

Macroeconomic Forecast of the Czech Republic

January 2023

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Ministry of Finance of the Czech Republic
Economic Policy Department
Letenska 15, 118 10 Prague 1

Tel.: +420 257 041 111

E-mail: macroeconomic.forecast@mfcz.cz

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The Macroeconomic Forecast is prepared by the Economic Policy Department of the Czech Ministry of Finance. It contains forecast for the year 2023, and for certain indicators an outlook for the 2 following years (i.e. until 2025). It is published on a quarterly basis (in January, April, August and November) and is also available on the website of the Ministry of Finance at:

www.mfcr.cz/macroforecast

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List of Abbreviations

BoP.....	balance of payments
const. pr.....	constant prices
CNB.....	Czech National Bank
CPI.....	consumer price index
CR.....	Czech Republic
curr. pr.....	current prices
CZSO.....	Czech Statistical Office
EA19.....	euro zone consisting of 19 countries
EC.....	European Commission
ECB.....	European Central Bank
EU27.....	European Union consisting of 27 countries
Fed.....	Federal Reserve System
GDP.....	gross domestic product
GFCF.....	gross fixed capital formation
GVA.....	gross value added
IMF.....	International Monetary Fund
LFS.....	Labour Force Survey
MoF.....	Ministry of Finance
MoLSA.....	Ministry of Labour and Social Affairs
NPISHs.....	non-profit institutions serving households
OECD.....	Organisation for Economic Co-operation and Development
pp.....	percentage points
TFP.....	total factor productivity
VAT.....	value-added tax

Symbols Used in Tables

-	A dash in place of a number indicates that the phenomenon did not occur.
.	A dot in place of a number indicates that we do not forecast that variable, or the figure is unavailable or unreliable.
x, (space)	A cross or space in place of a number indicates that no entry is possible for logical reasons.

Cut-off Date for Data Sources

The Macroeconomic Forecast is based on data known as of 13 January 2023.

Notes

All data in the Macroeconomic Forecast are unadjusted for seasonal and calendar effects, unless stated otherwise. Published aggregate data may not match sums of individual items to the last decimal place due to rounding.

Data from the previous forecast (November 2022) are indicated by italics. Data relating to the years 2024 and 2025 are an extrapolation scenario that indicates only the direction of possible developments, and as such are not commented upon in the following text.

Introduction and Summary

The pandemic-weakened world economy was hit by several shocks in 2022. The war in Ukraine has reduced global economic growth and intensified inflationary pressures, especially in the case of food and energy prices. In many countries, inflation rates in the second half of last year were the highest since the 1980s, to which central banks are responding by gradually raising interest rates. Consumer price inflation appears to have peaked in a number of countries, but the question is how quickly will inflation return to close to the inflation targets of individual central banks. In terms of the smooth functioning of global supply chains, further development of the pandemic, particularly in China, is a persistent risk.

In Q3 2022, **real gross domestic product** of the Czech Republic, adjusted for seasonal and calendar effects, fell by 0.2% QoQ. It was 1.6% higher year-on-year.

Household consumption slumped by 5.5% in Q3. Consumer spending was negatively affected not only by the decrease in real disposable income caused by accelerating inflation, but also by the rise in the savings rate. **General government consumption** fell by 1.5% despite continued growth in public sector employment.

Gross fixed capital formation increased by 4.9%. Investment in non-residential construction was the largest contributor, but with the exception of investment in dwellings, all major categories showed an increase. From the sectoral point of view, privately financed business investment was decisive, while household investment expenditure fell.

The **change in inventories** and valuables contributed only 0.3 pp to GDP growth. Although firms continued to increase inventories of production inputs to avoid losses resulting from high inflation and shortages in component supplies (stocks of work in progress may have also risen), the year-on-year increase in inventories was more or less in line with the long-term average.

The **foreign trade** balance supported economic growth to the extent of 2.8 pp. In addition to the recovery abroad and the easing of problems in supply chains, the low comparative base also contributed to the more than 10% year-on-year increase in exports – due to problems with component supplies, production in the automotive industry was curtailed in Q3 2021, which was negatively reflected in export dynamics at that time.

While the economy grew in the first half of last year despite adverse circumstances, it is expected to go through a mild recession in H2 2022 and early this year. Nevertheless, GDP for the full year **2022 increased by** an estimated **2.3%**. Growth was driven by fixed capital investment and increased inventory accumulation. Despite a number of fiscal stimulus measures, household final consumption expenditure fell slightly due to a sharp increase in the cost of living, especially energy prices, and tighter monetary policy.

GDP could **fall by 0.5% in 2023**. Households will continue to face the impact of high inflation this year, and their real consumption should fall further. Government consumption and gross fixed capital formation will be pro-

growth, but weaker year-on-year inventory accumulation will slow the economy noticeably. The impact of the generally weak domestic demand will be partly offset by the external trade balance.

High **inflation** slows economic growth and lowers living standards. Not only food, fuel, electricity, natural gas and imputed rent, but also other categories of goods and services are contributing significantly to the exceptionally strong rise in consumer prices. Domestic demand pressures are also boosting inflation, but these should be dampened by higher monetary policy rates and the appreciation of the koruna. Thanks to the energy saving package, annual inflation declined markedly at the end of last year, but still averaged 15.1% for the year as a whole. Annual inflation is expected to remain around this level in Q1 2023 and to decline gradually thereafter. The average inflation rate should thus slow to 10.4% this year.

Labour market imbalances related to labour shortages continue to manifest themselves. Thus, despite the mild recession and the generally weak economic momentum in 2023, the unemployment rate should not increase much – from an average of 2.4% in 2022, it could rise to 3.2% this year. Persistent labour market tightness will push up wage growth, which will lag behind inflation, though. Following a decrease in 2022, the average real wage is thus expected to fall further this year.

The **current account of the balance of payments** showed a deficit of 5.3% of GDP in Q3 2022, mainly reflecting a deterioration in the balance of goods due to high energy commodity prices. The current account was also negatively affected by the highest ever outflow of dividends within primary income. Slowing economic growth abroad, a decline in export orders and rising input and energy prices continued to contribute to the negative balance of goods at the end of last year. Therefore, we estimate that the current account reached a deficit of 5.8% of GDP in 2022, which could narrow to 3.6% of GDP in 2023 as price pressures in industry and the energy sector ease.

Budgetary performance of the government sector in 2022 reflected the economic and financial consequences of Russia's aggression against Ukraine and related humanitarian aid and support to economic actors affected by high prices. At the same time, measures that have significantly and permanently reduced the tax burden

during the COVID-19 epidemic weigh on public finances. We estimate that public finances ended 2022 with a deficit of 3.6% of GDP and a debt ratio of 44.6% of GDP. We then expect the deficit to increase to 4.2% of GDP this year and the debt ratio to rise further to 45.8% of GDP,

mainly due to extraordinary spending related to the energy crisis and rising mandatory social spending. However, the newly introduced measures and their functioning significantly increase the risks to the forecast.

