Analyses of the Czech Republic's Current Economic Alignment with the Euro Area —— 2024

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Czech National Bank —— Analyses of the Czech Republic's Current Economic Alignment with the Euro Area —— 2024

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INTRODUCTION

Every year, the CNB's "Analyses of the Czech Republic's Current Economic Alignment with the Euro Area" (hereinafter the "Alignment Analyses") present a long-term view of economic developments in the Czech Republic in the context of the country's obligation to join the euro area. In preparing this document, the CNB – in line with the Czech Republic's Euro-area Accession Strategy – fulfils its obligation to regularly assess the Czech Republic's progress in laying the groundwork for euro adoption. The analyses contained in the publication assess the Czech Republic's cyclical and structural economic alignment with the euro area and the ability of the Czech economy to absorb potential asymmetric shocks by means of other mechanisms after losing its own monetary policy. The document also monitors the economic and institutional developments in the European Union and the euro area, and the resulting obligations relating to euro area entry.

The analyses focus on the traditional range of macroeconomic topics without any ambition to assess all issues relevant to the Czech Republic's entry to the euro area. The document does not examine the overall advantages and disadvantages of adopting the euro, nor does it provide recommendations on this step. The political decision on the date of entry into the euro area falls to the Government of the Czech Republic.[1] Using selected indicators, this document aims to provide an overview of the Czech Republic's alignment with the euro area economy across various sectors, as well as the flexibility of its adjustment mechanisms. Given the broad scope of this issue, these indicators are neither exhaustive nor able to provide a definitive answer on when the Czech economy will be ready to join the euro area. This year's edition of the Alignment Analyses also covers the ERM II mechanism (including the implications of changes to the entry process, which is a prerequisite for joining the euro area),[2] examines the functioning of the banking union and the potential impacts of the Czech Republic's entry into that union, and addresses other institutional issues related to euro area accession. A full assessment of the potential benefits and costs arising from these factors – as well as other aspects, such as legal and political considerations related to euro area accession – is beyond the scope of this document.

Recent developments across various indicators have been affected by the current economic situation. This is characterised by an unwinding of the impacts of recent crises, including the Covid-19 pandemic, high inflation, and the energy crisis following Russia's invasion of Ukraine. Domestic inflation declined from double-digit levels over the course of 2023, returning to close to the inflation target at the beginning of 2024. This allowed the Czech National Bank to start reducing domestic interest rates in December 2023. The ECB also started to lower rates in June 2024. Economic growth in the Czech Republic and the euro area remains subdued.

The core of the Alignment Analyses is the **Overall Message of the Analyses**, which summarises the results of the traditional analyses. Their outputs are shown in the charts and tables presented in the **Chartbook**. The findings underlying these analyses are described in

[1] A recommendation to the Czech government on the timing of euro adoption from the economic perspective is given in the *Fulfilment of the Maastricht Convergence Criteria and the Degree of Economic Alignment of the Czech Republic with the Euro Area* issued jointly by the Ministry of Finance and the CNB. This document was last prepared in 2023 and subsequently published following discussions by the Government of the Czech Republic in February 2024. In accordance with Government Resolution No. 106 of 14 February 2024, the document will be updated and submitted to the government by the end of the first quarter of 2025. All previous editions are available on the CNB website: <https://www.cnb.cz/en/monetary-policy/euro-adoption>.

[2] Certain new conditions may be imposed on countries not only during their membership, but also before their entry into ERM II. The entry of Croatia and Bulgaria into ERM II was accompanied, for the first time, by their simultaneous entry into the banking union. Although formally joining the banking union was a voluntary commitment, it was de facto a condition for ERM II accession. Moreover, this approach was identified by the ERM II parties as a precedent for other candidates and is likely to be required of all future applicants to ERM II. However, EU law does not stipulate accession to the banking union as a condition for joining ERM II. The Czech Republic does not consider itself legally bound by the approach taken by Croatia and Bulgaria and does not view participation in the banking union as a necessary condition for potential entry into ERM II.

the **Theoretical Foundations of the Analyses**. A more detailed motivation and technical description of each of the analyses are given in a separate **Methodological Annex**, which is available as an e-document on the CNB website.[3]

This year's Alignment Analyses have been supplemented with **six thematic chapters**. The first of these examines the current institutional developments in the euro area and the European Union. The second thematic chapter provides an overview of assessments of the Czech economy by renowned international institutions. The third chapter focuses on the euroisation of the Czech economy (primarily with regard to bank loans), while the fourth compares net exports in EU countries during the crisis years. The fifth chapter explains what joining ERM II means for a country and the requirements for meeting the Maastricht exchange rate stability criterion. The final thematic chapter focuses on the banking union and the implications of the Czech Republic's potential integration in the union.

The traditional analyses assess the evolution of individual indicators over time and in selected countries. Unless stated otherwise, the countries assessed are Austria, the Czech Republic, Germany, Hungary, Poland, Portugal, Slovakia and Slovenia. These countries are either euro area members showing similar features in terms of economic level and trade integration as the Czech Republic, or are countries expected to adopt the euro in the future. The above selection is not related to any assessment of how successfully these economies have performed in the euro area. Germany, the largest trading partner of the Czech Republic, also provides a useful benchmark as a core country of the euro area. However, the large weight of Germany in the calculation of aggregate or average indicators for the euro area must be taken into account when making comparisons with those economic indicators.

Croatia became the newest member of the euro area in January 2023. This was also reflected in the processing of statistical indicators. The euro area is thus abbreviated in several ways in the tables and charts depending on data availability. EA refers to the euro area total, with a variable structure that reflects the actual number of euro area countries in each period. EA19 and EA20 denote the fixed-structure totals comprising 19 and 20 euro area countries respectively (i.e. excluding and including Croatia), also applied retrospectively to the data for previous years.

The euro area countries are abbreviated as follows:

AT	Austria
BE	Belgium
CY	Cyprus
DE	Germany
EE	Estonia
EL	Greece
ES	Spain
FI	Finland
FR	France
HR	Croatia
IE	Ireland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MT	Malta
NL	Netherlands
PT	Portugal
SI	Slovenia
SK	Slovakia

[3] Also available here: <https://www.cnb.cz/en/monetary-policy/euro-adoption>.

The selected non-EA countries under analysis are:

CZ Czech Republic
HU Hungary
PL Poland

The messages of the analyses for the Czech Republic have been illustrated graphically with arrows of different colours and directions.

The colour underlying the arrow gives information on the message of the indicator in terms of the risks associated with potential euro adoption in the areas analysed:

- relatively low level of risk associated with potential euro adoption
- economic risks associated with potential euro adoption
- neutral message

The direction of the arrow gives information on the change in the indicator since the previous (last year's) analysis:

- improved
- deteriorated
- neither significantly improved nor deteriorated

The assessment of the message of the indicator applies only to the results of a specific analysis in a selected area of the economy. Likewise, the direction of the arrow indicates only whether the situation in that area has improved, has stayed at approximately the same level or has deteriorated over the last year.

However, the message should not be interpreted as a CNB recommendation for the Czech Republic to adopt the euro, much less as the Czech Republic's final euro adoption decision. Similarly, a single summary indicator cannot be compiled by adding up the individual coloured indicators or arrows.

I. OVERALL MESSAGE OF THE ANALYSES

Future adoption of the single European currency should further increase the benefits accruing to the Czech Republic from its intense involvement in international economic relations. Euro adoption will lead to the elimination of exchange rate risk and part of transaction costs in relation to the euro area. Foreign trade and investment will thus become more effective.

Besides these benefits, however, euro adoption simultaneously entails risks arising from the loss of independent monetary policy and the stabilising role of a flexible exchange rate. Following euro area entry, Czech economic policy will have fewer tools at its disposal to respond to the domestic economic situation. **Euro adoption is also associated with costs arising from new institutional commitments due to developments in the euro area, including the obligation to join the banking union or the European Stabilisation Mechanism.**

The key factors for the successful functioning of the Czech economy within the euro area will be its alignment with the euro area and its ability to absorb the impacts of potential asymmetric economic shocks using other adjustment mechanisms after the loss of its own monetary policy. The analyses presented in this document thus assess the similarity of the long-term trends, cyclical development and structure of the Czech economy to the euro area, including the similarity of monetary policy transmission. The ability of the economy to adjust by means of autonomous fiscal policy, labour market flexibility and the absorption capacity of the banking sector is also examined.

The analysed characteristics of the Czech economy as regards its economic preparedness to adopt the euro can be divided into three groups:

Indicators suggesting a relatively low level of risk associated with potential euro adoption in the area analysed

This group has long included the Czech economy's close trade and ownership links with the euro area, which increase the benefits of euro adoption and foster alignment between the Czech and euro area business cycles. The latter is currently very high, but this may be due to the similar impacts of recent strong global economic shocks and may therefore be only a temporary phenomenon. Close trade links are also contributing to the high share of euro financing of Czech corporations. The substantial growth seen in previous years halted in 2024 amid a falling interest rate differential between koruna and euro rates. Interest rate spreads between Czech and euro area market rates have returned to near pre-pandemic levels, their decline reflecting the convergence of CNB and ECB monetary policy rates. The Czech koruna remains aligned with the euro vis-à-vis the dollar. Inflation persistence, which in the Czech Republic is not significantly different from that in the euro area, is not an obstacle to euro area entry. As regards the adjustment mechanisms of the Czech economy, the low long-term unemployment rate, which is still among the lowest in Europe, and the high level of economic activity (which does not apply to all groups of the population, however), can be positively assessed. The situation in the domestic banking sector also remained favourable. It has seen an improvement in its already solid liquidity position and continues to be characterised by a robust capital position, high profitability and a low level of non-performing loans. Its resilience to a potential negative shocks thus remains high.

Indicators with a neutral message

This category includes an assessment of the alignment of the Czech and euro area financial cycles, which increased slightly last year, and the alignment of the Czech and euro area financial markets, which returned to pre-pandemic levels. Most indicators of monetary policy transmission similarity between the Czech Republic and the euro area are also neutral. Although the Czech Republic differs from the euro area average in some of the indicators – such as the structure of households' financial assets and the structure of housing loans by fixed-rate period – these differences cannot be considered a major barrier to euro adoption. Neither can the condition of the Czech financial system: the depth of financial intermediation and the level of private sector debt in the Czech Republic are relatively low, which means that the economy is less vulnerable to potential shocks from the financial system. As regards the risks associated with potential euro adoption, the assessment of general government debt is also neutral. Despite the continuing public finance deficit, the debt-to-GDP ratio did not grow in 2023 and remains well below the 60% threshold of the Maastricht convergence criterion. Some labour market indicators can also be considered neutral. These include the share of part-time employment, which remains relatively low despite a slight increase, the geographical mobility of the labour force, and the labour taxation system. According to the indicator published by

the Institute for Management Development (IMD), the competitiveness of the Czech economy has deteriorated slightly but remains solid.

Indicators suggesting economic risks associated with potential euro adoption in the area analysed

These indicators include the unfinished process of economic convergence of the Czech Republic towards the euro area, especially as regards the convergence of the price and wage levels. Their lag behind the euro area average remains significant despite faster convergence of the relative level of Czech prices and wages observed over the last two years. The relatively low structural similarity between the Czech economy and the euro area, consisting mainly in an above-average share of industry in domestic GDP, could also be a risk in the event of euro adoption. The structural imbalance of Czech public finances is a persisting problem as regards the adjustment mechanisms of the Czech economy. The general government deficit should fall below the 3% Maastricht criterion in 2024 due to the consolidation package, but it will be desirable to continue reducing the deficit in the years ahead for the future smooth functioning of the Czech Republic within the euro area (according to the Act on Budget Responsibility, the structural deficit is expected to reach no more than 1% of GDP in 2028). Room for the countercyclical effect of fiscal policy is limited by the high share of mandatory expenditures in the state budget and the persistent structural deficits of the government sector mentioned above. Moreover, long-term public finance sustainability remains unresolved, especially in the context of the fiscal implications of population ageing (however, a certain improvement should be brought by the pension reform approved at the end of 2024). As regards labour market flexibility, relatively low female participation in the labour market has long been a problem.

THE CZECH REPUBLIC'S CYCLICAL AND STRUCTURAL ALIGNMENT WITH THE EURO AREA

Direct alignment indicators

Price convergence can take place via two channels: nominal appreciation of the koruna-euro exchange rate or higher inflation in the Czech Republic than in the euro area. Since the start of the exchange rate commitment in 2013, the koruna has not followed a nominal appreciation trend. In 2014–2024, HICP inflation in the Czech Republic was 1.8 pp higher on average than in the euro area. Thus, 87% of the price convergence has taken place via higher inflation than in the euro area. For comparison, 89% of the price convergence in 2003–2013 occurred via exchange rate appreciation and 11% via higher inflation than in the euro area.

The convergence of the real economic level of the Czech Republic (as measured by GDP per capita at purchasing power parity) with the euro area has almost stalled over the past three years, whereas price and wage levels have converged significantly. However, the lag behind the euro area average remains significant, especially for the price level and, to an even greater extent, for wage levels. The unfinished process of convergence thus remains a factor arguing against early euro adoption. If the euro was adopted, there could be sustained pressure for a slight overshooting of the current 2% inflation target in the event of further appreciation of the equilibrium real exchange rate and convergence of the wage level. *(See Chartbook, page 44.)*

The correlation of economic activity between the Czech Republic and the euro area has long been high, as business cycles have been largely determined by common external shocks. However, despite the higher correlation of the cyclical components of GDP, there have been substantial medium-term differences in the output gaps in the past. In recent years, the cyclical alignment of economies has deepened further, mainly due to the global pandemic, but also the energy crisis and the war in Ukraine, which has been reflected in the high correlation of GDP growth between the Czech Republic and the euro area. However, this increase in cyclical alignment may be a consequence of strong global economic shocks and thus just a temporary phenomenon. At the same time, the growth of the Czech economy has lagged slightly behind that of the euro area in recent years. *(See Chartbook, page 47.)*

The persisting differences in the structure of the Czech economy compared with that of the euro area consist mainly in an above-average share of industry in Czech GDP. As regards euro adoption, the structural differences pose a risk of asymmetric effects of economic shocks, to which the single monetary policy would not be able to respond in full. There have been no major changes in the structural similarity of economies in recent years. For example, the trend towards electromobility remains a challenge for the domestic economy, as the automotive sector is well above average in domestic industry by European comparison. *(See Chartbook, page 49.)*

One of the strongest long-term arguments for the Czech Republic's entry into the euro area is trade and ownership links. Despite a slight decline in recent years, this remains high. The Czech Republic's transition to the euro would eliminate exchange rate risk and reduce transaction costs for trade with euro area countries. At the same time, the high intensity of international economic relations, including intra-industry trade, leads to greater synchronisation of economic shocks and cyclical alignment and hence to lower costs associated with the loss of independent monetary policy. Alignment is also being supported by a high level of ownership links with the euro area in terms of investment from euro area countries in the Czech Republic. *(See Chartbook, page 50.)*

The alignment of the Czech and euro area financial cycles rose slightly in 2023. The aggregate value of the simplified financial cycle indicator[4] for the Czech Republic decreased last year, following a similar path to that for the euro area. The correlation of the indicators thus increased compared to 2022. The alignment of financial cycles also increased year on year in terms of synchronisation of the individual components of the simplified indicator for the Czech Republic and the euro area. *(See Chartbook, page 52.)*

The interest rate spreads between rates in the Czech Republic and the euro area fell slightly below the pre-pandemic level. Since mid-2022, the main factor behind the decline in the spread between short-term rates has been the tightening of ECB monetary policy. At the end of 2023, the Czech Republic started a cycle of monetary policy rate cuts, while euro rates remained stable for another six months, further narrowing the short-term interest rate differential to levels close to 1 percentage point. The response in long-term interest rates has been less pronounced, especially in the last year, so the spread between Czech and German government bond yields is higher than the spread between three-month rates and is slightly below 2 percentage points. *(See Chartbook, page 53.)*

The Czech currency reacts to changes in the environment outside the euro area similarly to the euro. The correlation of the koruna-dollar exchange rate with the euro-dollar exchange rate thus remains high. The volatility of the koruna-euro exchange rate has shown no clear trend in the past year. In addition to financial market sentiment, this reflected changes in the monetary policy settings in both the Czech Republic and the euro area. Although the volatility of the exchange rate of the Czech koruna is relatively low compared with other Central European currencies, it would pose a problem in the event of the Czech Republic joining ERM II under a strict interpretation of the exchange rate criterion (which requires the exchange rate to stay much closer to the negotiated central rate than the fluctuation band of ±15%). *(See thematic chapter 5: ERM II and the Maastricht criterion on exchange rate stability and Chartbook, page 53.)*

The alignment of financial markets with the euro area increased slightly. The alignment of the Czech and German government bond markets returned to pre-pandemic levels, as did the alignment of the Czech money and foreign exchange markets with the euro area market. The rate of transmission of global news to Czech financial markets has stabilised over the last year. In the case of the government bond and foreign exchange markets, it remained at elevated levels in 2024 and did not change much in the money market either. *(See Chartbook, page 54.)*

Similarity of monetary policy transmission

The depth of financial intermediation and the level of private sector debt in the Czech Republic remain relatively low. Their levels remain well below the euro area average. There is considerable heterogeneity among EU countries in this area. Economies with lower levels of financial intermediation and indebtedness are generally less sensitive to potential shocks transmitted through the financial system. While this lower sensitivity reduces systemic risk (especially in terms of interest rate and credit risk), it may also weaken the transmission of monetary policy. The banking sector has long played a dominant role in financial intermediation in the Czech Republic just like in all the other countries under review, although the importance of the investment fund segment is gradually increasing. By contrast, the declining importance of the pension fund and insurance segments is evident in most of the countries under review (including the Czech Republic) over the last five years. Private sector debt has been falling gradually in all the countries under review except Germany since 2020. *(See Chartbook, page 56.)*

[4] The construction and composition of the simplified indicator differ from the official financial cycle indicator (FCI) used in the CNB's *Financial Stability Report*, mainly because of the unavailability of similar data for all the countries analysed. The results for the Czech Republic may therefore differ from the official FCI.

The similarity of the structure of the financial liabilities of Czech companies compared to companies in the euro area returned to relatively high levels after a temporary decline caused by the exceptional energy situation.[5] A decline in the share of trade credits and advances in the total liabilities of Czech corporations has long contributed[6] to the decline in the structural mismatch. However, this trend has not continued over the last year. Additionally, a decline in the structural mismatch was fostered by the convergence of the value of the share of loans in total liabilities in the Czech Republic with that in the euro area, specifically the increase in this share in the Czech Republic and its simultaneous decrease in the euro area (to 24% in the Czech Republic and 25% in the euro area). *(See Chartbook, page 57.)*

The similarity of the structure of the financial assets of Czech households and households in the euro area remains rather low. Czech households continue to prefer holdings of investment fund units and shares, along with cash and deposits, while households in the euro area hold a large part of their balance sheets in insurance and pension schemes. In addition, in the past year, a further increase in the proportion of shares and investment fund units of Czech households fostered an increase in the structural mismatch, exceeding the share of cash and deposits for the first time in the period under review. Differences in the asset structure of households in the Czech Republic and in the euro area may imply their different sensitivities to changes in interest rates and hence different impacts of a potential single monetary policy. *(See Chartbook, page 57.)*

The structure of loans to non-financial corporations by fixed-rate period is similar in the Czech Republic and the euro area. More than 84% of loans to non-financial corporations have floating rates or rates fixed for up to one year in the Czech Republic and in most of the euro area countries under review. Such a high share of loans with short fixed-rate periods implies fast transmission of changes in monetary policy rates and, in turn, market rates to rates on loans provided to non-financial corporations. Changes in monetary policy rates are mostly and most effectively transmitted to client rates for non-financial corporations in the Czech Republic through the three-month interbank market rate; six-month rates are also relevant. In the Czech Republic, the transmission through the short-term interbank rate has been complete in recent years, most of it taking place within one month.[7] However, companies which use an interest rate swap to hedge large loans with a variable rate may be less sensitive to changes in market rates. The spread between client rates on loans to non-financial corporations and the three-month interbank rate (the aggregate risk premium) in the Czech Republic fluctuated around its long-term average (1.5 percentage points) in the first half of this year and was slightly higher than in the euro area. This is due mainly to a decline in the spread in the euro area over the last two years (to 1.2 percentage points). The spread in the euro area declined alongside a tightening of ECB monetary policy. Banks therefore absorbed part of the increase in monetary policy rates. *(See Chartbook, page 58.)*

The trend towards shorter-term fixed rate periods by Czech households continued for housing loans. Fixed-rate periods of up to and including 5 years account for 86% of the volume of new housing loans in the Czech Republic in 2024. Households preferred shorter-term or flexible fixed-rate periods due to the expectation of a fall in elevated interest rates. At the same time, banks limited longer-term fixed-rate periods because of the risk of early repayment of loans by clients. The main difference between the fixation structure in the Czech Republic and that in the euro area still consists in the share of fixed-rate periods of over ten years. This is negligible in the Czech Republic, while it is 49% in the euro area. Households with long-term fixed-rate periods are less sensitive to fluctuations in interest rates. *(See Chartbook, page 59.)*

The financing of Czech corporations in foreign currency (mainly in euro) has stabilised after the previous increase, while the share of foreign currency loans and deposits of Czech households has long remained very low. The share of foreign currency in the financing of Czech companies from domestic banks and from abroad (through foreign parent companies or directly by domestic companies abroad) has been close to 60% since 2023. Monetary policy thus affects a smaller proportion of corporate debt financing through the interest rate channel of the transmission mechanism than in the past. The share of foreign currency corporate loans from domestic banks stabilised at close to 52% amid a decline in the interest rate differential between domestic and foreign interest rates, but remains above its long-term trend *(for details see thematic chapter 3: Euroisation of the Czech economy)*.

[5] The temporary decrease in similarity in 2021–2022 was due mainly to the fluctuation in financial derivatives purchased by energy companies, as well as the share of units and shares in total liabilities of non-financial corporations in the Czech Republic.

[6] Short-term financing by bridging the period of time until the due date of invoices. The counterparty is thus a non-financial corporation, not an MFI.

[7] For more detailed information on the speed of transmission, see Box 2 of Monetary Policy Report – Summer 2024 (on the CNB website) by Eva Hromádková, Ivana Kubicová and Branislav Saxa: *How do client rates on koruna loans change in response to changes in market rates?*

As a result of the easing of the CNB's restrictive monetary policy settings, the interest rate differential on corporate loans declined to around 1 percentage point in 2024, compared to 6 percentage points in 2022. The decline in the interest rate differential is making euro financing of corporations less attractive and will likely foster a return of the share of foreign currency loans close to its trend. This share has long been rising, mainly due to strong trade links with the euro area and corporations' efforts to hedge naturally against exchange rate risk. The gradual euroisation of the Czech economy can thus be expected to continue in line with this trend. However, there may be a further increase in euroisation in connection with an amendment to the Accounting Act allowing selected entities to keep accounts in euro as of 1 January 2024 and with a draft amendment to the Labour Code that would allow wages to be paid to certain professions in euro. *(See Chartbook, page 59.)*

The persistence of inflation has increased in all the countries under review but remains among the lowest in the Czech Republic. However, the difference compared to euro area countries is not significant, so the single monetary policy would have similar effects on inflation in this respect. *(See Chartbook, page 62.)*

ADJUSTMENT MECHANISMS OF THE CZECH ECONOMY

Fiscal policy

While fiscal policy in the Czech Republic has helped to mitigate the adverse economic effects of the 2020–2023 crisis, it also led to one of the largest increases in public debt relative to GDP in the EU. Since the outbreak of the Covid-19 pandemic in 2020, the general government deficit relative to GDP has annually exceeded the 3% Maastricht convergence criterion reference value (most significantly in 2020 and 2021). This has led to a sharp increase in government sector debt servicing costs amid soaring interest rates. Virtually all EU Member States have actively responded to the crises of recent years with their fiscal policies, but the Czech Republic has stood out with its exceptionally long-term fiscal stimulus. Despite this, it remains among the least indebted EU Member States. As regards the fulfilment of EU fiscal commitments, the Czech Republic avoided the opening of an excessive deficit procedure in 2024 (when the general escape clause of the Stability and Growth Pact was already deactivated), due mainly to the consolidation package. As part of the economic governance review, the Czech Republic prepared and submitted a four-year fiscal-structural plan,[8] with a primary structural surplus target of 0.4% of GDP in 2028, which was approved at the EU level.[9]

In 2024, the general government deficit should fall below 3% of GDP for the first time in a long time, but the unfavourable situation of high mandatory and quasi-mandatory expenditures since the crisis years still persists. In addition to the persisting structural deficit of the government sector, the current high share of mandatory and quasi-mandatory expenditures exceeding 90% of state budget revenues very significantly limits flexibility or possible changes in economic policy. A similarly high share of these expenditures, which are not systematically evaluated for the quality of the financed outputs (for example, in education or healthcare), is also reflected in the draft state budget for 2025. The long-term sustainability of public finances, mainly reflecting the fiscal impact of population ageing, also remains unresolved. However, the pension reform approved at the end of 2024 should bring about positive changes in this area.[10] *(See Chartbook, page 63.)*

[8] For more details on the economic governance review (EGR), see thematic chapter 1: *Institutional developments in the euro area and the EU in this edition of the Alignment Analyses*.

[9] Under the EGR, EU Member States submit medium-term fiscal-structural plans for a period of four or seven years, which are later gradually approved at the EU level. As the Czech Republic's debt is estimated at below 60% of GDP in 2024 and the budget deficit at below 3% of GDP, the Czech Republic is not subject to the reference path for net expenditure. However, the Czech Republic voluntarily requested technical information from the European Commission regarding the required primary structural balance to fulfil the debt and deficit criteria in the medium term. According to the Act on Budget Responsibility, the structural deficit is expected to reach no more than 1% of GDP in 2028. Under the current macroeconomic assumptions of the Czech Ministry of Finance, this corresponds to a primary structural surplus of 0.4% of GDP, i.e. it is exactly in line with the level set in technical information from the European Commission.

[10] In addition to the pension scheme, however, population ageing also affects the health care and long-term care systems. These areas will also need to be reformed to reduce costs and improve the health indicators of the Czech population (e.g. healthy life expectancy).

The labour and product market

The indicators of the real part of the Czech labour market have remained largely unchanged despite the recent problems in the economy and the period of elevated inflation, with the long-running low female participation rate remaining a problem in particular. The long-term unemployment rate, which is among the lowest in Europe and remained low even in the turbulent economic environment of recent years, is still a positive factor. Moreover, the labour market has absorbed a high number of foreign workers (from Ukraine and elsewhere). On the other hand, labour market rigidities persist as regards the not-very-high regional mobility of workers and a low willingness of employees to change jobs, which may hinder a more effective allocation of resources supporting a more dynamic recovery in labour productivity. The rate of economic activity of the population is at historical highs and the labour market participation rate of people of pre-retirement age is high compared to other countries and is still growing. However, some long-running issues in the labour market persist. Despite a gradual increase, the participation rate of women remains lower compared to other countries (as pointed out by international organisations in their assessments – *see thematic chapter 2: Assessment of the Czech Republic by international institutions – "unfinished homework"*). However, the situation could improve due to the "flexible" amendment to the Labour Code currently under discussion allowing the combination of parental leave with agreements to perform work (DPP) or agreements to carry out work (DPC) with the same employer for the same type of work as that contained in the employment contract. The number of unemployed persons is slightly higher than the number of vacancies in 2024. The share of part-time jobs remains relatively low by international comparison.

As regards nominal variables, lower labour taxation (compared to more advanced EU countries) and a still low minimum wage relative to the average wage are contributing to labour market flexibility. Tax changes in 2021 helped reduce overall labour taxation. This was also reflected in an easing of the "low-wage trap", which reduces the incentive to seek better-paid work. Despite the decline, the "unemployment trap", which reduces the incentive to return to employment, remains relatively high.[11] The minimum wage remains low relative to the average wage (40% in 2023) compared to the other countries under review. However, based on the approved amendment to the Labour Code, this ratio will gradually increase in the future up to 47% in 2029. *(See Chartbook, page 66.)*

Although its competitiveness declined last year, the Czech Republic is one of the better-scoring countries under review as regards overall competitiveness. *(See Chartbook, page 72.)*

The banking sector

The Czech banking sector developed favourably in 2023 and maintained its high resilience to potential adverse shocks. Its capital position remained robust due in part to prescribed capital buffers and voluntary capital surpluses above the regulatory requirements and was mostly higher than in other countries under review. Capital buffers, along with capital surpluses, create favourable conditions for smooth lending to the real economy and for absorbing any increased credit losses. The profitability of the Czech banking sector declined slightly year on year, but remains above the euro area average. The solid profitability in the Czech Republic and other EU countries was due mainly to low impairment losses and stable interest profit. The liquidity position of the domestic banking sector improved last year and remains robust, due to a persistently high proportions of liquid assets and of stable funding. The default rate in the Czech Republic, as in other countries under review, remains near its historical low despite the persisting environment of relatively high interest rates.[12] *(See Chartbook, page 73.)*

SITUATION IN THE EURO AREA AND THE EUROPEAN UNION

After a turbulent period marked by the Covid-19, energy, and security crises, macroeconomic developments in the euro area have stabilised. Economic growth in the euro area gradually recovered during 2024. However, the economic performance across euro area countries remains mixed, with many economies – especially those that are industry-oriented – still grappling with stagnating economic activity. Despite subdued

[11] These calculations may be affected in the future by the planned reform of the state social support system, which is to replace four social benefits with one new benefit (super-benefit).

[12] For details on credit risk, see the CNB website: *Financial Stability Report – Spring 2024*.

economic performance in euro area countries, the labour market has stabilised, with the unemployment rate remaining at historically low levels.

Euro area countries have improved their public finances slightly due to their consolidation efforts, but the situation is still unsatisfactory. In 2024 Q2, Member States' debt-to-GDP ratios stood at 88.1% of GDP for euro area countries and 81.5% for the EU as a whole. Only five euro area countries[13] met both fiscal criteria – debt and deficit – in 2023, with this number expected to increase by just one (Croatia) in 2024, according to the European Commission's forecast.

The good news is that inflation was brought down only slightly above the ECB's 2% inflation target this autumn, although euro area countries are still facing persistently slow declines in services inflation. Price stability is an essential prerequisite for successful economic development. The observed disinflation process is due to the fading of earlier inflationary (mostly supply-side) factors and the restrictive effect of the ECB's monetary policy, which dampens demand. The prolonged higher interest rates are reflected in still relatively weak credit growth in loans to both corporations and households, one exception being increased lending for house purchase. *(See Chartbook, page 74.)*

In June 2024, the ECB responded to price developments in the euro area with its first interest rate cut after nine months of stability, and continued to cut rates in the second half of the year. The ECB deposit rate thus fell overall by 1 percentace point to 3% (with effect from 18 December 2024).[14] The ECB's Governing Council also continued implementing its earlier plan to reduce the Eurosystem's balance sheet, further limiting reinvestments of principal from maturing assets under the pandemic emergency purchase programme (PEPP). Work continued on the digital euro project, now in its second preparatory phase, with its final form to be influenced by the ongoing discussions on relevant EU legislation. With the exception of the National Bank of Poland, EU central banks outside the euro area also began gradually easing their monetary policies during 2024.

There has been no significant progress this year in the deepening of the economic and monetary union and euro area integration. The negotiations on the related legislative proposals were significantly affected by the end of the institutional cycle and by the personnel changes in the EU institutions following the European Parliament elections in June. In the area of the Capital Markets Union (CMU) and the completion of the banking union, parts of the bank crisis management package and the partial harmonisation of deposit guarantee schemes in the EU (CMDI package) were approved, along with the review of Solvency II. In the context of strengthening EU competitiveness, the European Council also addressed the completion of the CMU in April and June, though without significantly advancing the agenda. The same applies to the negotiations in the EU Council and its bodies. The application of the prudential requirements for market risk based on the Basel III standard has been postponed by one year.

Conversely, 2024 brought significant changes in the coordination of economic and fiscal policies, with the approval and entry into force of the economic governance review (EGR) package. This package aims to strengthen the sustainability and countercyclical nature of the fiscal policies of euro area and EU Member States and the enforceability of the rules of the Stability and Growth Pact (SGP). In early 2024, the general escape clause of the SGP – applied in response to the Covid-19 pandemic since March 2020 – was deactivated, and the European Commission and the Council launched the first steps under the excessive deficit procedure (EDP) for eight EU Member States, including major euro area economies such as France and Italy.

As regards the decision on the timing of the Czech Republic's potential entry into the euro area, it should be noted that not all of the fundamental obligations that may arise for the Czech Republic from adopting the euro are currently known. This is due to the unfinished nature of some key projects that will significantly affect the functioning of the euro area (such as the banking union) and some persistent issues within the economic and monetary union, including the high debt levels of several Member States. Any decision regarding the timing of joining the monetary union is thus still accompanied by major uncertainties.

[13] Of the 20 euro area Member States, only eight met the debt reference value of up to 60% of GDP last year and 13 complied with the 3% deficit reference value.

[14] The ECB lowered its deposit rate in June, September, October and December – by 0.25 percentage point each time.

II. THEMATIC CHAPTERS

II.1 INSTITUTIONAL DEVELOPMENTS IN THE EURO AREA AND THE EU

Marek Benda, Tereza Košňarová, Jan Král, Marek Souček, Martin Vojta

The most important action in the area of institutional developments in the EU from the perspective of the thematic focus of the Alignment Analyses was the approval of a legislative package on economic governance review amending the rules of the Stability and Growth Pact and coordination of economic policies in the EU. Elections to the European Parliament were held in June amid discussions on the filling of key positions in EU institutions, including the new European Commission, and a debate about the political priorities for 2024–2029. Events were also affected by Russia's continuing war on Ukraine, to which the EU responded by adopting new sanctions packages and providing Ukraine with more financial support, including revenues generated by immobilised Russian sovereign assets. No meaningful progress was achieved in deepening the economic and monetary union and euro area integration again in 2024.

Economic governance review and modified European semester

The economic governance review (EGR) entered into force on 30 April 2024. The reform includes modifications to the fiscal rules of the Stability and Growth Pact (SGP) and to the annual process of economic and social policy coordination among the EU Member States (the European semester). Rather than fundamentally overhauling the previously applicable fiscal rules, the EGR is meant to enhance their countercyclical component and enforceability. The deficit criterion of 3% of GDP and the public debt criterion of 60% of GDP thus remain in force, as does the requirement for annual fiscal consolidation of 0.5% of GDP under an excessive deficit procedure if the 3% reference value is exceeded. However, the corrective arm of the SGP has been changed. The "one-twentieth" rule[15] has been replaced by a reference trajectory set by the Commission and by a net expenditure growth rule if the debt-to-GDP criterion is exceeded. A reference trajectory will be issued for every Member State whose deficit or debt exceeds the above limits. This will provide the Member States with guidance for limiting their expenditure to comply with their multi-year (four-year, or up to seven-year in justified cases) fiscal structural plans. However, all the EU Member States will be required to present their fiscal structural plans in the European semester. This procedure will replace the current submission of annual national reform programmes and stability / convergence programmes.[16]

The SGP general escape clause, which had temporarily suspended the excessive deficit procedure (EDP), was deactivated at the turn of 2024 before the EGR legislation entered into force. The Commission then returned to applying the corrective arm of the SGP in June 2024, when it proposed that the Council may open the first step of the EDP by adopting decisions establishing the existence of excessive deficits for Belgium, France, Hungary, Italy, Malta, Poland and Slovakia, as well as the renewal of the EDP for Romania. On 26 July 2024, the Council agreed to the Commission's proposals by adopting the relevant decisions. On 26 November 2024, the Commission presented the next steps in the EDP – containing the Commission's proposals for Council recommendations for the states concerned – after assessing most of the national fiscal structural plans. The Council is expected to endorse the relevant recommendations in the first quarter of 2025. Only on the basis of practical experience with applying the modified fiscal and economic coordination rules, however, will it be possible to evaluate whether they will increase the historically weak enforcement of the SGP in the euro area Member States.

[15] The one-twentieth rule implied a minimum annual fiscal consolidation of 1/20 of the difference between the debt level and 60% of GDP. However, it had never been enforced in highly indebted Member States. This undermined the credibility of the EU fiscal rules.

[16] National expenditure on programmes co-financed from the EU budget should be exempted from the deficit and debt calculation. The Member States should be able to propose that pro-growth investment expenditure be exempted from the debt calculation. Above all, the net expenditure growth rule should mean that higher expenditure on unemployment benefit and lower tax revenue due to weaker economic growth are taken into account in fiscal consolidation. For more on the EGR negotiation process in past years, see the *2022 Alignment Analyses* (thematic chapter 2: *Discussion on a possible reform of the Stability and Growth Pact rules*) and the *2023 Alignment Analyses* (thematic chapter 1: *Institutional developments in the euro area and the European Union*).

Elections to the European Parliament and priorities for the new institutional cycle

The main event of 2024 as regards the functioning of the EU were the elections to the European Parliament held on 6–9 June. They were followed by political negotiations on the filling of key positions in EU institutions. At a meeting of the heads of state and government of the member states – the European Council – on 27 June, Antonio Costa was elected as President of the European Council from December 2024. In addition, Ursula von der Leyen was proposed as a candidate for President of the European Commission and Kaja Kallas was appointed as High Representative of the Union for Foreign Affairs and Security Policy. Roberta Metsola was re-elected President of the European Parliament at a plenary session of the Parliament on 16 July. The College of Commissioners formed during the autumn was approved by the European Parliament on 27 November 2024.

Discussions among the Member States on the political programme and priorities for the new 2024–2029 institutional cycle took place as usual ahead of the elections to the European Parliament. At the end of June 2024, the European Council approved a Strategic Agenda[17] setting out the general starting points for the work of the new college of Commissioners. The chapter on the competitiveness of the EU mentions the importance of accelerating financial integration by achieving the capital markets union and completing the banking union, though it lacks concrete proposals and measures. Two reports – one prepared by former Italian Prime Minister Enrico Letta at the request of the Council and the other by former European Central Bank President Mario Draghi at the request of the Commission – also contributed to the debate on the future direction of the economic and monetary union of the EU and the euro area. Letta's report is focused on the single market, while Draghi's looks at competitiveness. Some of the proposals contained in the reports then featured in the mission letters addressed to the new Commission members.

