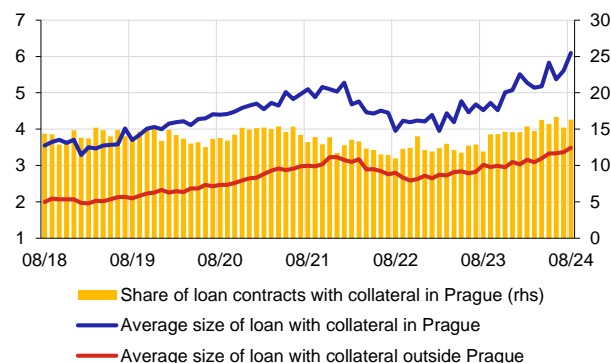


Table V.2 CB
Median characteristics of new mortgage loans and loan applicants

	2019	2020	2021	2022	2023	2024		
						Q1	Q2	Q3*
Loan size (CZK millions)	1.9	2.3	2.8	2.6	2.5	2.8	3.0	3.1
Interest rate (%)	2.7	2.2	2.3	4.6	5.8	5.4	5.1	5.0
Instalment (CZK thousands)	8.8	9.7	11.6	14.4	15.6	16.5	17.2	18.0
Maturity (years)	30	30	30	30	30	30	30	30
Fixed interest rate period (years)	5.8	6.9	5.0	5.0	4.9	2.9	2.9	2.9
Collateral value (CZK millions)	3.3	3.8	4.7	5.1	4.7	4.8	5.2	5.3
Number of properties securing loan		1.0	1.0	1.0	1.0	1.0	1.0	1.0
LTV (%)	72.2	72.0	70.2	67.2	68.4	70.2	70.6	70.0
DTI (net annual incomes)	5.0	5.4	5.9	5.3	4.7	4.9	5.1	5.2
DSTI (%)	33.0	32.8	34.8	38.6	38.0	38.7	39.0	39.1
Net monthly income (CZK thousands)	42.5	46.3	51.1	58.8	65.0	67.3	69.6	71.5
Net monthly income adjusted for instalments (CZK thousands)	28.5	31.0	32.9	36.3	40.3	40.9	41.8	43.2
Number of loan applicants	1	1	1	1	2	2	2	2

Note: The values in the table indicate the median of each variable for the given period. The number of properties for 2020 is calculated from data for the second half of 2020. The data for 2024 Q3 are based on the figures for July and August only.

Chart IV.8 CB
12-month sum of the volume of mortgage loans exceeding the ratios recommended by the CNB

(pure new loans in CZK billions)

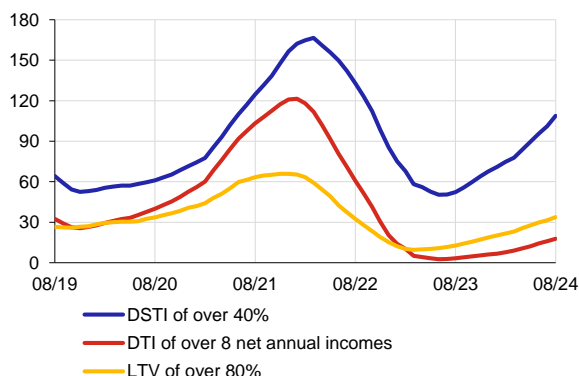
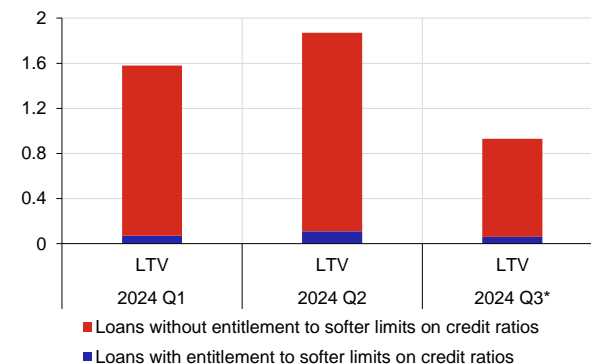


Chart IV.9 CB
Share of mortgage loans falling under the volume exemption

(%)



Note: The figures for 2024 Q3 contain data for July and August only. The DSTI and DTI limits were deactivated on 1 July 2023 and 1 January 2024 respectively.