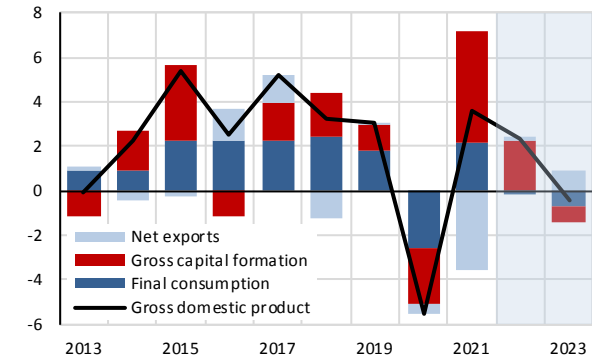
Table: Main Macroeconomic Indicators

		2017	2018	2019	2020	2021	2022	2023	2022	2023
							Current forecast		Previous forecast	
Nominal GDP	<i>bill. CZK</i>	5 111	5 411	5 791	5 709	6 109	6 749	7 308	6 674	7 092
	<i>nominal growth in %</i>	6.5	5.9	7.0	-1.4	7.0	10.5	8.3	9.3	6.3
Gross domestic product	<i>real growth in %</i>	5.2	3.2	3.0	-5.5	3.6	2.3	-0.5	2.4	-0.2
Consumption of households	<i>real growth in %</i>	4.0	3.5	2.7	-7.2	4.1	-0.7	-2.2	0.2	-0.8
Consumption of government	<i>real growth in %</i>	1.8	3.9	2.5	4.2	1.4	0.8	1.5	1.2	1.7
Gross fixed capital formation	<i>real growth in %</i>	4.9	10.0	5.9	-6.0	0.8	5.4	1.8	5.1	1.5
Contribution of net exports	<i>pp</i>	1.2	-1.2	0.0	-0.4	-3.6	0.2	0.9	0.0	0.8
Contrib. of change in inventories	<i>pp</i>	0.5	-0.5	-0.3	-0.9	4.8	0.8	-1.2	0.7	-1.4
GDP deflator	<i>growth in %</i>	1.3	2.6	3.9	4.3	3.3	8.0	8.8	6.7	6.5
Average inflation rate	<i>%</i>	2.5	2.1	2.8	3.2	3.8	15.1	10.4	15.0	9.5
Employment (LFS)	<i>growth in %</i>	1.6	1.4	0.2	-1.3	-0.4	-0.8	-0.4	-0.9	-0.1
Unemployment rate (LFS)	<i>average in %</i>	2.9	2.2	2.0	2.6	2.8	2.4	3.2	2.5	3.1
Wage bill (domestic concept)	<i>growth in %</i>	9.2	9.6	7.8	0.1	5.9	9.3	6.7	10.0	7.4
Current account balance	<i>% of GDP</i>	1.5	0.4	0.3	2.0	-0.8	-5.8	-3.6	-5.4	-5.3
General government balance	<i>% of GDP</i>	1.5	0.9	0.3	-5.8	-5.1	-3.6	-4.2	-4.6	-4.3
Assumptions:										
Exchange rate CZK/EUR		26.3	25.6	25.7	26.4	25.6	24.6	24.2	24.6	24.5
Long-term interest rates	<i>% p.a.</i>	1.0	2.0	1.5	1.1	1.9	4.3	4.6	4.5	5.2
Crude oil Brent	<i>USD/barrel</i>	54	71	64	42	71	101	81	102	83
GDP in the euro area	<i>real growth in %</i>	2.8	1.8	1.6	-6.3	5.3	3.3	0.4	3.3	0.3

Source: CNB, CZSO, Eurostat, U. S. Energy Information Administration. Calculations and forecast of the MoF.

The economy should contract marginally this year

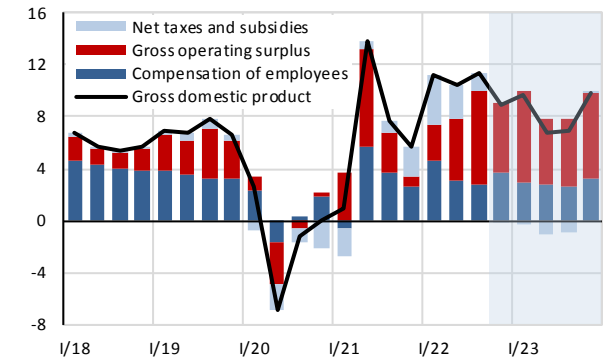
growth rate of real GDP in %, contributions in percentage points



Source: CZSO. Calculations and forecast of the MoF.

Growth of firms' profits should remain high

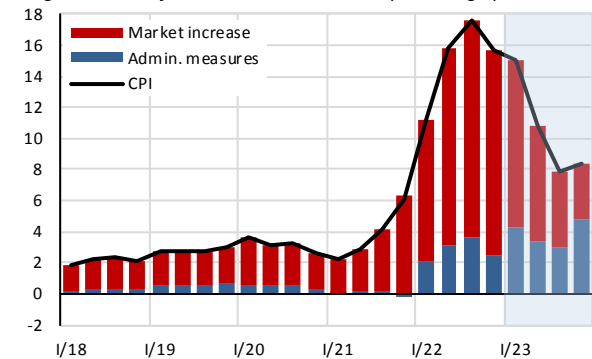
YoY growth of nominal GDP in %, contributions in percentage points



Source: CZSO. Calculations and forecast of the MoF.

Inflation will stay well above the CNB's 2% target

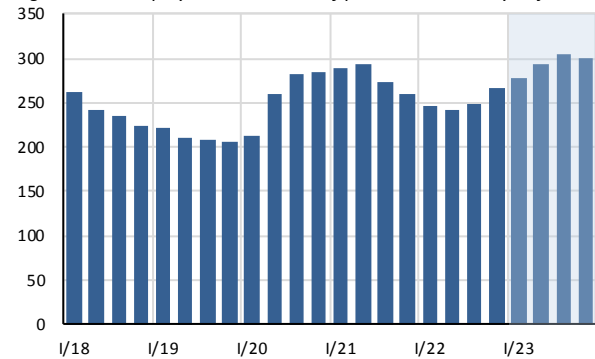
YoY growth rate of CPI in %, contributions in percentage points



Source: CZSO. Calculations and forecast of the MoF.

Unemployment should increase modestly

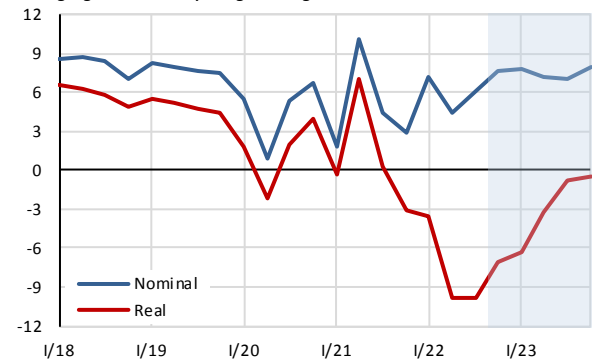
registered unemployment, in thous. of persons, seasonally adjusted



Source: MoLSA. Calc. and forecast of the MoF.