Developments in the areas of regulation and supervision of the financial market

There was essentially no strategic discussion in 2024 on the completion and future direction of the banking union, especially as regards risk-sharing, owing to persisting fundamental differences of opinion between the Member States. Under the leadership of the Belgian and Hungarian presidencies, only a few specific proposals relating to the banking union were discussed, most notably a package on bank crisis management and partial harmonisation of deposit insurance schemes in the EU (the CMDI package).[18] Another issue related to the completion of the banking union is the implementation of the Basel III standard into EU law through the bank capital requirements directive and regulation (CRD IV and CRR III). Owing to the delayed implementation of the Basel III rules by the USA, and to avoid the EU banking sector being put at a disadvantage, it was decided to postpone the application of the Basel III prudential requirements for market risk by one year. The ratification of the amended Treaty on the European Stability Mechanism (ESM) remained uncompleted pending ratification by Italy.

Several legislative proposals on the capital markets union were concluded or advanced significantly in 2024. Under a provisional agreement reached in 2023, the final version of the amended Solvency II directive[19] and new rules on insurance recovery and resolution (IRRD) were agreed. The legislative processes for the review of the regulation and directive on markets in financial instruments (MiFIR/MiFID II) and the regulation on credit transfers and direct debits in euro (SEPA), which introduces instant euro payments across the European Economic Area, were completed. The Belgian presidency reached an agreement with the European Parliament on a package to amend the Alternative Investment Fund Managers Directive (AIFMD) and the framework for undertakings for collective investment in transferable securities (UCITS). Agreement was also reached on a package of measures for sustainable financing under the regulation on the transparency and integrity of environmental, social and governance (ESG) rating activities. Negotiations were completed on the draft directive and regulation on the listing of companies on the stock exchange (the Listing Act), which are intended to make it easier for companies to list on public stock exchanges. A compromise was also found on the package on EU clearing infrastructure (EMIR 3), which is aimed at strengthening the EU's market infrastructure and reducing the dependence of clients on clearing houses from third countries (especially the UK). However, even after these rules are adopted, the regulatory and supervisory equivalence for UK central clearing counterparties for the offering of cross-border services to EU entities

[17] See <https://www.consilium.europa.eu/media/4aldqfl2/2024_557_new-strategic-agenda.pdf>.

[18] This package also includes the Daisy Chains proposal, which allows for regulatory relief for banking groups in the area of minimum requirements for own funds and eligible liabilities (MREL). The proposal was discussed separately and was formally approved on 11 April 2024 (with a directive transposition deadline of 13 November 2024).

[19] The review of the Solvency II directive addresses, among other things, the potential build-up of systemic risk in the insurance sector and introduces the concept of low risk profile companies and groups, coordinates the cross-border supervision of insurance companies and updates the capital requirements for the insurance sector to build resilience and stability.

for the clearing of euro-denominated derivatives may be extended further (the Commission's current equivalence decision expires in mid-2025). Under the Belgian presidency, the Council of the EU approved a mandate for negotiating with the European Parliament on a legislative package on the protection of retail investors (the Retail Investment Package) and on a regulation amending the reporting and data-sharing requirements for public sector entities in the field of financial services and investment support. The European Parliament approved its position on the amendment of the regulation on indices used as benchmarks in financial instruments (the position of the Council had been approved at the end of 2023). Trilogue discussions were opened following the institutional changes.

There was also continued discussion in 2024 on the legislative package of 28 June 2023 whose proposals protect the legal tender of euro cash and establish a legal framework for a possible digital euro. The ECB may issue a digital euro in the future as a complement to cash. However, the discussions have yet to advance from the expert level of the Council of the EU. In the European Parliament, too, the debate on the adoption of a negotiating position has so far been going on at committee level only. There were also continued discussions on the package on open finance and payment services (PSD3/PSR), which includes a proposal for a regulation on access to the financial data of customers of financial institutions (FIDA) in order to support innovation in the financial sector (the Open Finance Framework). The Council of the EU reached an agreement on FIDA on 4 December 2024 which paved the way for concluding trilogue discussions.

Sanctions connected with the war in Ukraine

The EU Member States responded to Russia's continuing war on Ukraine in the course of 2024 by adopting further sanctions and providing Ukraine with new financial and material support. The sanctions packages targeted Russia, Belarus and entities helping to circumvent previously adopted sanctions. Among other things, they prohibited EU credit and financial institutions which operate outside of Russia from directly using Russia's SPFS payment system.[20] There is also a ban on engaging in transactions with institutions connected to the SPFS if they are listed on a specific list of sanctions. Interactions with financial institutions that facilitate, directly or indirectly, the circumvention of sanctions and are listed as such on a specific EU list of sanctions, are also prohibited. In the area of financial support for Ukraine, a new Ukraine Facility[21] for 2024–2027 entered into force. The Facility follows up on previous EU macro-financial support packages and, together with the European Peace Facility (EPF), creates a framework for the distribution of EU financial assistance.

The revenues generated by immobilised Russian sovereign assets will be used to support Ukraine. The discussions about their potential use culminated in May 2024 in the adoption of legislative proposals providing for the transfer of net profits from the special central securities depositories accounts in the EU on which immobilised Russian sovereign assets[22] are held to the EU's fiscal instruments. The funds are to be used for the purchase of military material and for the reconstruction of Ukraine. Immobilised assets themselves are not affected by the legislation. The issue of the use of revenues generated by those immobilised assets has also been raised in the G7. The consensus among the G7 members on increasing financial support for Ukraine led to a search for new ways of using these funds. These discussions culminated in an initiative for a collective G7 loan of up to EUR 45 billion. On 24 October 2024, the legislation required to create a Ukraine Loan Cooperation Mechanism (ULCM) and to provide an exceptional EU macro-financial assistance (MFA) loan of up to EUR 35 billion, which will be included in the ULCM as the EU's contribution, was adopted at EU level. The ULCM loans will not constitute an additional debt burden for Ukraine, because they will be serviced from revenues stemming from immobilised Russian assets.

Activities of the European Central Bank

After having kept interest rates unchanged for nine months, the ECB decided to cut them in June 2024 and again in September, October and December 2024. It did so in response to declining euro area inflation, amid anchored inflation expectations and weakening cost pressures.[23] Like a number of other Eurosystem central banks,

[20] The System for Transfer of Financial Messages (SPFS) is a payment system developed by the Russian central bank in 2014 as an alternative to the international SWIFT system to counter potential US sanctions.

[21] The Ukraine Facility has a budget of EUR 50 billion, of which EUR 33 billion is allocated as loans and EUR 17 billion as grants.

[22] Mainly assets of the Central Bank of Russia and of the Russian sovereign wealth fund managed by it.

[23] On 6 June 2024, the Governing Council of the ECB decided to lower interest rates by 25 basis points – the deposit facility rate to 3.75%, the main refinancing operations (MRO) rate to 4.25% and the marginal lending facility rate to 4.50%. As a result of a review of the operational framework for implementing monetary policy, the ECB on 18 September 2024 reduced the spread between the MRO rate and the deposit facility rate from 50 to 15 basis points by lowering the MRO rate (without this implying

the ECB reported a loss for 2023 (EUR 1.3 billion[24]). The loss – its first ever – was due primarily to higher monetary policy implementation costs.

In late 2023, the ECB announced its intention to advance the normalisation of the Eurosystem's balance sheet and to reduce the portfolio of securities accumulated under the temporary pandemic emergency purchase programme (PEPP). The ECB continued to reinvest, in full, the principal payments from maturing securities purchased under the PEPP until mid-2024. Over the second half of the year, it is reducing the PEPP portfolio by EUR 7.5 billion per month on average by phasing out reinvestments. It will discontinue them completely at the end of 2024. The PEPP is thus going the same way as the ECB's first extraordinary asset purchase programme (APP), under which principal payments from maturing securities ceased to be reinvested in July 2023.

In the context of the digitalisation of payment services, the ECB continued with its pilot project for the potential introduction of a digital euro. At present, this project is in the preparation and testing phase, which will last until November 2025. After it has been evaluated, the Governing Council will decide whether to move to the next stage of preparations. Any decision to issue a digital euro can still only be made by the ECB after the relevant legislation has been approved. On its basis, the ECB will consider the need for any adjustments to the digital euro project (such as the specifications of users' devices to access and use digital euro offline). The ECB is issuing regular progress reports on testing in the current preparation phase. The first report was published in June 2024.[25]

Assessment of preparedness to join the euro area

The European Commission and the ECB issued their regular convergence reports in June 2024.[26] In these reports, they assess the progress made by the EU Member States with a derogation (i.e. those that have not yet adopted the euro but have not negotiated a permanent opt-out) in preparing for the euro.[27] Bulgaria, the Czech Republic, Hungary, Poland, Romania and Sweden were thus assessed. Both the Commission's convergence report, the conclusions of which are decisive for abrogating the derogation and accepting the applicant Member State into the euro area, and the ECB's convergence report state that limited progress has been made as regards compliance with the convergence criteria since the previous 2022 reports. None of the countries examined is compliant with conditions for adopting the euro. This is even true for Bulgaria, whose political representation had earlier announced the aim to join the euro area at the start of 2025 and which is the only country under review to have been participating in ERM II since 2020.[28] In response to this, Bulgaria declared its determination to meet the outstanding price stability criterion and rectify the other shortcomings mentioned in the convergence reports (especially in the anti-money laundering area) as soon as possible and then request extraordinary convergence reports. Given the internal political situation in the country, however, the question is how the government that emerged from the autumn parliamentary elections will approach the matter.

For the first time ever, the Commission and ECB reports differed in their assessment of one of the criteria. Specifically, they applied different reference values to assess the price stability criterion. This discrepancy led to different assessments of the fulfilment of this criterion in the case of Sweden (the Commission assessed the criterion as fulfilled, but the ECB was of the opposite opinion). This situation may recur in the future.[29]

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a change in the monetary policy stance). The review had already been reflected in the Governing Council's decision of 12 September 2024, when the deposit facility rate was decreased by 25 basis points. After another interest rate cuts on 17 October and 12 December 2024, the deposit facility rate was 3.00%, the MRO rate 3.15% and the marginal lending facility rate 3.40%.

[24] For details, see the ECB press release: <https://www.ecb.europa.eu/press/pr/date/2024/html/ecb.pr240222~2e8045adc3.en.html>.

[25] See <https://www.ecb.europa.eu/euro/digital_euro/progress/html/ecb.deprp202406.en.html>.

[26] See the Commission's *Convergence Report 2024* and the ECB's *Convergence Report 2024*, both published on 26 June 2024.

[27] Denmark, which is a member of ERM II, is the only country with a permanent opt-out from the euro. As a result, it is not examined in the convergence reports of the Commission and the ECB.

[28] According to the Commission's report, inflation was above the reference value in five of the six countries examined and below it only in Sweden. As in 2022, three countries were not compliant with the long-term interest rate criterion. The currencies of some of the countries examined have experienced sizeable fluctuations against the euro over the last few years. The economies of these countries had recovered to some extent and the fiscal measures introduced in response to the Covid-19 pandemic had been phased out. These factors had fostered an improvement in public finances in most of the countries. However, in most cases, public deficits and debt ratios remained above pre-pandemic levels, partly owing to the economic impact of Russia's war against Ukraine and the fiscal policy measures taken in response to the resulting high energy prices.

[29] See also the article by a CNB board member and an adviser to the Board for Hospodářské noviny on 28 August 2024 (also available on the CNB website): Jan Procházka and Jiří Schwarz: *Bude u nás (aspoň digitální) euro? Pohled pod maastrichtskou pokličku* [*Will the Czech Republic have (at least) a digital euro? A look under the Maastricht lid;* in Czech only].

The Commission's convergence report (just like previous editions since 2020) focused on the "reinforced approach" to ERM II participation. This approach involves entering into an agreement with each acceding country on the conditions it should commit to and satisfy before joining ERM II. The Commission derives these conditions from those put to Bulgaria and Croatia. The Commission's report also states explicitly that one of the conditions is entry to the Banking Union at the latest by the time of the country's participation in ERM II, not upon adoption of the euro, as EU law currently stipulates. Crucially, the Commission reaffirms that, having regard to the principle of equal treatment, this approach is to be applied to all other Member States joining ERM II in the future. Although the Czech Republic (the CNB at EFC meetings and the Minister of Finance in the Economic and Financial Affairs Council) has raised an objection to the potential precedential nature of this approach, it can reasonably be expected that the euro area Member States will apply this approach to any state wishing to join ERM II in the future.[30] (*For more on this issue, see thematic chapter 5: ERM II and the Maastricht criterion on exchange rate stability and thematic chapter 6: The banking union and the Czech Republic in these Alignment Analyses*.)

Conclusion

The content of the obligation to adopt the euro, which the Czech Republic accepted when it joined the EU in 2004, has expanded considerably since then. The Czech Republic will still have to carefully assess institutional developments and consider them in its deliberations on the timing of euro area entry. It is equally important to closely monitor developments in the euro area itself. The high debt ratios of some euro area countries may continue to pose a risk to the stability of the monetary union. Only the next few years will tell whether the new fiscal rules and economic and fiscal coordination arrangements will increase the historically weak enforcement of the Stability and Growth Pact in euro area Member States. In addition, the tendency towards economic divergence of the members of the economic and monetary union and the recurring proposals to establish a risk-sharing fiscal union make future developments in the euro area hard to predict. The question of the suitable timing of the Czech Republic's euro area entry is therefore very difficult to answer.

[30] According to the conclusions of the updated *Impact Study of Participation or Non-participation of the Czech Republic in the Banking Union* (which the Government of the Czech Republic acknowledged on 14 February 2024), it is not appropriate for the Czech Republic to join the Banking Union before adopting the euro.

II.2 ASSESSMENT OF THE CZECH REPUBLIC BY INTERNATIONAL INSTITUTIONS – "UNFINISHED HOMEWORK"

Jakub Matějů and Milan Říkovský

The Czech Republic is a member of several major international organisations focused on supporting economic cooperation and the development of the global and European economy. These institutions regularly monitor the situation in individual member countries and provide them with recommendations on areas to prioritise to enhance the stability and growth of their economies. Their recommendations often concern areas which should serve as the main adjustment mechanisms absorbing economic shocks after the Czech Republic's potential entry into the monetary union. So how is the Czech Republic assessed? To answer this question, we briefly outline the recommendations from the European Central Bank (ECB), the European Commission (EC), the International Monetary Fund (IMF) and the Organisation for Economic Co-operation and Development (OECD). [31] *The main challenges facing the Czech Republic, according to the assessments by these international institutions, can be divided into three areas: (i) public finance sustainability (especially with regard to population ageing), (ii) competitiveness and the business environment, and (iii) the labour market, education and innovation. A separate issue is the green transition, which can be seen as a risk to future competitiveness and as an opportunity for growth.*

Public finance sustainability

Although the ratio of the general government debt to GDP is relatively low in the Czech Republic compared to the EU average,[32] **the country is facing risks to fiscal sustainability in the medium and long run.** Fiscal sustainability is a key prerequisite for fiscal policy to effectively absorb asymmetric shocks. According to a European Commission estimate, the ratio of public expenditure related to population ageing (old-age pensions, health care, long-term social care and other expenses) to GDP will grow by 3.7 percentage points compared to 2022 to 24.3% in 2070.[33] In a risk scenario, the growth is even 2.5 percentage points higher, and is well above the EU average. In order to ensure the long-term sustainability of public finances, a reform of the pension system (including an increase in the effective retirement age and its linking to life expectancy), and potentially a health care reform, will be essential.

The international institutions have also recommended strengthening tax revenues through adjustments to the tax mix to safeguard long-term fiscal sustainability. The share of total tax revenues in GDP is close to the OECD average in the Czech Republic, but the employee tax wedge[34] is high compared to other countries. Reducing it would support economic growth and also has the potential to increase the supply of labour both from internal sources – higher employment of women, senior citizens and disadvantaged people – and from abroad. According to the international institutions, lower social security contributions offset by increased revenues from property and indirect taxes (including environmental taxes)[35] could support economic growth. The share of property tax revenues should return to at least the pre-pandemic level, according to the IMF. A higher share of property taxes would mitigate the negative effects of population ageing on government revenues and reduce the cyclicality of tax revenues, which would then depend less on wage and consumption growth.

As regards the rise in tax revenues, the institutions point to room for improvement in VAT collection, reducing exemptions and abolishing reduced VAT rates. The difference between the estimated potential VAT collection and the actual VAT revenues (the VAT gap) is higher in the Czech Republic than the EU average (11.9% compared to 9.1%).[36] Tax revenues can also be raised by increasing the progressivity of personal income tax, which is low in the Czech Republic compared to advanced countries. Additional revenues could be obtained by

[31] Specifically, the documents used in this article include the ECB's June 2024 Convergence Report, the EC's June 2024 European Semester Country Report, the March 2023 OECD Economic Surveys for the Czech Republic and the IMF's January 2024 report for the Article IV consultation with the Czech Republic.

[32] In 2023, the general government debt-to-GDP ratio was 44% in the Czech Republic as against an EU average of 81.7%.

[33] European Commission (2024c).

[34] The tax wedge is the difference between the employer's staff costs and the employee's net income. High social security contributions significantly contribute to its level in the Czech Republic.

[35] In the case of property taxes, this includes, for example, real estate tax. Environmental taxes generally refer to taxes whose tax base is a physical unit of something that has a negative impact on the environment. However, in the EU, they are viewed differently by individual countries (examples include the solid fuel tax, electricity tax, natural gas tax and carbon tax).

[36] See <https://data.europa.eu/doi/10.2778/109823>.

bringing the base for contributions to the health care and pension systems paid by the self-employed closer to the contribution base of employees.[37]

Long-term fiscal sustainability may also require measures on the expenditure side of budgets. The European Commission offers technical support to develop a system for performance budgeting and spending reviews. Such tools can help identify and subsequently reduce inefficient public spending.

Competitiveness and the business environment

In terms of competitiveness, the above institutions point to the need to increase the efficiency of public administration, strengthen the business environment and support education and innovation. Public sector performance and government effectiveness in the Czech Republic are stable and close to the EU average. The EC reports that the size of public administration measured by the relative number of employees and expenditure is even below the EU average. However, weaknesses persist in the fragmentation of decision-making, strategic steering, talent attraction and retention and public procurement.

The Czech Republic has one of the most fragmented local administrations in the OECD,[38] which creates challenges in policy co-ordination between the general government and lower public administration levels. Fragmentation is a significant factor limiting the efficient absorption of EU funds by small entities due to insufficient local administrative capacity, especially in structurally disadvantaged regions. Major challenges for administration include efficient use of data sources, an increase in analytical capacity and a strengthening of e-government. According to an EC assessment, the attractiveness of public administration as an employer is relatively low and wages in this sector are lower than in the private sector for comparable education levels. There is significant room for improvement in economic competition on the public procurement market, which fails to attract a sufficient number of competing bids.[39]

A reduction in the excessive administrative burden and simplified regulation would lead to a more favourable business environment. According to the EC, faster digitalisation of public services would help cut red tape, especially in small businesses. The slow process of planning procedures and obtaining permits, which negatively affects transport and energy infrastructure as well as housing construction, is another barrier to the growth of the Czech economy.

In view of the size of the industrial sector and its competitiveness, ensuring accessible and diversified energy sources and the process of green transition represent a fundamental challenge for the Czech economy. The Czech Republic faces a daunting task in phasing out the use of coal by 2033, which is currently being used to produce 40% of its electricity. To achieve this, the country must shift to a more competitive mix of nuclear and renewable energy and build adequate grid infrastructure. International institutions also point to the need to increase the energy efficiency of the entire economy.

Flexibility and the future of the labour market

According to the EC, the Czech labour market is efficient but faces a chronic shortage of workers, especially highly-qualified ones. This negatively affects the competitiveness of the Czech economy and its attractiveness for foreign investment. This is reflected in the job vacancy rate, which is high and well above the EU average in the Czech Republic. The participation rate of women in the labour market is low. It was 70.4% in 2023 compared to 83.4% for men. Long parental leave and the structure of the tax and social systems significantly reduce the incentive for mothers to return to work sooner after the birth of a child. According to the international institutions, the key to improving the situation is not only in increasing the supply of affordable childcare (nurseries and kindergartens) and

[37] The self-employed have the same rights to health care as employees but they contribute much less to the health care system. As regards the pension system, a self-employed person with a net income equivalent to the average net wage of an employee can expect to receive 83% of the pension of an average-wage worker but pays only 67% of the contributions to the pension system, according to OECD estimates. For details on recommendations see: <https://www.oecd.org/content/dam/oecd/en/publications/reports/2020/11/oecd-reviews-of-pension-systems-czech-republic_68df9880/e6387738-en.pdf>.

[38] The Czech Republic has the highest number of municipalities per capita in the EU; <https://www.oecd.org/en/topics/regional-rural-and-urban-development.html>.

[39] In 2023, the rate of single bid public tenders was 40% in the Czech Republic compared to only 28.6% in the EU (see <https://economy-finance.ec.europa.eu/document/download/facc4bb2-4e1b-471f-998e-6895c4091e3c_en?filename=SWD_2024_603_1_EN_Czechia.pdf>, p. 60).

creating a more favourable design of the above motivational factors, but also in supporting greater use of part-time work and remote work (working from home).

Labour shortages can also be addressed by making the Czech Republic more attractive for workers from abroad. The Czech Republic has received the highest per capita inflow of Ukrainian refugees owing to the war in Ukraine, but only around one-third of them are in employment, as most are women and children. The situation could also be improved by reforming regulated professions, whose requirements are often excessive or tied to the professional history within the country. Deregulation would also benefit highly qualified positions such as lawyers, architects, civil engineers and real estate agents.[40] Regulation of these professions in the Czech Republic is higher than the EU average.

The efficiency of the education system is key to long-term competitiveness and meeting the future needs of the labour market. The Czech Republic scores relatively well on various measures of skills and quality of education. However, an international comparison in the OECD's PISA programme[41] points to a gradual downward trend in the performance of Czech students in mathematics. In addition, parents' socio-economic status continues to strongly affect students' performance in school, with family background being a major factor in students' results in the Czech Republic. This limits social mobility (a change in the socio-economic status of individuals and groups) and results in inefficiency in the use and development of human capital. According to the EC, the Czech Republic should above all raise participation in higher education and increase the attractiveness of the teaching profession.

The Czech Republic invests a relatively high share of its GDP in intellectual property, but in terms of patent applications and grants, it lags behind the most developed countries.[42] Linkages between academia and business remain weak. According to an EC assessment, the scientific and technological outputs do not reflect the potential of the country's solid industrial and research base.[43]

Other challenges: the green transition

In addition to the above main challenges, the international institutions highlight other areas important for the development and competitiveness of the Czech economy. Major issues include climate change and the aforementioned green transition. The Czech Republic has experienced rising temperatures at a faster rate than the global average over the past two decades. This has led to substantial economic and social costs: the Czech Republic is already among the EU countries incurring the highest economic costs per capita due to extreme weather and climate-related events.[44] The Czech economy's greenhouse gas emissions per unit of GDP are among the highest in the OECD.[45] Energy intensity per unit of GDP in the Czech Republic is considerably higher than in many other OECD countries, owing to energy-inefficient residential buildings, coal-fuelled heating systems and a large industrial sector. The key challenges in the transition to climate neutrality are thus the replacement of coal with cleaner energy sources and increasing the energy efficiency of the economy.

Progress in these areas requires, among other things, significant changes in the labour market, especially the upskilling and reskilling of staff in energy-intensive sectors. Employment in the Czech Republic's sectors most affected by the green transition is above the EU average. In 2023, over 140,000 employees worked in the automotive sector. Employment in energy-intensive industries accounted for 7.7% of total employment (compared to the EU average of 3.5%). In this context, the IMF also points to the slow development of production in the area of electromobility. On the other hand, the economy faces significant labour shortages in sectors linked to the green economy. The job vacancy rate in construction, which is a key sector for the green transition, is much higher in the

[40] The Czech Republic has 365 regulated professions, significantly more than other EU countries. The number of regulated professions is lowest in Latvia (89), Estonia (107) and Bulgaria (109). The only EU country with more regulated professions than the Czech Republic is Hungary, with 415. For details, see: <https://ec.europa.eu/growth/tools-databases/regprof/professions/bycountry>.

[41] PISA (Programme for International Student Assessment) evaluates 15-year-old students' literacy in reading, mathematics and science. For an assessment of the Czech Republic, see: <https://www.oecd.org/en/publications/pisa-2022-results-volume-i-and-ii-country-notes_ed6fbcc5-en/czech-republic_4a597d07-en.html>.

[42] The indicator on patents for 2023: 22 per million inhabitants in the Czech Republic compared to the EU average of 153. For details, see: <https://economy-finance.ec.europa.eu/document/download/facc4bb2-4e1b-471f-998e-6895c4091e3c_en?filename=SWD_2024_603_1_EN_Czechia.pdf, pp. 24, 53 and 54.

[43] For details, see the European Innovation Scoreboard 2023 Country profile Czechia: <https://op.europa.eu/en/publication-detail/-/publication/04797497-25de-11ee-a2d3-01aa75ed71a1>.

[44] See <https://www.eea.europa.eu/en/analysis/indicators/economic-losses-from-climate-related>.

[45] OECD Environment Statistics (database), <https://data.oecd.org/environment.htm>.

Czech Republic than the EU average (10.8% versus 4% in 2022). The EC estimates that, by 2030, between 2,300 and 6,600 additional skilled workers will be required for the deployment of wind and solar energy if the Czech Republic meets its projected contribution to the EU's 2030 renewable energy target.

Conclusion

The international institutions highlight a great deal of homework that the Czech Republic needs to focus on to strengthen the competitiveness of the economy, increase labour market flexibility and safeguard long-term public finance sustainability along with sufficient fiscal space for the future. This would enhance the economy's resilience to asymmetric shocks and increase the potential benefits of adopting the single currency.

II.3 EUROISATION OF THE CZECH ECONOMY

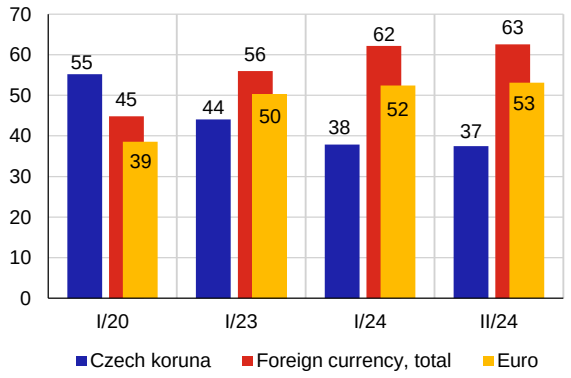
Renata Pašaličová

This chapter discusses recent developments in the euroisation of the Czech economy – primarily with regard to bank loans, which play the main role in the financing of Czech corporations. The decrease in the differential between domestic and foreign interest rates due to the easing of the CNB's restrictive monetary policy in 2024 has caused the share of foreign currency loans (mostly euro-denominated) drawn by Czech corporations to stabilise. However, the share of foreign currency financing of corporations remains relatively high.

The decisions of firms and individuals on the use of the euro are affected by a whole range of factors. This article focuses on the foreign currency financing of Czech corporations in the context of the interest rate differential. However, we should start by noting that the euroisation of the Czech economy is quite a broad topic. Growth in euroisation may also be increased by an amendment to the Accounting Act allowing selected entities to keep accounts in euro as of January 2024 and by a draft amendment to the Labour Code that would allow wages to be paid to selected groups of employees in euro. Euroisation may also be supported by the introduction of instant payments in euro[46] and by the digital euro project.[47]

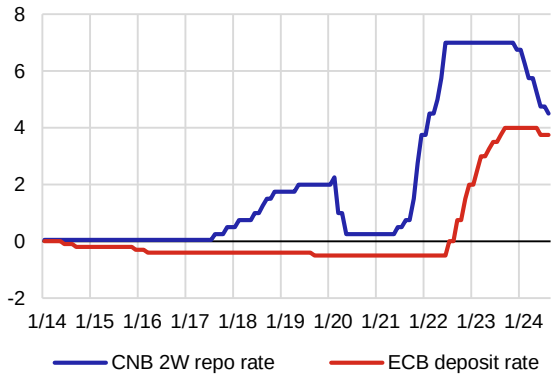
The euroisation of the Czech economy is manifesting itself mainly in the financing of the corporate sector, where the share of euro financing remains relatively high following a significant increase (see Chart 1). The structure of total corporate financing is still dominated by loans from domestic banks, followed by financing of foreign-owned corporations by their foreign parent companies and corporate financing especially from foreign banks.[48] The high differential between koruna and euro interest rates over the previous two years caused the euro financing of Czech corporations – especially from domestic banks – to rise substantially (there has been no major change in the structure of corporate financing in terms of domestic versus foreign lenders). This trend has tended to moderate over the last year as domestic and euro interest rates have converged (see Chart 2). In 2024 Q2, the share of euro financing was 53% and that of overall foreign currency financing 63%.[49] The euroisation of corporations is thus relatively high, and monetary policy has affected a smaller proportion of corporate financing through debt servicing costs in recent years than in the past.

Chart 1: Shares of foreign currency financing of corporations
(%)



Note: Corporate financing comprises loans from domestic banks and financing from abroad.
Source: CNB, CNB calculations

Chart 2: ECB and CNB key interest rates
(%)



Source: CNB, ECB

[46] For details, see <https://www.ecb.europa.eu/paym/integration/retail/instant_payments/html/index.en.html>.

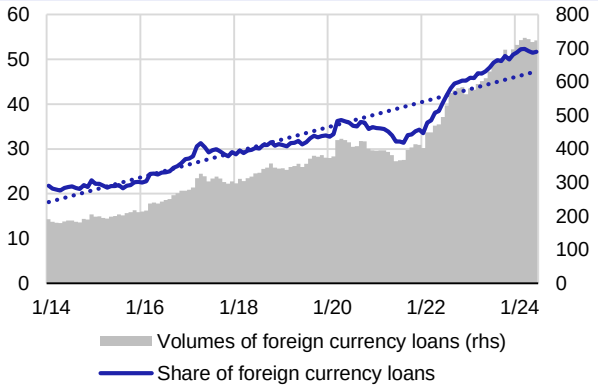
[47] For details, see <https://www.ecb.europa.eu/euro/digital_euro/html/index.en.html>.

[48] See the article by CNB Deputy Governor Eva Zamrazilová and Jakub Holas on the CNB website: *Struktura financování firem a transmise měnové politiky ČNB* [*Financing structure of firms and transmission of CNB monetary policy*; in Czech only].

[49] Corporate financing comprises loans from domestic banks and financing from abroad. Financing from abroad by multinational corporations under FDI or directly by domestic corporations abroad (e.g. from foreign banks) covers all forms of debt and other instruments denominated in foreign and domestic currency.

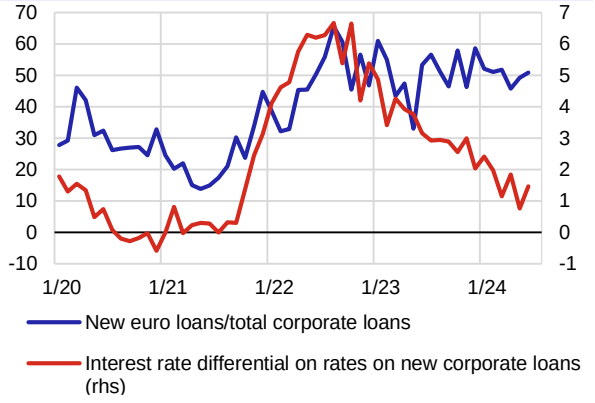
The share of euro-denominated corporate loans provided by domestic banks has stabilised amid convergence of domestic and euro interest rates. This share was 51% in June 2024, while that for loans in all foreign currencies was 52% (see Chart 3). In both cases, however, it was still above the long-term trend. The growth in euroisation was probably due to both its structural (trend) and cyclical components. The structural component reflects the close trade links of Czech export-oriented industry with the euro area and firms' efforts to hedge naturally against exchange rate risk. The cyclical component has been affected by the differential between domestic and euro interest rates. A relatively strong correlation between the interest rate differential and the share of euro loans has been recorded since mid-2021.[50] The interest rate differential has been narrowing gradually since late 2022, initially due to the tightening of ECB monetary policy and then because of the decline in domestic interest rates (see Chart 4). The interest rate differential for corporate loans was around 1 percentage point in June 2024, compared to a peak of 6,7 percentage points in August 2022. It is thus at a level that is no longer very attractive in relation to exchange rate risk and will dampen euro financing in the period ahead. New koruna loans started to grow moderately again in 2024 due to the easing of the CNB's restrictive monetary policy stance. They rose by 8% year on year in January–July, as against a decline of 42% in the same period a year earlier. Euro loans are rising at a similar pace this year. This is reflected in a stagnant share of euro loans in total new loans to corporations (see Chart 4). The level of interest rates is still reducing corporations' demand for loans somewhat.

Chart 3: Foreign currency loans/total loans to corporations from domestic banks
(share in %; volume in CZK billions; dotted line: linear trend)



Source: CNB, CNB calculations

Chart 4: New euro loans/total new loans to corporations and interest rate differential between koruna and euro rates on loans to corporations
(share in %; interest rate differential on pure new loans in percentage points)



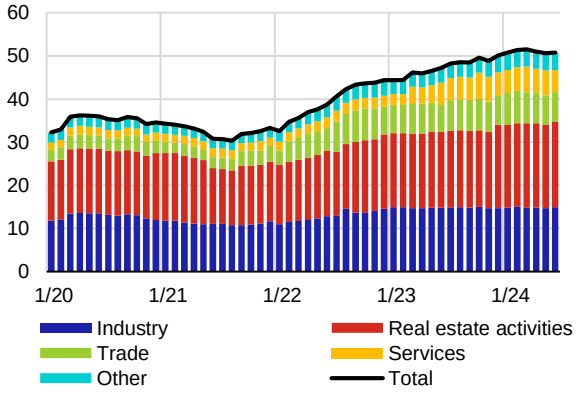
Source: CNB, CNB calculations

The share of euro-denominated corporate loans is still higher in the Czech Republic than in any other EU country with its own currency. In June 2024, the share of euro loans in total loans to corporations was 5% in Denmark, 6% in Sweden, 27% in Poland, 39% in Bulgaria, 43% in Romania and 47% in Hungary.

Industry and real estate activities account for a large share of the long-running upward trend in euroisation. The ratio of euro loans in these sectors to total loans to corporations is 35% overall (see Chart 5). The remaining euro loans (representing 16% of total loans to corporations) are to the trade and services sectors. The growth of euro loans in these sectors was linked with the increase in the interest rate differential between domestic and euro interest rates in 2021 and 2022. Overall, the share of euro loans rose by around 20 percentage points compared to the pre-Covid period, with the two sectors contributing in roughly equal measure. The share of euro loans stabilised in 2024 due to a decline in the interest rate differential in all economic sectors to levels common in the past (see Chart 6). To sum up, the euroisation influenced by the cyclical component was due significantly to loans drawn by trade and services, i.e. sectors where a return to domestic currency financing can be expected as domestic and euro rates converge. On the other hand, the share of euro loans in sectors characterised by sales in euros and efforts to hedge naturally against exchange rate risk (industry and real estate activities) is likely to increase further in line with the upward trend.

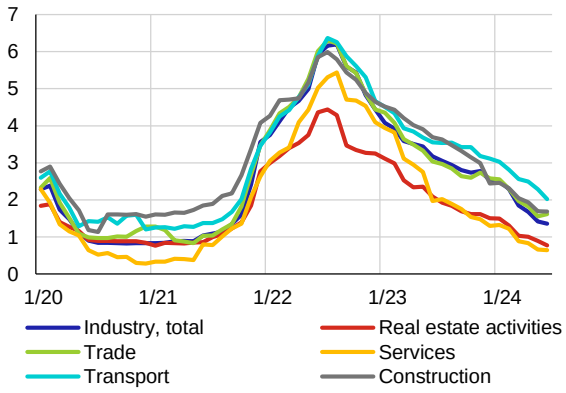
[50] See *Alignment Analyses 2023*, thematic chapter 3: *Euro financing of Czech firms.*

Chart 5: Decomposition of the share of euro loans in total corporate loans by sector
(%)



Source: CNB AnaCredit, CNB calculations

Chart 6: Interest rate differential in selected sectors
(on interest rates on koruna and euro loans; percentage points)



Source: CNB AnaCredit, CNB calculations

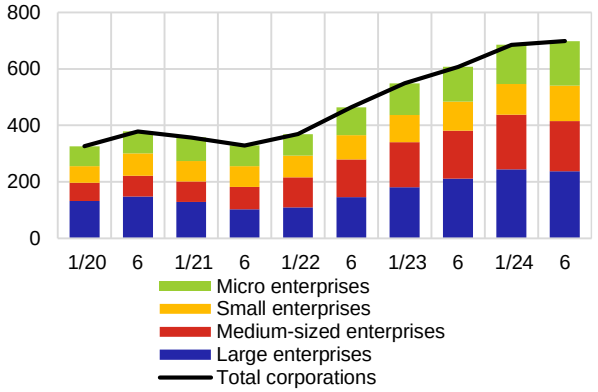
The relatively high degree of euroisation is weakening the effectiveness of monetary policy to some extent and is connected with greater sensitivity of the economy to exchange rate fluctuations. When the interest rate differential was wide, large corporations with access to euro loans financed themselves at markedly better credit conditions than small firms, which usually have limited access to euro loans. This increased the inequality of the environment. At the same time, the increasing foreign currency financing had an adverse effect on the interest rate transmission mechanism of monetary policy. However, the lower effectiveness of the tightening in the interest rate component was partly offset by greater tightening in the exchange rate component (due to sales of euros from the loans drawn). This effect has been fading recently as domestic and euro interest rates have converged. However, corporations with a high proportion of foreign currency loans (especially those not hedged by financial instruments) are more sensitive to exchange rate fluctuations and shocks from abroad. A significant weakening of the koruna may now pose a risk to some corporations.

Euro loans were drawn more by larger enterprises, while domestic currency financing is still predominant among small ones. The volume of euro loans has risen the most for large and medium-sized enterprises since 2021 (see Chart 7). In June 2024, the share of euro loans was 54% for large enterprises, 56% for medium-sized enterprises and 46% for small enterprises.[51] The rise in euro loans among medium-sized enterprises has had a significant upward effect on the share of these loans in the overall segment of small and medium-sized enterprises. Loans to small and medium-sized enterprises account for a large part of total loans provided by domestic banks to the economy – just under 70% of total corporate loans, with 45% being loans to small enterprises, more than one-half of which are dependent on domestic currency financing. Loans to large enterprises, which also use financing from their parent companies and foreign banks, account for the remaining 30% of total corporate loans. The share of euro loans in both above-mentioned segments of the credit market has stabilised recently.