Table V.2 CB
Median characteristics of new mortgage loans and loan applicants

	2019	2020	2021	2022	2023	2024		
						Q1	Q2	Q3*
Loan size (CZK millions)	1.9	2.3	2.8	2.6	2.5	2.8	3.0	3.1
Interest rate (%)	2.7	2.2	2.3	4.6	5.8	5.4	5.1	5.0
Instalment (CZK thousands)	8.8	9.7	11.6	14.4	15.6	16.5	17.2	18.0
Maturity (years)	30	30	30	30	30	30	30	30
Fixed interest rate period (years)	5.8	6.9	5.0	5.0	4.9	2.9	2.9	2.9
Collateral value (CZK millions)	3.3	3.8	4.7	5.1	4.7	4.8	5.2	5.3
Number of properties securing loan		1.0	1.0	1.0	1.0	1.0	1.0	1.0
LTV (%)	72.2	72.0	70.2	67.2	68.4	70.2	70.6	70.0
DTI (net annual incomes)	5.0	5.4	5.9	5.3	4.7	4.9	5.1	5.2
DSTI (%)	33.0	32.8	34.8	38.6	38.0	38.7	39.0	39.1
Net monthly income (CZK thousands)	42.5	46.3	51.1	58.8	65.0	67.3	69.6	71.5
Net monthly income adjusted for instalments (CZK thousands)	28.5	31.0	32.9	36.3	40.3	40.9	41.8	43.2
Number of loan applicants	1	1	1	1	2	2	2	2

Note: The values in the table indicate the median of each variable for the given period. The number of properties for 2020 is calculated from data for the second half of 2020. The data for 2024 Q3 are based on the figures for July and August only.

Chart IV.10 CB
New mortgage loans with a DSTI of over 40% and at the same time an LTV of over 80% or a DTI of over 8 net annual incomes

(monthly volume in CZK billions)

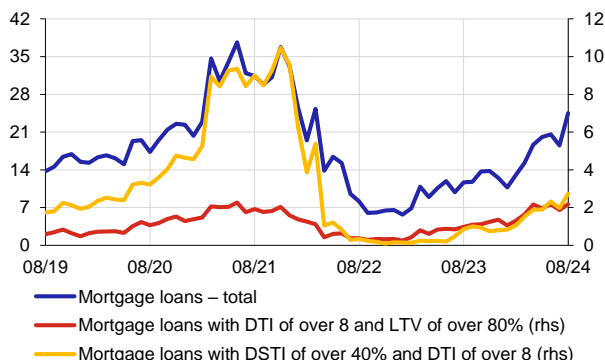
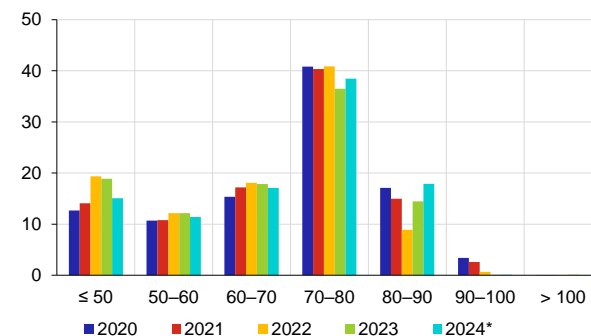


Chart IV.11 CB
New mortgage loans by LTV category

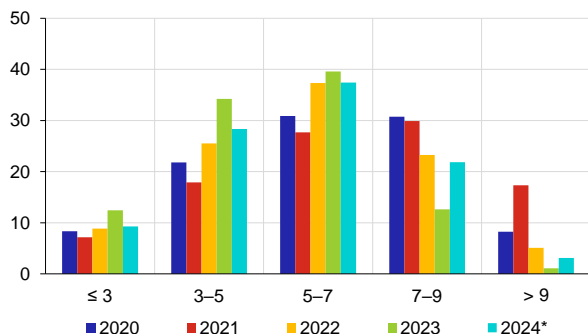
(% of total volume; x-axis: LTV in %)



Note: Interval closed from the right. The figures for 2024 contain data from January to August only.

Chart IV.12 CB
New mortgage loans by DTI category

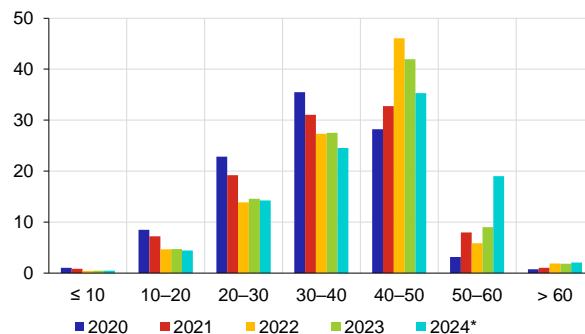
(% of total volume; x-axis: DTI in net annual incomes)



Note: Interval closed from the right. The figures for 2024 contain data from January to August only.

Chart IV.13 CB
New mortgage loans by DSTI category

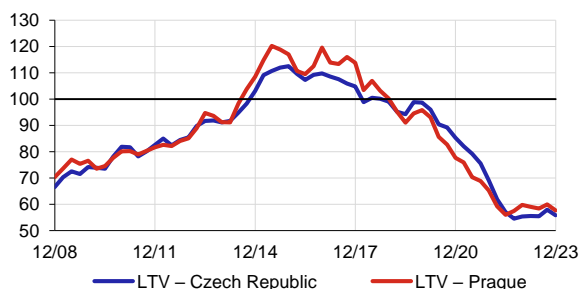
(% of total volume; x-axis: DSTI in %)



Note: Interval closed from the right. The figures for 2024 contain data from January to August only.