Wage growth should lag behind inflation

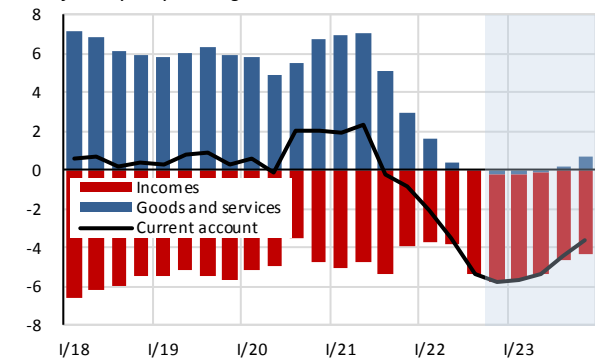
average gross monthly wage, YoY growth rate, in %



Source: CZSO. Calculations and forecast of the MoF.

Current account deficit should narrow

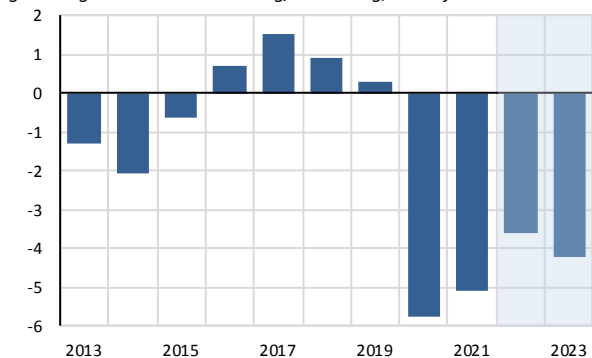
in % of GDP, yearly moving sums



Source: CNB, CZSO. Calculations and forecast of the MoF.

Public finance deficit should widen modestly

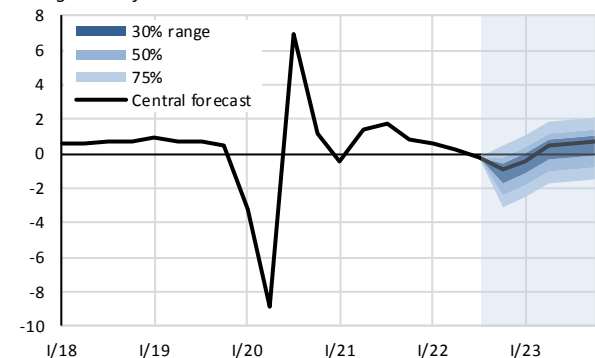
general government net lending/borrowing, in % of GDP



Source: CZSO. Calculations and forecast of the MoF.

Forecast risks are skewed to the downside

QoQ growth of real GDP in %



Source: CZSO. Calculations and forecast of the MoF.

Forecast Risks and Uncertainty

The macroeconomic forecast is subject to a number of risks that, taken together, we consider to be **skewed to the downside**.

Natural gas supplies from Russia to the European Union are now severely restricted and we do not expect them to resume. We anticipate that during this winter the reduced gas demand (price and income effect, precautionary behaviour, savings measures, economic downturn) can be fully covered by gas imports from other countries (including new LNG terminals) and gas in storage. For the next heating seasons, we consider a scenario in which the supply shortfall from Russia is replaced by increased gas imports from other suppliers. At the same time, demand for natural gas is expected to decline as a result of continued high prices, additional energy savings and a switch to alternative technologies. Failure to meet these assumptions, especially in the medium term, is the main downside risk to the forecast.

In the forecast, we also work under the assumption that the next likely waves of the **COVID-19** pandemic can be managed without the need to adopt macroeconomically significant counter-epidemic restrictions. However, developments in China pose a substantial risk, as does the emergence and spread of new variants of the coronavirus against which available vaccines or experienced disease would provide little protection.

Further developments in inflation and **inflation expectations** are also a risk to the Czech economy. It is crucial that inflation expectations return to the vicinity of the Czech National Bank's inflation target. Otherwise, a return of inflation to 2% would require even tighter monetary policy, which would entail additional economic costs. The structure and intensity of **fiscal consolidation**, which is complicated by the impact of the Russian aggression in Ukraine, high inflation and the need to ensure sufficient energy supply, will also be crucial.

The available data suggest that the imbalances that had characterised the **labour market** before the outbreak of the epidemic are still present. Staff shortages are evident in almost all sectors of the economy and represent a significant barrier to output growth, particularly in the construction sector. However, in addition to the weak economic dynamics, the influx of refugees from Ukraine is probably contributing to the easing of the mismatch between demand and supply in the labour market and

the associated upward pressure on wages. It turns out that due to the still high demand for labour by firms and the nature of most vacancies (jobs with low qualification requirements), Ukrainian refugees do not have any significant problems finding employment in the Czech labour market, even though their qualification structure may not match demand. The easier employment of foreigners is also facilitated by legislative changes reducing administrative barriers in this area.

In the medium and long term, taking into account demographic developments, it will be crucial to make the **integration of refugees** from Ukraine as successful as possible and to increase **labour productivity**, for example by investing in automation, robotization and digital technologies. Given the high involvement of Czech firms in global supply chains, a strong impetus for productivity growth would also be their shift to higher value-added positions (either towards the initial R&D phase or towards the phase of selling the final product).

The deep fall in real GDP in 2020 was largely determined by the decline in household consumption. The unprecedented increase in the savings rate led to a strong accumulation of financial assets, mainly in the form of currency and deposits. At present, some households can use these funds to **cushion the impact of high consumer price increases**.

A rise in interest rates and a substantial increase in prices could cause some households and firms to run into repayment problems, leading to a deterioration in the quality of banks' loan portfolios. For the time being, however, the share of non-performing loans in total loans to households and non-financial corporations has continued to decline slowly. **Overvaluation of residential property prices** also remains a risk.

Given the importance of **the automotive industry** for the Czech economy, the strong pro-cyclicality of this sector, its export orientation and dependence on supply chains is a risk. The risks in the automotive industry are further exacerbated by structural changes due to the gradual tightening of emission standards and the transition to electromobility. This will require huge investments in the development of technology, machinery and equipment or infrastructure. An impact on employment or supplier-customer relations can also be expected.

1 Forecast Assumptions

1.1 External Environment

Global economic activity last year was dampened not only by the ongoing COVID-19 pandemic or disrupted supply chains (due to the strict lockdowns in China), but also by the impact of the Russian invasion of Ukraine. We estimate that **global economic growth** reached 3.0% (*unchanged*) in 2022. However, the energy crisis in Europe or unprecedentedly high inflation, which has led to tighter monetary conditions in several countries, keeps weighing on the outlook. In view of these factors, persistent risks and uncertainties, the world economy could slow to 1.7% (*unchanged*) this year, largely due to an expected slowdown in the advanced economies.

The economy of the **United States** grew by 0.8% QoQ (vs. 0.6%) in Q3 2022, mainly due to the positive contribution of the foreign trade balance and household consumption.