The decrease in domestic interest rates is gradually passing through to rates on koruna loans to large and smaller enterprises, leading to a decline in the interest rate differential between domestic and euro rates in both segments (see Chart 8). In June, the koruna loan rate was 6.4% for small and medium-sized enterprises and 5.8% for large enterprises. The differential between these rates is close to the pre-Covid level and is not indicating markedly restricted availability of koruna loans for small and medium-sized enterprises compared with loans to large enterprises. The credit conditions of euro and koruna financing in the two segments have thus converged.

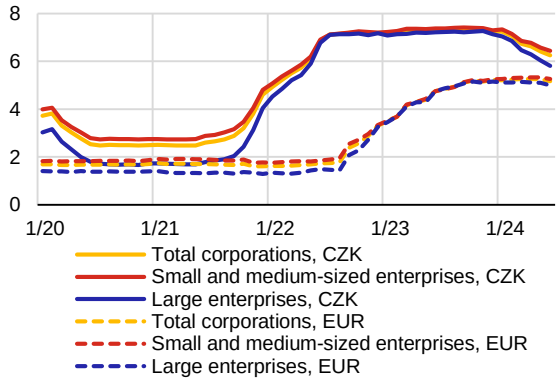
[51] The breakdown of enterprises by size is based on Recommendation 2003/361/EC of the European Commission of 6 May 2003. It takes into account the number of employees, the annual turnover and the balance sheet total of the various types of enterprise.

Chart 7: Euro loans to corporations by size
(volumes in CZK billions)



Source: CNB AnaCredit, CNB calculations

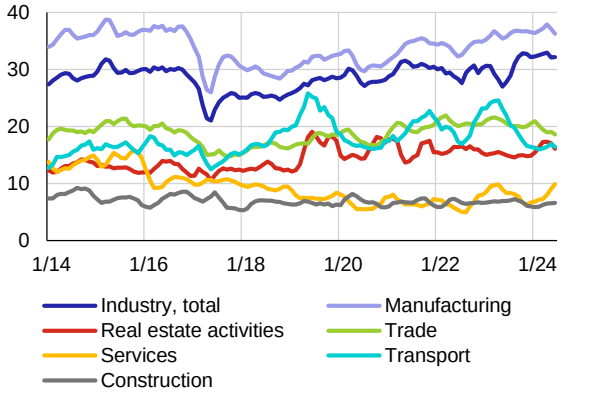
Chart 8: Interest rates on koruna and euro loans to corporations by size
(%)



Source: CNB AnaCredit, CNB calculations

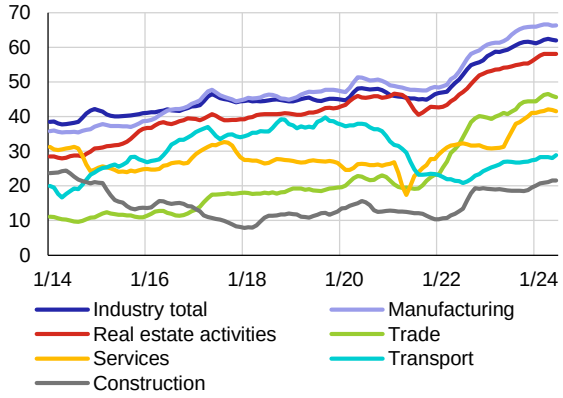
As regards corporate deposits, a euroisation trend has only been visible in industry recently. Despite strong trade links with the euro area, the share of euro deposits in total deposits in manufacturing remains much lower than the equivalent share for euro loans (see Charts 9 and 10). However, there may be further growth in euroisation due to the Accounting Act, which since 1 January 2024 has allowed selected entities to keep accounts in euro, and to the government's plan to allow wages to be paid to selected groups of employees in euro.

Chart 9: Share of euro deposits in selected sectors
(%)



Note: 3M moving averages.
Source: CNB, CNB calculations

Chart 10: Share of euro loans in selected sectors
(%)



Note: 3M moving averages.
Source: CNB, CNB calculations

Conclusion

The share of the euro in corporate loans provided by domestic banks has stabilised in 2024 following a significant increase. This has been aided by a decrease in the interest rate differential between domestic and euro rates, which is likely to continue to dampen euro financing of corporations in the period ahead. Following its decrease, the interest rate differential is at a level that is no longer very attractive in relation to exchange rate risk. In the longer run, however, the gradual euroisation of Czech corporations can be expected to continue in line with its long-running upward trend. Unlike the cyclical component, which has been affected by the past increase in the interest rate differential, this upward trend has long been due mainly to high trade integration with the euro area and corporations' efforts to hedge naturally against exchange rate risk. It therefore indicates a relatively low level of risk associated with potential euro adoption.

II.4 COMPARISON OF EU COUNTRIES' NET EXPORTS DURING THE CRISIS YEARS

Oxana Babecká Kucharčuková

Over the past five years, EU economies have been affected by two major shocks: the Covid-19 pandemic and the rise in energy commodity prices. These shocks also influenced their external positions. In this article, we examine the extent to which the response of net exports of individual EU countries was similar or different, and whether it depended on a country's membership in the euro area. Our findings indicate that the resulting change in net exports did not depend on euro area membership, but rather on the structural characteristics of individual economies. From the perspective of the resilience of the goods and services balance to these external shocks, adopting the euro would therefore neither offer significant benefits nor impose costs. However, this analysis examines extraordinary symmetric shocks, so its conclusions may not be directly applicable to asymmetric shocks.

The Covid-19 pandemic and the subsequent rise in energy commodity prices posed significant shocks for EU economies. The impact of the pandemic, particularly in 2020–2021, was characterised by a sharp decline in foreign trade turnover. However, it did not threaten the macroeconomic stability of EU economies as a whole, even though the adjustment mechanisms varied from country to country.[52] The dramatic rise in energy prices observed in 2022 constituted a negative terms-of-trade shock for most EU countries and led to a temporary trade deficit, even in countries that traditionally maintain a surplus (such as Germany and the Czech Republic).

This chapter analyses how these two shocks have cumulatively affected the net exports of EU countries, considering both volume and price effects, and examining goods and services separately. The distinction between price and volume effects may be important from the perspective of economies' competitiveness. It indicates whether economies can sell their goods even if relative prices have changed or if a volume adjustment is required. Currently, it is particularly relevant to examine whether the response of net exports of goods and services depends on a country's membership in the euro area or on other characteristics. If the type of response depended on monetary union membership, it would be important for the adoption of the euro to take this aspect into account.

The Bennet decomposition was used to identify price and volume effects,[53] with the initial application focused on data from national accounts. The advantage of this data is that exports and imports are broken down into goods and services at both current and constant prices. Cross-border statistics were used for additional analysis of goods categories. For comparability, the results were normalised as a percentage of 2019 GDP.[54] Cluster analysis, specifically a Gaussian mixture model,[55] was applied to the decomposed price and volume effects obtained. This model identified two main groups of countries and classified one country (Ireland) as an outlier.

The first group consists of countries where the volume of net exports of goods recovered after the shock, albeit with a slightly negative price effect. Growth in the volume of net exports of goods was mostly driven by faster growth in export volumes compared to import volumes, while prices of imports of goods typically rose faster than prices of exports of goods. For this group, net exports of services had a neutral impact on the balance of goods and services, in both volume and price components. Overall, net exports increased for most countries in this group compared to 2019 (see Chart 1). This group consists of Belgium, the Czech Republic, Denmark, Germany, France, Italy, Latvia, Hungary, the Netherlands, Austria, Poland, Slovakia, Slovenia, Finland, and Sweden.

In the countries in the second group, both prices and volumes of net exports of services have improved the goods and services balance post-2022 compared to the pre-crisis year 2019. However, in most countries within this group, this was insufficient to improve the overall balance of goods and services due to a decline in the volume of net goods exports, as the growth in goods export volumes was either negative or insufficient to offset the growth in goods import volumes. The adjustment for this group of countries was therefore attributed to their ability to increase the volume and relative prices of services exports (see Chart 1). This group of countries comprises Bulgaria, Estonia, Croatia, Cyprus, Greece, Lithuania, Luxembourg, Malta, Portugal, Romania and Spain.

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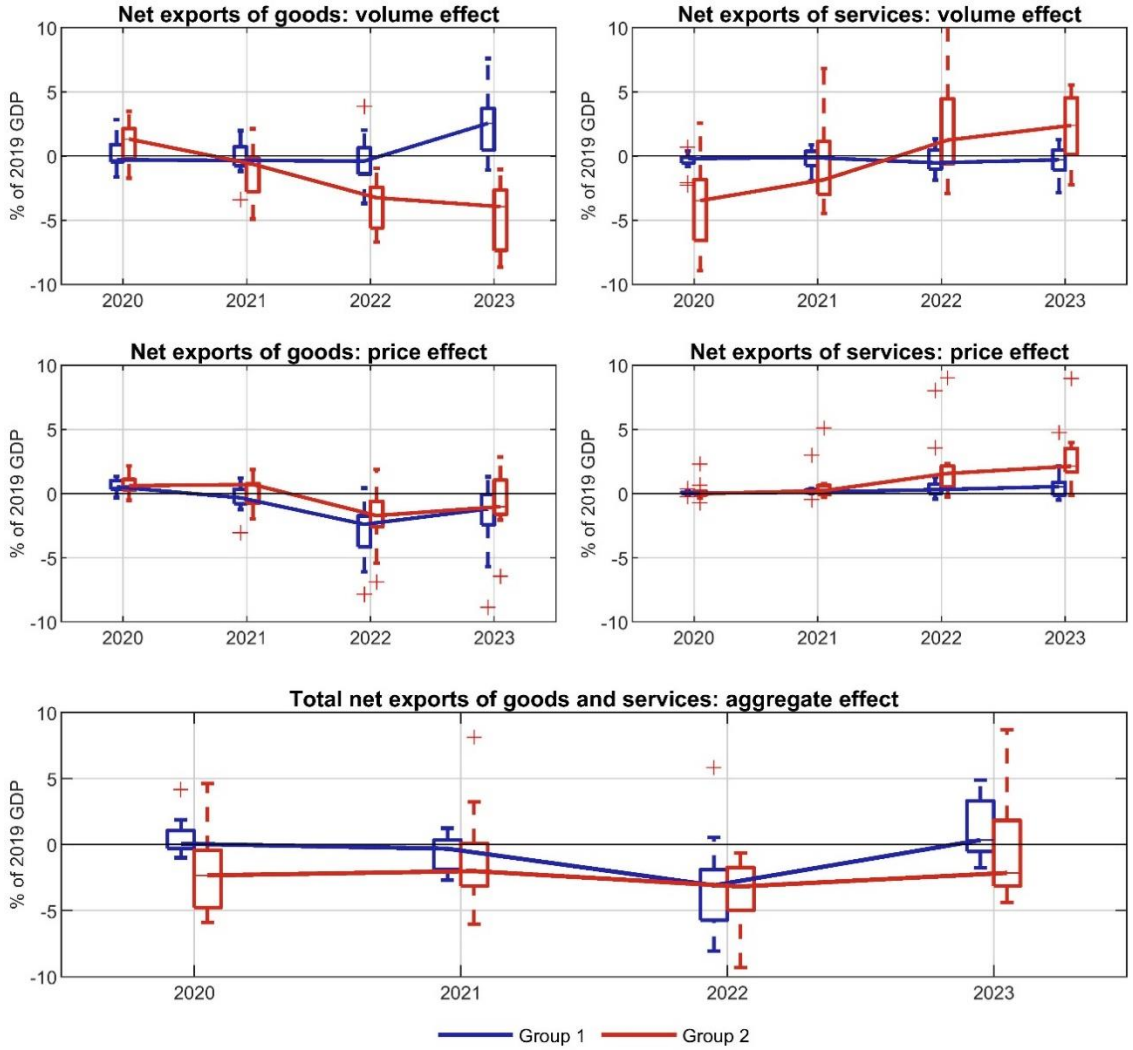
[52] See *Alignment Analyses 2021*, Thematic Chapter 2: *The pandemic shock and the external position of European economies.*

[53] See Bennet (1920). For a detailed procedure with an example using Czech data on foreign trade in goods, see Babecká Kucharčuková (2024).

[54] The reference year for the analysis is 2019, serving as the baseline against which data for other years are compared. The analysis covers data up to 2023, so the current year is not included.

[55] For more information on Gaussian mixture models, see, for example, Fruhwirth-Schnatter (2006).

Chart 1: Cumulative price and volume effects compared to 2019
(% of 2019 GDP)



Note: For each year, the cumulative impact is shown, i.e., the sum of impacts from 2019 to that year.
The boxplot shows the minimum value (excluding outliers), the 25% quantile (the lower edge of the rectangle), the 75% quantile (the upper edge of the rectangle) and the maximum achieved value (excluding outliers). Outliers are values which are higher or lower than the 75% or 25% quantile, respectively, by at least 1.5 times the interquartile deviation and are represented as separate points on the chart. The solid line connects the medians for individual years.

Source: Eurostat, CNB calculations

The decomposition of the change in net exports into the aforementioned price and volume effects for each group of countries indicates that the pandemic shock had only a minor impact on net goods exports in both groups (see Chart 1). While turnover fell sharply, declines in exports and imports largely offset each other. This pattern did not apply to services – in most countries in the second group (which includes countries that are typically net exporters of services), the volume of net exports of services dropped significantly during the pandemic, starting to gradually exceed pre-pandemic levels only after 2022.

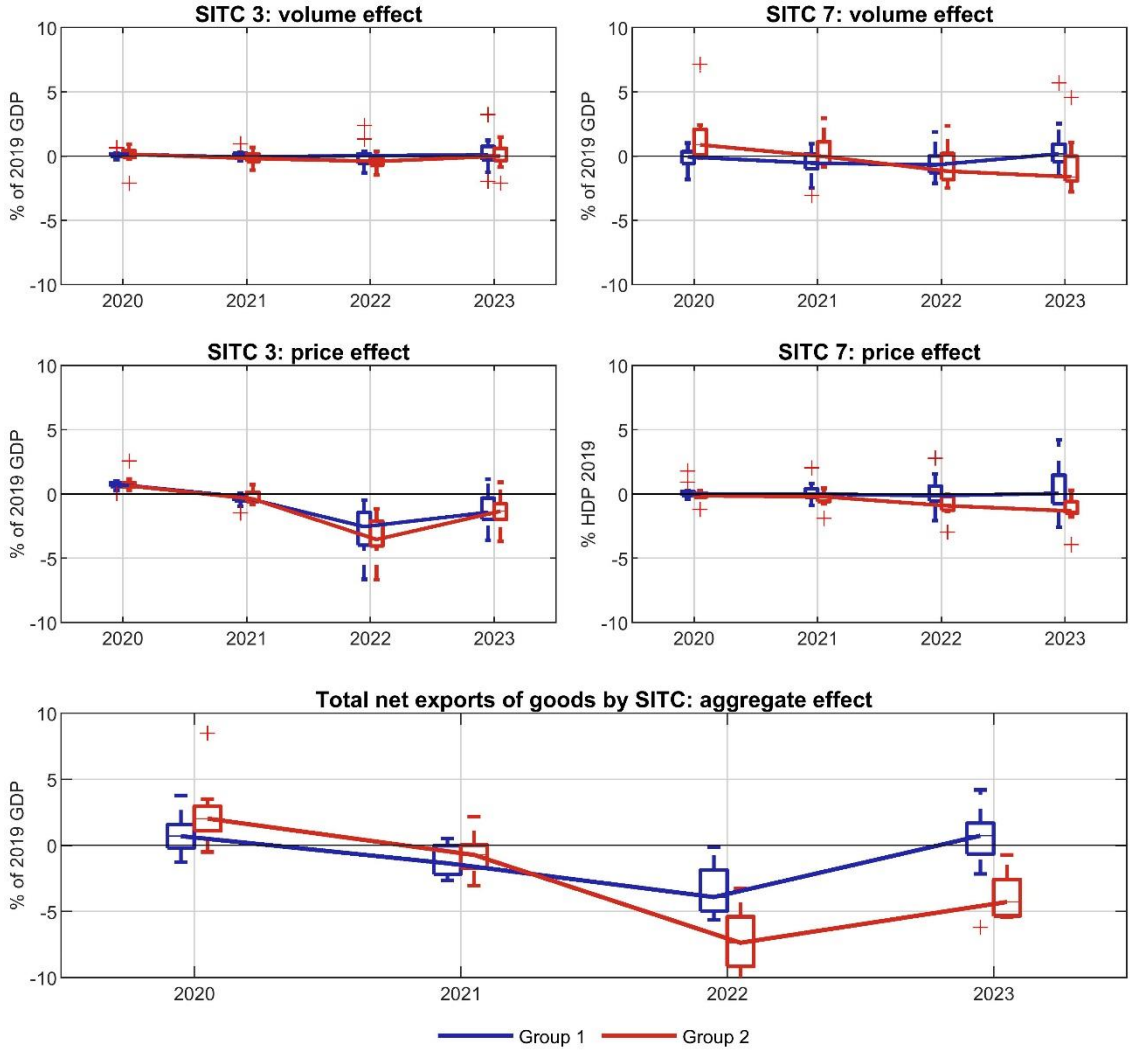
The sharp rise in energy prices in 2022 resulted in a negative price effect on net goods exports in most countries across both groups. However, the correction of energy prices in 2023 mitigated this negative price effect, while the volume effect in the first group of countries ultimately led to an increase in overall net goods exports. Overall, the impacts of the pandemic and rising energy prices affected the second group of countries more significantly, with total net exports in most of these countries still below pre-crisis levels by 2023.

The above groups of countries have different economic structures. Countries in the first group generally have a higher share of manufacturing in value added, with a median of almost 20%, as against less than 15% in the second group. Conversely, the share of market services in value added is typically lower in the first group, with

a median of 44%, as against 48% in the second group. Industrialised countries thus tended to respond through the volume of goods exports, while other countries responded through both the prices and volumes of services.

Differences are also visible across individual categories of goods (see Chart 2). The most interesting categories are mineral fuels (SITC 3),[56] dominated by crude oil and natural gas – items which were at the centre of media and analytical attention during the energy crisis – and machinery and transport equipment (SITC 7), which includes automotive industry products, a sector that plays a significant role in many EU countries, including the Czech Republic and Germany. Additionally, this category of goods accounts for the largest foreign trade turnover in nominal terms. In the mineral fuels category, countries with a higher share of services were somewhat more affected, especially through the price channel. Industry-oriented countries likely had a better opportunity to pass on the rise in energy commodity prices along the production chain to consumers. This led to a rise in both nominal imports and total nominal value added. However, the impacts on the balance of trade in the mineral fuels category were similar for both groups of countries in 2023: volumes returned to pre-pandemic levels, while import prices continued to push the overall effect downwards. In the category of machinery and transport equipment, the effect differs significantly. By 2023, countries with a higher share of industry (the first group) had already returned to pre-crisis levels in both price and volume effects, with a slight increase in volume. However, terms of trade – and especially net volumes – in the second group of countries remain below 2019 levels. The balance in the machinery and transport equipment category has also affected the overall goods trade balance (see Chart 2, bottom).

Chart 2: Price and volume effects in selected categories of goods according to SITC
(% of 2019 GDP)

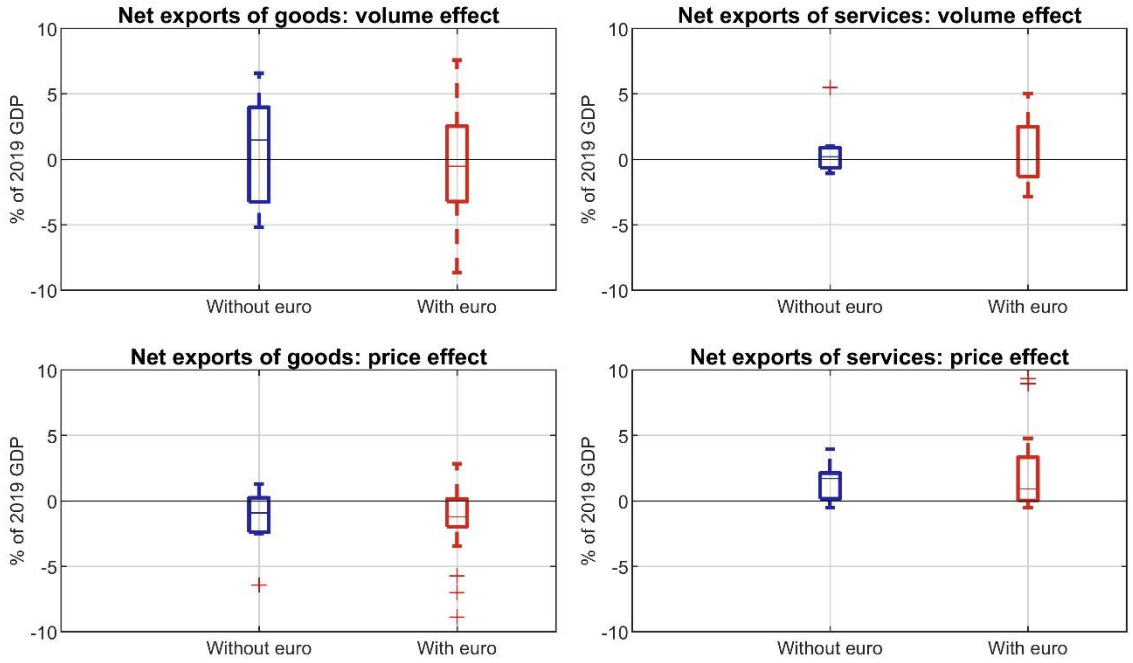


Note: SITC 3 denotes the mineral fuels category, and SITC 7 represents the machinery and transport equipment category.
Source: Eurostat, CNB calculations

[56] SITC (Standard International Trade Classification) is a classification system for goods used in international trade statistics.

Euro area membership did not play a significant role in determining a country's adjustment method. Instead, the adjustment method was determined more by the structure of the economy than by whether a country had its own currency or used the euro. In the event of a major global shock, both euro area countries and those with their own currencies may experience difficulties with external sustainability.[57] This is illustrated in Chart 3, which compares the price and volume effects of the aforementioned shocks separately for euro area countries and non-euro area countries. The distributions of these effects are very similar across both euro and non-euro area countries (and are not statistically significantly different).

Chart 3: Price and volume effects for euro area and non-euro area countries in 2023 compared to 2019
(% of 2019 GDP)



Source: Eurostat, CNB calculations

Conclusion

Using cluster analysis, we identified two basic types of responses of net exports of goods and services in EU countries to the shocks caused by the Covid-19 pandemic and the subsequent rise in energy commodity prices. The type of response to these extraordinary symmetric shocks depended not on euro area membership, but rather on the pre-crisis characteristics of each economy. While industrial countries responded to these shocks mainly through the volume of goods exports, countries with a lower share of industry and a higher share of market services in value added responded more through the volume and prices of services.

[57] A similar conclusion was reached for the Czech Republic using a different methodology in *2023 Alignment Analyses*, Thematic Chapter 2: *The exchange rate as a partial indicator for (non-)adoption of the euro* by Brůha, Komárek and Motl. Similarly, using data from 2007–2016, Brůha and Babecká Kucharčuková (2017) showed that the euro in itself is neither a threat to nor an advantage for economic resilience in the event of major shocks. What matters more is the quality of institutions. Additionally, it is important to note that the euro already plays a significant role in all EU countries as the currency used for contract invoicing (invoicing currency), which also reduces differences in trade balance responses between euro area and non-euro area countries.

II.5 ERM II AND THE MAASTRICHT CRITERION ON EXCHANGE RATE STABILITY: WHAT LIES AHEAD FOR INFLATION-TARGETING CENTRAL BANKS?

Kateřina Arnoštová and Luboš Komárek

The Maastricht convergence criterion on exchange rate stability is sometimes simplistically interpreted as a two-year stay in ERM II. This is necessary to meet the exchange rate criterion but does not in itself guarantee successful fulfilment of the criterion. A country's participation in ERM II leads to restrictions on exchange rate movements, which may complicate the achievement of the target in an inflation-targeting economy. It would thus be appropriate for the Czech Republic's stay in ERM II to focus on the fulfilment of the exchange rate criterion and for it to last only as long as necessary. However, this is only possible if the Czech Republic's ERM II entry is preceded by an unambiguous political commitment to adopt the euro within a specific time frame and to start preparations for meeting all the conditions for joining the euro area, i.e. not just the Maastricht convergence criteria.

By joining the European Union in 2004, the Czech Republic also committed to joining the euro area, i.e. to adopting the single European currency in the future.[58] Setting the date for joining the euro area is fully within the competence of the EU Member State concerned and should depend on its degree of preparedness. Entry into the euro area is conditional on a positive assessment of the country in the Convergence Reports of the European Commission (EC) and the European Central Bank (ECB), which evaluate the compatibility of the Member State's legislation with the Statute of the European System of Central Banks (ESCB) and the ECB and its compliance with the Maastricht convergence criteria.[59] These criteria assess price stability, the condition of public finances, the level of long-term interest rates and exchange rate stability. Fulfilment of the exchange rate criterion is conditional on a minimum two-year stay in the exchange rate mechanism ERM II, in which the exchange rates of the participating currencies are pegged to the euro. If the EC concludes in its Convergence Report that a country meets all convergence criteria and has compatible legislation, it makes a proposal to the EU Council to lift the temporary exemption from adopting the euro, opening the door for the country to join the euro area. Entry to the euro area is also linked to the obligation to join the banking union, which was established a decade ago in response to crises and the dangerous interconnectedness of banks and government debt in the euro area.

The functioning of ERM II

ERM II helps a country seeking to join the euro area to prepare for the conditions linked with a fixed exchange rate and provides information on the appropriate future conversion rate for replacing the domestic currency with the euro. A currency participating in ERM II (i.e. in the "euro waiting room") has a defined central parity (central rate) against the euro and a fluctuation band for exchange rate movements around this parity. Before the introduction of the euro, the currencies of the countries in the European Community were linked to each other through the European Currency Unit (ECU), a single basket-of-currencies unit within the original multilateral Exchange Rate Mechanism (ERM). This system aimed to minimise fluctuations between exchange rates and thus enable the creation of a single currency. The ERM fluctuation band was ±2.25% from the central parity (for some of the then participating countries it was temporarily set at ±6% from the central parity). However, in response to currency turbulence, it was widened to ±15% in August 1993. The same width was applied to the standard fluctuation band in ERM II, which replaced ERM upon the formation of the euro area in January 1999. However, participating countries may agree on a narrower fluctuation band[60] with ERM II parties.[61] A country may also

[58] The Czech Republic has the status of a Member State with a temporary exemption from introducing the euro (a derogation). Although there is no specific time limit for the Czech Republic's commitment to adopt the euro, it does not have a permanent exemption (an opt-out) from this obligation.

[59] The EC and the ECB Convergence reports are published simultaneously, but they are separate reports. The ECB and the EC consult each other during their preparation. However, only the EC report contains a clear assessment of compliance with convergence criteria. Convergence Reports are usually prepared once every two years (but can be prepared exceptionally at the request of a candidate country).

[60] Only Denmark has concluded an agreement on a narrower fluctuation band (of ±2.25%) around the central parity. This country joined the original ERM in the 1970s. However, it did not adopt the euro in January 1999 (like the United Kingdom, it negotiated an opt-out, i.e. a permanent exemption from adopting the euro) and continued to participate in ERM II. After the UK left the EU, Denmark is the only country with a permanent opt-out. Due to the permanent opt-out, Denmark is not assessed in the ECB and EC Convergence Reports. The opt-out from the Maastricht Treaty is unilateral and Denmark can revoke it at any time.

[61] The term ERM II parties refers to the ECB, the euro area Member States (through their finance ministers) and the Member States participating in ERM II (currently Denmark and Bulgaria, through their finance ministers and the governors of their national

unilaterally undertake an obligation to maintain a narrower fluctuation band. However, this does not impose any obligations on the other ERM II parties (ERM II rules thus apply to the standard ±15% band in this case).

In the event of pressures to breach the standard fluctuation band of ±15%, the exchange rate is automatically maintained within the band through interventions (marginal interventions) in the foreign exchange market, coordinated by the ECB and the national central bank of the country concerned on the basis of an agreement between the ECB and non-euro area national central banks on the functioning of ERM II.[62] According to this agreement, coordinated interventions can also be conducted within the fluctuation band (intra-marginal interventions).[63] The ECB and the other central banks in ERM II (i.e. the Danish central bank and the central banks of the other potential euro-candidates) inform each other about all the foreign exchange interventions conducted. The ECB and the national central banks may halt the interventions should they conflict with the banks' primary objective of maintaining price stability.[64] All the ERM II parties have the right to initiate a confidential procedure aimed at reconsidering the participating currencies' central parities or a confidential re-examination of the appropriateness of the respective currency's participation in a formally agreed fluctuation band that is narrower than the standard one. Other types of closer exchange rate arrangements of an informal nature may also be established between the ECB and the participating non-euro area national central banks. The functioning of ERM II is overseen by the General Council of the ECB.

Entry into ERM II

Applicants to ERM II may be required to fulfil conditions that are not directly related to exchange rate stability, the exact form of which cannot be fully estimated in advance. The ERM II parties decide whether to accept a country to ERM II. The decision on the participation of a currency in ERM II is preceded by a number of public and non-public preparatory consultations, which result in setting the conditions for entry (and the acceptance of commitments by the acceding country). The fulfilment of these conditions must subsequently be positively assessed by the EC and the ECB. Another essential result of the negotiations is the setting of the central parity of the newly participating currency against the euro. This is usually set close to the current market value of the exchange rate shortly before entry into ERM II.[65] Given the need to prevent speculation on changes in the exchange rate, negotiations on setting central parity are confidential.

Croatia's and Bulgaria's entry into ERM II was accompanied for the first time ever by their simultaneous accession to the banking union. Although the entry of both countries into the banking union was formally a voluntary commitment, it was, de facto, a condition for joining ERM II. Moreover, such an approach was identified by the ERM II parties as a precedent for other ERM II candidates and can be assumed to be required of all future ERM II applicants. However, EU law does not stipulate entry to the banking union as a condition for joining ERM II, while the obligation to join the banking union is linked to euro area membership. As the requirement to join the banking union (in the form of establishing close cooperation with the ECB and joining the Single Supervisory Mechanism (SSM) and Single Resolution Mechanism (SRM)) would represent a fundamental change for banking supervision (while the position of non-euro area countries in the banking union would not be equal to that of euro area countries), the Czech Republic has declared that it does not feel legally obliged to adopt Bulgaria's and

central banks). The European Commission is not one of the ERM II parties, but it typically provides comments to the ERM II parties when accepting new ERM II members.

[62] The interventions of the ECB and national central banks within ERM II are governed in more detail by the Agreement between the ECB and the national central banks of the EU Member States outside the euro area on the operating procedures for an exchange rate mechanism in stage three of economic and monetary union of 16 March 2006 (as amended). The consolidated version is available here: <https://eur-lex.europa.eu/legal-content/CS/TXT/?uri=CELEX:02006X0325(01)-20200201>.

[63] In 2013, O. Dědek commented on the issue of interventions within the ±15% band and their problematic utility for countries with floating exchange rates: *"It seemed highly unwise to resort to increased foreign exchange interventions just to maintain exchange rate fluctuations within an unnaturally narrow band. In addition, unlike the coordinated collective actions of central banks during the ERM era, such interventions were unilateral interventions by the central banks of candidate countries. The ECB was only committed to intervening at the margins of the broad band, and even then only after considering the impacts on price stability. In an environment of near-perfect capital mobility, such an illusion of a fixed exchange rate could become an invitation to exchange rate speculation."*

[64] For the purposes of interventions, the ECB and all participating non-euro area national central banks open short-term credit facilities for each other. The debtor central bank shall make appropriate use of its foreign reserve holdings prior to drawing on the facility.

[65] However, in addition to the current exchange rate, the sustainability of the exchange rate path is also assessed (demonstrating proximity to the equilibrium exchange rate and the central bank's intervention passivity). The outcomes of equilibrium exchange rate models (such as the BEER and FEER models) are usually presented in discussions with European institutions.

Croatia's approach and does not regard participation in the banking union as a pre-condition for its own ERM II entry. *(This topic is discussed in more detail in thematic chapter 6: The banking union and the Czech Republic.*[66]*)*

ERM II as a Maastricht convergence criterion

A country's minimum two-year stay in ERM II is a necessary condition for the fulfilment of the criterion on exchange rate stability but does not in itself mean that the criterion is met. The Treaty on the Functioning of the EU (Article 140) defines the exchange rate criterion as *"the observance of the normal fluctuation margins provided for by the exchange rate mechanism of the European Monetary System, for at least two years, without devaluing against the euro"*. However, Protocol (No 13) on the convergence criteria stipulates that the exchange rate must not have been subject to severe tensions in the period under assessment and, in particular, that the Member State must not have devalued its currency's central rate against the euro on its own initiative. The interpretation of this criterion by the EC, which assesses the fulfilment of the criteria, is thus crucial for assessing compliance with this – not entirely clearly defined – criterion.

To meet the exchange rate criterion, the EC requires the exchange rate to stay close to the ERM II central parity. The EC's Convergence Reports state that *"in assessing compliance with the exchange rate criterion, the Commission examines whether the exchange rate has remained close to the ERM II central rate, while reasons for an appreciation may be taken into account"*.[67] The ECB also points out in its Convergence Reports that *"the width of the fluctuation band within ERM II does not prejudice the examination of the exchange rate stability criterion"*. To understand this approach, it should be noted that the exchange rate criterion was defined at a time when the width of the standard band was ±2.25%.[68] Its widening to ±15% in August 1993 made the interpretation of the criterion ambiguous. This topic was discussed in more detail in the EC's 2000 Convergence Report.[69] According to this Report, the ±15% band is inappropriate for an assessment of exchange rate stability for several reasons[70] and, in line with the principle of equal treatment, an exchange rate should be maintained within the ±2.25% band around central parity for the purposes of assessing its stability. However, the assessment should take into account the circumstances and distinguish whether this narrower fluctuation band has been breached on the appreciation (strong) side or the depreciation (weak) side. When assessing the fulfilment of the exchange rate criterion, the EC is more benevolent to appreciation,[71] which tends to accompany economic convergence, and tolerates a revaluation of the central parity (by agreement of the ERM II parties).

That said, maintaining the exchange rate close to the central parity may not be sufficient to successfully fulfil the exchange rate criterion if this was achieved using excessive interventions or non-market measures. This is because the European Commission and the ECB examine not only the extent to which the exchange rate deviated from the central parity, but also whether its stability was genuine or apparent (achieved through currency interventions). They thus assess how much the exchange rate has been exposed to pressures

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[66] See also articles on the CNB website: Marek Mora and Martin Vojta: *Mění eurozóna v tichosti podmínky pro přijetí eura?* [*Is the eurozone quietly changing the conditions for adopting the euro?*; in Czech only] and Luboš Komárek: *Euro a my: ERM II a vstup do bankovní unie*; [*The Euro and Us: ERM II and Entry into the Banking Union?*; in Czech only].

[67] This formulation comes from a joint declaration by the ministers of finance, the president of the ECB, the governors of national central banks of EU Member States and representatives of the European Commission, issued during the informal ECOFIN Council meeting in Athens on 5 April 2003. This declaration was intended for the then EU accession countries, including the Czech Republic. Since then, the EC's Convergence Reports have cited it in their interpretation of the exchange rate stability criterion, drawing attention to the following sentence from the declaration: "*Moreover, the assessment of exchange-rate stability against the euro will focus on the exchange rate being close to the central rate while also taking into account factors that may have led to an appreciation, in line with what was done in the past."* The full text of the joint declaration is available here: <https://eu.vlex.com/vid/common-statement-acceding-countries-athens-455597>.

[68] The original definition of the criterion was included in the Treaty on the EU signed in Maastricht in February 1992 (and entering into force in November 1993). The criterion initially applied to ERM, which was replaced by ERM II when the euro area was created in 1999.

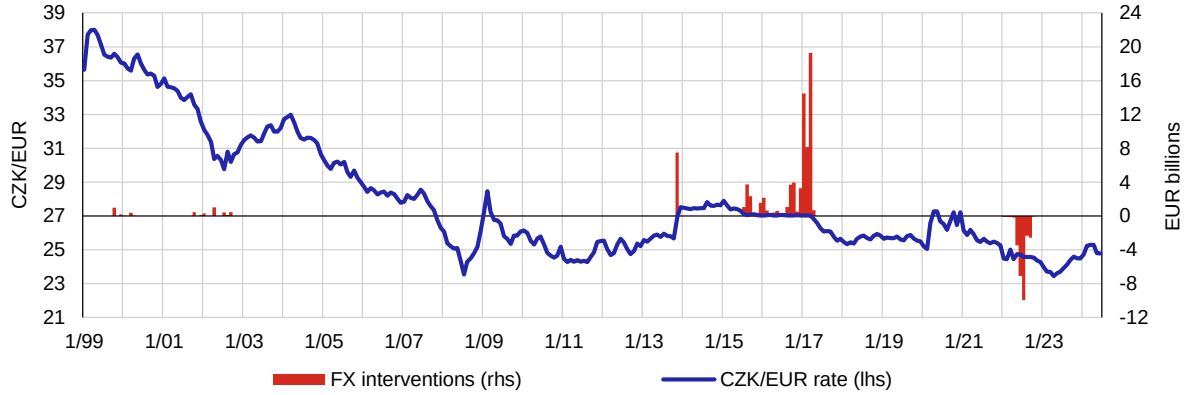
[69] Available online: <https://ec.europa.eu/economy_finance/publications/pages/publication8912_en.pdf>, see Annex D for the relevant passage.

[70] According to the EC, the reasons are the following: (i) the Treaty establishing the European Community was drafted when the narrower 2.25% band was applied; (ii) the wider band provides a very accommodative benchmark against which to measure exchange rate stability; (iii) the widening of the band was originally introduced as a temporary measure; and (iv) the intention in widening the band was not to facilitate greater exchange rate variability but to counter speculation against ERM currencies.

[71] Depreciation exchange rate movements could display the signs of competitive devaluation and create an unfair competitive advantage.

and how sustainable its current level is.[72] Short-term interest rates, which necessarily align with euro area interest rates as of the date of a candidate country's euro area entry, are also monitored, and the context of the overall economic and political situation is also taken into account (clearly an assessment during the peak of a pandemic crisis or similar turbulent times, for example, would differ from an assessment in stable years).