Chart IV.14 CB
LTV balancing mortgage loan instalment and apartment rent

(%)

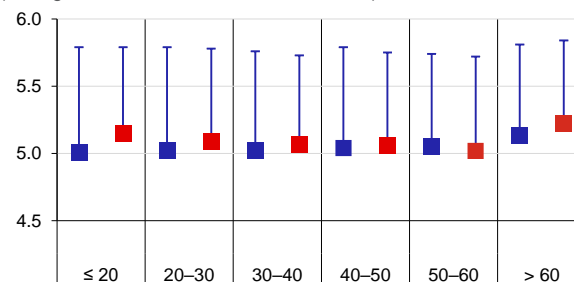


Source: CNB, IRI, Sreality, Deloitte, Dataligence

Note: The chart refers to 68 m² apartments in regional capitals. A market interest rate and a maturity of 30 years is assumed for the mortgage loan instalment.

Chart IV.15 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

Table IV.3 CB
Median characteristics of mortgage loans with an instalment past due and all loans provided since 2018

	Loans with an instalment past due	All loans
Loan size (CZK millions)	2.1	2.1
Interest rate (%)	2.6	2.4
Instalment (CZK thousands)	8.9	9.6
Maturity (years)	359	347
Fixed interest rate period (years)	5.0	5.0
Collateral value (CZK millions)	3.5	3.8
LTV (%)	70.0	66.1
DTI (annual incomes)	5.6	5.1
DSTI (%)	37.0	34.1
Net monthly income (CZK thousands)	40.4	45.9
Net monthly income adjusted for instalments (CZK thousands)	26.1	32.0

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.

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.

ESG score/rating: The environmental (E), social (S) and governance (G) score/rating of an instrument, entity or activity.

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.

Investment funds (IFs): The Act on Management Companies and Investment Funds (Act No. 240/2013 Coll.) divides investment funds into collective investment funds and funds for qualified investors. Owing to their higher riskiness, funds for qualified investors are intended solely for experienced investors. The minimum investment is EUR 125,000 or CZK 1 million, if the investment is a match for the investor's financial background and expertise. In terms of European law, investment funds can be divided according to whether the regulation of such funds falls under the UCITS directive or the AIFMD. AIFMD funds comprise both funds for qualified investors and some collective investment funds ("special funds") and account for about 75% of the sector.

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.

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 fixed interest rate period.

Mortgage loan refixing: The process whereby at the end of the fixed interest rate period of a mortgage loan the borrower selects the length of the new fixed interest rate period and negotiates new conditions for this period with the creditor. In this case, the identity of the lender 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 forfeiting companies.

Non-performing loans: Pursuant to Article 47a of Regulation (EU) No 575/2013, loans in respect of which a default is considered to have occurred in accordance with Article 178 are classified as non-performing (see *Default*). Article 47a sets out other conditions for when a loan may be classified as non-performing without being defaulted. However, this set of

loans forms a tiny proportion of non-performing loans. From the macroprudential perspective, therefore, a non-performing loan can be considered a defaulted loan.

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 minimum capital requirement under the CRR set for all credit institutions to cover credit, market and operational risks.

Pillar 2: A 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	EL	expected loss
BCBS	Basel Committee on Banking Supervision	EMs	emerging market economies
BEA	Bureau of economic analysis (U.S. Department of commerce)	EMIR	Regulation on OTC derivatives, central counterparties and trade repositories
BIS	Bank for International Settlements	EMU	European Monetary Union
bp	basis point	ESA	Joint Committee of European Supervisory Authorities
BRCI	Bank Register of Client Information operated by Czech Credit Banking Bureau	ESFS	European System of Financial Supervision
C	construction	ESMA	European Securities and Markets Authority
CB	central bank	ESRB	European Systemic Risk Board
CBCB	Czech Banking Credit Bureau	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	GOS	gross operating surplus
CRD	Capital Requirements Directive	G-SII	Global systemically important institution
CRR	Capital Requirements Regulation	H	half-year
CSDB	Centralised Securities Database	HBS	Household Budget Statistics
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	IRI	Institute for Regional Information
ECL	expected credit loss	IRS	interest rate swap
EGAP	Export Guarantee and Insurance Company		
EIB	European Investment Bank		
EIOPA	European Insurance and Occupational Pensions Authority		

ISR	sovereign risk indicator	O-SII	Other systemically important institutions
IT	information technology	PD	probability of default
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 _{TEM}	Minimum requirement for own funds and eligible liabilities – total exposure measure	SMEs	small and medium-sized enterprises
MREL _{TREA}	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	SRB	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 _{TEM}
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 _{TREA}
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
OFIs	other financial intermediaries	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

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