The labour market remains tight. It is characterised by strong job growth and a low unemployment rate, which fell back to its pre-pandemic level of 3.5% in December. Annual consumer price inflation has slowed since last July to 6.5% in December. In an effort to return the inflation rate to the 2% target, the Fed raised the federal funds rate to a range of 4.25%–4.50% at its December meeting, the seventh increase in 2022. The Fed also continued its planned reduction in the size of its balance sheet, which it has begun in June 2022.

The Purchasing Managers' Indices in services and manufacturing declined during the final quarter of last year. They signalled a further decline in activity in December, mainly due to economic uncertainty, high inflation and weak domestic and foreign demand. However, the easing of inflationary pressures was reflected positively in consumer sentiment, for example. Household consumption is likely to continue to be dampened not only by persistently high inflation and waning fiscal support, but also by monetary tightening, which is also having a negative impact on investment activity. We estimate that the US economy grew by 1.8% (*unchanged*) in 2022. We expect GDP growth to slow to 0.5% (*unchanged*) this year.

China's economic output increased by 3.9% QoQ in Q3 2022 due to the government's measures to support the economy. During Q4 2022, there were widespread lockdowns of major industrial and financial centres due to the zero-COVID policy, with a resulting deterioration in several economic indicators. Retail sales declined on a year-on-year basis, while industrial production grew at a slower pace. Consumer confidence fell to an all-time low in November. Purchasing Managers' Indices throughout the quarter indicated a contraction in activity in both services and manufacturing. However, due to the unex-

pected loosening of tight coronavirus restrictions, the services sector experienced a milder decline in December. The sharp increase in the number of COVID-19 cases will negatively affect production (due to labour shortages) and household consumption and could also affect the functioning of supply chains. The country's economic outlook remains weighed down by the crisis in the property market and unfavourable developments in external demand. Considering the above factors, we estimate China's GDP to have grown by 3.3% (vs. 3.5%) in 2022. This year, the economic growth could accelerate to 4.3% (vs. 4.6%) on the back of planned infrastructure investment and a recovery in consumption.

In Q3 2022, the quarter-on-quarter growth of gross domestic product slowed to 0.4% (vs. 0.2%) in the **European Union** and to 0.3% (vs. 0.2%) in the euro area. Gross capital formation was the dominant driver of growth, with household consumption also making a positive contribution. By contrast, the external trade balance dampened GDP growth.

Annual inflation in the euro area slowed to 9.2% in December, according to the preliminary estimate, marking the second consecutive month of slower consumer price inflation. Energy and food prices were the main contributors to the year-on-year increase in the price level. The European Central Bank raised its key interest rate by 50 basis points to 2.5% in December in response to rising consumer prices. We expect the European Central Bank to tighten monetary policy further due to persistent inflationary pressures.

Subdued economic activity, rising debt servicing costs or the implementation of large-scale government measures to mitigate the impact of high energy prices in 2023 are likely to shift the focus of fiscal consolidation in most euro area Member States to the next year.

The unemployment rate in the euro area continues to fall slowly and stood at 6.5% in November. According to the December Purchasing Managers' Index, the easing of inflation pressures and alleviating problems in global supply chains have led to improved conditions in manufacturing. Sentiment in services and among consumers in the context of a more optimistic outlook for the future also slightly improved.

We estimate that the European Union's GDP will increase by 3.5% (vs. 3.4%) in 2022, while growth in the euro area could reach 3.3% (*unchanged*). This year, it should slow to 0.5% (*unchanged*) in the EU and 0.4% (vs. 0.3%) in the euro area. The forecast reflects the effects of tighter monetary policy and weakening consumer demand due to high inflation. However, stabilisation

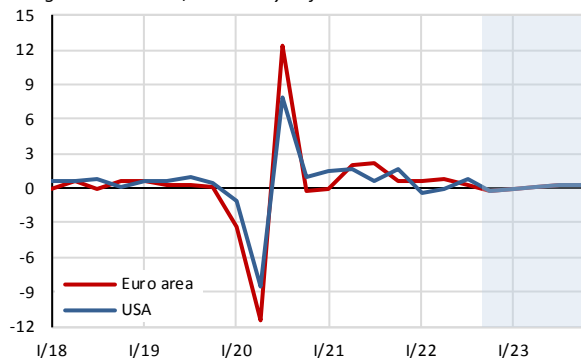
in supply chains, the drawdown of accumulated household savings, relatively resilient labour market and government measures to support households and firms should mitigate the slowdown in the euro area economy in 2023.

Germany's quarter-on-quarter economic growth accelerated to 0.4% (vs. 0.3%) in Q3 2022. Economic activity was driven by household consumption, while other components dampened GDP growth. The manufacturing Purchasing Managers' Index increased marginally in December due to improved material availability and easing frictions in supply chains. However, it remains in a contractionary range due to high input costs, falling new orders and uncertainty about the future. Sentiment in services and among consumers is gradually improving on behalf of easing price pressures and broad government measures. Annual inflation fell to 9.6% in December, thanks to a slowdown in energy price increases. The unemployment rate has remained at 3.0% since March 2022. We estimate that Germany's GDP grew by 1.8% (vs. 1.7%) last year. As a result of subdued demand, tighter monetary conditions and high prices, the German economy is expected to see a marginal contraction of 0.1% (vs. 0.3%) in 2023.

Slovakia's gross domestic product grew by 0.4% QoQ (vs. 0.0%) in Q3 2022. The positive contribution of most components of domestic demand and the external trade balance was dampened by a significant decline in the change in inventories. The unemployment rate remained at 5.9% in November, but was 0.6 pp lower compared to November 2021. Annual inflation reached 15% in December. A pessimistic mood persists among consumers. Manufacturing output fell by more than 10% YoY in November due to weak external demand and high input costs. These effects should be partly offset in 2023 by government measures to support households and firms, in particular newly subsidised energy prices for households, which will prevent their purchasing power from declining more sharply. A strong increase of EU funds absorption is expected in 2023, which will have a positive impact on overall investment activity. The energy crisis is no longer such a significant threat, thanks to the diversification of gas supplies (the newly commissioned pipeline with Poland) and the successful reduction of dependence on Russian gas dependence. Improvements in supply chains should also contribute positively to growth. We therefore estimate that GDP grew by 1.7% (vs. 1.3%) last year, and that the growth rate should slow to 0.6% (vs. a decline of 0.1%) in 2023.

Graph 1.1.1: Real GDP in the euro area and USA

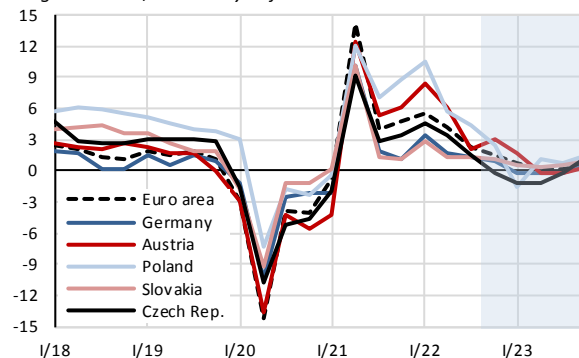
QoQ growth rate in%, seasonally adjusted



Source: Eurostat, OECD. Calculations and forecast of the MoF.