Chart 1: The koruna exchange rate and the CNB's foreign exchange interventions
(exchange rate in CZK/EUR, intervention in EUR billions per calendar month)



Note: The CNB committed to keep the exchange rate above CZK 27 to the euro (achieving this using foreign exchange interventions) as part of its exchange rate commitment, which was in place from November 2013 until April 2017.
Source: CNB

Historical experience with the EC's approach to assessing compliance with the exchange rate criterion shows that compliance with an asymmetric band of +2.25% (depreciation) and -15% (appreciation) against the central parity can be considered unproblematic. Revaluation of the central parity (by agreement of the ERM II parties) should not be a problem either. Since the establishment of the euro area in January 1999, nine countries have passed through ERM II and subsequently joined the euro area (listed in order of their euro area entry date): Greece, Slovenia, Cyprus, Malta, Slovakia, Estonia, Latvia, Lithuania and Croatia. The current ERM II members include Bulgaria (seeking entry to the euro area) and Denmark (a country with an opt-out from adopting the euro). Only Denmark has an agreement to maintain a fluctuation band narrower than the standard (±15%). However, some of the above countries have unilaterally undertaken to maintain a narrower band.[73] All the countries except Greece and Slovakia kept their exchange rates in the narrower ±2.25% band around the central parity in the period under assessment. The exchange rates of Greece and Slovakia did not weaken beyond the +2.25% margin around the central parity either. However, they attacked the -15% margin due to prevailing appreciation tendencies and, following an agreement with the ERM II parties, Greece and Slovakia revalued their central parities.[74] Some of the above countries kept their exchange rates close to the central parity only at the cost of relatively large foreign exchange interventions, which were not assessed by the EC as incompatible with the fulfilment of the exchange rate criterion. This – together with the not fully clarified difference between the ERM II standard fluctuation band and the requirement for the exchange rate to stay close to the central parity – shows the persisting interpretation uncertainty regarding the exchange rate stability criterion, the removal of which would help steer the debates in euro candidate countries.

Possible conflict between efforts to maintain price stability and exchange rate stability

For the Czech Republic as a country with a managed float, joining ERM II will bring a fundamental change to its exchange rate regime. The CNB's monetary policy operates in an inflation targeting regime, which means that it seeks to fulfil the inflation target primarily through a change in interest rates, while the exchange rate adjusts

[72] Regarding the assessment of exchange rate stability, the EC Convergence Reports state: *"the Commission takes into account developments in auxiliary indicators such as foreign reserve developments and short-term interest rates, as well as the role of policy measures, including foreign exchange interventions, and international financial assistance"*.

[73] Latvia committed to complying with the ±1% band. Malta committed to pegging its exchange rate to the euro at the central parity. Estonia, Lithuania and Bulgaria committed to continuing under the currency board arrangement (a fixed exchange rate regime without their own monetary policy), which they had already operated under before ERM II entry.

[74] Greece revalued the central parity once (by 3.6%) and Slovakia twice (by 8.5% and 17.6%).

freely and its movements reduce the impacts of external shocks to the economy.[75] In this regime, the exchange rate is also an integral part of the monetary policy transmission mechanism, through which changes in the central bank's interest rates lead to changes in inflation in the required direction over an appropriate time horizon. Reducing the flexibility of the koruna exchange rate to ±15% around the chosen central parity (or narrowing it even much more in an effort to meet the exchange rate criterion) would thus – especially in the event of a long (i.e. significantly more than two-year) stay in ERM II – limit the functioning of the exchange rate as a natural adjustment mechanism and an element of monetary policy transmission.

If the Czech Republic participates in ERM II, the CNB's monetary policy will have to focus on two goals (inflation and the exchange rate) simultaneously, which may reduce its effectiveness and make it more difficult to understand. Efforts to ensure fulfilment of the exchange rate criterion may not be consistent with the optimal monetary policy response needed to achieve the 2% inflation target. The CNB could thus face a dilemma whether to strive for stability of the nominal exchange rate close to the central parity or continue to maintain low and stable inflation (which is simultaneously required to meet another Maastricht criterion).[76] In general, the more exchange rate is constrained, i.e. the closer it is to a fixed exchange rate regime, the less it is suited to inflation targeting. In the event of a longer stay in ERM II (especially if the central bank prioritises its primary goal of price stability), European institutions might assess the exchange rate developments in EMR II as unsatisfactory for euro area entry (due, for example, to the exchange rate remaining more than +2.25% from the central parity on the depreciation side of the band or the central bank's unacceptable activities on foreign exchange markets). In such a case, the notional stopwatch counting down the time period of a minimum two-year stay in ERM II would start to measure another attempt to receive a positive assessment of compliance with the exchange rate criterion from the beginning again, which would extend the stay further.

A markedly longer stay in ERM II, which may also be due to non-compliance with other conditions for euro adoption, could introduce new speculative motives in the behaviour of financial market agents to test intervention limits within ERM II. These would appear both at around +2.25% (depreciation) from the central parity, which is the assumed limit for potential intervention by the national central bank striving to meet the exchange rate criterion (i.e. without the obligation for the ECB to be involved as a co-intervener), and close to both 15% margins of the ERM II band, where the ERM II parties (i.e. the national central bank and the ECB) make coordinated interventions. Moreover, in the event of depreciation pressures (which are assessed more strictly by the EC), the central bank would have to buy the domestic currency (koruna) and sell euros during interventions, thus reducing its foreign exchange reserves, which would be limited by their total amount.

The Czech Republic's stay in EMR II can only be credible (and thus less susceptible to speculation) with the prospect of its short duration, i.e. the country's early entry into the euro area and the related irrevocable fixing of the exchange rate (the adoption of the euro and conversion of koruna to euro at the chosen conversion rate). With sufficiently prudent economic policies, a flexible economy and macroeconomic stability, an approximately two- to three-year[77] participation in ERM II with a fluctuation band of ±15% may proceed smoothly. However, compliance with the ±2.25% narrower band may not be smooth sailing even in the short term. Chart 2, which illustrates the movements of the koruna-euro exchange rate around the hypothetical parities set always from the beginning of the year at the exchange rate at the end of the previous year, shows that from 2017 onwards the koruna has always fluctuated within the ±15% hypothetical band. However, this does not apply to the narrower ±2.25% band (where the koruna depreciated above the +2.25% margin). Therefore, maintaining the exchange rate

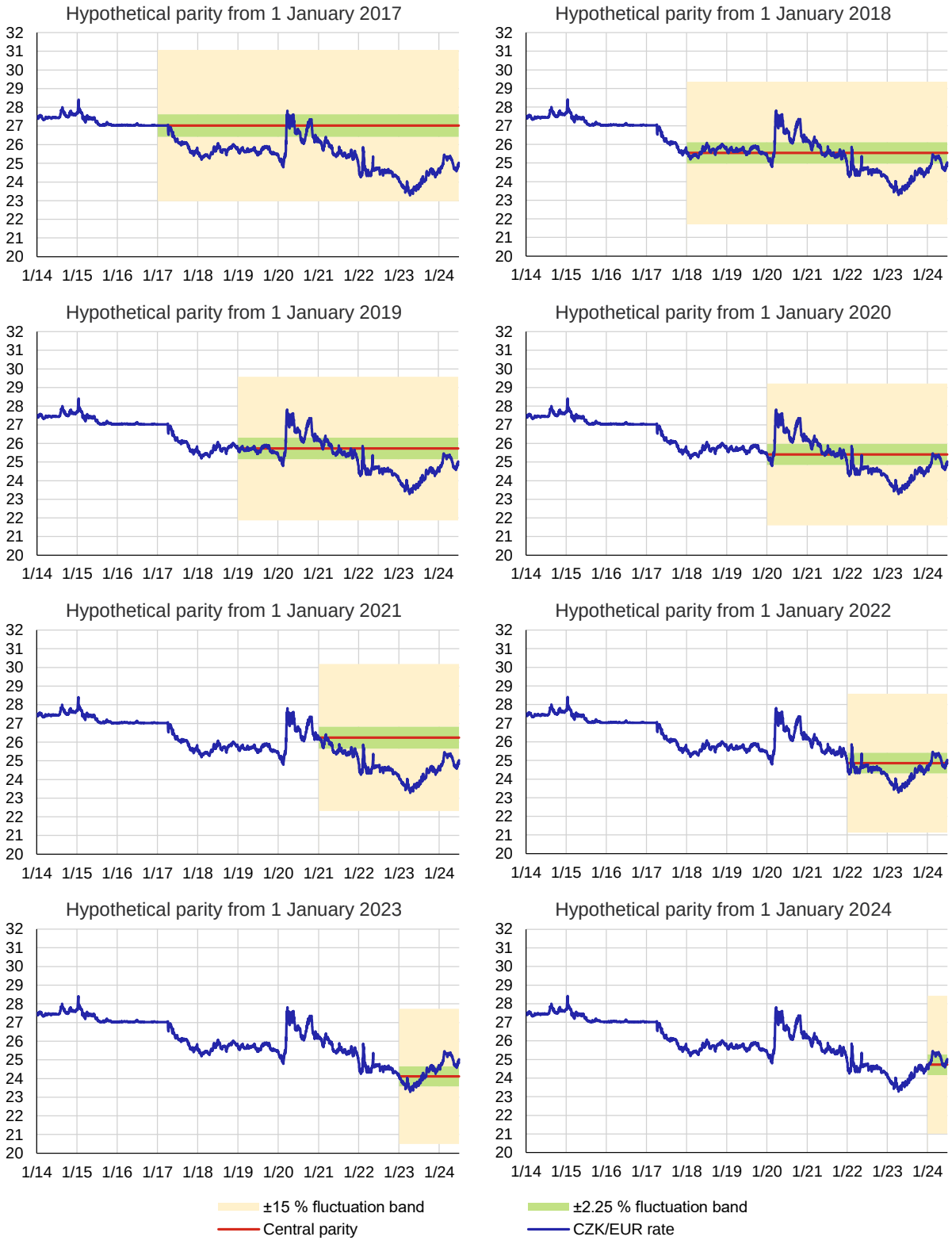
[75] The Czech koruna operates under a managed float (a flexible exchange rate regime). In this regime, the exchange rate moves according to supply and demand on the foreign exchange market. However, the central bank steers ("manages") the exchange rate through foreign exchange interventions if necessary. When a euro candidate participates in ERM II, its exchange rate is pegged to the euro with horizontal bands for limited movement. Of the above countries, only Slovakia was in a similar situation to the Czech Republic before joining ERM II. All the other countries already had their exchange rates pegged to the euro in some form before ERM II entry (Croatia – a tightly managed exchange rate; Greece, Slovenia, Cyprus, Malta and Latvia – an exchange rate pegged to the euro or a currency basket with varying widths of fluctuation bands; Estonia, Lithuania and Bulgaria – a currency board, i.e. a fixed exchange rate without the use of interest rates as a monetary policy instrument).

[76] The reference value of the price stability criterion may be lower than the average of the euro area to which the exchange rate of a country participating in ERM II is pegged.

[77] The interval of two to three years is the shortest possible duration of a country's stay in ERM II before it joins the euro area. A country's stay in ERM II for at least two years, which is necessary to fulfil the Maastricht criterion, and the subsequent approval of its euro area entry by the EU Council is followed by a period of final technical preparations (displays of duel prices in the domestic currency and the euro and the minting of euro coins, for example). Only then is the domestic currency replaced by the euro. In terms of the practical implementation of the changeover to a new currency, it is also appropriate to join the euro area at the turn of the calendar year. Croatia, for example, joined ERM II on 10 July 2020. The EU Council approved its entry into the euro area on 12 July 2022. The country joined the euro area on 1 January 2023.

within the narrower fluctuation band would probably have required some central bank intervention activity in recent years, but this might not have been assessed as non-compliance with the exchange rate convergence criterion.

Chart 2: The koruna exchange rate, the hypothetical central parities and the fluctuation bands around these parities (±15% and ±2.25% bands around the central parity)



Note: The hypothetical parity always starts on 1 January. It is set at the exchange rate as of the end of the previous year. The exchange rate was affected by the exchange rate commitment from November 2013 until April 2017 and by foreign exchange interventions preventing excessive fluctuations in the koruna during 2022.

Source: CNB

The argument for the Czech Republic staying in ERM II for as short a time as possible is also based on the fact that euroisation of the Czech economy is likely to increase significantly during its participation in ERM II. However, euroisation reduces the effectiveness of domestic monetary policy and is associated with higher sensitivity of the domestic economy to exchange rate movements. A sharp increase in euroisation would thus be undesirable without the prospect of the Czech Republic joining the euro area soon.

Conclusion

The stay in ERM II is associated with costs arising from the loss of a floating exchange rate and autonomous monetary policy, but does not guarantee the full materialisation of the potential benefits of a fixed exchange rate, nor does it allow participation in the formulation of the euro area's single monetary policy. Participation in ERM II (unlike the irrevocable fixing of the exchange rate within the monetary union) does not in itself eliminate the risk of currency turbulence, and the exchange rate risk in general. By contrast, a longer stay in this regime could be accompanied by susceptibility to exchange rate speculation. Moreover, a potential longer stay in ERM II would weaken the effectiveness of the CNB's monetary policy, which would become difficult to understand and lose its credibility. This would ultimately also complicate the fulfilment of the Maastricht criterion on price stability, which is also necessary for adopting the euro. Therefore, a longer stay in EMR II than the minimum required period, linked to preparations for a specific euro adoption date, does not appear desirable or beneficial to the macroeconomic stability of the Czech Republic. As the minimum required duration of a country's stay in ERM II is two years, which is followed by an assessment of compliance with the conditions of, and the final preparations for, euro adoption, ERM II entry should not happen earlier than around two to three years before the planned euro area entry. However, this will only be possible if the Czech Republic's entry in ERM II forms part of a credible plan for adopting the euro based on a political decision by the Czech government to strive for euro adoption within a specific time frame.

Moreover, the Czech Republic's entry into ERM II without a specific plan and ongoing preparations for euro adoption would raise questions as to whether the CNB should strive to meet the exchange rate criterion (i.e. maintain the exchange rate close to the central parity), or whether it should – with the prospect of a longer ERM II stay – only maintain the exchange rate in the standard ±15% fluctuation band around the central parity, which would allow for more flexibility within the inflation targeting regime (although it would be a limited and more difficult to understand form of this regime).

II.6 THE BANKING UNION AND THE CZECH REPUBLIC

Miroslava Gyurisová, Petr Jeník and Martin Vojta

Since the Czech Republic joined the EU in 2004, the conditions that a candidate country must meet on joining the euro area have changed significantly due to economic and political developments. Entry into the banking union is one of these major changes. This has serious implications, so it is legitimate to consider its impacts in the debate on adopting the euro and setting an adoption date. This thematic chapter therefore contains a brief review of the current form of the banking union project, a description of the main changes that joining the banking union would entail compared to the current situation in the Czech Republic, an analysis of whether the country will actually need to join the banking union before it adopts the euro, and a discussion of the specifics of such situation.

A key consequence of joining the banking union[78] is a transfer of powers in the area of supervision, crisis prevention and resolution of credit institutions from national authorities to the EU level. EU law implies an obligation to become a member of the banking union by the time the single currency is adopted at the latest, but recent political developments and the experience of Bulgaria and Croatia indicate that euro area members are in fact expecting candidate countries to do so much earlier – at the same time as joining the ERM II exchange rate mechanism. The Czech Republic has raised objections to this precedent, but it can reasonably be expected that the euro area Member States will apply this approach – which the European Commission has backed in its convergence reports – to future ERM II candidates.

Summary of recent developments in the banking union

The banking union was created in response to a rise in market distrust in the euro area banking systems and the collapse of major banks and cross-border banking groups based in the euro area, whose bail-out required high public spending during the financial and debt crisis after 2008. One of the key problems was the threat posed by many banks' problematic balance sheets to public finances, which in many countries were in very bad shape and for which an additional fiscal burden in the form of remediation costs might have been fundamentally problematic, with a risk of contagion to other countries in the monetary union.[79] At the same time, banks' financial health was in many cases endangered by risks arising from holdings of government bonds of overindebted countries on their balance sheets (the sovereign–bank nexus). The threat to the euro area itself prompted a fundamental political response to rescue the single currency. In 2012, the ECB declared itself ready to buy large amounts of government bonds if necessary to preserve the euro.[80] Another measure taken in response to this situation was the establishment of a banking union, involving a transfer of supervisory powers and responsibility for the supervision and resolution of significant banks from the level of individual EU Member States to supranational institutions. One of the main aims of this measure was to limit the sovereign–bank nexus. However, owing to the high political sensitivity of the issue of risk sharing and joint financing instruments and the fundamentally diverging views of Member States on the need for them, as well as on their form and scope, the banking union project has still not been completed in this respect.

Therefore, the banking union's institutional framework has so far been composed of two fundamental pillars, while the third pillar is still awaiting completion. The Single Supervisory Mechanism (SSM)[81] has been operational since November 2014 and the Single Resolution Mechanism (SRM) since January 2016.[82] A proposal

[78] The term banking union is not defined in any legislation and is generally used as a political umbrella term. It can be interpreted in various ways. It sometimes refers to both the Single Rulebook, which governs banking supervision, prudential standards for credit institutions, resolution and deposit insurance, and which applies to all EU countries, and to the common EU institutions entrusted with supervisory and resolution powers, although only in the countries participating in the banking union (i.e. currently the euro area countries and Bulgaria). It sometimes refers only to the common EU institutions. In this text, we use the term banking union in this narrower sense, limited to the institutional framework and the newly created common mechanisms.

[79] The problems could result in a loss of government access to public debt financing on international markets or a threat to the functioning of the single monetary policy.

[80] See the blog article on the CNB website by Deputy Governor Jan Frait and Zlatuše Komárková: *Deset let od eskalace dluhové krize eurozóny* [*Ten years since the escalation of the euro area debt crisis*; in Czech only].

[81] Established based on Council Regulation No 1024/2013 of 15 October 2013 conferring specific tasks on the European Central Bank concerning policies relating to the prudential supervision of credit institutions.

[82] Established based on Regulation (EU) No 806/2014 of the European Parliament and of the Council of 15 July 2014 establishing uniform rules and a uniform procedure for the resolution of credit institutions and certain investment firms in the framework of a Single Resolution Mechanism and a Single Resolution Fund and amending Regulation (EU) No 1093/2010.

for a third banking union pillar, the European Deposit Insurance Scheme (EDIS), was presented by the Commission in November 2015, but no consensus has yet been reached between EU Member States.[83] The debate on this key issue from the viewpoint of the potential impacts of the Czech Republic's possible entry currently seems to be deadlocked. The latest relevant statement issue by the Eurogroup in inclusive format in 2022 dealt only with minor legislative reforms in the area of resolution (the CMDI framework) and contained no specific plans for further discussion of the EDIS.

From the outset, the banking union has been designed as a project for euro area countries, and its institutional set-up and governance correspond to this. All euro area countries participate in the banking union, whereas non-euro area EU countries have the option of joining it by submitting a request to enter into close cooperation. However, non-euro area countries participate in the banking union on an unequal footing with those of the euro area. This is because single supervision was entrusted to the European Central Bank.[84] The IMF reached the same conclusion in the past.[85] Because of the not entirely equal position of euro area Member States and non-euro area Member States in the banking union, the participation of an EU Member State in the banking union before it joins the euro area is conceived as voluntary. There is also an option of unilaterally terminating close cooperation in the event of disagreement with an ECB/SSM decision. However, this should be seen as hypothetical given the extreme reputational, financial and other costs that such action would have in practice..

Bulgaria and Croatia were the first two non-euro area countries to join the banking union. They entered into close cooperation with the ECB in the context of their entry into ERM II and became members of the SSM and the SRM on 1 October 2020. Croatia then left the close cooperation system and became a full member of the banking union when it joined the euro area (on 1 January 2023).

Main consequences of the Czech Republic's potential entry into the banking union

The CNB currently supervises credit institutions domiciled in the Czech Republic and, to a limited extent, also local branches of foreign banks from EU countries and third countries. The CNB is also the resolution authority and the authority responsible for financial stability. The final decision, including responsibility, in the area of supervision and resolution (including for Czech subsidiaries of foreign banks from euro area countries, which account for the largest market share in the Czech Republic) thus currently resides solely with the Czech authorities, which have the necessary tools to ensure financial stability in the Czech Republic. Upon joining the banking union, decision-making powers would be transferred to the EU authorities, in which Czech representatives would share decision-making powers with representatives of other Member States. At the same time, however, representatives of the Czech Republic would be able to participate in decisions on entities in the EU that are not active in the Czech Republic, including the assumption of a certain proportion of the responsibility and costs.

The applicable legislative framework regulating the banking sector, which applies to the entire EU (the Single Rulebook), is unchanged for an entering country. However, banking union institutions may take a different approach to the interpretation of individual standards to that of the national supervisory authority, including different approaches to the discretion EU rules grant to supervisory authorities and to administrative discretion. The EU authorities will be responsible for the financial stability of banks in the banking union as a whole, not just the stability of the Czech banking sector, so it is possible that any problems in the Czech Republic would be treated differently or with different priorities than those of the CNB.

With the transfer of powers to EU institutions, the following changes can be expected in the areas of supervision, resolution and common financing:

[83] The split opinion of the EU Member States concerns the issue of risk reduction vs. risk sharing. The northern Member States have long called for a sufficient reduction in risk in the banking sectors of banking union countries before it can be shared further. On the other hand, the southern Member States, supported by the EU institutions, think that considerable progress has been made in the area of risk reduction and that risk sharing in the form of the establishment of an EDIS needs to be completed swiftly.

[84] Non-euro area banking union countries are represented on the ECB's Supervisory Board but not on the ECB's Governing Council, the supreme governing body of the SSM, on which only the governors of the euro area Member States' central banks are represented in accordance with primary EU law. In addition, these countries, or the banks based in them, do not have access to the ECB's emergency liquidity assistance (ELA) or to the common backstop in the form of the ESM (as only euro area countries may sign the ESM Treaty). The lack of access to ESM money is replaced by a duty to provide government credit lines for the SRB. However, the costs of these lines may not be (and will not be in practice) the same as the costs of ESM resources.

[85] See IMF (2015).

i) Supervisory changes

After the Czech Republic's entry to the SSM, the ECB would assume direct supervision (including penalty proceedings) of the largest domestic credit institutions (significant institutions, determined based on the criteria laid down by EU regulations, and their subsidiaries and banks domiciled in the Czech Republic that are classified as significant in groups of foreign banks).[86] It would also indirectly supervise other banks. Under specified conditions, the ECB may take over direct supervision of such institutions, either on its own initiative or at the request of the national supervisory authority. Centralisation of supervision in the banking union would imply a transfer of powers in other aspects of supervision, such as granting banking licences, assessing acquisitions of qualifying holdings in banks, conducting stress tests and assessing banks' internal governance systems and internal models. The CNB would also be obliged to respect and take into account ECB regulations, instructions and guidelines regarding the ECB's overall responsibility for single banking supervision. This gives rise, among other things, to legal risk in the hypothetical case of the ECB's instructions conflicting with national legislation.[87]

In its efforts to safeguard the financial stability of the banking union as a whole, the ECB would probably not have the same approach to supervision as the CNB. Moreover, the ECB treats the banking union countries largely as one jurisdiction, despite different national legal regulations. This is reflected, for example, in its approach to the prudential capital and liquidity requirements for cross-border banking groups and their members, which can be configured differently within the limits of the applicable legislation. The ECB must take into account not only the situation of individual subsidiaries, but also that of the group as a whole.[88] In certain circumstances, this could lead to a worse capital or liquidity position of the domestic banking sector. By contrast, the CNB's approach is based on compliance with the regulatory capital and liquidity requirements at the level of a single legal entity. This corresponds to the form of the domestic banking sector and to the CNB's tasks and responsibilities. The CNB also has a more detailed knowledge of the specifics of the Czech financial sector and can thus respond more flexibly to the supervisory situation. Entry into the banking union would also change the CNB's position in supervisory colleges, which are established for the supervision of cross-border groups. Unlike at present, in a college the CNB would not be able to reject a draft joint decision concerning a subsidiary in its current supervisory competence, as it would be an observer rather than a voting member.[89]

In exchange for the loss of its exclusive decision-making power in the supervision of domestic banks, the Czech Republic (or CNB) would gain a decision-making share (currently 1/22) on the ECB's Supervisory Board. To the extent of this voting share, the CNB could influence the ECB's supervisory decisions. This co-decision option would also apply to banks in other countries in the banking union. However, if the Czech Republic joined the banking union before adopting the euro, the CNB would not be represented on the ECB's Governing Council, which is the final decision-making body in the event of disputes in the SSM. On the other hand, participation in the banking union offers the benefit of direct access to methodologies, expertise and supervisory tools developed within the SSM.

In the event of problems caused by a shortage of liquidity, the CNB can currently intervene as a lender of last resort and also with targeted monetary operations. Such a decision includes specific requirements as regards the quality of collateral and how it is provided by a bank. Upon joining the banking union and the euro area, the ECB would assume final decision-making power and would again have to take into account the situation in other banking union countries when deciding on any interventions.

Even after the establishment of close cooperation with the ECB, macroprudential policy decision-making would remain within the competence of the national competent authorities. However, entry to the banking

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[86] According to the set criteria, it can be estimated that banks currently accounting in aggregate for around 80–90% of the domestic banking sector's total assets would probably fall under direct supervision by the ECB.

[87] See, for example, Belling (2016). Moreover, the ECB has itself stated that in the area of harmonised legislation it does not intend to comply with national transposed standards in its supervisory practice, but only with directives (see paragraph 3.1.8 of ECB Opinion of 2 September 2015 on bank resolution, <CON/2015/31>). There is therefore a risk that the procedure required by the ECB would conflict with national law.

[88] Various instruments, such as the creation of liquidity subgroups, the use of exemptions for large exposure limits, tightening and easing of capital buffer requirements and cross-border preferential treatment for liquidity flows between group members, can be used to set different prudential capital and liquidity requirements for different institutions.

[89] Upon joining the banking union, there would also be a reduction in the weight of the Czech Republic's/CNB's vote on the Board of Supervisors of the European Banking Authority (EBA), where draft rules, other documents, resolution of disputes in mediation, decisions on breaches of Union law and so on are approved separately by a simple majority of members from supervisory authorities from countries inside and outside the banking union. This decision-making method was introduced due to potential outvoting of non-participating countries by banking union countries.

union would to some extent affect the process of application of certain macroprudential policy instruments. In the case of harmonised European instruments, the CNB (the competent macroprudential authority) would be obliged to notify the ECB (the microprudential supervisory authority) of its intentions before making decisions and duly consider any justified objections of the ECB.[90] Under certain conditions, and with the obligation to take into account the opinion of the CNB, the ECB would have the option of tightening (but not relaxing) certain CNB decisions on macroprudential measures (under CRD/CRR) if it felt they were inadequate. However, this option would not apply to measures governed solely by national law (such as the setting of LTV, DTI and DSTI limits for mortgage loans).[91]

ii) Changes in crisis prevention and resolution

Upon the Czech Republic joining the banking union, the CNB's powers[92] regarding significant institutions and cross-border groups would be taken over by the Single Resolution Board (SRB). Together with the Single Resolution Fund (SRF) and the national resolution authorities, it makes up the SRM. Like the ECB, the SRB may also assume the exercise of powers in relation to a less significant institution. The CNB currently has the final say in resolution of independent institutions. In the case of subsidiaries in cross-border banking groups, decisions are taken by consensus in resolution colleges, so the CNB can take its own decisions for a domestic subsidiary separately if it disagrees with a joint decision. After joining the banking union, the ECB (in the case of supervisory measures) and the SRB (in the case of resolution measures) would decide on the selection and parameters of a specific measure and its subsequent application. As in supervisory colleges, the CNB would lose the right to vote in resolution colleges established for individual cross-border resolution entities.

Any resolution of banks should abide by the relevant resolution strategy. The choice of resolution strategy is crucial for the Czech Republic, in which subsidiaries of European banking groups are of fundamental importance. In its position outside the banking union, the CNB decides whether or not individual institutions domiciled in the Czech Republic are resolution entities and then sets a specific resolution strategy so that the interests of Czech entities are protected as much as possible in the event of the resolution of a subsidiary – or of the entire group with impacts on Czech institutions – and the impacts on the domestic financial system and public finances are minimised.

One of the conditions for the resolution of a failing bank is the existence of a "public interest". In the event of entry into the banking union, the decision on whether resolution is necessary in the public interest (i.e. whether a bank will be resolved – including the choice of resolution method – or whether it will be wound up) would be transferred to the SRB. In carrying out the resolution or winding-up of a bank, the European authority must take into account the requirements for the use of common resources of the SRF, but it is not responsible for any (potentially politically sensitive) impacts that may arise in the jurisdiction. As in the case of the ECB, the SRB's primary objective is to preserve the financial stability of the banking union as a whole. Domestic banks would play only a minor role and there is therefore a risk of the Czech Republic's interest in its financial stability being put into the background in the decision-making of the SRB, which will also adjust its decision-making to its wider duties and objectives and prioritise the allocation of its own capacity and resources from the SRF. By contrast, the CNB's current power to set the minimum requirement for own funds and eligible liabilities (MREL) for domestic banks and to decide how their problems will be resolved makes it possible to put emphasis on maintaining financial stability in the Czech Republic. On the other hand, a central authority has the benefits of independence from the domestic environment, including the country's broader economic and political interests, and greater expertise, especially in cross-border crisis resolution, which should be built up gradually thanks to a larger number of bank failures dealt with.

iii) Changes in financing

The issue of financing in banking sector resolution and, more broadly, sharing of the financial costs of bank failures is one of the central open topics of the banking union. Shared financial responsibility in the banking union through common funds, backed by common fiscal resources of the participating countries, represents a fundamental change. In the case of the Czech Republic, after entry into the banking union domestic banks would

[90] Such consultations between the microprudential and macroprudential supervisory authorities also currently go on at present, but inside the CNB.

[91] This issue is examined in more detail in a blog article on the CNB website by Libor Holub, Luboš Komárek and Zlatuše Komárková: *The euro and us: Macroprudential policy in the euro area and beyond*.

[92] In the area of the prevention of adverse situations, this includes, in particular, the setting of specific minimum requirements for own funds and eligible liabilities determining the ability to absorb any losses and any recapitalisation from appropriate internal resources, the assessment of resolvability and the approval of contracts for the provision of intra-group financial assistance. In a situation of impending failure, it is possible both to use early intervention measures and to approve the specific provision of intra-group financial assistance.

contribute to the financing of bank resolution in all Member States through their contributions to the SRF. The Czech banking sector can currently be described as more stable than that of many other EU Member States. If this situation remained the same, the risk of needing to bail out foreign banks would be higher than in the case of domestic entities, so domestic credit institutions would probably be net contributors to the banking union's joint funds.

Another important aspect is moral hazard. While the benefits of risky behaviour by banks and countries[93] would be realised at the national level, the adverse consequences would be borne by the banks of the other participating countries through the need to top up common funds (the SRF and, if established, also the EDIS) or by the budgets of other countries (the common backstop for the SRF and, potentially in the future, also for the EDIS). Shared financial responsibility may thus motivate banks and countries to take on greater risks.

The current trend as regards the review of the bank crisis management and deposit insurance (CMDI) framework is towards further parametric changes in the area of financing. In principle, the changes are increasing the reach of joint financing to situations previously seen as problems at the national or local level, pertaining to the financial autonomy of individual countries. Another potentially problematic change is the use of resources originally intended to pay out covered deposits under certain conditions for other purposes connected with bank resolution. If the EDIS is established, the Czech Republic would therefore be involved not only in financing the compensation of insured depositors of banks in the banking union, which up to now has been a national-level responsibility, but potentially also in financing these other purposes not directly related to the payout of deposits.

After entry into the banking union, resources transferred by domestic banks to the Czech Resolution Fund (CRF) for financing resolution costs would be transferred to the SRF. Similar rules apply to both funds, including the same target level and the same duty to top them up from regular or extraordinary subsequent contributions made by credit institutions.[94] As regards the estimate of the financial capacity available for the potential resolution of future banking sector problems in the Czech Republic, the size of the SRF in relative terms is the same as that of the CRF in the Czech Republic (1% of insured deposits). The much higher nominal capacity of the SRF (around EUR 80 billion) compared to the CRF (around CZK 37 billion), however, does not guarantee that the necessary resources will be available if needed in the SRF, as they may be used up in resolving credit institutions from other banking union countries (the "first-mover advantage").[95] The availability of resources to finance specific problems in Czech banks would also be affected by the fact that decisions on the amount and purpose of use of SRF resources would be taken by the SRB, which may have a different take on the existence of a public interest in using SRF resources for the resolution of a Czech institution than the CNB would in the case of the CRF.

The resources pooled in the SRF would probably not be sufficient to resolve a large number of medium-sized banks or several large banks (as in the case of the CRF and Czech banks). In the event of exhaustion of the SRF, banks are under a duty to make additional extraordinary contributions and a permanent backstop has been created, from which the SRB can borrow the necessary missing resources. The European Stability Mechanism (ESM) is the provider of the SRF backstop for the euro area,[96] in the form of a revolving credit line (of up to around EUR 80 billion). If the Czech Republic stays outside the banking union, the state budget of the Czech Republic implicitly plays the role of backstop.

The topic of financing also includes fees for performing banking supervision. The CNB currently does not charge such fees. By contrast, the ECB prescribes supervisory fees for banks and they are payable once a year. However, these fees are not a major item in the context of credit institutions' overall costs.[97]

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[93] These benefits may consist, for example, in stronger economic performance of entities, stemming from the more risk-oriented business models that institutions choose when common resolution mechanisms exist.

[94] The impacts of joining the banking union on domestic banks' contributions to the SRF cannot be assessed with a clear conclusion. Based on the lower riskiness of the Czech banking sector compared to banks in the current banking union countries and some other specifics (such as the larger amount of deposits covered), it can be assumed that their total contributions to the SRF would be lower than those to the national resolution fund (CRF). However, it should not be overlooked that, while the resources transferred to the CRF are intended solely for the resolution of domestic credit institutions, the contributions paid into the SRF could be used to finance the resolution of any institution in the banking union. Depending on the drawdown of SRF resources, institutions in the Czech Republic could thus subsequently be obliged to make additional contributions to replenish the SRF's capacity to finance the resolution of institutions in the banking union.

[95] There are around 3,000 credit institutions in the banking union and only 45 in the Czech Republic.

[96] The use of the backstop is conditional on the ratification of the Agreement amending the Treaty Establishing the ESM by all ESM members.

[97] For significant institutions, the fees are EUR 1–2.5 million a year, while for other institutions they run to no more than tens of thousands of euros.

Impact assessment of the Czech Republic's participation in the banking union

An assessment of the impacts of potential entry into the banking union is a highly complex issue going beyond this text. An impact assessment would also include factors that are difficult or even impossible (or subjective) to compare or quantify, such as the size, staffing and financial capacity of the various supervisory and resolution authorities (the CNB, the ECB and the SRB), the expertise and experience of their employees, their independence and their duties, priorities and responsibilities. Likewise, it is objectively difficult to compare the stability, resilience and capitalisation of the domestic banking sector with the situation of banks in banking union countries and to estimate their future evolution, and even more difficult to assess the relative riskiness and probability of failure of credit institutions in the Czech Republic and the banking union whose resolution would be in the public interest and would involve the use of resources from the relevant resolution funds. The *Impact Study of Participation or Non-participation of the Czech Republic in the Banking Union*, prepared jointly by the Ministry of Finance, the Office of the Government, the Ministry of Foreign Affairs and the CNB, aims to analyse the arguments for and against the Czech Republic joining the banking union in detail. The latest update to the study was formally acknowledged by the government in February 2024.[98]

This study repeatedly states that the Czech Republic would not benefit from joining the banking union in the current situation and therefore recommends that the government not attempt to enter it. In addition to many other reasons (see above), the study states that the individual pillars of the banking union have not yet been sufficiently tested in practice. The SSM has not been required to resolve any systemic banking sector crisis and the SRB has only addressed a few bank failures, mostly stating that there was no public interest in resolution and placing failing banks in liquidation. No resolution has yet taken place with the SRF's involvement, so its functioning has not been examined in practice either. However, there is also a lack of experience with the use of resolution measures in the Czech Republic, including the use of resources from the CRF. It should be added in this context that the stability of the domestic banking sector does not currently indicate a need to draw on resolution financing.

The participation of Bulgaria and Croatia – the only countries so far participating in the banking union before joining the euro area – is also too short to sufficiently assess their experience. Both countries entered into "close cooperation" in October 2020 and Croatia has been operating as a full member of the banking union since January 2023. Their experience with close cooperation has so far been too short to robustly test its practical functionality. Finally, when assessing the consequences of joining the banking union, not only its correct functioning, but also the Czech Republic's specific situation should be assessed. It should also be analysed whether entry would lead to an improvement on the current state of affairs (i.e. the advantages would outweigh the disadvantages), for example, whether the current national supervision of banks is dysfunctional and such situation could be remedied with national measures, or whether the banking union institutions would function better or more efficiently or cost effectively than the national ones.

Joining the banking union at the same time as joining ERM II as a precedent for future candidates?

The "reinforced" approach to ERM II participation was first applied to Bulgaria and Croatia. This approach involves setting additional political requirements that a candidate country must commit to fulfilling before entering ERM II.[99] One of these de facto conditions is a requirement to join the banking union at the same time as joining ERM II. This approach was espoused by the ERM II members[100] in their July 2018 statement vis-à-vis Bulgaria and confirmed in a follow-up statement responding to Croatia's request to enter ERM II one year later. These statements explicitly declare the expectation that, in line with the principle of equal treatment, a similar approach will be followed for other Member States wishing to join ERM II (i.e. including the Czech Republic).

The CNB has raised objections to this interpretation and approach from the outset, both in the discussion of the 2020, 2022 and 2024 convergence reports and even earlier when the conditions for the entry of Croatia and Bulgaria into ERM II were published and their potential nature as a precedent started to be discussed. The Czech government, via the minister of finance, expressed similar reservations at the Council meeting in July

[98] English summary available here: <file:///C:/Users/U03060/Downloads/Studie_2015-02_BU-studie-dopadu-shrnuti-EN-material-po-vlade.pdf>.

[99] See Box 1.5 of the technical annex to *EC Convergence Report 2024*.

[100] The ERM II members at that time consisted of the euro area Member States (represented by their finance ministers), the ECB (represented by a member of the Executive Board) and Denmark (represented by the finance minister and the central bank governor). For the full text of the statement, see: <https://www.consilium.europa.eu/en/press/press-releases/2018/07/12/statement-on-bulgaria-s-path-towards-erm-ii-participation>.