Graph 1.1.2: Real Gross Domestic Product

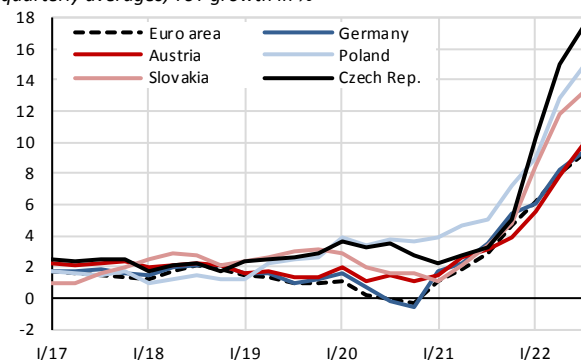
YoY growth in %, seasonally adjusted



Source: CZSO, Eurostat. Calculations and forecast of the MoF.

Graph 1.1.3: HICP

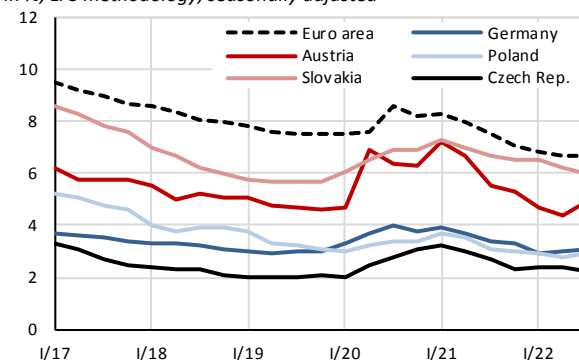
quarterly averages, YoY growth in %



Source: Eurostat. Calculations of the MoF.

Graph 1.1.4: Unemployment Rate

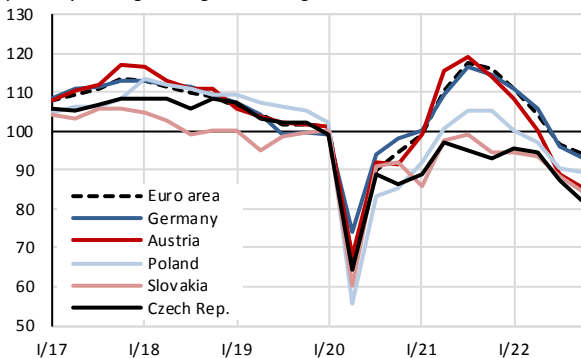
in %, LFS methodology, seasonally adjusted



Source: Eurostat.

Graph 1.1.5: Economic Sentiment Indicator

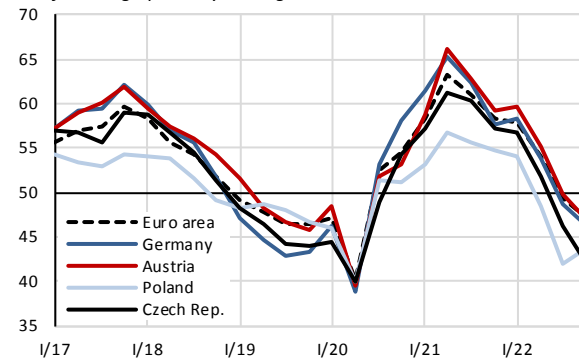
quarterly averages, long-run average = 100



Source: Eurostat. Calculations of the MoF.

Graph 1.1.6: Purchasing Managers' Index

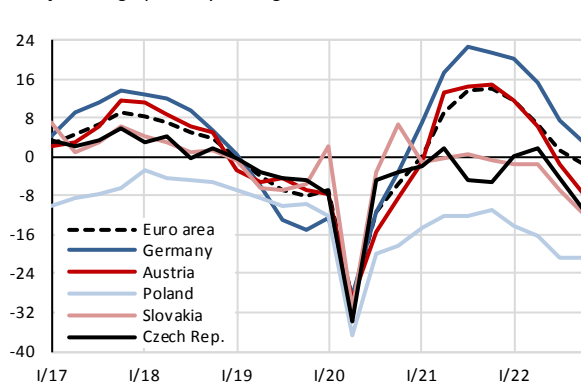
manufacturing, quarterly averages



Source: Markit. Calculations of the MoF.

Graph 1.1.7: Business Tendency

manufacturing, quarterly averages



Source: OECD. Calculations of the MoF.

Graph 1.1.8: Ifo and Czech manufacturing production

balances (Ifo, manufacturing); seas. adjusted industrial production in Czech manufacturing, YoY growth in% (three-month moving avg.)



Source: CESifo, CZSO. Calculations of the MoF.

Table 1.1.1: Gross Domestic Product – yearly

growth rate of real GDP in %

		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
											Estimate Forecast
World	seasonally adjusted	3.5	3.4	3.3	3.8	3.6	2.8	-3.0	6.0	3.0	1.7
USA	seasonally adjusted	2.3	2.7	1.7	2.2	2.9	2.3	-2.8	5.9	1.8	0.5
China	seasonally adjusted	7.4	7.3	6.8	7.0	6.8	6.0	1.8	8.6	3.3	4.3
United Kingdom	seasonally adjusted	3.2	2.4	2.2	2.4	1.7	1.6	-11.0	7.6	4.0	-0.7
European Union	seasonally adjusted	1.6	2.2	1.9	3.0	2.1	1.8	-5.8	5.3	3.5	0.5
Euro area	seasonally adjusted	1.4	1.9	1.8	2.8	1.8	1.6	-6.3	5.3	3.3	0.4
Germany	seasonally adjusted	2.2	1.2	2.1	3.0	1.0	1.1	-4.1	2.6	1.8	-0.1
	unadjusted	2.2	1.5	2.2	2.7	1.0	1.1	-3.7	2.6	1.6	-0.3
France	seasonally adjusted	1.0	1.1	1.0	2.4	1.8	1.9	-7.9	6.8	2.5	0.4
	unadjusted	1.0	1.1	1.1	2.3	1.9	1.8	-7.8	6.8	2.5	0.2
Italy	seasonally adjusted	0.1	0.6	1.4	1.7	0.8	0.5	-9.1	6.7	3.9	0.6
	unadjusted	0.0	0.8	1.3	1.7	0.9	0.5	-9.0	6.7	3.8	0.5
Austria	seasonally adjusted	0.8	1.0	2.0	2.3	2.4	1.5	-6.6	4.7	4.9	0.4
	unadjusted	0.7	1.0	2.0	2.3	2.4	1.5	-6.5	4.6	4.9	0.2
Hungary	seasonally adjusted	4.1	3.7	2.1	4.4	5.4	4.9	-4.7	7.1	4.7	-0.7
	unadjusted	4.2	3.7	2.2	4.3	5.4	4.9	-4.5	7.1	4.7	-0.8
Poland	seasonally adjusted	3.8	4.3	3.1	5.2	5.9	4.4	-2.0	6.7	5.7	0.4
	unadjusted	3.8	4.4	3.0	5.1	5.9	4.4	-2.0	6.8	5.6	0.4
Slovakia	seasonally adjusted	2.7	5.2	1.9	2.9	4.0	2.5	-3.4	3.0	1.7	0.6
Czech Republic	seasonally adjusted	2.3	5.5	2.5	5.3	3.2	3.0	-5.5	3.5	2.3	-0.3
	unadjusted	2.3	5.4	2.5	5.2	3.2	3.0	-5.5	3.6	2.3	-0.5

Source: CZSO, Eurostat, IMF, OECD, Office for National Statistics. Calculations of the MoF.

Table 1.1.2: Gross Domestic Product – quarterly

growth rate of real GDP in %, data adjusted for seasonal and calendar effects

		2022				2023			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
					Estimate	Forecast	Forecast	Forecast	Forecast
USA	QoQ	-0.4	-0.1	0.8	-0.3	0.0	0.2	0.2	0.3
	YoY	3.7	1.8	1.9	0.0	0.4	0.7	0.1	0.7
United Kingdom	QoQ	0.6	0.1	-0.3	-0.3	-0.3	-0.2	0.1	0.3
	YoY	10.7	4.0	1.9	0.0	-0.8	-1.1	-0.7	-0.1
European Union	QoQ	0.7	0.7	0.4	-0.1	-0.1	0.2	0.4	0.3
	YoY	5.6	4.3	2.5	1.6	0.8	0.3	0.3	0.7
Euro area	QoQ	0.6	0.8	0.3	-0.2	-0.1	0.2	0.3	0.3
	YoY	5.5	4.2	2.3	1.5	0.8	0.2	0.1	0.6
Germany	QoQ	0.8	0.1	0.4	-0.4	-0.3	0.1	0.3	0.4
	YoY	3.5	1.7	1.3	0.9	-0.2	-0.2	-0.3	0.5
France	QoQ	-0.2	0.5	0.2	-0.2	0.0	0.2	0.3	0.3
	YoY	4.8	4.2	1.0	0.3	0.5	0.1	0.2	0.8
Italy	QoQ	0.2	1.1	0.5	0.1	-0.2	0.1	0.2	0.2
	YoY	6.4	5.0	2.6	1.9	1.5	0.5	0.2	0.3
Austria	QoQ	1.2	1.9	0.2	-0.3	-0.2	0.1	0.2	0.3
	YoY	8.4	6.2	2.0	3.1	1.6	-0.2	-0.2	0.4
Hungary	QoQ	1.6	0.8	-0.4	-1.0	-0.5	0.3	0.5	0.6
	YoY	7.9	6.3	4.1	0.9	-1.2	-1.7	-0.8	0.9
Poland	QoQ	4.3	-2.3	1.0	-0.3	0.2	0.4	0.5	0.5
	YoY	10.5	5.6	4.5	2.4	-1.5	1.2	0.7	1.5
Slovakia	QoQ	0.3	0.4	0.4	0.0	-0.2	0.3	0.4	0.4
	YoY	2.9	1.3	1.4	1.0	0.5	0.5	0.5	0.9
Czech Republic	QoQ	0.6	0.3	-0.2	-0.9	-0.4	0.5	0.6	0.7
	YoY	4.6	3.5	1.5	-0.2	-1.2	-1.1	-0.3	1.4

1.2 Commodity Prices

The **price of Brent crude oil** averaged USD 89 (vs. USD 93) per barrel in Q4 2022. This represents an increase of 11% YoY, and an increase of 20% when measured in CZK.

Oil production is expected to exceed demand from 2023 onwards, which will likely lead to a decrease in oil prices. This imbalance is mainly due to a slowdown in the global economy and an associated decrease in demand for oil. Over the next two years, global oil stocks are expected to increase, which represents a major factor regarding the expected price decrease.

The main risk to the future development of oil prices is Russia's ability to export its oil products after the EU import ban takes effect in February. This could lead to a reduction in Russian oil production if a sufficient number of alternative buyers cannot be found. Another risk lies in an uncertain outcome of anticipated efforts by several countries outside the Organisation of Petroleum Exporting Countries (mainly the US, Venezuela, Canada, Brazil and Norway) to increase their production. The impact of China's easing of its anti-epidemic measures in December also presents a major uncertainty for oil demand. It could be affected both positively through stronger economic growth and negatively as a result of a significantly adverse course of the pandemic.

Oil prices on the futures market are lower for later delivery than earlier delivery. The forecasted Brent crude oil price reflects this downward sloping curve. Lower prices are expected in the first half of 2023 compared to the November forecast, and slightly higher prices are assumed for the rest of the forecast period. This year, the average price of Brent crude oil is expected to decrease by 20% YoY to USD 81 (vs. USD 83), with a 23% decrease when measured in CZK due to the koruna's appreciation against the dollar.

Prices and volatility in **commodity markets** remain high, primarily due to a significant reduction in natural gas imports from the Russian Federation to the EU. However, the threat of gas shortages during this heating season has almost dissipated due to favourable weather and a successful securing of alternative supply. This has contributed to a very significant decrease in wholesale spot and forward prices for natural gas and electricity during Q4 2022. Despite this, commodity prices remain significantly higher year-on-year, which is related to securing energy supply as well as frontloading of other raw materials at high prices in previous quarters. As a result, no significant decrease in the prices of these commodities for consumers and many firms can be expected in the short term. High commodity prices thus continue to be reflected in firms' costs and consumer prices to a large extent (see Chapter 3.2).

Graph 1.2.1: Dollar Price of Brent Crude Oil

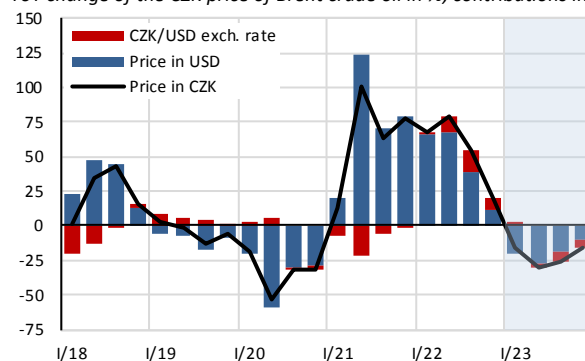
USD/barrel



Source: U. S. EIA. Calculations and forecast of the MoF.

Graph 1.2.2: Koruna Price of Brent Crude Oil

YoY change of the CZK price of Brent crude oil in %, contributions in pp



Source: CNB, U. S. EIA. Calculations and forecast of the MoF.

Table 1.2.1: Prices of Selected Commodities – yearly

spot prices

		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
											Forecast
Crude oil Brent	USD/barrel	99.0	52.4	43.6	54.2	71.3	64.3	41.8	70.8	101.0	81
	growth in %	-8.8	-47.1	-16.9	24.3	31.7	-9.8	-35.0	69.3	42.7	-20.1
Crude oil Brent index (in CZK)	2010=100	134.6	84.9	70.1	83.1	102.1	97.1	63.6	101.1	155.3	120
	growth in %	-3.8	-36.9	-17.4	18.5	22.9	-4.9	-34.6	59.1	53.5	-22.8
Natural gas (Europe)	USD/MMBtu	10.1	6.8	4.6	5.7	7.7	4.8	3.2	16.1	40.3	.
	growth in %	-14.7	-32.1	-33.1	25.3	34.4	-37.5	-32.5	397.1	150.3	.
Natural gas (Europe) index (in CZK)	2010=100	131.7	106.2	70.7	84.2	106.0	69.6	47.1	222.9	601.4	.
	growth in %	-9.8	-19.4	-33.4	19.2	25.8	-34.3	-32.4	373.7	169.7	.