2024. Among other things, the CNB and the government disagree with all the candidate countries being required to join the banking union on entering ERM II as one of the conditions. Such an approach is contrary to the applicable EU legislation governing this area, which requires countries to join the banking union only after adopting the euro. In addition, this condition is not justified in terms of substance either. In particular, it cannot be claimed that joining the banking union is necessary in principle to ensure the level of financial stability in a candidate's banking sector necessary for participation in ERM II without having to assess whether the country is achieving a sufficient degree of financial stability without participating in the banking union.[101]

The EU Council's Legal Service assessed the admissibility of the new reinforced approach to participation in ERM II at the CNB's request in 2019. It concluded, among other things, that participation in the banking union may validly be established as a requirement to be fulfilled before ERM II accession, and this requirement may be imposed on all future ERM II candidate countries regardless of their individual situation, in line with the principle of equal treatment. From the formal viewpoint, the opinion of the Council's Legal Service is a non-binding view of the EU Council's staff and does not in itself alter the applicable legal framework for ERM II entry. Although the CNB disagrees with the conclusions of the Council's Legal Service, it can reasonably be expected that the opinion, which is shared by the European Commission in its convergence reports, will be accepted and applied by the euro area Member States. So, if the Czech Republic applied to join ERM II, it is highly likely that it, too, would be politically required to join the banking union at the same time as joining ERM II. This fact and its implications, as described above, should therefore be duly reflected in the political considerations about the Czech Republic's potential entry into ERM II, especially if participation in it is being considered without the issue of the target date for euro area entry being simultaneously clarified.

Conclusion

The main change that would be brought about by the Czech Republic participating in the banking union is a transfer of banking supervision and resolution powers from the national to the EU level. The EU authorities are responsible for the financial stability of banks in the banking union as a whole, not just for the stability of the Czech banking sector, so it is possible that any problems in the Czech Republic would be approached differently or with different priorities than those of the CNB. Domestic banks would also have to contribute financially to the resolution of banks in other banking union countries. However, a key change would be that, while today the final decision on the supervision and resolution of Czech subsidiaries of foreign banks (which dominate the domestic banking sector) is in the independent competence of the Czech authorities, which have the necessary tools to safeguard financial stability in the Czech Republic, after entry into the banking union such decisions would be taken by the EU authorities, in whose decision-making representatives of the Czech Republic would only have one vote of many.

The Czech Republic may hypothetically enter the banking union in two different situations. The first possibility is to establish close cooperation with the ECB within the SSM and to enter the SRM before adopting the euro, for example in a context of political pressure to enter the banking union and ERM II at the same time. From the outset, the banking union was designed as a project for the euro area countries. Although other EU countries may also voluntarily join it, they are objectively worse off owing to the limits arising from EU law, be it the absence of representation on the ECB's Governing Council, the absence of access by banks from such countries to the ECB's emergency liquidity assistance and the absence of access to the backstop for the SRF in the form of ESM resources. The second situation involves the Czech Republic joining the banking union at the same time as joining the euro area, as the applicable EU law requires all euro area countries to be part of the banking union.

It will therefore be appropriate for the Czech Republic to take into account the aforementioned changes arising from participation in the banking union when considering adopting the euro. When deciding on joining the euro area, it will therefore be desirable to reassess, among other things, the situation of the banking sector in the Czech Republic and the banking union countries and the potential obligations arising from banking union membership for the Czech Republic and domestic entities, for example with regard to the resolution of banks in other Member States. In this context, it should be borne in mind that the banking union is still an incomplete project, the future design of which, in particular as regards the European Deposit Insurance Scheme (EDIS) and other cost- and risk-sharing mechanisms, and the resulting obligations are not sufficiently known at present.

[101] See the opinion of the Council's Legal Service *Legal assessment of the conditions for access to the ERM II mechanism* of 26 June 2019.

III. CHARTBOOK

III.1 THE CZECH REPUBLIC'S CYCLICAL AND STRUCTURAL ALIGNMENT WITH THE EURO AREA

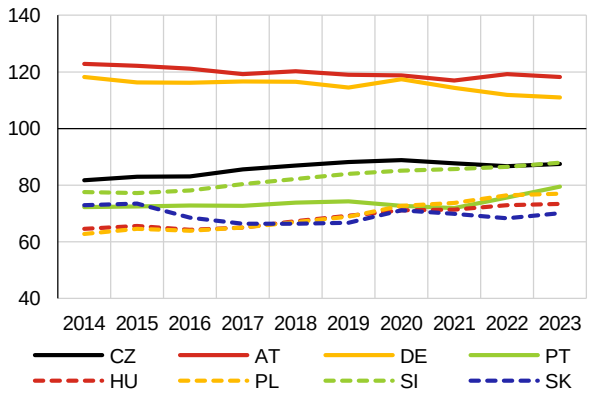
III.1.1 Direct alignment indicators

- Real economic convergence[102]
- Convergence of price levels and wages
- Cyclical alignment of the Czech Republic's economic activity with the euro area
- Structural similarity of the Czech economy to the euro area economy
- Trade links with the euro area
- Intensity of intra-industry trade with the euro area
- Ownership links with the euro area
- Alignment of the Czech and euro area financial cycles
- Interest rate convergence vis-à-vis the euro area
- Volatility of the exchange rate of the Czech currency against the euro
- Alignment of the Czech koruna with the euro
- Financial market alignment

ECONOMIC CONVERGENCE

Czech GDP per capita at purchasing power parity showed no convergence to the euro area average in the last three years. The lag behind the most advanced euro area countries is thus still sizeable.

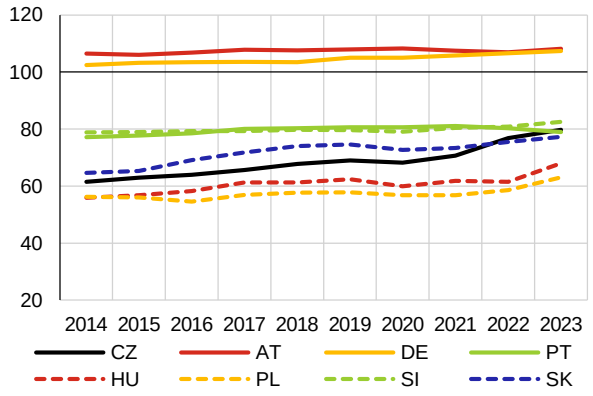
GDP per capita at purchasing power parity (PPP)
(EA20 = 100)



Source: Eurostat, CNB calculations

The price level of Czech GDP continued to converge rapidly to the euro area average in 2023, but the lag remains sizeable.

Price level of GDP
(EA20 = 100)



Source: Eurostat, CNB calculations

[102] The colours and directions of the arrows are explained in the Introduction to this document.

In 2023, the real koruna-euro exchange rate appreciated markedly again in an environment of rapid price growth. The average annual rate of appreciation of the koruna's real exchange rate over the last ten years is 2.7%.

Real exchange rate against the euro (HICP-deflated)
(2010 = 100; a rise in the index means appreciation of the real exchange rate)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
CZ	92.3	93.2	94.4	97.8	100.6	101.9	100.7	105.9	117.0	127.2
AT	102.7	103.3	104.1	104.8	105.2	105.5	105.4	106.8	107.1	109.4
DE	100.0	100.5	100.6	100.8	101.0	101.1	100.1	101.8	102.1	102.8
PT	99.6	99.9	100.3	100.3	99.7	98.9	97.4	96.9	96.7	96.5
HU	93.0	92.5	92.3	93.7	91.9	92.1	86.9	88.3	86.1	97.9
PL	96.8	96.0	91.6	94.0	93.4	93.4	92.3	93.3	94.9	103.0
SI	100.2	99.2	98.8	98.9	99.0	99.5	97.9	98.5	99.3	101.0
SK	102.1	101.6	100.9	100.7	101.5	103.1	103.7	105.1	108.7	114.5

Source: Eurostat, CNB calculations

As in all the other countries under review, real interest rates in the Czech Republic remained significantly negative last year.

Real 3M interest rates
(%, ex post, HICP-deflated)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
CZ	-0.1	0.0	-0.4	-2.0	-0.7	-0.5	-2.4	-2.4	-7.4	-4.3
AT	-1.2	-0.8	-1.2	-2.5	-2.4	-1.8	-1.8	-3.2	-7.6	-4.0
DE	-0.6	-0.7	-0.6	-2.0	-2.2	-1.7	-0.8	-3.6	-7.7	-2.5
PT	0.4	-0.5	-0.9	-1.9	-1.5	-0.7	-0.3	-1.4	-7.2	-1.7
HU	2.5	1.5	0.5	-2.2	-2.7	-3.1	-2.6	-4.1	-4.6	-2.9
PL	2.5	2.5	1.9	0.1	0.5	-0.4	-2.8	-4.7	-6.4	-3.9
SI	-0.2	0.7	-0.1	-1.9	-2.2	-2.0	-0.1	-2.5	-8.2	-3.5
SK	0.3	0.3	0.2	-1.7	-2.8	-3.0	-2.4	-3.2	-10.5	-6.8

Source: Eurostat, CNB calculations

Czech wages in euro further approached the euro area average in 2023.

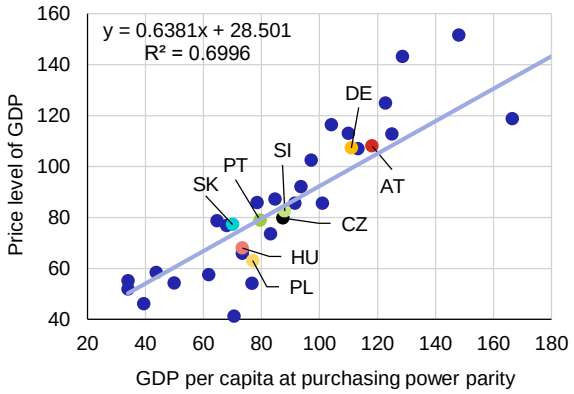
Average wage per employee in EUR
(EA = 100)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
CZ	39.7	40.8	42.3	45.8	49.7	52.1	52.3	54.4	57.6	60.0
AT	113.3	114.0	115.2	115.1	115.9	116.7	119.1	117.6	118.0	120.8
DE	103.5	105.0	106.0	107.0	107.7	109.1	109.8	108.7	108.0	108.7
PT	53.2	52.6	52.6	52.9	53.8	55.1	56.2	56.6	57.3	58.9
HU	30.4	30.5	30.7	32.5	32.9	33.7	32.3	32.9	33.8	37.5
PL	33.2	33.5	33.3	35.4	37.3	39.3	40.1	39.2	39.9	44.4
SI	65.0	65.1	66.3	67.1	68.3	70.1	72.8	75.4	75.9	80.6
SK	39.7	40.7	41.1	42.4	44.0	46.0	48.0	49.2	49.7	52.2

Source: AMECO, CNB calculations

The Czech price level is broadly in line with the level corresponding to domestic GDP per capita by international comparison.

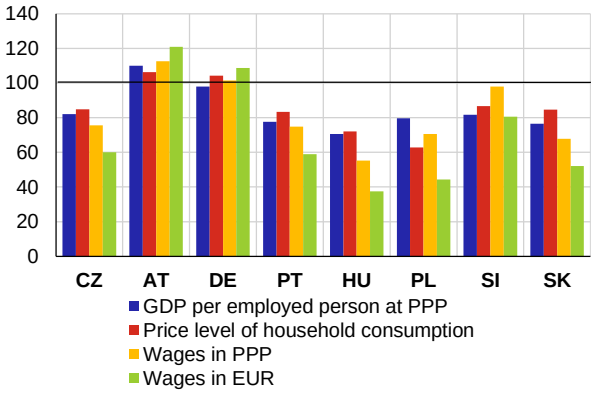
GDP per capita at purchasing power parity versus the price level
(2023, EA20 = 100)



Source: Eurostat, CNB calculations

Czech wages at purchasing power parity are roughly 76% of the euro area average. In euro terms, they are just 60%.

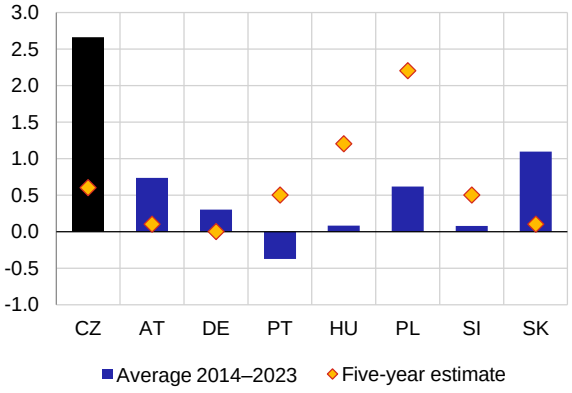
Other indicators of long-term convergence
(2023, EA20=100 for the price level of household consumption, EA=100 for other indicators)



Source: Eurostat, European Commission, CNB calculations

The real exchange rate of the koruna has appreciated by 2.7% a year on average over the last ten years. Its future annual equilibrium rate of appreciation is estimated at 0.6%.

Real exchange rate appreciation:
average for last ten years and estimate for next five years
(% p.a., HICP-deflated)

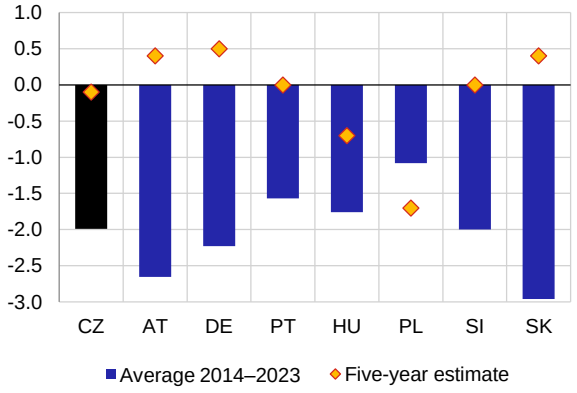


Note: The chart shows the geometric mean for 2014–2023. The estimate of the average pace of equilibrium real exchange rate appreciation for the next five years is based on a panel regression linking the price level of final household consumption compared to the euro area average with GDP at purchasing power parity per capita.

Source: Eurostat, CNB calculations

Real interest rates in the Czech Republic would probably be around zero following euro adoption. They have been -2% on average over the last ten years.

Real 3M interest rates:
average for last ten years and estimate for next five years after hypothetical euro adoption
(%, ex post, HICP-deflated)



Note: Simple arithmetic mean for 2014–2023. The estimated average equilibrium real interest rate for the next five years after hypothetical euro adoption is derived from an estimate of the pace of equilibrium real exchange rate appreciation, assuming a zero money market risk premium and an equilibrium real interest rate in the euro area of 0.5%.

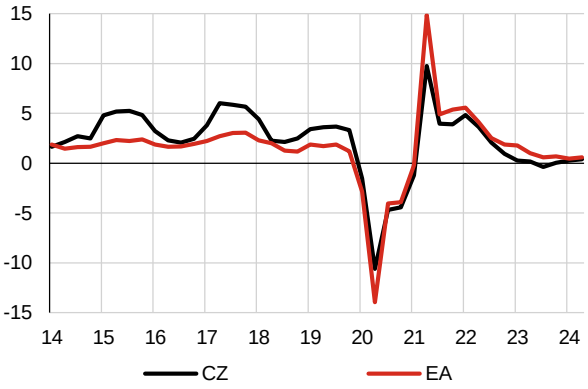
Source: Eurostat, CNB calculations

See the Overall message of the analyses.

CYCLICAL ALIGNMENT OF ECONOMIC ACTIVITY

The growth of the Czech economy has been lagging slightly behind that of the euro area since the start of the pandemic.

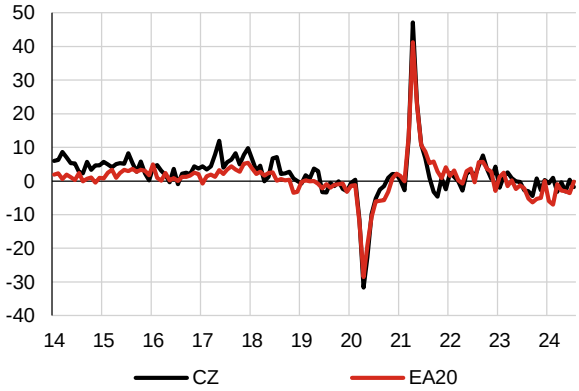
Real GDP
(y-o-y, %)



Source: Eurostat

Growth in Czech industrial production has been above the euro area average most of the time. Over the last year, it has been mostly negative in both economies.

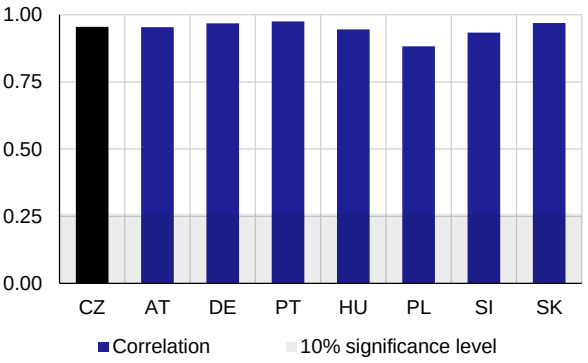
Industrial production index
(y-o-y, %)



Source: Eurostat

The reaction of economies to common external shocks (the pandemic, the war in Ukraine and the energy crisis) fosters a high degree of measured alignment for all the countries under comparison.

Correlation coefficients of GDP with the euro area



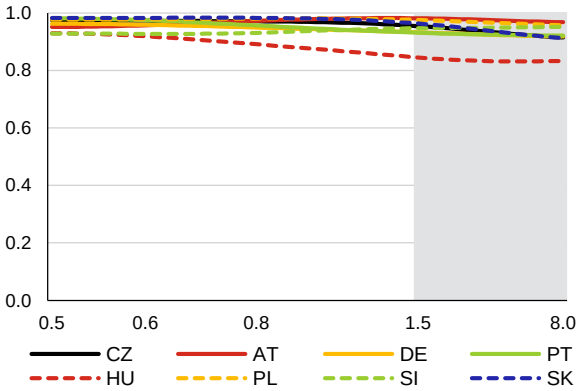
Note: The calculation is based on the quarter-on-quarter differences in the logarithms of the seasonally adjusted data in 2014 Q1–2024 Q1. The statistical significance of the correlation coefficients is indicated in the chart: values statistically significant at the 10% level lie in the white area of the chart (i.e. values in the grey part of the chart are not statistically significant at the 10% level).

The EA aggregate is used for the euro area.

Source: Eurostat, CNB calculations

The high alignment of the economic response to common shocks is also indicated by the dynamic correlations between business cycles in the monitored band of 1.5–8 years.

Dynamic correlations of economic activity with the euro area



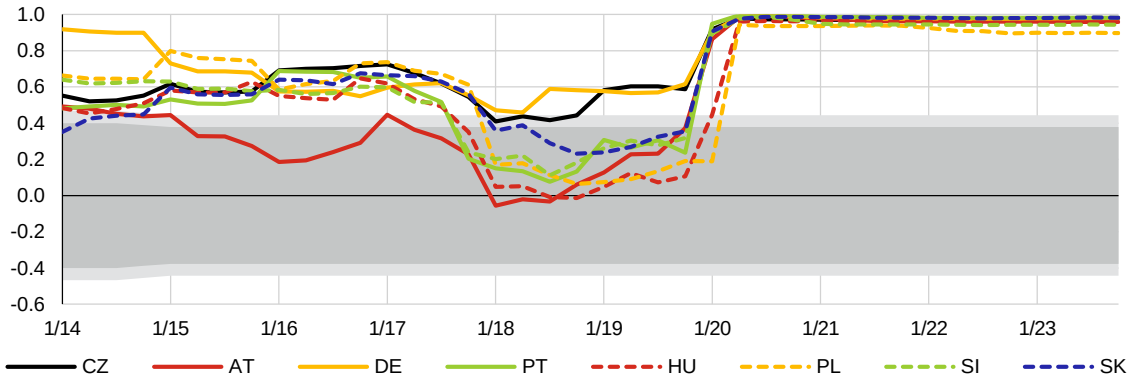
Note: The calculation is based on the quarter-on-quarter differences in the logarithms of the seasonally adjusted data. The x-axis is the cycle length in years. The grey area indicates the monitored band of 1.5−8 years, which usually covers the typical duration of the business cycle.

The EA aggregate is used for the euro area.

Source: Eurostat, CNB calculations

The five-year rolling correlations of economic activity between the countries under review and the euro area show that the correlations surged due to a synchronised drop in economic activity following the outbreak of the pandemic in 2020, and may therefore not be evidence of long-term alignment.

Five-year rolling correlations of GDP growth between individual countries and the euro area



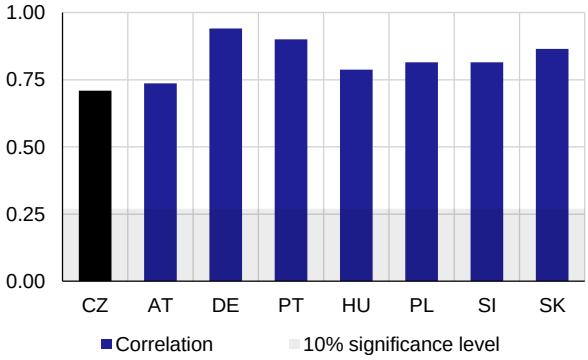
Note: The time data indicate the end of a 5-year rolling window. The calculation is based on the quarter-on-quarter differences in the logarithms of the seasonally adjusted data. The statistical significance of the correlation coefficients is indicated in the chart: values statistically significant at the 5% level lie in the white area of the chart, and values statistically significant at the 10% level lie in the white or light grey parts of the chart. Values in the dark grey part of the chart are not statistically significant at the 10% level.

The EA aggregate is used for the euro area.

Source: Eurostat, CNB calculations

The lower alignment of the Czech Republic with the euro area is suggested by the relationship of individual countries' exports to the euro area with euro area GDP, where the Czech Republic records the lowest correlation among the countries under review.

Correlation coefficients of exports to the euro area with euro area GDP



Note: The calculation is based on the quarter-on-quarter differences in the logarithms of the seasonally adjusted data in 2014 Q1–2024 Q1. The statistical significance of the correlation coefficients is indicated in the chart: values statistically significant at the 10% level lie in the white part of the chart (i.e. values in the grey part of the chart are not statistically significant at the 10% level).

The EA aggregate is used for the euro area.

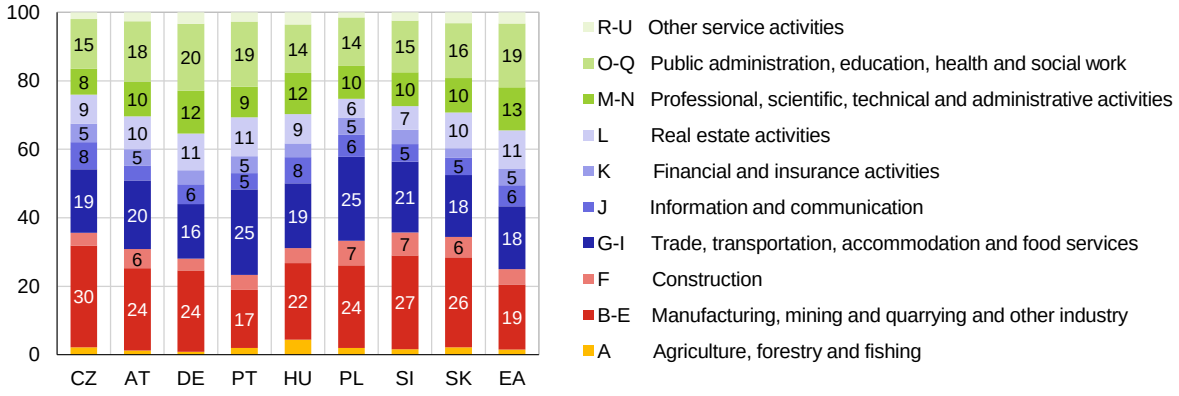
Source: Eurostat, CNB calculations

See the Overall message of the analyses.

STRUCTURAL SIMILARITY OF THE ECONOMIES

The Czech Republic has long recorded a higher share of industry in GDP than the euro area; in the last five years, this share has even been the highest among the countries under review.

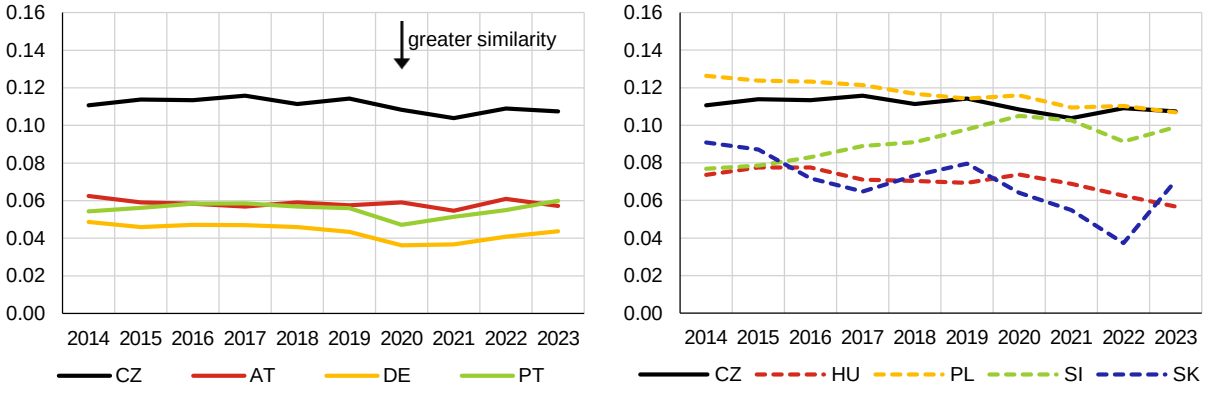
Shares of economic sectors in GDP
(2023, %)



Source: Eurostat, CNB calculations

The different structure of value added by sector is also reflected in long-standing relatively high values of the Landesmann index, indicating a lower degree of similarity of the Czech economy with the euro area economy.

Structural similarity vis-à-vis the euro area
(Landesmann index)



Note: The Landesmann index takes values in the range [0, 1]. The closer the index is to zero, the more similar is the structure of the economies under comparison. The index values differ from previous issues of this publication due to data revisions. The EA aggregate is used for the euro area

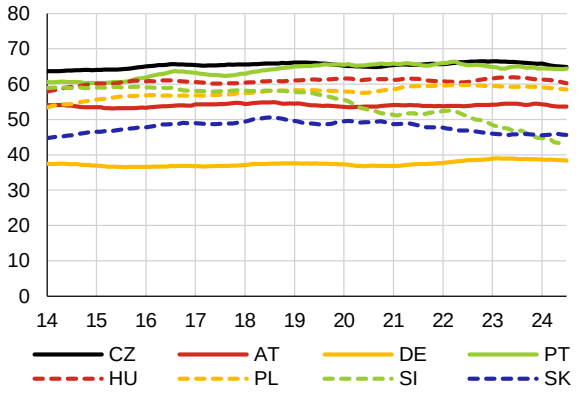
Source: Eurostat, CNB calculations

See the Overall message of the analyses.

TRADE AND OWNERSHIP LINKS BETWEEN THE ECONOMIES

The share of exports to the euro area in total exports has long been high in the Czech Republic.

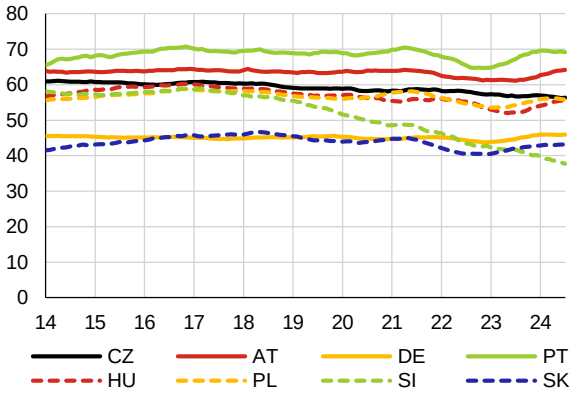
Shares of exports to the euro area in total exports
(%)



Note: Annual moving sum of the monthly data.
The EA20 aggregate is used for the euro area.
Source: Eurostat, CNB calculations

The share of imports from the euro area in total imports to the Czech Republic is slightly lower than in the case of exports and has fallen slightly in recent years.

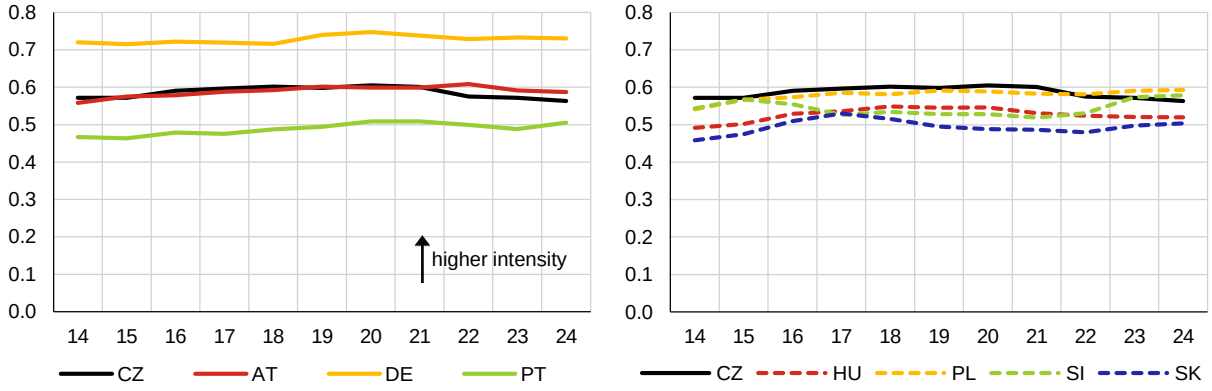
Shares of imports to the euro area in total imports
(%)



Note: Annual moving sum of the monthly data.
The EA20 aggregate is used for the euro area.
Source: Eurostat, CNB calculations

The high intensity of intra-industry trade between the Czech Republic and the euro area supports a similar reaction of the two currency areas to economic shocks. However, unlike in most other countries under comparison, its level in the Czech Republic has declined in recent years.

Intensity of intra-industry trade with the euro area
(under SITC5)



Note: The results were calculated using the five-digit SITC classification. To analyse intra-industry trade we used the Grubel-Lloyd index, which indicates the share of the absolute value of intra-industry trade in foreign trade turnover with the euro area.
The 2024 figure is for the first six months of the year.
The EA aggregate is used for the euro area.
Source: Eurostat, CNB calculations

Alignment of economic activity is also fostered by ownership links, which are still quite high for investment from the euro area in relation to GDP in the Czech Republic, despite a decrease in recent years.

Ratios of FDI stock from the euro area to GDP
(%)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
CZ	60.8	61.7	62.5	63.6	62.6	61.3	64.9	65.1	58.7	53.6
AT	36.6	44.5	35.1	39.3	39.8	34.2	36.3	36.0	33.7	34.6
DE	25.8	25.8	26.1	26.2	28.3	28.5	30.6	29.8	29.4	27.4
PT	65.0	63.3	63.3	65.0	61.1	63.2	65.8	64.9	60.2	58.6
HU	58.5	59.1	52.0	47.1	45.5	41.3	41.6	40.1	39.7	36.3
PL	40.0	37.1	39.6	39.8	37.8	37.4	37.5	39.0	35.1	36.8
SI	22.1	23.9	25.9	26.3	27.3	27.3	29.1	27.7	30.7	28.7
SK	44.4	44.9	51.1	49.1	48.3	47.2	47.4	44.3	42.3	38.8

Note: The EA20 aggregate is used for the euro area.
Source: Eurostat, national central bank for Hungary, CNB calculations

Investment by the other EU Member States of Central and Eastern Europe in the euro area economies is still low, but the Czech Republic is faring much better than the other EU Member States of Central and Eastern Europe.

Ratios of DI stock in the euro area to GDP
(%)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
CZ	17.2	18.4	17.9	21.1	20.1	20.2	20.9	20.3	19.2	18.6
AT	30.0	26.1	30.3	31.2	30.4	31.5	26.0	26.3	26.5	26.2
DE	27.2	28.1	28.7	30.2	32.8	34.8	38.1	37.9	38.1	37.1
PT	28.7	28.6	29.3	27.9	25.6	27.0	27.7	25.6	24.8	24.7
HU	14.2	12.1	12.9	11.5	10.8	10.5	13.2	13.7	13.9	13.3
PL	8.6	8.8	8.7	7.3	7.1	6.6	7.0	7.0	6.5	6.8
SI	4.2	4.4	4.8	5.3	5.7	6.5	6.4	6.1	11.1	10.2
SK	6.7	7.8	11.4	8.8	8.5	8.3	10.5	10.4	9.6	8.5

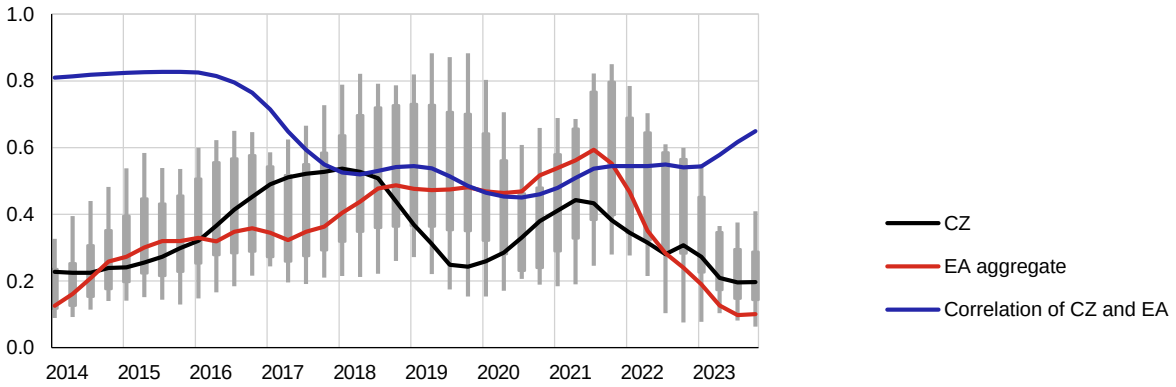
Note: The EA20 aggregate is used for the euro area.
Source: Eurostat, national central bank for Hungary, CNB calculations

See the Overall message of the analyses.

ALIGNMENT OF THE CZECH AND EURO AREA FINANCIAL CYCLES

During 2023, the position of the euro area in the financial cycle decreased further to similar extent to that of the Czech Republic. The correlation of their movements thus rose slightly due to a similar downward path.

Simplified financial cycle indicators for the Czech Republic and the euro area and their correlation
(0 minimum, 1 maximum)



Note: The simplified financial cycle indicator takes values from 0 to 1, with higher values corresponding to an expansionary phase of the financial cycle. The boxplot shows the minimum value, the 25% quantile (the lower edge of the rectangle), the 75% quantile (the upper edge of the rectangle) and the maximum value of the simplified financial cycle indicator in the euro area countries for each period.

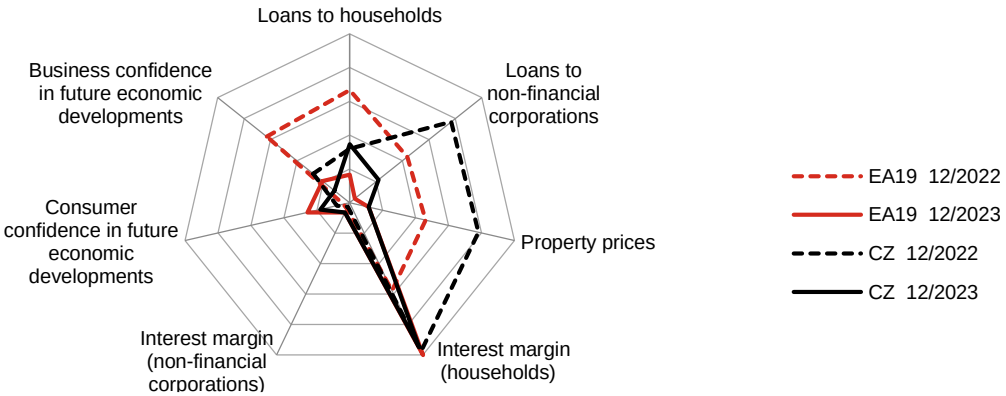
The indicator values differ from previous issues of this publication due to data revisions.

The construction and composition of the simplified indicator differs from the official financial cycle indicator (FCI) used in the Financial Stability Report, mainly because of the unavailability of similar data for all the countries analysed. The results for the Czech Republic may therefore differ from the official FCI.

Source: ECB, Eurostat, BIS, CNB calculations

The variables entering the financial cycle indicator showed similar dynamics near the cycle trough, contributing to growth in the alignment of the financial cycles.

Individual contributions to the simplified financial cycle indicator



Note: The simplified financial cycle indicator takes values from 0 to 1 (the trough and the peak of the cycle respectively). The same applies to its individual components.

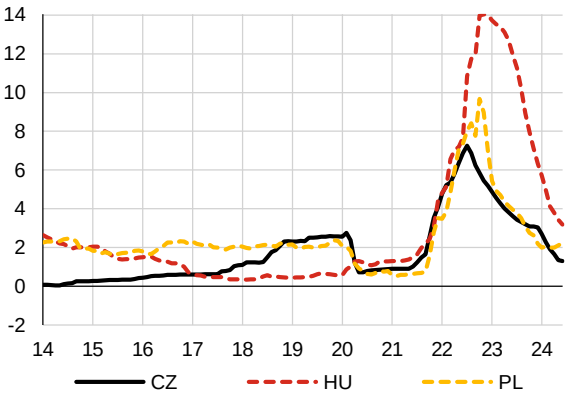
Source: ECB, Eurostat, BIS, CNB calculations

See the Overall message of the analyses.

INTEREST RATE CONVERGENCE VIS-À-VIS THE EURO AREA

The differential between short-term interest rates in the Czech Republic and the euro area narrowed from the second half of 2022 to levels close to 1 percentage point. The spreads of Hungarian and Polish rates vis-à-vis the euro area recorded a similar trend, but they are currently higher.