Source: CNB, U. S. Energy Information Administration, World Bank. Calculations and forecast of the MoF.

Table 1.2.2: Prices of Selected Commodities – quarterly

spot prices

		2022				2023			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
						Forecast	Forecast	Forecast	Forecast
Crude oil Brent	USD/barrel	100.9	113.8	100.7	88.7	81	82	81	80
	growth in %	65.3	65.0	37.0	11.4	-19.6	-28.2	-19.9	-10.3
Crude oil Brent index (in CZK)	2010=100	146.0	173.6	161.8	139.8	122	122	119	117
	growth in %	67.9	79.7	54.6	20.1	-16.5	-30.0	-26.2	-16.3
Natural gas (Europe)	USD/MMBtu	32.6	31.6	60.2	36.9	.	.	.	.
	growth in %	400.6	260.2	255.4	14.6	.	.	.	.
Natural gas (Europe) index (in CZK)	2010=100	454.0	463.7	928.9	559.0	.	.	.	.
	growth in %	408.6	292.2	301.0	23.5	.	.	.	.

Source: CNB, U. S. Energy Information Administration, World Bank. Calculations and forecast of the MoF.

1.3 Fiscal Policy

We estimate that the **general government sector** ended **2022** with a deficit of 3.6% of GDP (*vs. 4.6% of GDP*), and with a deficit of 2.6% of GDP (*vs. 3.1% of GDP*) in structural terms. On the one hand, the deficit results from a permanent reduction in the tax burden during the COVID-19 epidemic; on the other hand, it reflects the economic and financial consequences of the Russian aggression against Ukraine and the related humanitarian aid and support to households and firms burdened by huge price increases. The changes in the estimate of the balance for 2022 concern primarily the expenditure side, of which 0.4% of GDP stands for unrealised support to energy-intensive enterprises and a similar amount for cash and social transfers in kind. In addition, the expenditure capital transfers of the Financial Market Guarantee System were also cancelled due to the high probability of satisfying claims arising from the payment of deposits of Sberbank CZ customers.

The estimate of the accrual result is based on national accounts data for the first three quarters of last year, for which a deficit of CZK 145 billion has been reported. In addition, it is also based on the cash performance of key components of the Czech public budgets. The state budget in the national cash methodology recorded a deficit of CZK 360.4 billion at the end of 2022. After adjusting the revenue and expenditure side for the impact of EU and financial mechanisms, the budgeted deficit of CZK 375 billion was not met by nearly CZK 59 billion. In contrast, local governments reported a surplus of CZK 46.3 billion on a cash basis at the end of November 2022, which was CZK 12.3 billion lower year-on-year. Health insurance companies performed better year-on-year by CZK 14.7 billion over the same period and achieved a surplus of CZK 3.9 billion.

The current estimate assumes a 6.1% increase in **personal income tax**, as the higher volume of wages and salaries in the economy was partially offset by an increase in the basic taxpayer tax credit with an impact of CZK 12.3 billion. **Social security contributions**, which also depend on earnings, rose by an estimated 6.7%, reflecting an increase in revenues of public health insurance system for state-insured Ukrainian refugees. The dynamics of taxation and employment taxes were dampened by extraordinary remuneration of workers in the health care, social services and armed forces paid in 2021. The pace of **corporate income tax** (8.0%) was dampened by the end of the effective change in the method of creation and tax deductibility of technical reserves of insurance companies, the extension of the validity of extraordinary depreciation or the tax exemption of government bond proceeds with a total impact of CZK 7.8 billion. The opposite effect was caused by the negative impact of the increase in the entry price threshold for depreciation of tangible assets, estimated at CZK 1.6 billion.

The 16.2% year-on-year increase in **value added tax** revenue was determined by strong nominal household consumption. For **excise taxes**, excluding subsidies for renewable energy, we estimate a 1.5% YoY decline in revenue. The main effects included a CZK 2.5 billion increase in the tax on tobacco products and a CZK 3 billion impact from the solar electricity levy. On the other hand, the abolition of the road tax and the reduction of the tax rate on diesel and petrol were associated with a revenue shortfall of around CZK 11 billion. The waiving of the renewable energy levy on households and companies accounted for CZK 4.6 billion.

We estimate that the year-on-year growth rate of government **final consumption expenditure** slowed to 4.4% and, unlike in the previous few years, was mainly driven by intermediate consumption (13.0%), reflecting exceptionally high inflation, EU-funded projects, as well as the migration wave from Ukraine. Based on the national accounts data for the first 3 quarters, we expect a significantly lower pace of social transfers in kind (2.2%) and a much higher growth rate of general government sector output (14.5%) compared to the autumn forecast. The latter grew by a record 16.4% in the first 9 months of the year. The increased base from extraordinary remuneration payments in 2021 and the moderate indexation of salary tariffs were behind the estimated 1.7% increase in compensation of employees in the general government sector.

Cash social benefits were mainly affected by repeated indexation of pension benefits due to high inflation. In addition, the system of social benefits was expanded by a one-off allowance of CZK 5,000 per child under 18 years of age in the estimated amount of CZK 7.8 billion and a humanitarian benefit for Ukrainian refugees in the total amount of CZK 8.7 billion. As a result of economic developments and these discretionary measures, social benefits are expected to increase by 8.6%.

According to the quarterly national accounts, investment spending gradually accelerated and reached 11.7% growth in the first three quarters, mainly driven by strong investment activity of local governments. The involvement of the Recovery and Resilience Facility, especially in transport and environmental investments, also contributed to the estimated growth of **gross fixed capital formation** of more than 13%.

The termination of anti-epidemic measures and related support programmes led to an estimated decrease in **subsidies** by almost 23%. Similarly, the year-on-year decrease in expenditure **capital transfers** by 8.4% was due to the termination of the payment of the compensation bonus, whose positive effect is dampened by payments to the Czech Post on account of the net universal service costs for the period 2018–2022 and the transfer of military equipment to Ukraine free of charge. The 16.3%

growth in **current transfers** is mainly due to the assistance to households with the payment of energy costs in the form of the so-called savings tariff of CZK 17.4 billion.

The performance of public finances in **2023** will continue to depend heavily on energy market developments. We expect the general government balance to reach -4.2% of GDP (vs. -4.3% of GDP). Adjusted for the impact of the business cycle and one-off measures which are mainly linked to high energy prices this year, the deficit should be 2.0% of GDP. However, the newly introduced measures and their functioning significantly increase the risks to the forecast.