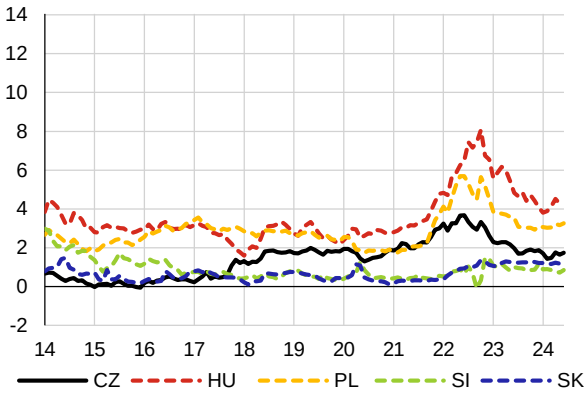
Differences in 3M interest rates vis-à-vis the 3M EURIBOR
(percentage points)



Source: Eurostat, CNB calculations

The long-term rate spread in the Czech Republic fell slightly below the 2019 level. Of the three Central European economies with their own currencies, the Czech Republic has the lowest long-term differential vis-à-vis the euro area.

Differences in 10Y interest rates vis-à-vis Germany
(differential vis-à-vis 10Y government bond yield in percentage points)



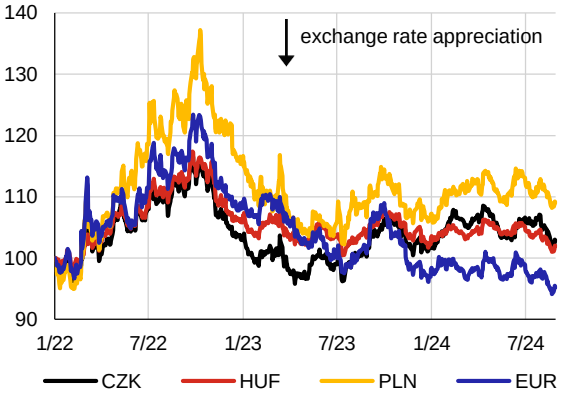
Source: Eurostat, CNB calculations

See the Overall message of the analyses.

EXCHANGE RATE VOLATILITY AND ALIGNMENT

The movements of Central European currencies were largely aligned this year...

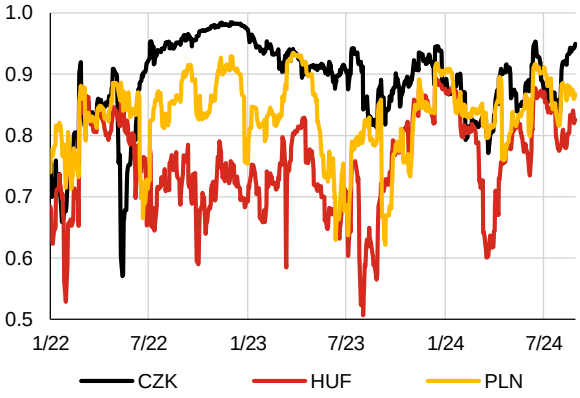
Exchange rates against the US dollar
(index, 3 January 2022 = 100)



Source: Refinitiv

…which was reflected in high correlations of the exchange rates of these currencies with the euro-dollar exchange rate.

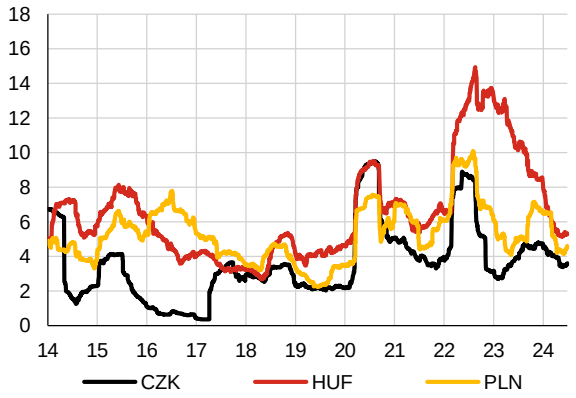
Correlations of exchange rates against the US dollar
(correlations: national currency/USD and EUR/USD)



Source: Refinitiv, CNB calculations

The historical volatility of the Czech koruna remains slightly higher than before the pandemic. This reflects swings in financial market sentiment and changes in the monetary policy stance in both the Czech Republic and the euro area.

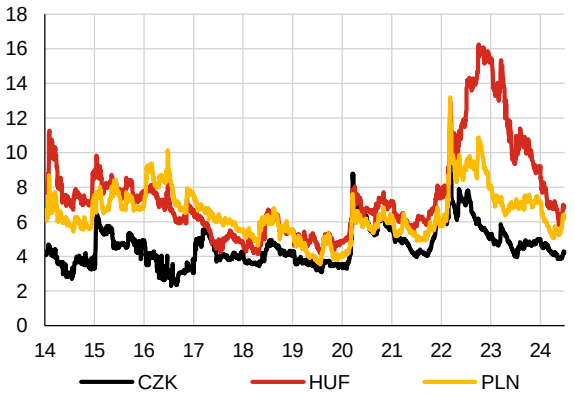
Historical volatility of exchange rates vis-à-vis the euro
(%)



Source: Refinitiv, CNB calculations

The implied volatility of the Czech koruna is at a similar level as before 2020 and remains the lowest among Central European currencies.

Implied volatility of exchange rates vis-à-vis the euro
(daily data, expected volatility of exchange rates of national currencies based on prices of options for those currencies, %)



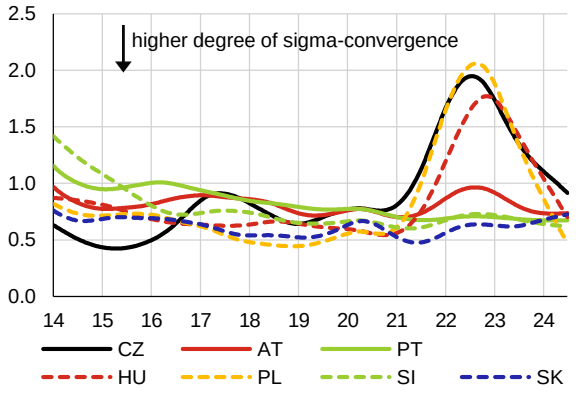
Source: Refinitiv, CNB calculations

See the Overall message of the analyses.

FINANCIAL MARKET ALIGNMENT

The alignment of the Czech government bond market with the benchmark German market improved gradually following a marked deterioration in 2021−2022. At the end of the period under review, it returned close to the levels observed over the last decade.

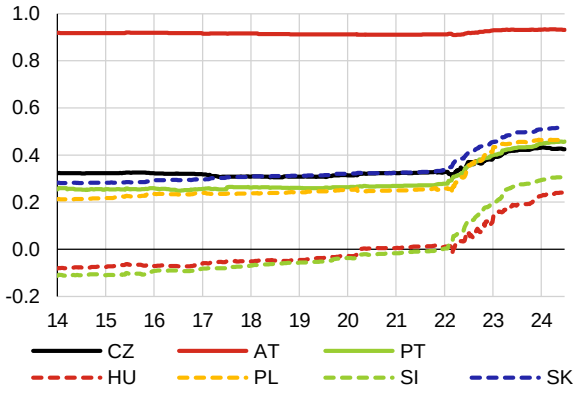
Degree of convergence of government bonds compared to Germany
(sigma-convergence)



Note: Lower standard deviations (y-axis) correspond to a higher degree of convergence.
Source: Refinitiv, CNB calculations

The rate of transmission of global news on the government bond market remains relatively high in the Czech Republic by comparison with Germany. As in the other monitored countries, it stabilised at elevated levels during the past year, underlining the importance of global shocks in the current period.

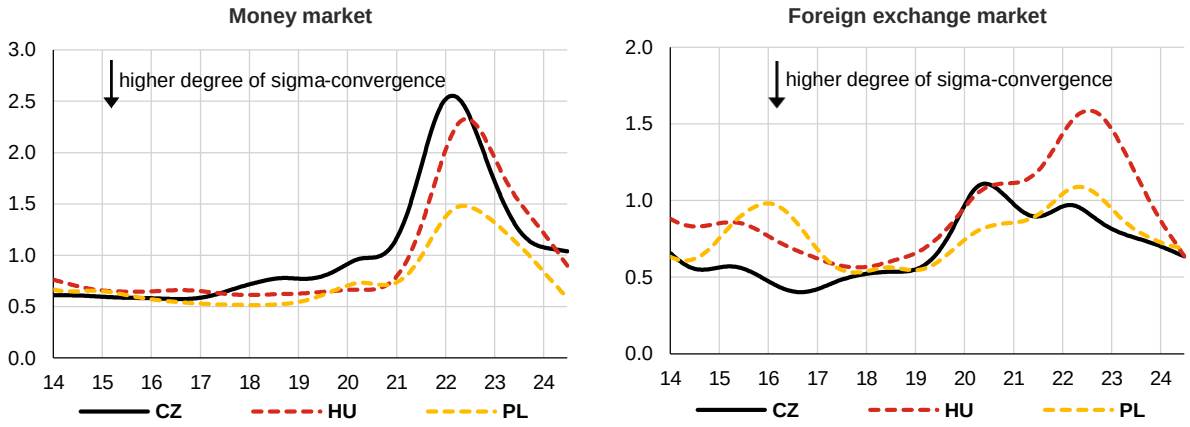
Sensitivity of asset prices to global news by comparison with Germany
(gamma-convergence)



Note: Positive (negative) gamma values close to one express the same (opposite) directional and similarly strong sensitivity to news and hence a higher degree of integration; values close to zero express low integration.
Source: Bloomberg, Refinitiv, CNB calculations

Convergence of the Czech money and foreign exchange markets to the benchmark euro markets returned to pre-crisis levels after the fading out of the Covid-19 and energy crises and the subsequent inflation wave.

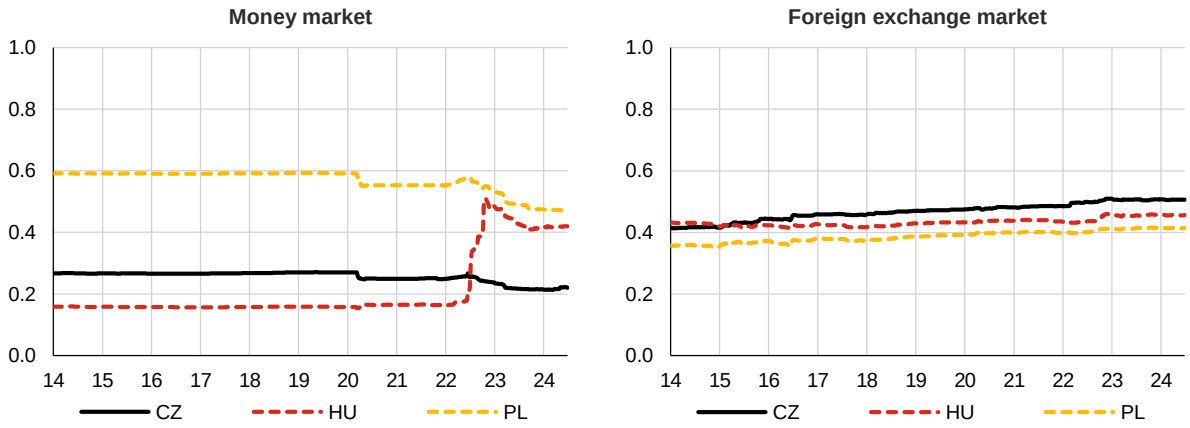
Degree of convergence of national financial markets to the euro area
(sigma-convergence)



Note: Lower standard deviations (y-axis) correspond to a higher degree of convergence.
Source: Refinitiv, CNB calculations

The rate of transmission of global news on the Czech money and foreign exchange markets remained stable by comparison with the euro area over the past year.

Sensitivity of asset prices to global news by comparison with the euro area
(gamma-convergence)



Note: Positive (negative) gamma values close to one express the same (opposite) directional and similarly strong sensitivity to news and hence a higher degree of integration; values close to zero express low integration.
Source: Bloomberg, Refinitiv, CNB calculations

See the Overall message of the analyses.

III.1.2 Similarity of monetary policy transmission

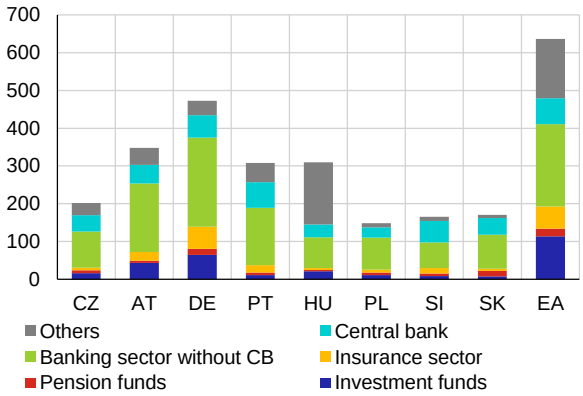
- Depth of financial intermediation
- Private sector debt
- Structural similarity of non-financial corporations' balance sheets in the Czech Republic and the euro area
- Structural similarity of households' balance sheets in the Czech Republic and the euro area
- Structural similarity between the volume of loans of non-financial corporations in the Czech Republic and the euro area
- Structural similarity between the volume of loans for house purchase in the Czech Republic and the euro area
- Spontaneous euroisation
- Inflation persistence

FINANCIAL SYSTEM

The depth of financial intermediation in the Czech Republic is one of the lowest among the countries under comparison. This is largely due to structural heterogeneity in the EU regardless of euro area membership.

The level of these indicators has long been below average in some countries in the euro area (Slovakia, Slovenia) and outside it (the Czech Republic, Poland). By contrast, it has been highly above average in some euro area countries where the financial system plays an important role in the output of the economy (Luxembourg, Ireland).

Depth of financial intermediation
(2023, assets of financial institutions as % of GDP)

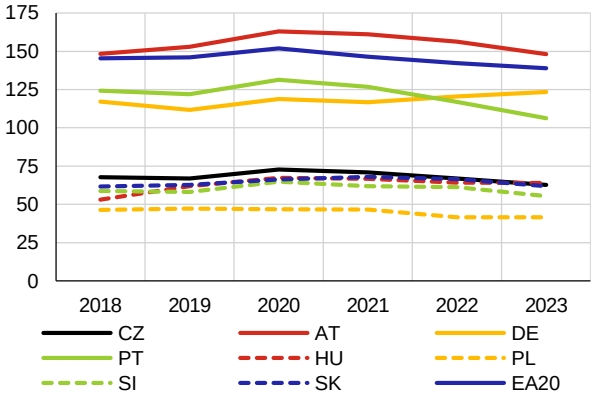


Note: The total assets of the banking sector except the central bank are adjusted for exposures to the central bank. The euro area value exceeds the other countries in the chart due to the large volume of assets of financial corporations in Luxembourg, Ireland, the Netherlands and France both as a percentage of their GDP and compared with the total financial assets of the euro area.

Source: ECB, Eurostat

Private sector debt in the Czech Republic is substantially below the euro area average. In most countries under review, it still follows a gradually falling trend that started in 2020.

Private sector debt
(% of GDP)



Note: Loans provided by local banks to the private sector and debt securities issued by the private sector and held by local banks.

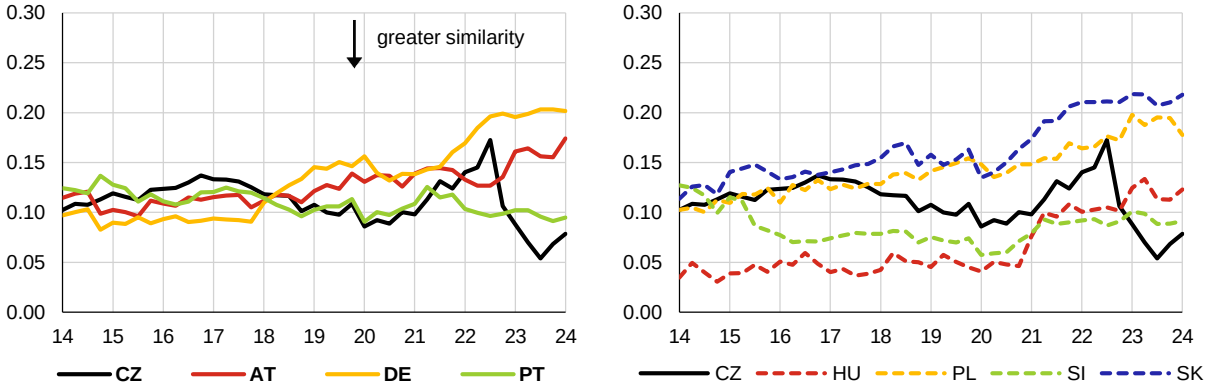
Source: ECB DWS, Eurostat

See the Overall message of the analyses.

STRUCTURE OF FINANCIAL LIABILITIES OF CORPORATIONS

The similarity of the structure of the financial liabilities of Czech and euro area firms is high compared to the countries under review. A significant fluctuation in financial derivatives purchased by energy companies led to a temporary decrease in the similarity of the liabilities structure in 2021–2022 but did not have a permanent effect.

Similarity of the structure of the financial liabilities of non-financial corporations and euro area corporations
(Landesmann index)



Note: The Landesmann index takes values in the range [0, 1]. The closer the index is to zero, the more similar is the structure of the balance sheets under comparison. The shares of the individual categories of liabilities in total liabilities were used for non-financial corporations. The index values differ from the previous issues of this publication due to data revisions.
The EA20 aggregate is used for the euro area.

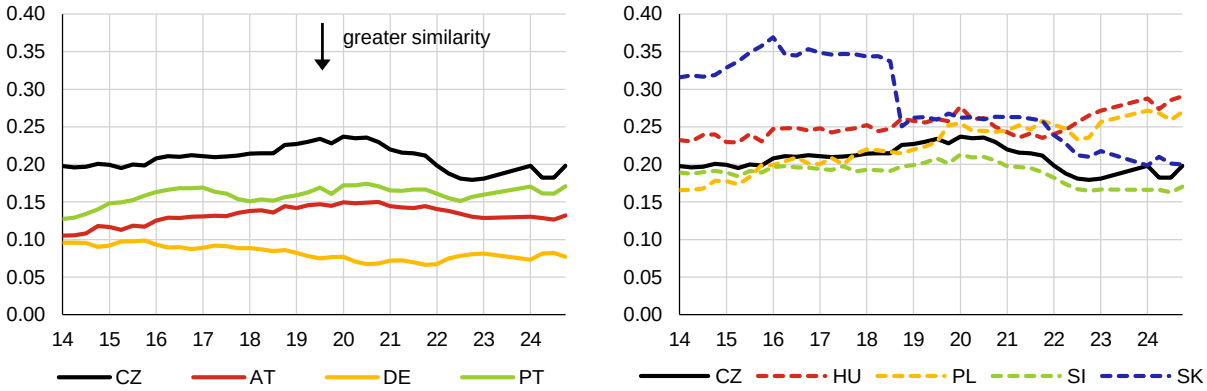
Source: ECB, CNB calculations

See the Overall message of the analyses.

STRUCTURE OF FINANCIAL ASSETS OF HOUSEHOLDS

The similarity of the structure of the financial assets of Czech households and households in the euro area remains relatively low. The dissimilarity is due mainly to Czech households' preference for investment fund units and shares alongside cash and deposit holdings, while households in the euro area hold a large part of their balance sheets in insurance and pension schemes.

Similarity of the structure of the financial assets of households and euro area households
(Landesmann index)



Note: The Landesmann index takes values in the range [0, 1].The closer the index is to zero, the more similar is the structure of the balance sheets under comparison. The shares of the individual categories of assets in total assets were used for households. The index values differ from the previous issues of this publication due to data revisions.
The drop for SK is due to a methodological change and data revision only until 2019.
The EA20 aggregate is used for the euro area.

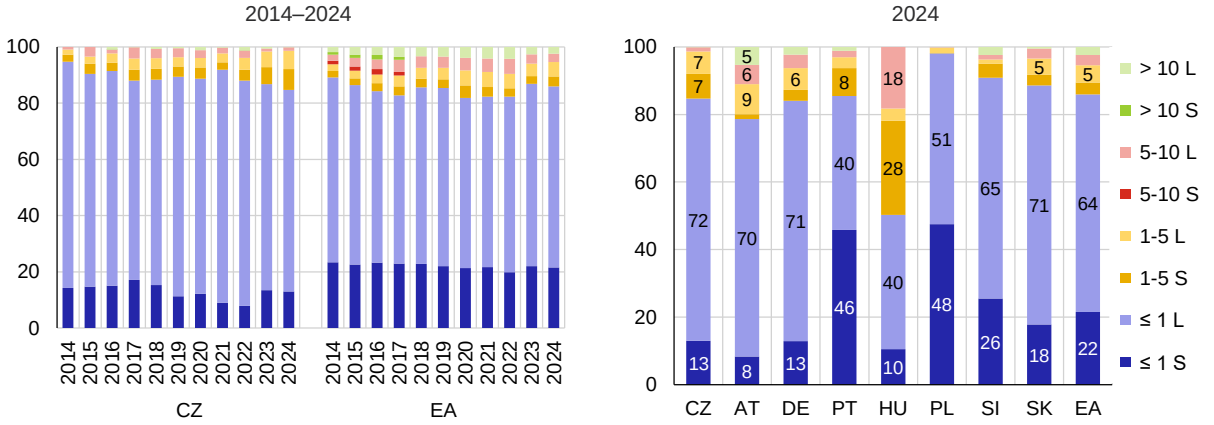
Source: ECB, CNB calculations

See the Overall message of the analyses.

EFFECT OF MONETARY POLICY ON CLIENT INTEREST RATES

The fixed-rate interest rate structure of loans to non-financial corporations in the Czech Republic and the euro area remains similar. More than 80% of loans to non-financial corporations in the Czech Republic and in most euro area countries under review have floating rates or fixed rates of up to one year. This gives rise to the rapid transmission of changes in monetary policy rates and subsequently market rates to the loan rates provided to non-financial corporations.

Structure of new loans to non-financial corporations by fixed-rate period
(%)

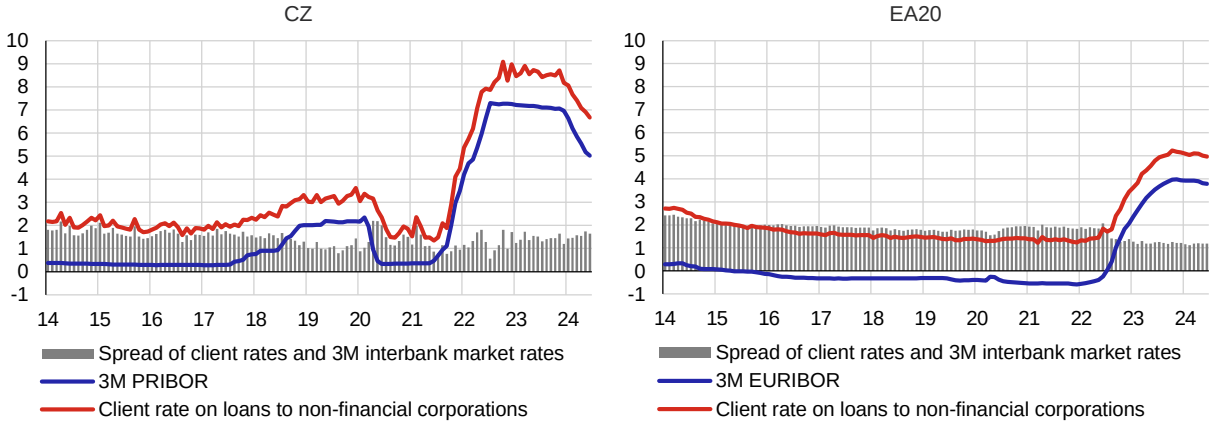


Note: The numbers in the legend stand for the fixed-rate period in years; the ≤1 category also includes loans with a floating interest rate. S and L denote small (up to EUR 1 million) and large (over EUR 1 million) loans, respectively.
The data are averages for the calendar year. The 2024 data are as of June.

Source: ECB, CNB calculations

Changes in monetary policy rates are most often transmitted to client rates on loans to non-financial corporations through the three-month interbank market rate. Given the high share of floating rates, the transmission is complete and with a minimal lag.

Spread between client rates on loans to non-financial corporations and the 3M interbank rate
(% and percentage points)



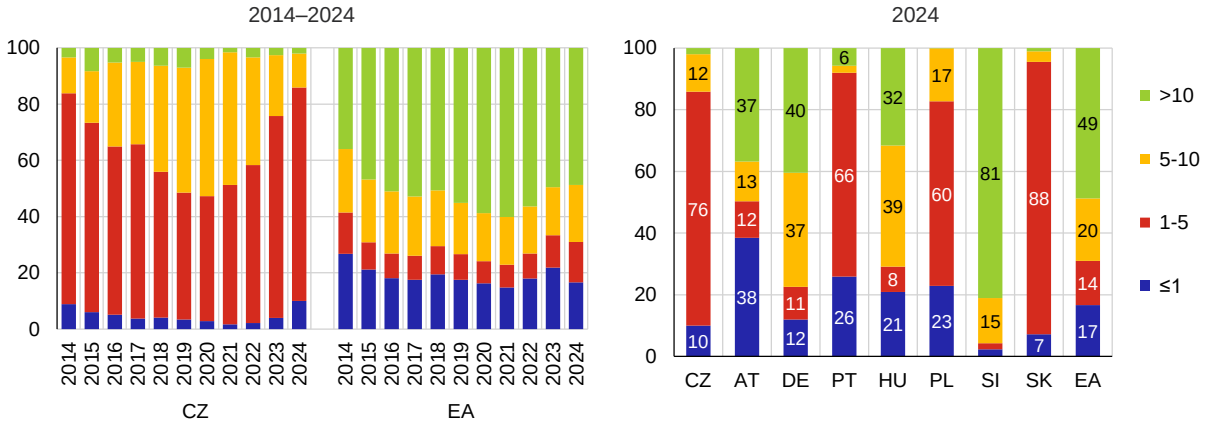
Note: The data are monthly averages.

Source: ECB, CNB, CNB calculations

See the Overall message of the analyses.

As regards loans to households, the average fixed-rate period for Czech households continued to decline, due mainly to a shift towards three-year fixes. The main difference in the fixed-rate structure between the Czech Republic and the euro area has long consisted in the share of fixed-rate periods of over ten years. This is very low in the Czech Republic, while it is almost one-half in the euro area. These loans with long fixed-rate periods may reduce the sensitivity of households to changes in market rates in the euro area.

Structure of new loans to households for house purchase by fixed-rate period
(%)



Note: The numbers in the legend stand for the fixed-rate period in years; the ≤1 category also includes loans with a floating interest rate.

The data are averages for the calendar year. The 2024 data are as of June.

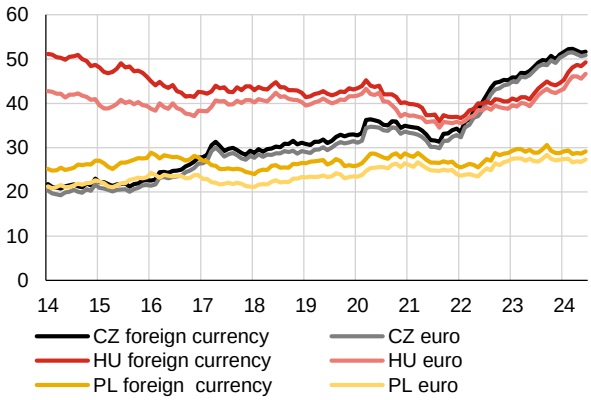
Source: ECB, CNB calculations

See the Overall message of the analyses.

SPONTANEOUS EUROISATION

The share of foreign currency loans to Czech corporations has stabilised. However, it is still higher than in Poland and Hungary.

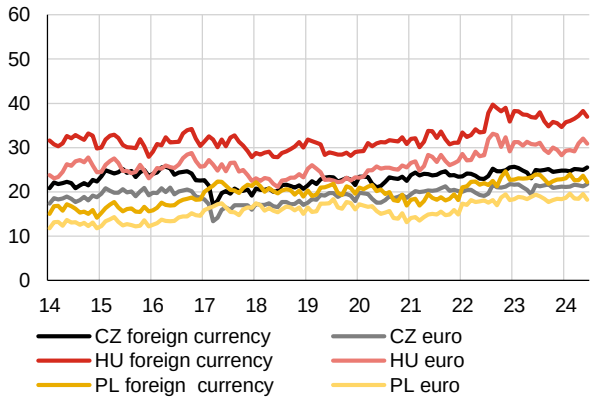
Foreign currency loans of non-financial corporations
(shares in total loans to non-financial corporations with domestic banks, %)



Source: ECB, CNB calculations

The share of foreign currency deposits of corporations in the Czech Republic remains close to its long-term level.

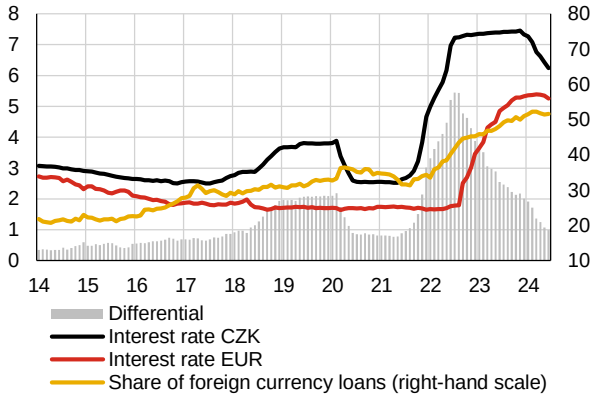
Foreign currency deposits of non-financial corporations
(shares in total deposits of non-financial corporations with domestic banks, %)



Source: ECB, CNB calculations

The share of foreign currency (mostly euro) loans of Czech corporations stabilised partly due to a decrease in the interest rate differential between domestic and euro interest rates.

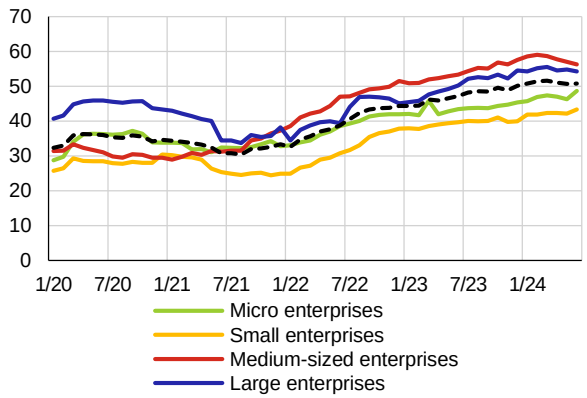
Interest rates on koruna- and euro-denominated loans of Czech corporations with domestic banks
(%)



Source: CNB, CNB calculations

Euro loans are drawn mainly by larger corporations.

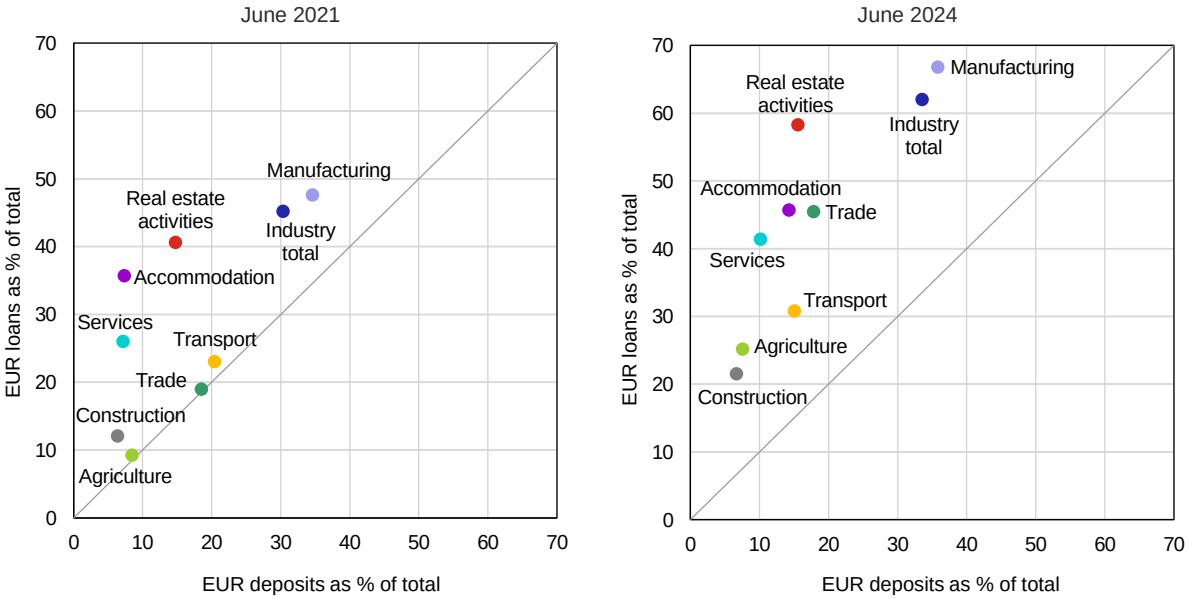
Euro-denominated loans by company size
(shares in total loans in given category with domestic banks, %)



Source: CNB Anacredit, CNB calculations

The euroisation of the Czech economy remains asymmetrical in terms of loans and deposits. High shares of euro loans are traditionally recorded in manufacturing (67%) and real estate activities (e.g. activities connected with shopping centres, where rents are paid in euros). The share of euro loans in trade and services also rose markedly compared to 2021. The shares of euro loans stabilised in most sectors in the first half of 2024.[103]

Euro-denominated loans and deposits by sector
(shares in total loans and deposits in given sector with domestic banks, %)

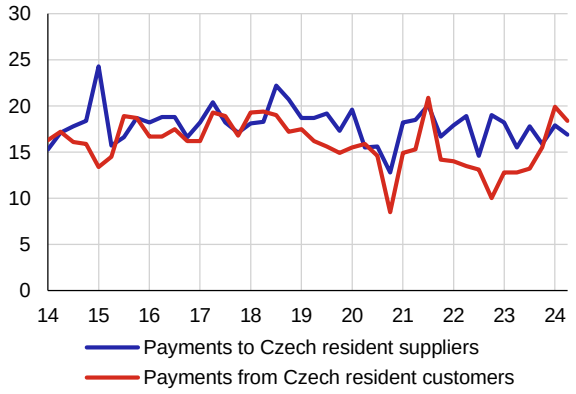


Note: June 2021 represents the period before the strong rise in the differential between koruna and euro interest rates.
Source: CNB, CNB calculations

[103] See the thematic chapter *Euroisation of the Czech economy*.

The share of euro payments between Czech firms in selected sectors remains close to its long-term level.

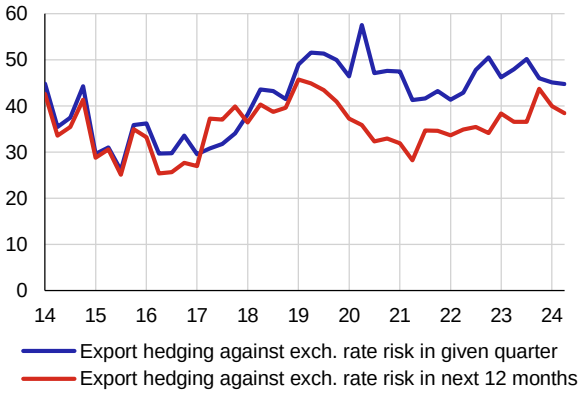
Shares of euro payments between Czech firms
(%)



Source: Survey of non-financial corporations conducted by the CNB and the Confederation of Industry of the Czech Republic

The hedging of exports against exchange rate risk on the financial market has not changed much over the past year. Around 38% of exports are hedged at the one-year horizon and almost half in the given quarter.

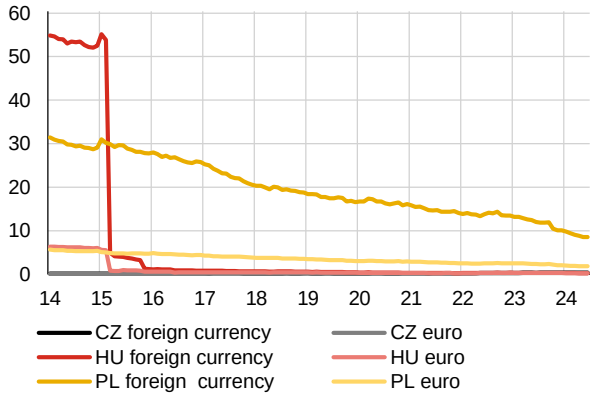
Shares of export hedging against exchange rate risk using financial derivatives
(%)



Source: Survey of non-financial corporations conducted by the CNB and the Confederation of Industry of the Czech Republic

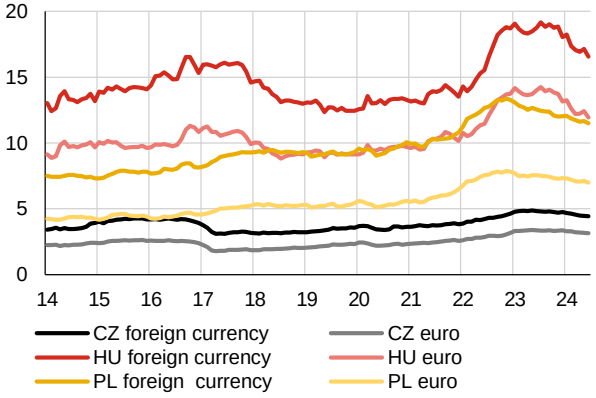
The euroisation of households remains very low in the Czech Republic: the share of euro loans is 0.3% and the share of euro deposits around 3%.

Foreign currency loans of households
(shares in total loans to households with domestic banks, %)



Note: The share of foreign currency loans in Hungary fell to zero in 2015 owing to administrative measures.
Source: ECB, CNB calculations

Foreign currency deposits of households
(shares in total deposits of households with domestic banks, %)



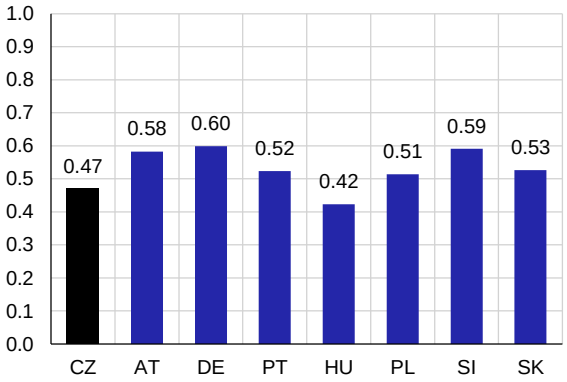
Source: ECB, CNB calculations

See the Overall message of the analyses.

INFLATION PERSISTENCE

Inflation persistence increased in all countries under review. In the Czech Republic, it is still one of the lowest. However, the difference compared to the euro area countries is not significant, and thus a common monetary policy would have similar impacts on inflation in this respect.

Inflation persistence estimates



Note: Calculation for 2014 Q1–2024 Q2.
Inflation persistence is measured as the sum of the autoregression coefficients. The closer the values are to one, the more persistent is inflation.

Source: Eurostat, CNB calculations

See the Overall message of the analyses.

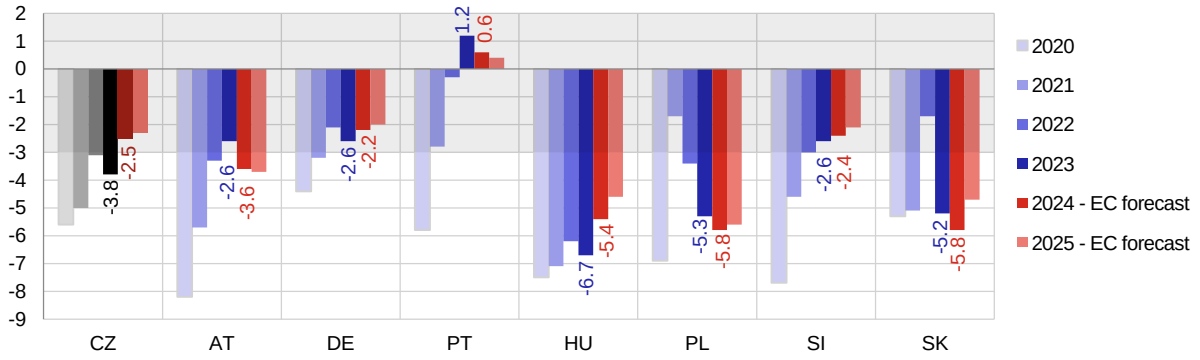
III.2 ADJUSTMENT MECHANISMS OF THE CZECH ECONOMY

III.2.1 Fiscal policy

- General government balance
- General government debt
- Room for the countercyclical effect of fiscal policy
- Long-term sustainability of public finances

The decline in the general government deficit connected with the fading out of the Covid-19 crisis halted in the monitored Central and Eastern European countries. In 2023, when the energy crisis was peaking, the Czech Republic as well as Hungary, Poland and Slovakia exceeded the Maastricht criterion of 3%. Unlike the latter three countries, however, the Czech Republic will reduce its general government deficit below 3% in 2024 according to the European Commission's November 2024 fiscal forecast, thanks mainly to the consolidation package.

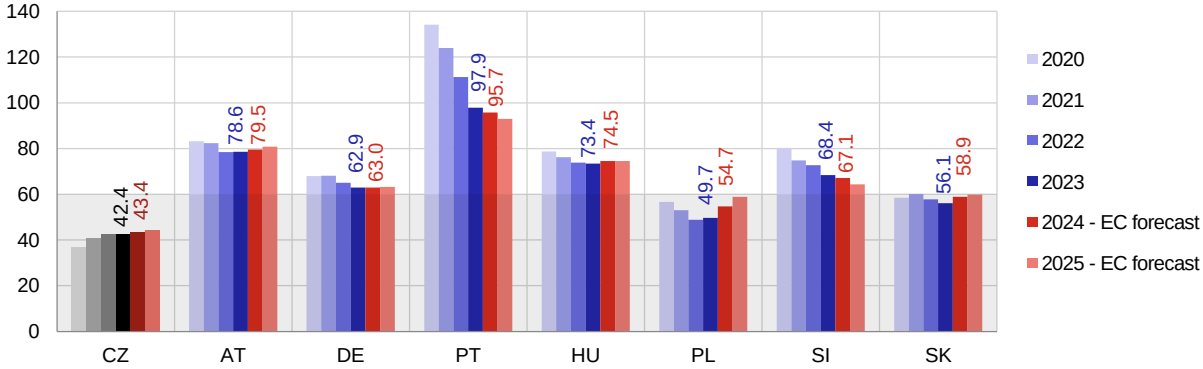
General government balance
(% of GDP, 2020–2023 actual data, 2024–2025 European Commission forecast – red)



Note: Countries compliant with the Maastricht criterion (the Stability and Growth Pact) lie in the grey area.
Source: Eurostat, European Commission autumn forecast

In all the countries under review except the Czech Republic, general government debt relative to GDP fell slowly after 2020. In the Czech Republic, debt rose gradually to 42.4% of GDP in 2023. In the EU, however, the Czech Republic is still among countries with lower general government debt (below the Maastricht criterion of 60% of GDP). The European Commission's forecast for 2024 and 2025 expects the Czech Republic's debt to be around 44% of GDP.

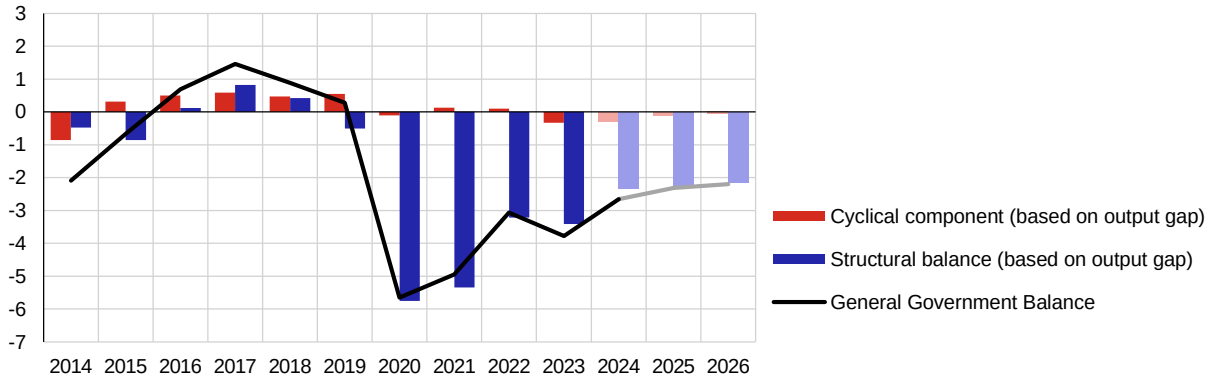
General government debt
(% of GDP, 2020–2023 actual data, 2024–2025 European Commission forecast – red)



Note: Countries compliant with the Maastricht criterion (the Stability and Growth Pact) lie in the grey area.
Source: Eurostat, European Commission autumn forecast

During the Covid-19 and energy crises, when the Czech economy faced an economic slowdown (and even decline), low general government surpluses turned into sizeable deficits. The general government balance is not expected to return to the pre-crisis positive level in the years ahead.

The Czech Republic's general government balance and its cyclical and structural components
(% of GDP and percentage points)

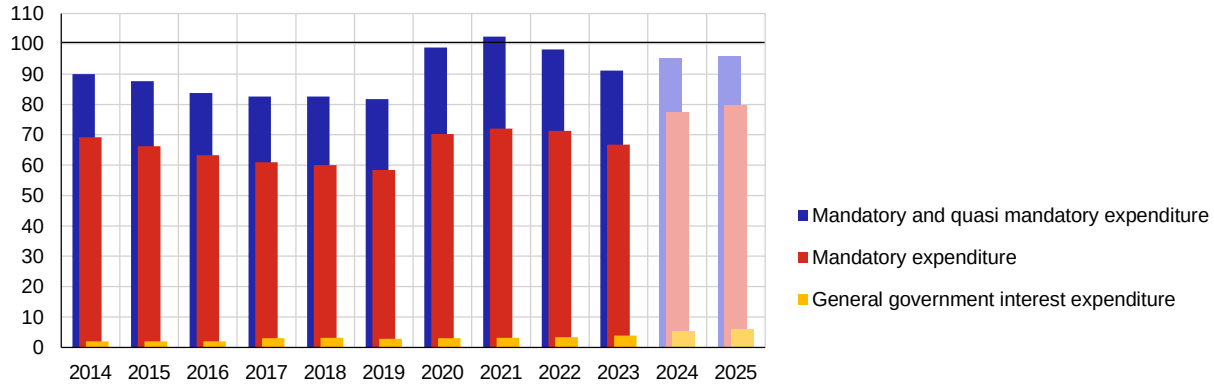


Note: The structural balance is the general government balance adjusted for the business cycle in the form of a cyclical component and for one-off measures.

Source: CZSO (2014–2023), CNB calculations (2024–2026 forecast, decomposition into the cyclical and structural components over the entire horizon)

During the Covid-19 crisis, mandatory and quasi-mandatory expenditures stipulated by law surged and were close to 100% of state budget revenues adjusted for the effect of EU funds. They fell slightly in 2023, but developments in 2024 and the draft state budget for 2025 indicate their further growth. Fiscal policy thus has very little room for manoeuvre to react to exceptional events.

Ratio of mandatory and quasi-mandatory expenditures in the Czech Republic to state budget revenues adjusted for EU-related flows
(%)

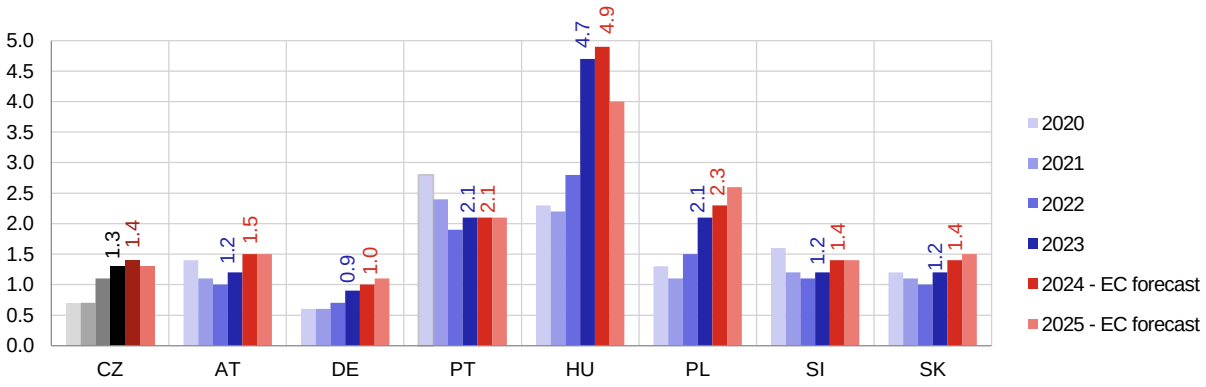


Note: Pension insurance benefits, government payments of health insurance for persons insured by the state (pensioners, students), mandatory expenditures on defence due to the Czech Republic's membership of NATO, and interest on general government debt account for the largest volume of mandatory expenditures. Quasi-mandatory expenditures include wage expenditures in organisational units of the state and semi-budgetary organisations, the Czech Republic's contribution to the EU budget and expenditures on the private and church school system.

Source: Draft state budget for 2025

Interest expenditures on general government debt in the Czech Republic rose by 0.6 pp relative to GDP during the Covid-19 and energy crises and are no longer among the lowest in the EU. Their growth is expected to halt according to the European Commission's autumn 2024 fiscal forecast.

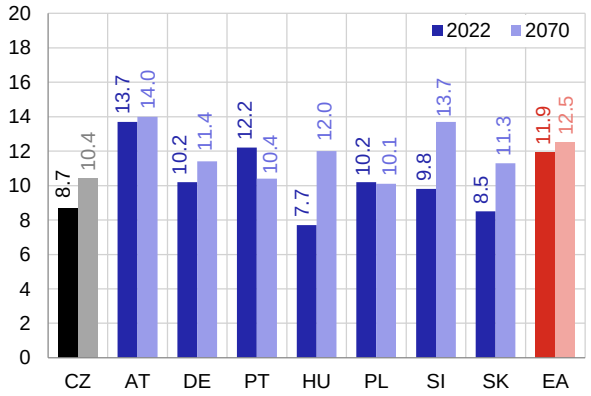
Interest on general government debt
(% of GDP, 2020–2023 actual data, 2024–2025 European Commission forecast – red)



Source: Eurostat, European Commission autumn forecast

The Czech Republic, together with Hungary and Slovakia, is currently in the group of Central and Eastern European countries with relatively low expenditures on pension insurance benefits of around 9% of GDP. The long-term outlook is not signalling that they will increase significantly either.

Pension insurance benefits
(% of GDP)

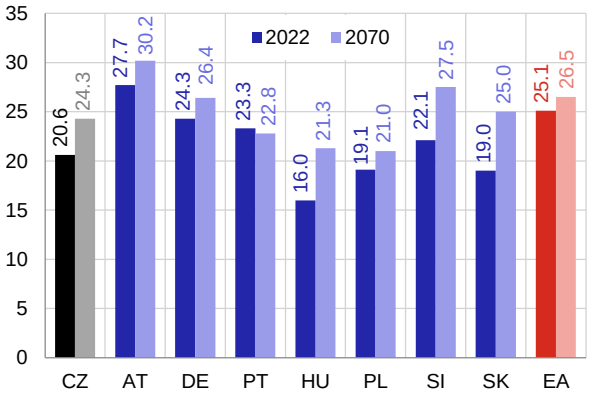


Note: The chart shows data from the 2024 Ageing Report. Gross pension insurance benefits, which do not take into account taxation (which takes place in Germany, Poland, Portugal, Austria and Slovenia), are presented here. The Ageing Report was published in April 2024, so the pension reform approved in the Czech Republic at the end of 2024 is not included in the prediction.

Source: European Commission (2024c)

However, total age-related expenditures, which take into account additional health care and long-term care expenditures, will rise more markedly.

Age-related government expenditures
(% of GDP)



Note: Age-related expenditures include pension insurance benefits (above all old age pensions) and expenditures on health care and long-term care.

Source: European Commission (2024c)

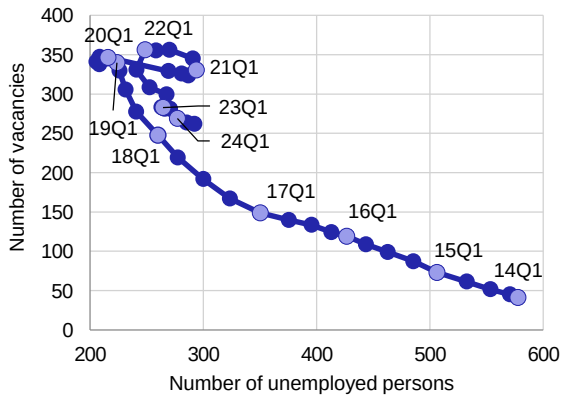
See the Overall message of the analyses.

III.2.2 The labour and products market

- Long-term unemployment rate
- Share of part-time jobs in employment
- Rate of economic activity of the population
- Geographical mobility
- Labour taxation
- Competitiveness of the Czech economy

The number of job vacancies has been falling gradually since 2022, while the number of unemployed persons has mostly been rising. In 2024, the number of job seekers thus already exceeds the number of job vacancies.

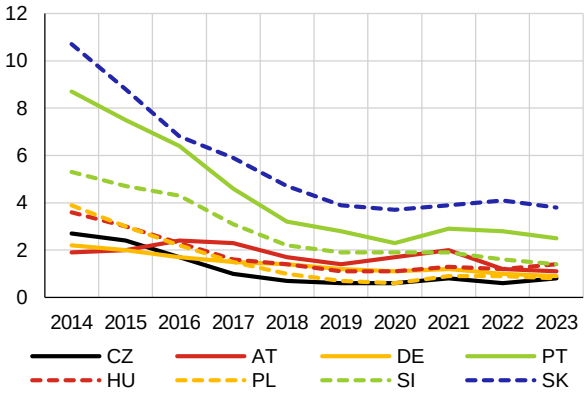
Beveridge curve
(thousands)



Source: Ministry of Labour and Social Affairs, CNB calculations

Despite a marginal increase last year, the long-term unemployment rate in the Czech Republic is still the lowest among the countries under review. (Poland recorded the same rate in 2023.)

Long-term unemployment rate
(%)

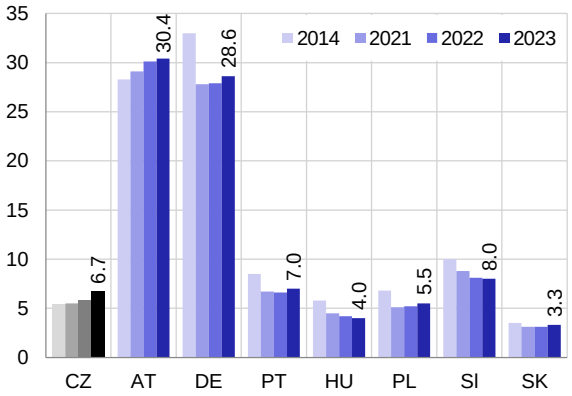


Note: Shares of persons unemployed for 12 months or more in the labour force (under ILO methodology).

Source: Eurostat

The share of part-time employment in the Czech Republic edged up last year but remains well below the levels in Austria and Germany.

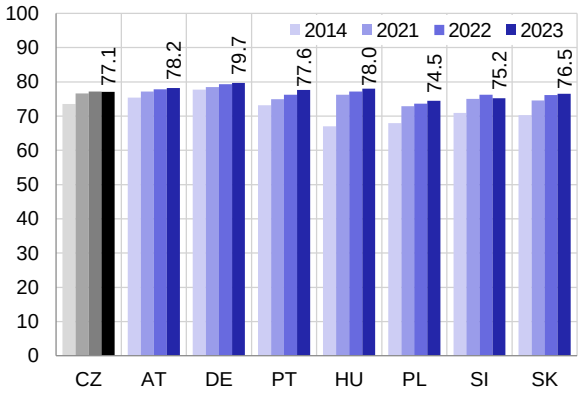
Part-time employees
(% of employment)



Source: Eurostat

The rate of economic activity of the population is relatively high in the Czech Republic, but its growth came to a halt last year.

Rates of economic activity in the 15–64 age category
(%)

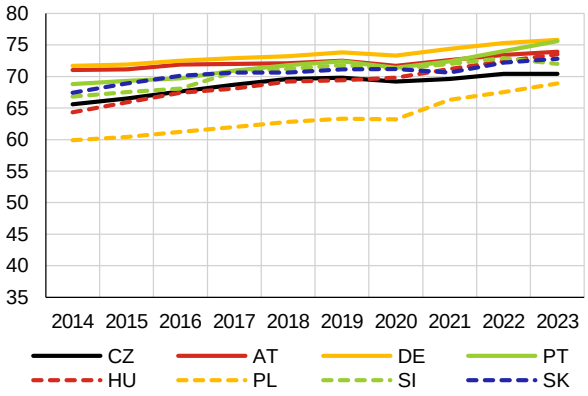


Note: The rate of economic activity is the share of economically active persons (employed and unemployed) in the population in each age category.

Source: Eurostat (LFS)

Female participation in the labour market in the Czech Republic has long been among the lowest compared to the other countries under review. Moreover, its growth has slowed in recent years, so the lag behind most other countries is increasing.

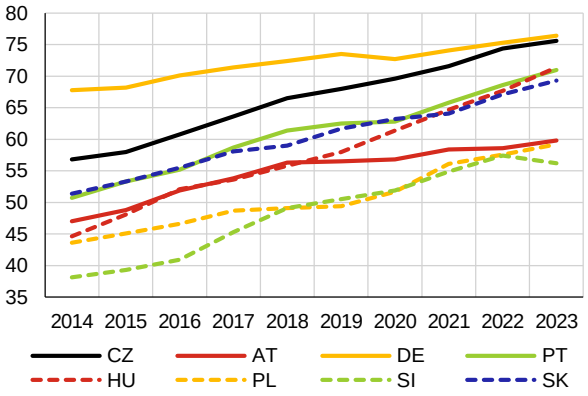
Female participation rate
(% of women in the 15–64 age category)



Source: Eurostat

By contrast, the participation of people of pre-retirement age in the Czech labour market has long been rising and is among the highest among the monitored countries.

Participation rate of people in the pre-retirement age
(% of people in the 55–64 age category)



Source: Eurostat (LFS)

The regional differences in the unemployment rate in the Czech Republic have long been medium-high compared to the other countries under review. After the pandemic, the differences in the Czech Republic initially increased but declined last year.

Coefficients of variation of the unemployment rate
(%)

	NUTS II regions										NUTS III regions									
	14	15	16	17	18	19	20	21	22	23	14	15	16	17	18	19	20	21	22	23
CZ	30	33	33	30	34	38	26	30	38	31	30	33	34	32	36	41	29	33	41	34
AT	43	45	46	46	56	57	52	51	50	47	45	47	49	49	57	58	53	53	54	50
DE	39	37	32	32	31	28	26	23	24	26	-	-	-	-	-	-	-	41	42	44
PT	12	14	14	12	11	13	13	9	14	12	-	-	-	-	-	-	-	18	17	16
HU	31	34	42	46	44	44	37	43	48	45	34	36	45	51	52	54	44	52	57	54
PL	19	21	26	30	35	29	29	28	33	26	29	30	33	37	43	39	39	42	47	44
SI	-	-	-	-	-	-	-	-	-	-	22	21	21	17	26	24	23	18	24	14
SK	28	26	29	37	41	-	-	-	-	-	30	31	33	42	45	46	43	48	53	57

Note: The coefficient of variation is the ratio of the standard deviation weighted by region size to the average unemployment rate in per cent. Higher levels of the coefficient of variation represent greater regional differences in unemployment. NUTS II (cohesion regions) and NUTS III (corresponding to regions in the Czech Republic) is a classification created by the European Commission for statistical purposes and also, for example, for distributing support from EU development funds at the NUTS II level.

Some data are not available.

Source: Eurostat (LFS)

The willingness of the domestic population to migrate within the Czech Republic has been roughly stable over the last 10 years but increased slightly in 2023.

Internal migration
(per 1,000 inhabitants)

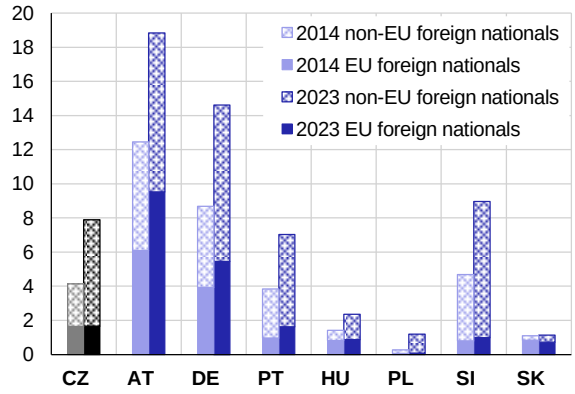
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
CZ	23	23	24	23	23	23	22	24	23	27
AT	40	43	44	42	41	40	40	41	44	42
DE	49	53	54	48	48	47	45	46	-	-
HU	22	22	26	27	29	29	27	32	30	23
PL	11	10	10	11	12	12	11	12	12	-
SI	55	53	54	54	50	47	67	53	62	52
SK	17	17	18	18	18	18	16	17	19	17

Note: Migration between municipalities (HU, PL and SI – all changes in permanent residence). The calculations do not take into account differences in the sizes of territorial units in the chosen countries. Data for Portugal are not available over the entire observed horizon. Some data for Germany and Poland are not available.

Source: Statistical yearbooks, Eurostat, CNB calculations

The share of foreign nationals in the population rose significantly based on the 2023 data due to the inclusion of Ukrainian refugees.

Shares of foreign nationals in the population
(%)

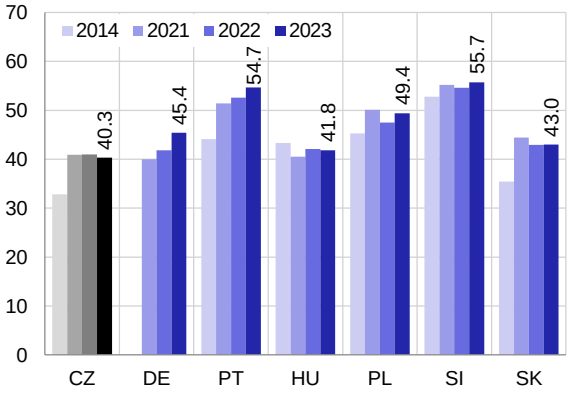


Note: Data on the population as of 1 January of the given year are used in the calculation. Therefore, Ukrainian refugees were not included until 2023.

Source: Eurostat, CNB calculations

The ratio of the minimum wage to the average wage in the Czech Republic has been around 40% since 2020. The amendment to the Labour Code approved this year introduces an indexation mechanism under which the minimum wage should reach at least 47% of the average wage by 2029.

Minimum wage
(% of average wage)



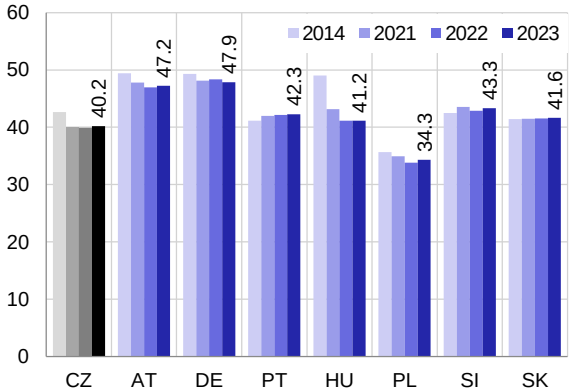
Note: In Austria, the minimum wage is defined only for some specific occupations and is around 30% of the average wage. No minimum wage was defined at the national level in Germany until 2014; a minimum wage was introduced in January 2015.

Source: Eurostat

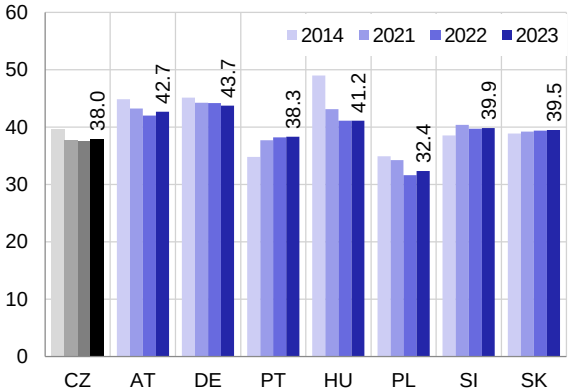
Overall labour taxation in the Czech Republic fell substantially due to tax changes effective from 2021; it is thus among the lower ones in the countries under review.

Overall labour taxation
(%)

Employees earning 100% of the average wage



Employees earning 67% of the average wage



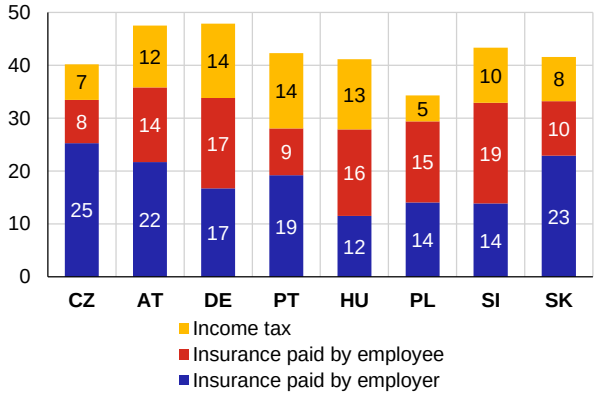
Note: Income tax and contributions paid by employees and employers as a percentage of total labour costs. Data for employees (childless individuals) earning 100% and 67% of the average wage.

The reduction in labour taxation in the Czech Republic was due mainly to the abolition of the "super-gross wage" as the tax base with effect from 2021.

Source: OECD

In particular, insurance contributions paid by employers contribute to labour taxation in the Czech Republic. By contrast, the contribution of income tax is among the lowest in the countries under review following the abolition of the "super-gross wage".

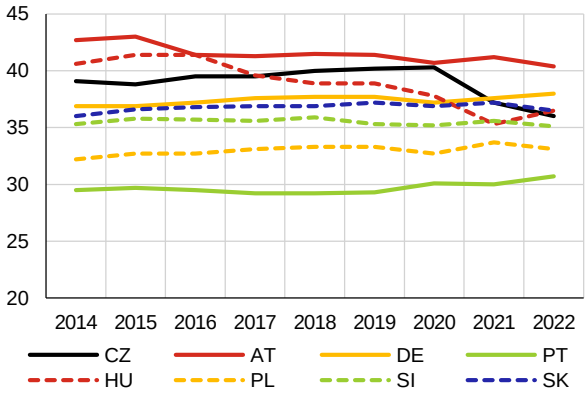
Components of labour taxation
(2023, % of average wage)



Source: OECD

Before the income tax cuts, the overall implicit labour taxation rate in the Czech Republic was one of the highest among the countries under comparison, but it has fallen markedly since 2020.

Implicit labour taxation rates
(%)



Note: The implicit labour taxation rate is defined as the sum of all direct and indirect taxes and social security contributions of employees and employers paid from wages, divided by the total compensation of employees plus income tax. More recent data are not available.

Source: Eurostat

The unemployment trap indicator has been improving slightly since 2021. However, the configuration of the Czech tax and social system still leads to a relatively weaker incentive to return from unemployment to employment by comparison with the other countries under review.

Unemployment trap
(%)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
CZ	81.6	81.7	81.8	82.0	82.1	82.3	82.3	81.0	81.0	79.7
AT	74.3	73.9	72.0	72.1	71.7	71.2	70.5	70.2	69.0	67.5
DE	73.1	73.1	73.2	73.3	73.2	73.2	73.0	72.8	73.0	73.1
PT	79.8	80.3	80.3	80.4	80.4	80.6	80.6	80.7	80.9	80.9
HU	78.6	78.4	78.1	78.5	78.5	77.1	76.4	73.3	76.3	77.1
PL	78.9	78.0	77.1	75.6	74.6	73.5	70.0	75.0	73.7	72.7
SI	89.7	89.7	89.6	91.0	91.7	91.6	90.0	86.9	83.3	78.7
SK	69.8	70.0	70.3	70.7	71.1	70.2	70.5	71.0	71.4	71.6

Note: The unemployment trap measures the proportion of additional gross income associated with finding employment that is paid to public budgets when an unemployed person enters employment due to higher taxes and social security contributions and the loss of unemployment benefit and other social benefits. The figures are based on a model example of an unmarried, childless individual with a wage of 67% of the average wage. Changes compared to the data published earlier are due to a revision of the source data, which was particularly significant for the Czech Republic.

Source: European Commission (Tax and benefits)

After a wage increase from 67% to 100% of the average income, about one-quarter of the additional gross income is paid to public budgets due to the configuration of the tax and social system, which is much less than before 2021 despite a slight increase. This is one of the lowest levels among the countries under comparison.

Low wage trap
(%)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
CZ	54.4	51.4	48.8	41.0	47.3	46.2	45.8	34.6	21.3	23.7
AT	57.2	55.7	48.8	48.4	46.9	44.5	44.7	45.0	42.7	43.1
DE	47.9	46.6	55.1	53.8	51.3	48.4	57.8	55.6	51.2	69.3
PT	25.5	25.5	24.0	25.8	27.2	28.3	29.6	30.7	31.8	34.7
HU	36.4	34.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5
PL	47.4	53.4	54.6	54.4	86.6	91.5	58.2	57.5	40.9	44.3
SI	49.8	36.7	33.2	35.4	38.7	67.8	65.6	55.2	45.2	48.0
SK	22.4	23.4	24.5	26.0	27.9	28.2	27.0	28.8	29.9	16.8

Note: The low wage trap measures the proportion of additional gross income that is paid to public budgets due to the combined impact of income taxes, social security contributions and the loss of benefits when gross income increases from 67% to 100% of the average income of an employee in the business sector. This indicator is compiled for persons living as a couple, only one of whom earns an income, with two children.

Source: European Commission (Tax and benefits)

After moving from inactivity to employment at 67% of the average wage, about one-third of the additional gross income is paid to public budgets. This is the average level among the countries under review.

Inactivity trap
(%)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
CZ	31.1	31.1	31.1	31.1	31.1	31.1	31.1	25.0	33.2	32.6
AT	31.1	31.4	28.4	28.7	29.1	20.5	19.7	20.4	19.3	19.3
DE	46.0	46.1	46.1	46.1	46.1	45.2	45.0	43.8	43.8	43.9
PT	34.5	29.5	35.0	34.9	32.5	33.2	32.1	32.9	32.4	33.0
HU	34.5	34.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5
PL	37.0	37.1	55.9	54.7	37.2	33.4	31.9	31.9	34.7	34.8
SI	50.7	57.0	57.5	57.6	55.2	52.4	51.6	50.9	52.6	48.1
SK	29.9	29.9	29.9	29.9	29.9	28.7	29.1	29.1	29.1	29.1

Note: The inactivity trap measures the proportion of additional gross income that is paid to public budgets due to the combined impact of income taxes, social security contributions and the loss of benefits following the return from economic inactivity to work. The figures are based on a model example of an individual with a wage of 67% of the average wage, living with a partner earning 100% of the average wage and two children. This configuration aims to be as close as possible to a person returning from maternal/parental leave to work, the statistics are therefore intended to proxy for the "maternal leave trap". However, the age of the children is unknown, so this may not accurately reflect the situation of a parent after maternal/parental leave.

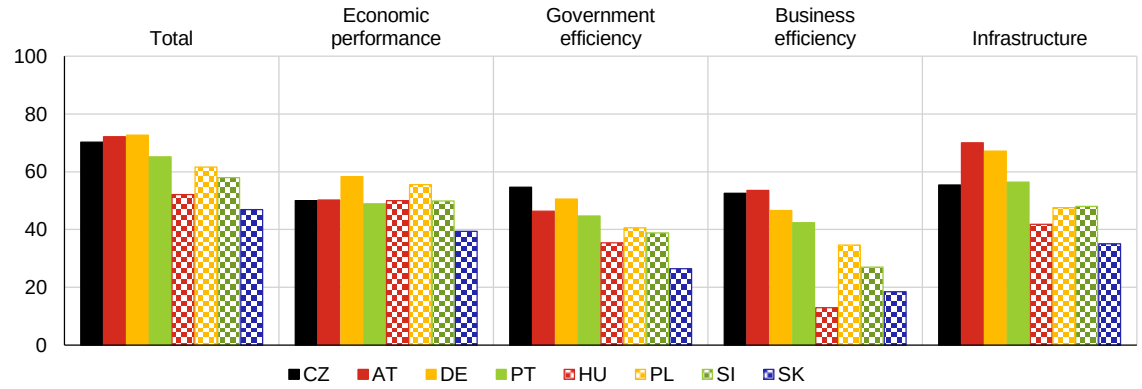
Source: European Commission (Tax and benefits)

See the Overall message of the analyses.

COMPETITIVENESS OF THE CZECH ECONOMY

In an international comparison based on the IMD World Competitiveness Booklet, the Czech Republic's competitiveness has deteriorated compared to last year but remains on par with Germany and Austria, whose score has also worsened.

IMD World Competitiveness – overall index and main factors of competitiveness
(2024)

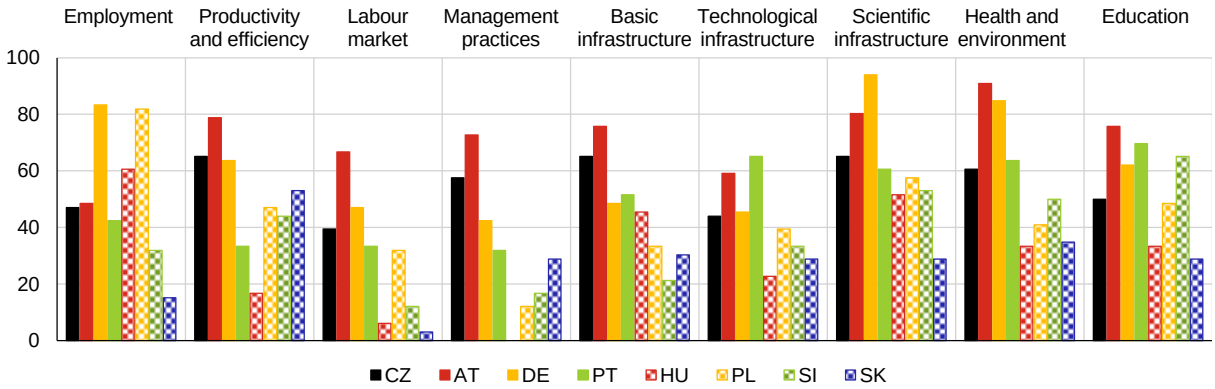


Note: A higher value denotes higher competitiveness in the given area. Official scores by the publisher are shown, with the overall index being normalised to a scale of 0–100 (for this reason, it is higher than the average of the scores for the four factors).

Source: International Institute for Management Development, IMD (2024)

In selected categories, the competitiveness of the Czech economy is solid by comparison with the countries under review.

IMD World Competitiveness – selected subfactors
(2024)



Note: The score for each subfactor is derived from the country's ranking in a survey of 67 countries and normalised to a scale of 0–100. A higher value denotes higher competitiveness in the given area (100 denotes rank 1, while 0 denotes rank 67).

Source: International Institute for Management Development, IMD (2024), CNB calculation

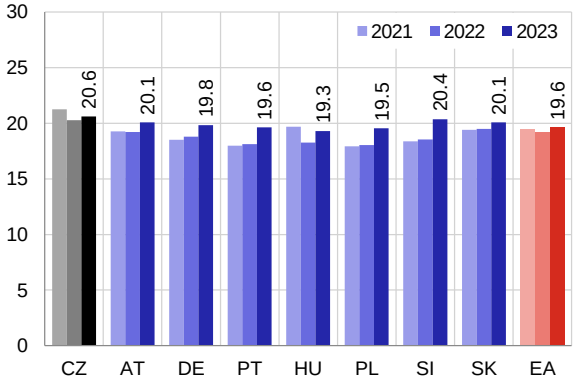
See the Overall message of the analyses.

III.2.3 The banking sector

- Capital position
- Profitability
- Liquidity position
- Credit risk

The overall capital ratio of the Czech banking sector indicates high resilience.

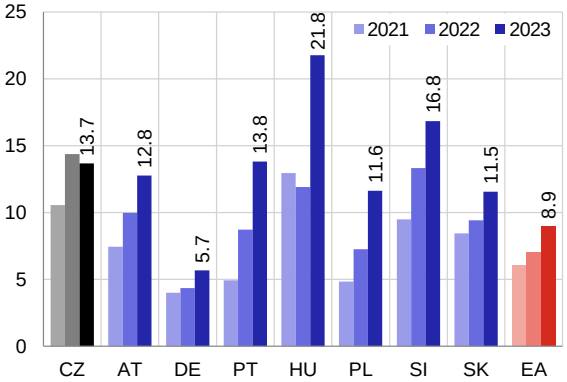
Overall capital ratios
(%)



Note: The ratio of banks' capital to their risk-weighted assets.
Source: ECB

Return on equity picked up in all the countries under review except the Czech Republic. However, the profitability of domestic banks remains high.

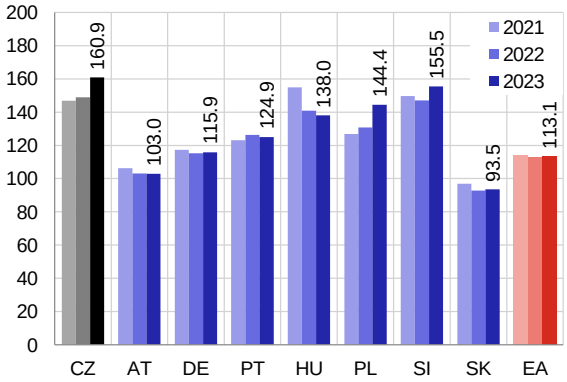
Return on equity (RoE)
(%)



Source: ECB

The liquidity position of the domestic banking sector remains robust due to the high shares of liquid assets and stable funding sources. It improved further in the course of last year.

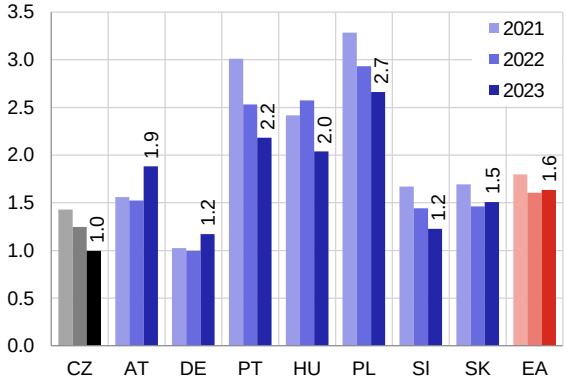
Deposit-to-loan ratios
(%)



Note: Deposits/loans to residents.
Source: ECB

The non-performing loan ratio fell in most countries. It is below the euro area average in the Czech Republic.

Non-performing loans
(% of total bank loans)



Source: ECB

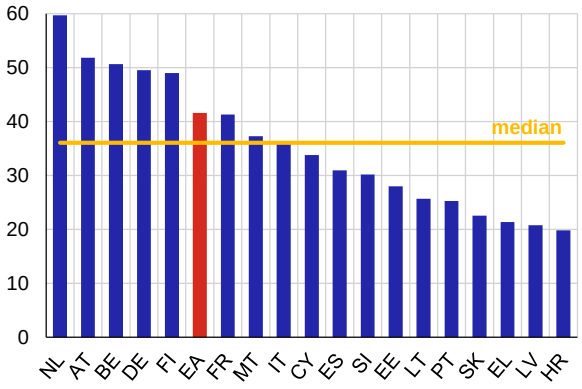
See the Overall message of the analyses.

III.3 ECONOMIC ALIGNMENT OF EURO AREA COUNTRIES

- Convergence of euro area countries' wealth levels
- Public finance sustainability
- Business cycle alignment
- Monetary policy transmission (interest rate channel)
- Financial cycle alignment as captured by credit growth
- Inflation alignment

The economic performance of most euro area countries has increased in recent years, but large differences between countries persist.

GDP per capita in euro area countries
(2023, GDP at current prices in EUR thousands)

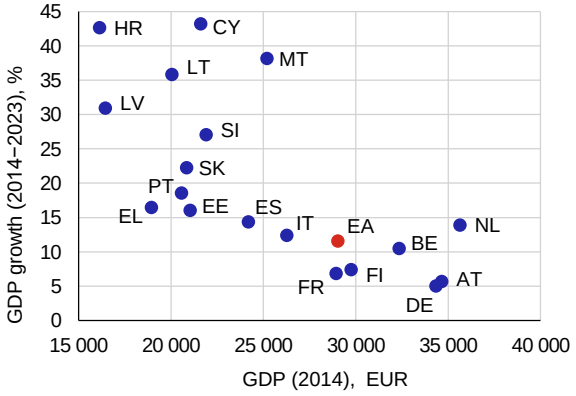


Note: Luxembourg and Ireland are not included in the left-hand or right-hand chart due to the many specificities of their economies, which result in exceptionally high GDP per capita.

Source: Eurostat

The process of real convergence is still visible mostly in the newer euro area countries.

Beta-convergence of real GDP in euro area countries

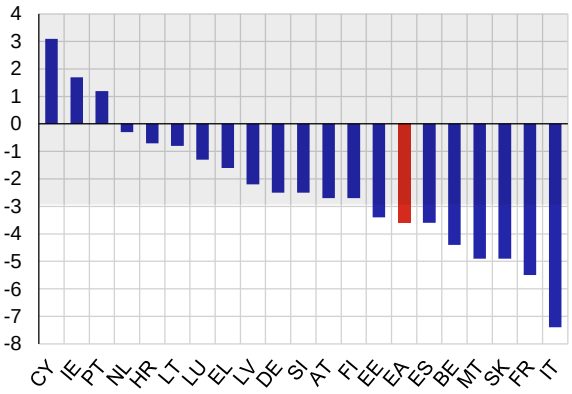


Note: The chart depicts the relation between GDP growth per capita in each country and its initial level (beta-convergence). The x-axis shows GDP per capita in purchasing power parity (PPP) and the y-axis shows real GDP growth.

Source: Eurostat

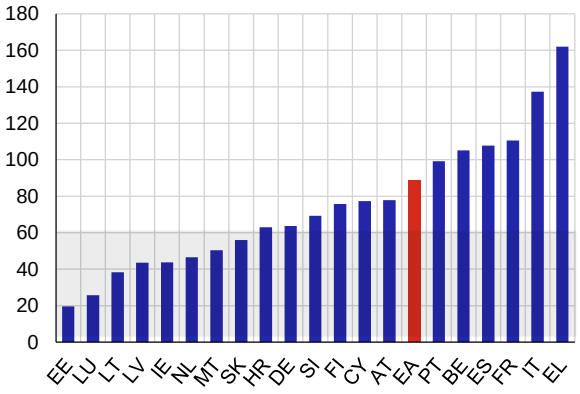
Most euro area countries recorded a general government deficit in 2023. The deficits remained fairly high in some euro area countries owing to government measures to mitigate the impact of the previous strong growth in energy prices.

General government balance in euro area countries
(2023, % of GDP)



Following a marked increase in 2020, the ratio of government debt to GDP declined gradually. However, this improving trend halted in 2023 and the ratio thus stayed above the pre-pandemic level for most countries (and for the euro area as a whole). It is again significant especially in the countries of the southern wing of the euro area.

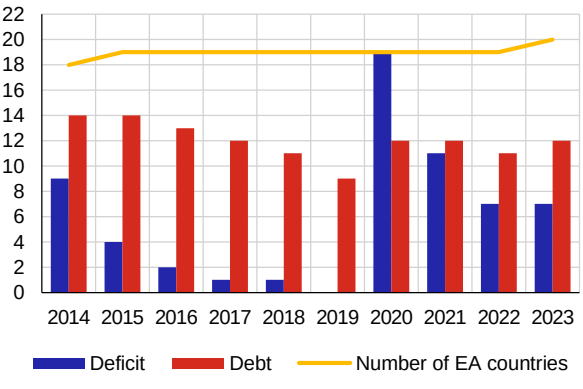
General government debt in euro area countries
(2023, % of GDP)



Note: Countries in the grey area are compliant with the Stability and Growth Pact (SGP) criterion. The SGP sets limits on government deficits (3% of GDP) and debt (60% of GDP).
Source: Eurostat

Fiscal indiscipline remains visible in the euro area as regards both general government deficits and above all in the area of debt.

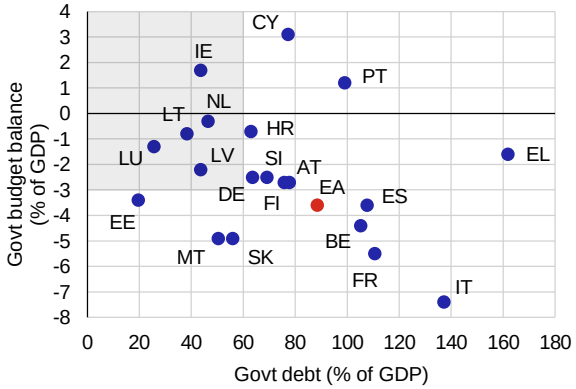
Non-compliance with the fiscal criteria
(number of countries non-compliant with the deficit and debt criteria)



Source: Eurostat, CNB calculations

The improvement in the fiscal situation is only modest, as illustrated by the fact that only five euro area countries met both the debt and deficit criteria last year.

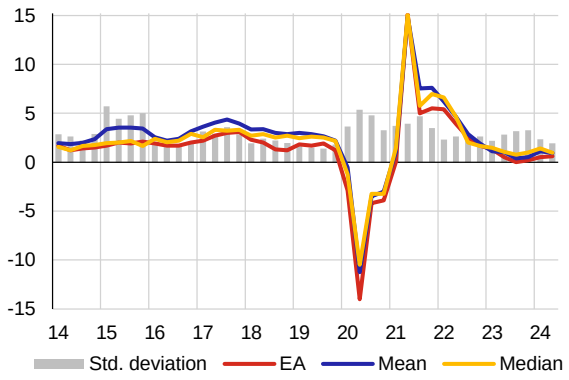
Fiscal positions of euro area countries
(2023)



Note: Countries compliant with the Stability and Growth Pact lie in the grey area.
Source: Eurostat

Economic growth weakened last year due to the effects of tight monetary policy, with industry being particularly affected. Growth started to recover this year due among other things to strengthening private consumption.

Real GDP growth in euro area countries
(y-o-y, %)

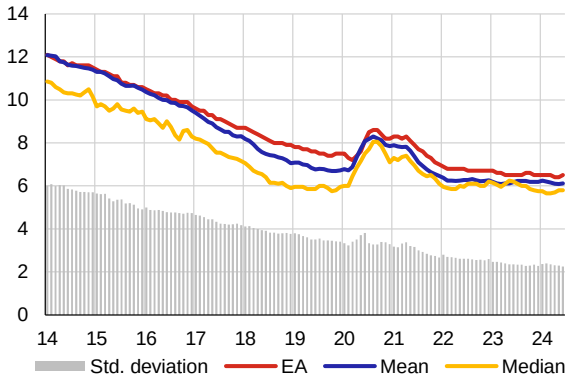


Note: The quarterly series "mean" depicts the unweighted arithmetic mean of GDP growth in the given quarter across euro area countries. The source series are seasonally adjusted.

Source: Eurostat, CNB calculations

Despite weakened economic activity, the labour market cooled only slightly. The unemployment rate has been around 6.5% since the start of last year.

Unemployment in euro area countries
(%)

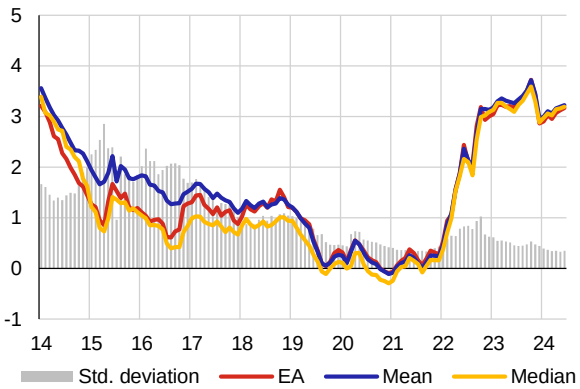


Note: The monthly series "mean" depicts the unweighted arithmetic mean of unemployment in the given month across euro area countries. The source series are seasonally adjusted.

Source: Eurostat, CNB calculations

Long-term government bond yields in the euro area have been around 3% since late 2022. Their decrease at the end of last year was due to a substantial decline in financial market expectations about the evolution of ECB interest rates.

Long-term government bond yields in euro area countries
(%)

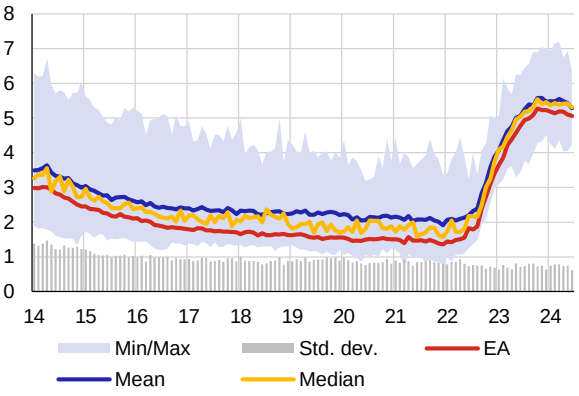


Note: Bond yields for the convergence criteria. The bond maturity is about ten years. Estonia is not included because the time series is not available. The monthly EA series is a weighted average of ten-year euro area government bonds.

Source: Eurostat, ECB (FM database), CNB calculations

Rates on client loans recorded a further marked rise last year, but it came to a halt at the end of the year. In the first half of this year, these rates were just above 5%.

Funding costs of non-financial corporations
(%)

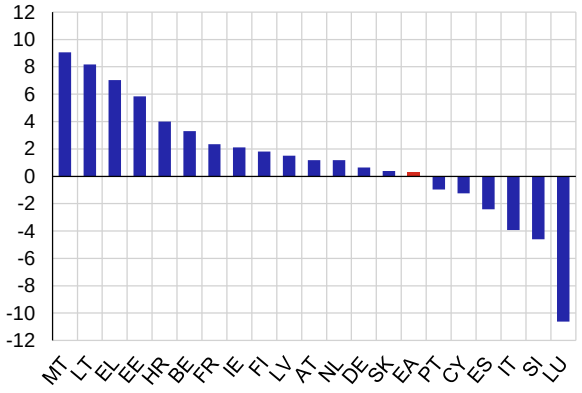


Note: The composite indicator comprises a weighted average of short-term and long-term loans to non-financial corporations. The time series are monthly.

Source: ECB (MIR database), CNB calculations

The volume of bank loans to non-financial corporations is rising in many euro area countries, but its growth rate is still weakened. This is due to tighter lending conditions and still high interest rate levels.

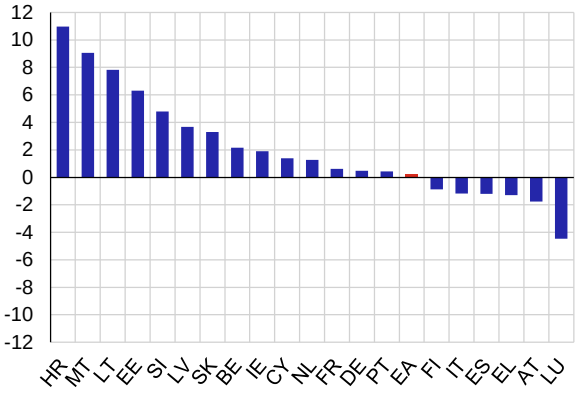
Growth in bank loans to domestic non-financial corporations
(2024 H1, y-o-y, %)



Note: Average annual growth in loans provided by monetary financial institutions in the first six months of 2024.
Source: ECB (BSI database), CNB calculations

The easing of the restrictive monetary policy stance led to faster growth in bank loans to households in many euro area countries. This was mainly reflected in an increase in the growth rate of loans for house purchase.

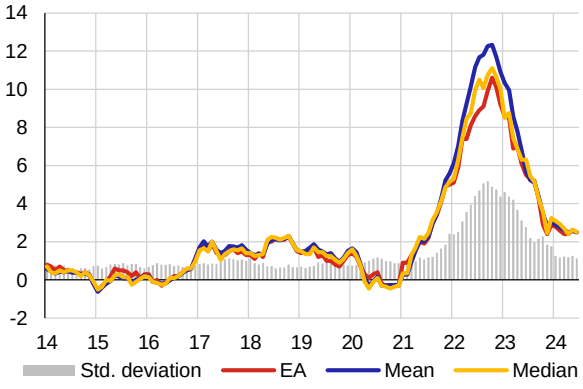
Growth in bank loans to households
(2024 H1, y-o-y, %)



Note: Average annual growth in loans provided by monetary financial institutions in the first six months of 2024.
Source: ECB (BSI database), CNB calculations

The euro area saw a significant decline in headline inflation from its peak in late 2022 back to the 2% target in 2023, owing primarily to lower energy prices. However, an easing of inflation has been counteracted so far this year by slowly decreasing inflation in services, where price growth increased until mid-2023 and remains still around 4%.

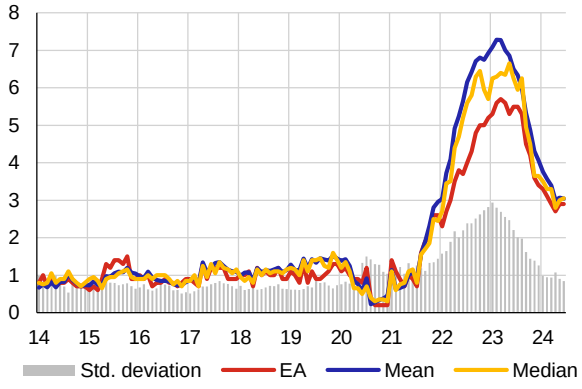
Headline inflation in euro area countries
(y-o-y, %)



Note: The series "mean" depicts the unweighted arithmetic mean of inflation in the given period across euro area countries.
Source: Eurostat, CNB calculations

However, the disinflation process manifested itself with a lag last year also in the case of core inflation, which is, however, slowing less markedly, as the underlying price pressures are still elevated (partly because of strong wage growth, which should slow next year). Core inflation has been elevated around 3% since the beginning of 2024.

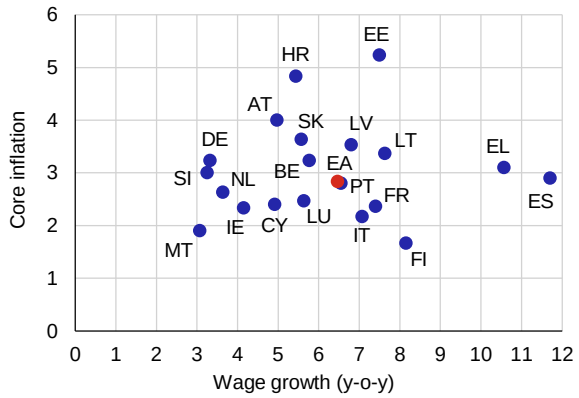
Inflation excluding energy, food, alcohol and tobacco prices
(y-o-y, %)



Note: The series "mean" depicts the unweighted arithmetic mean of inflation in the given period across euro area countries.
Source: Eurostat, CNB calculations

The differences in core inflation across euro area countries fell significantly, accompanied by lower differences in wage growth rates than in previous years.

Growth in wage costs and core inflation
(y-o-y growth rates in 2024 Q2, %)



Note: The wage growth series are seasonally adjusted.
Source: Eurostat

See the Overall message of the analyses.

IV. THEORETICAL FOUNDATIONS OF THE ANALYSES

The basic theoretical starting point for examining whether individual countries are good candidates for introducing a single currency is the theory of optimum currency areas.[104] In the context of the creation of the single European currency, knowledge of this theory is often used to assess the appropriateness of the adoption of the euro by the existing euro area countries and the rationality of the same step for the new EU Member States.[105] Factors that contribute to the benefits of the single currency (compared to a free nominal exchange rate) make up the set of optimum currency area properties.

Economists agree on the general fundamental costs and benefits of introducing a single currency, but the significance of the individual arguments may change over time or depending on the specific features of the economies concerned. The benefits include reduced international trade costs, in particular the elimination of exchange rate risk and the costs of hedging against it, as well as lower transaction costs and easier-to-compare prices. The costs include non-recurring ones stemming from the change of legal tender and long-term ones due to the risk of greater volatility in economic activity and consumption as a result of the loss of independent monetary policy and to a reduction in the effectiveness of domestic macroeconomic policy.

The key features determining the suitability of a country's participation in a currency area are similarity of transmission mechanisms and a high degree of economic integration. Similarity of transmission mechanisms ensures that the single monetary policy will not have different macroeconomic impacts in different parts of the monetary union. A high degree of economic integration increases the benefits arising from the single currency, as trade and investment barriers are eliminated. The latest empirical studies do indeed confirm that the introduction of the single currency has a positive effect on international trade.

The original literature was fairly optimistic as regards the effects of the single currency on trade.[106] However, later studies – such as Baldwin (2006) – were more sceptical, and Havránek (2010) even finds in a meta-analysis that the effect of euro adoption on trade between euro area countries is not statistically significant and with high probability is less than 5%. The latest studies return to positive but lower estimates.[107]

The latest empirical literature has revealed considerable heterogeneity in the effects of the introduction of the single currency on trade.[108] This heterogeneity pertains to both cross-country and cross-sector impacts. The effects of the single currency on trade are typically lower if a sector or country is already heavily involved in international trade before joining the monetary union. They are also lower for large economies and low or non-existent if the country had a fixed exchange rate before introducing the single currency.[109] The heterogeneity of effects across countries and sectors can help explain the conflicting findings of previous studies.

Business cycle alignment and similarity of shocks reduce the costs of giving up certain adjustment mechanisms on entering the monetary union. This is because aligned business and financial cycles mean that the single monetary policy is appropriate for all members of the monetary union. Mutual trade and structural similarity align business cycles, while differences in labour market regulation and differences in fiscal and structural policies reduce their alignment.[110] A further deepening of coordination of structural policies across countries is therefore important for greater alignment of business cycles in the euro area.[111]

The costs of joining the monetary union also depend on the economy's ability to make use of other adjustment mechanisms. These mechanisms include labour and product market flexibility and countercyclical fiscal policy. A flexible labour market and a mobile labour force can at least partly offset persisting asymmetric shocks in the monetary union. The loss of independent monetary policy can be offset to some extent by the use of

[104] Mundell (1961), McKinnon (1963) and Kenen (1969) are regarded as the cornerstones of this theory. A newer literature survey can be found, for example, in De Grauwe (2013).

[105] In addition to economic arguments, the decision to adopt the euro is motivated by political and social demand, as analysed, for example, in Eichengreen (2008) and Spolaore (2013).

[106] Rose (2000), for example, found effects amounting to hundreds of per cent.

[107] Glick and Rose (2016), Rose (2016).

[108] Chen and Novy (2018), Vicquery (2021).

[109] Lalinský and Meriküll (2021).

[110] Duran and Ferreira-Lopes (2015), Inklaar et al. (2008).

[111] Lukmanova and Tondl (2017).

fiscal policy. However, the countercyclical effect of fiscal policy is critically dependent on the shape of public finances, i.e. on whether fiscal policy has the necessary room for manoeuvre.[112]

Temporary effects of euro adoption may also be important for acceding countries. These effects include a fall in the risk premium, an easing of the credit conditions and changes in productivity in the tradable and non-tradable sectors.[113] Another potential cost for converging countries is a persisting inflation differential,[114] which may be reflected in a fall in real rates and thus have a temporary destabilising effect on the economy via macrofinancial linkages.[115]

The general principles are confirmed by analyses based on structural macroeconomic models.[116] The conclusion of the model analyses is that the costs increase as domestic demand shocks (fiscal shocks in particular) grow in importance and decrease as the degree of trade integration increases. For example, a simulation of the costs of euro adoption in Central European countries using a DSGE model concludes that the costs of the loss of independent monetary policy are high for the Czech Republic and Poland relative to Hungary because of the large significance of domestic demand shocks, such as shocks to government consumption.[117]

The attractiveness of entering the monetary union is also related to the effectiveness of its institutions.[118] Studies point out that the main problem in the euro area was weak political integration,[119] as fiscal rules can only be effective if there is an institution to enforce them (however, the solution does not have to be a full fiscal union).[120] On the other hand, some studies argue that the euro area may be functioning and beneficial to all members even without a fiscal union, but only provided that rescue mechanisms are introduced within the banking union.[121] However, uncertainty about the future functioning of euro area institutions provides a rationale for new Member States to consider their entry thoroughly and to wait at least until the rules of operation of euro area institutions are clarified before joining the monetary union.[122]

[112] Romer and Romer (2018), Babecká Kucharčuková and Brůha (2017).

[113] Ahrend et al. (2008) and Lin and Treichel (2012) point out that an excessive decrease in long-term interest rates (compared to that implied by the Taylor rule under independent monetary policy) after the adoption of the single currency in some economies gave rise to bubbles in asset markets, property markets in particular. Overvaluation of the real exchange rate, identified for Greece, Ireland and Portugal by El-Shagi et al. (2016), may also be a risk to macroeconomic stability.

[114] Brůha and Podpiera (2007).

[115] Examples for individual countries can be found in Martin (2010), Hampl and Skořepa (2011) and Lin and Treichel (2012).

[116] For example, Ferreira-Lopes (2010) explores the costs of euro adoption for Sweden and the UK, concluding that the costs of euro adoption would outweigh the benefits in these countries.

[117] Ferreira-Lopes (2014).

[118] For example, De Grauwe (2010a,b).

[119] Razin and Rosefielde (2012).

[120] Wyplosz (2015).

[121] Mongelli (2013). Similarly, a study by Neri and Ropele (2015) shows that the ECB's monetary policy helped reduce the impacts of the debt crisis even without fiscal coordination.

[122] Podpiera et al. (2015).

V. REFERENCES

Czech National Bank: *Analyses of the Czech Republic's Current Economic Alignment with the Euro Area 2005–2023*. Available online: <https://www.cnb.cz/en/monetary-policy/euro-adoption/>

Czech National Bank (2024a): *Methodological Annex to the Analyses of the Czech Republic's Current Economic Alignment with the Euro Area*. Available online: <https://www.cnb.cz/en/monetary-policy/euro-adoption/>

Czech National Bank: *Interviews, articles*. Available online: <https://www.cnb.cz/en/public/media-service/interviews-articles/>

Czech National Bank: *cnBlog – the official blog of the Czech National Bank*. Available online: <https://www.cnb.cz/en/about_cnb/cnblog/>

European Commission (2024a): *Cyclical Adjustments of Budget Balances,* Autumn 2024, Table 9A.

European Commission (2024b): *Statistical Annex to European Economy,* Autumn 2024.

European Commission (2024c): *2024 Ageing Report, Economic & Budgetary Projections for the EU Member States (2022–2070)*, Institutional Paper 279, April 2024. Available online: <https://economy-finance.ec.europa.eu/publications/2024-ageing-report-economic-and-budgetary-projections-eu-member-states-2022-2070_en>

International Institute for Management Development, IMD (2024): *World Competitiveness Yearbook 2024*.

Ministry of Finance of the Czech Republic (2024): *Návrh zákona o státním rozpočtu České republiky na rok 2025 včetně rozpočtové dokumentace* (Draft Act on the State Budget of the Czech Republic for 2025 including Budgetary Documentation), September 2024.

Survey of non-financial corporations conducted by the CNB and the Confederation of Industry of the Czech Republic. Available online: <https://www.cnb.cz/arad/#/en/indicators>

Thematic chapters:

Assessment of the Czech Republic by international institutions – "unfinished homework"

ECB (2024): *Convergence Report*. Available online: <https://www.ecb.europa.eu/press/other-publications/convergence/html/ecb.cr202406~475c2172bc.en.html>

European Commission (2024c): *2024 Ageing Report, Economic & Budgetary Projections for the EU Member States (2022–2070)*, Institutional Paper 279, April 2024. Available online: <https://economy-finance.ec.europa.eu/publications/2024-ageing-report-economic-and-budgetary-projections-eu-member-states-2022-2070_en>

European Commission (2024d): *2024 Country Report – Czechia*, European Semester. Available online: <https://economy-finance.ec.europa.eu/publications/2024-european-semester-country-reports_en>

IMF (2024): *Czech Republic: 2023 Article IV Consultation*, IMF Country Report No. 24/28. Available online: <https://www.imf.org/en/Publications/CR/Issues/2024/01/25/Czech-Republic-2023-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-544127>

OECD (2023): *OECD Economic Surveys: Czech Republic 2023*. Available online: <https://www.oecd-ilibrary.org/economics/oecd-economic-surveys-czech-republic_19990561>

Comparison of EU countries' net exports during the crisis years

Babecká Kucharčuková, O. (2024): "How to Distinguish Price and Quantity Effects in International Trade in Goods," Balance of Payments Report, CNB.

Bennet, T. L. (1920): "The Theory of Measurement of Changes in the Cost of Living," Journal of the Royal Statistical Society, vol. 83, No. 3, pp. 455–462.

Brůha, J., Babecká Kucharčuková, O. (2017): "An Empirical Analysis of Macroeconomic Resilience: The Case of the Great Recession in the European Union," Czech National Bank Working Paper 10/2017.

Fruhwirth-Schnatter, S. (2006): "Finite Mixture and Markov Switching Models," Springer.

ERM II and the Maastricht criterion on exchange rate stability: What lies ahead for inflation-targeting central bank?

Arnoštová, K., Šmelc, P. (2021): "Třikrát ke kurzu, třetí díl," (Three blogs on the exchange rate, Part Three), cnBlog, 1 October 2021, CNB. Available online: <https://www.cnb.cz/cs/o_cnb/cnblog/Trikrat-ke-kurzu-treti-dil/>

Dědek, O. (2013): "Historie evropské měnové integrace: Doba eura," (History of European Monetary Integration: The period of the Euro), Studie Národohospodářského ústavu Josefa Hlávky 7/2013 (see pp. 113–116 regarding the criterion on exchange rate stability).

European Commission: *Convergence Reports 2000–2024*. Available online: <https://economy-finance.ec.europa.eu/euro/enlargement-euro-area/convergence-reports_en>

Filáček, J., Hájková, D., Král, P., Molnár, V. (2021): "Třikrát ke kurzu," (Three blogs on the exchange rate), cnBlog, 24 September 2021, CNB. Available online: <https://www.cnb.cz/cs/o_cnb/cnblog/Trikrat-ke-kurzu/>

Komárek, L., Motl, M. (2021): "Třikrát ke kurzu, druhý díl," (Three blogs on the exchange rate, Part Two), cnBlog, 29 September 2021, CNB. Available online: <https://www.cnb.cz/cs/o_cnb/cnblog/Trikrat-ke-kurzu-druhy-dil/>

Komárek, L. (2024a): "Euro a my: několik poznámek ke čtvrtstoletí eurozóny," (The euro and us: Some remarks on 25 years of the euro area), cnBlog 12 March 2024, CNB. Available online: <https://www.cnb.cz/cs/o_cnb/cnblog/Euro-a-my-nekolik-poznamek-ke-ctvrtstoleti-eurozony/>

Komárek, L. (2024b): "Euro a my: ERM II – malý předpokoj, či dlouhá chodba před vstupem do eurozóny?" (The euro and us: ERM II – a small hall or a long corridor before joining the euro area?), cnBlog, 3 April 2024, CNB. Available online: <https://www.cnb.cz/cs/o_cnb/cnblog/Euro-a-my-ERM-II-maly-predpokoj-ci-dlouha-chodba-pred-vstupem-do-eurozony/>

Komárek, L. (2024c): "Euro a my: ERM II a vstup do bankovní unie," (The euro and us: ERM II and joining the banking union), cnBlog, 13 June 2024, CNB. Available online: <https://www.cnb.cz/cs/o_cnb/cnblog/Euro-a-my-ERM-II-a-vstup-do-bankovni-unie/>

Agreement between the European Central Bank and the national central banks of the Member States outside the euro area laying down the operating procedures for an exchange rate mechanism in stage three of Economic and Monetary Union (2016). Available online: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32006X0325(01)>

Maastricht Treaty and Amsterdam Treaty. Available online: <https://www.europarl.europa.eu/factsheets/en/sheet/3/maastrichtska-smlouva-a-amsterodamska-smlouva>

Protocol (No 13) on the convergence criteria. Available online: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A12012E%2FPRO%2F13>

Treaty on the Functioning of the EU. Available online: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:12012E/TXT>

The banking union and the Czech Republic

Belling, V. (2016): "Bankovní unie v kontextu krizového vládnutí v EU: právní limity a rizika," (The Banking Union in the Context of Crisis Governance in the EU: Legal Limits and Risks), Právní rozhledy, vol. 24, No. 6, pp. 201–208.

IMF (2015): "Opting into the Banking Union Before Euro Adoption," in Central and Eastern Europe: New Member States (NMS) Policy Forum 2014, Selected Issues Paper, International Monetary Fund. Available online: <https://www.elibrary.imf.org/view/journals/002/2015/098/article-A002-en.xml>

Theoretical Foundations of the Analyses

Ahrend, R., Cournède, B., Price, R. (2008): "Monetary Policy, Market Excesses and Financial Turmoil," OECD, Economics Department Working Paper, No. 597.

Babecká Kucharčuková, O., Brůha, J. (2017). "An Empirical Analysis of Macroeconomic Resilience: The case of the Great Recession in the European Union," Czech National Bank Working Paper 10/2017.

Baldwin, R. (2006): "In or Out: Does it Matter? An Evidence-Based Analysis of the Euro's Trade Effects," Centre for Economic Policy Research.

Brůha, J., Podpiera, J. (2007): "Transition Economy Convergence in a Two-Country Model: Implications for Monetary Integration," ECB Working Paper No. 0740.

Chen, N., Novy, D. (2018): "Currency Unions, Trade and Heterogeneity," CESifo Working Paper Series, No. 7123.

De Grauwe, P. (2010a): "Crisis in the Eurozone and How To Deal With It," CEPS Policy Brief No. 204, Centre for European Policy Studies, Brussels.

De Grauwe, P. (2010b): "The Financial Crisis and the Future of the Eurozone," Bruges European Economic Policy Briefings, No. 21.

De Grauwe, P. (2013): "Economics of Monetary Union," Ninth Edition, Oxford University Press, New York.

Duran, H. E., Ferreira-Lopes, A. (2015): "Determinants of Comovement and of Lead and Lag Behavior of Business Cycles in the Eurozone," Working Papers Series 2 15-02, ISCTE-IUL, Business Research Unit (BRU-IUL).

Eichengreen, B. (2008): "Sui Generis EMU," European Economy – Economic Papers 303, Directorate General Economic and Monetary Affairs, European Commission.

El-Shagi, M., Lindner, A., von Schweinitz, G. (2016): "Real Effective Exchange Rate Misalignment in the Euro Area: A Counterfactual Analysis," Review of International Economics, vol. 24, pp. 37–66.

Ferreira-Lopes, A. (2010): "In or Out? The Welfare Costs of EMU Membership," Economic Modelling, vol. 27, No. 2, pp. 585–594.

Ferreira-Lopes, A. (2014): "The Welfare Costs of the EMU for Transition Countries," Prague Economic Papers 2014, vol. 24, No. 4, pp. 446–473.

Glick, R., Rose, A. K. (2016): "Currency Unions and Trade: A Post-EMU Reassessment," European Economic Review, vol. 87, pp. 78–91.

Hampl, M., Skořepa, M. (2011): "Long-run Equilibrium Exchange Rate Notions in Monetary Policy Strategies: The Case of the Czech National Bank," in "The Influence of External Factors on Monetary Policy Frameworks and Operations, BIS Paper 57, pp. 155–162, Bank for International Settlements.

Havránek, T. (2010): "Rose Effect and the Euro: Is the Magic Gone?" Review of World Economics, vol. 146, No. 2, pp. 241–261.

Inklaar, R., Jong-A-Pin, R., de Haan, J. (2008): "Trade and Business Cycle Synchronization in OECD Countries – A Re-examination," European Economic Review, vol. 52, No. 4, pp. 646–666.

Kenen, P. B. (1969): “The Theory of Optimum Currency Areas: An Eclectic View,” in Mundell and Swoboda (eds.), Monetary Problems in the International Economy, University of Chicago Press.

Lalinský, T., Meriküll, J. (2021): “The Effect of the Single Currency on Exports: Comparative Firm-Level Evidence,” International Journal of Central Banking, vol. 17, No. 3, pp. 203–239.

Lin, J. Y., Treichel, V. (2012): “The Crisis in the Euro Zone: Did the Euro Contribute to the Evolution of the Crisis?” Policy Research Working Paper Series 6127, The World Bank.

Lukmanova, E., Tondl, G. (2017): “Macroeconomic Imbalances and Business Cycle Synchronization. Why Common Economic Governance is Imperative for the Eurozone,” Economic Modelling, vol. 62, pp. 130–144.

Martin, R. (2010): “Boom and Bust in the Baltic Countries — Lessons to be Learnt,” Intereconomics: Review of European Economic Policy, vol. 45, issue 4, pp. 220–226.

McKinnon, R. I. (1963): “Optimum Currency Areas,” American Economic Review, vol. 53, No. 4, pp. 717–725.

Mongelli, P. F. (2013): “The Mutating Euro Area Crisis: Is the Balance Between Sceptics and Advocates Shifting?” Occasional Paper Series 144, European Central Bank.

Mundell, R. A. (1961): “A Theory of Optimum Currency Areas,” American Economic Review, vol. 51, No. 4, pp. 657–665.

Neri, S., Ropele, T. (2015): “The Macroeconomic Effects of the Sovereign Debt Crisis in the Euro Area,” Economic Working Papers 1007, Bank of Italy.

Podpiera, J., Wiegand, J., Yoo, J. (2015): “Euro Adoption in NMS: Macroeconomic Benefits and Challenges,” IMF Staff Report.

Razin, A., Rosefielde, S. (2012): “A Tale of Politically-Failing Single-Currency Area,” NBER Working Papers 18352, National Bureau of Economic Research.

Romer, C., Romer, D. (2017): “Why Some Times Are Different: Macroeconomic Policy and the Aftermath of Financial Crises,” NBER Working Papers 23931, National Bureau of Economic Research.

Rose, A. K. (2000): “One Money, One Market: Estimating the Effect of Common Currencies on Trade,” Economic Policy, vol. 15, pp. 7–45.

Rose, A. K. (2016): “Why Do Estimates of the EMU Effect on Trade Vary So Much?”, NBER Working Papers 22678, National Bureau of Economic Research.

Spolaore, E. (2013): “What Is European Integration Really About? A Political Guide for Economists,” Journal of Economic Perspectives, vol. 27, No. 3, pp. 125–44.

Vicquery, R. (2021): “The Common Currency Effect on International Trade: Evidence from an Accidental Monetary Union,” Banque de France Working Paper, No. 856.

Wyplosz, C. (2015): “Fiscal Rules: Theoretical Issues and Historical Experiences,” published in: Fiscal Policy after the Financial Crisis, Alberto Alesina and Francesco Giavazzi (eds), NBER Books, National Bureau of Economic Research, NBER Chapter No. 12656, pp. 495–525.

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