We expect **general government revenues** to grow by almost 12% , with tax revenues including social security contributions rising by 11.4% . High nominal consumption as well as higher rates of purchases and investment spending by the general government sector contribute positively to consumption tax growth. **Value-added tax** is expected to grow by 7.3% , with autonomous growth offset by a revenue shortfall due to the shift in the threshold for tax registration to CZK 2 million with the impact of CZK 10 billion. **Excise taxes** will be boosted by the increase in rates on tobacco products, while the reduced rate on diesel or the waiver of the renewable energy levy for households and firms, effective until the end of 2023, will have a negative impact. Taxes on production and imports are expected to be significantly boosted this year by a levy on excess revenues of electricity producers in the order of tens of billions of CZK. In addition to the growth of wage bill in the economy, the dynamics of income taxes will be significantly affected by the introduction of the windfall profits tax. **Personal income tax** is expected to grow by 6.6% in line with the macroeconomic base. **Social security contributions** should evolve slightly faster, where on the one hand the impact of the part-time discount will be negative, but on the other hand we expect a higher payment for the state insured persons. The 27.7% rise in **corporate income tax** is influenced by higher profits, which will be taxed at an ex-

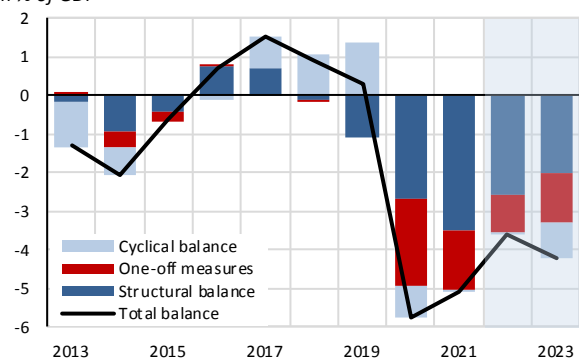
traordinary rate from the threshold in the case of selected sectors and companies.

General government expenditure is expected to grow by more than 13% . We estimate that **final consumption** will accelerate to 7.8% YoY, driven mainly by the still high pace of purchases (10.5%). Compensation of employees should show a 6.6% growth. The 8.7% growth in social transfers in kind reflects spending on health and social services, boosted by higher payments for the national insurance. In the area of **cash social benefits**, we are counting mainly on a rise in pension benefits (18.0%), which will be determined both by the regular January indexation plus the so-called "child allowance" and, very probably, by an extraordinary indexation due to the high inflation rate during the year. Assistance to households and firms in the form of energy price caps, a programme of support to large companies for increased gas and electricity costs and, last but not least, support to heating companies will lead to an estimated increase in **subsidies** of almost 96% . On the other hand, **current transfers**, which were increased last year due to the so-called savings tariff for households, are estimated to fall by 7.2% . **Capital transfers** are also expected to see a significant year-on-year decline, with negative dynamics reflecting the extraordinary expenditure in 2022 (especially the payment to the Czech Post). **Investments** with an estimated growth of around 15% are expected to be strongly supported by EU budget funds, both from the upcoming end of the 2014–2020 programming period and from the EU's New Generation instrument.

The deficit performance of the general government has been reflected in the level of **debt**, which is currently estimated to have increased by 2.6 pp to 44.6% of GDP (vs. 43.9% of GDP) in 2022. The relatively low increase in the debt quota is driven by an estimated 10.5% growth in nominal GDP. We expect a further increase in debt in 2023, when it should reach 45.8% of GDP (vs. 46.1% of GDP). Higher debt and interest rate developments resulted in a substantial increase in **interest costs** last year, which probably reached 1.1% of GDP. They should remain at this relative level this year.

Graph 1.3.1: General Government Balance

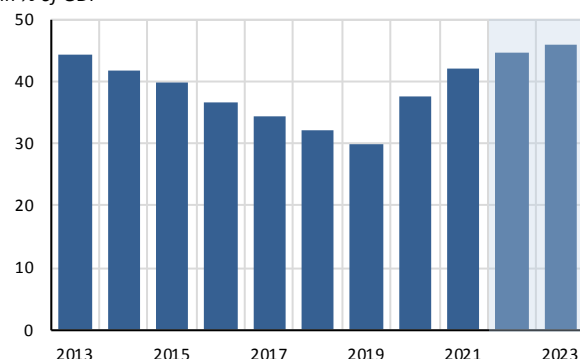
in % of GDP



Source: CZSO. Calculations and forecast of the MoF.

Graph 1.3.2: General Government Debt

in % of GDP



Source: CZSO. Calculations and forecast of the MoF.

Table 1.3.1: Net Lending/Borrowing and Debt

		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
		<i>Estimate Forecast</i>									
General government balance	% GDP	-2.1	-0.6	0.7	1.5	0.9	0.3	-5.8	-5.1	-3.6	-4.2
	bill. CZK	-90	-30	34	77	48	17	-329	-312	-243	-308
Cyclical balance	% GDP	-0.7	0.0	-0.1	0.8	1.1	1.4	-0.8	-0.1	-0.1	-0.9
Cyclically adjusted balance	% GDP	-1.3	-0.7	0.8	0.7	-0.2	-1.1	-4.9	-5.0	-3.5	-3.3
One-off measures ¹⁾	% GDP	-0.4	-0.3	0.1	0.0	-0.1	0.0	-2.3	-1.6	-1.0	-1.3
Structural balance	% GDP	-0.9	-0.4	0.8	0.7	-0.1	-1.1	-2.7	-3.5	-2.6	-2.0
Fiscal effort ²⁾	pp	-0.7	0.5	1.2	0.0	-0.8	-1.0	-1.5	-0.8	0.9	0.6
Interest expenditure	% GDP	1.3	1.1	0.9	0.7	0.7	0.7	0.8	0.8	1.1	1.1
Primary balance	% GDP	-0.8	0.4	1.6	2.2	1.6	1.0	-5.0	-4.3	-2.5	-3.2
Cyclically adjusted primary balance	% GDP	-0.1	0.4	1.7	1.5	0.6	-0.4	-4.2	-4.3	-2.5	-2.2
General government debt	% GDP	41.9	39.7	36.6	34.2	32.1	30.0	37.7	42.0	44.6	45.8
	bill. CZK	1 819	1 836	1 755	1 750	1 735	1 740	2 150	2 567	3 009	3 347
Change in debt-to-GDP ratio	pp	-2.6	-2.2	-3.1	-2.3	-2.2	-2.0	7.6	4.4	2.6	1.2

¹⁾ One-off and temporary measures are such measures that have only a temporary impact on public budgets. Besides their temporary impact on overall balance, these measures are usually of non-recurring nature and very often result from the events that are beyond the direct power of the government.

²⁾ Change in structural balance.

Source: CZSO. Calculations and forecast of the MoF.

1.4 Monetary Policy, Financial Sector and Exchange Rates

In the first half of 2022, the Czech National Bank gradually raised the **two-week repo rate** by 325 basis points in total, to 7.00%. The CNB Board decided not to increase the base rate from H2 2022. In view of the forecast gradual easing of inflationary pressures (see Chapter 3.2), we expect that the CNB will not raise the primary interest rates further and the two-week repo rate could remain at its current level throughout 2023.

Given the stability of the CNB's primary interest rates the **three-month PRIBOR rate** remained at 7.3% (vs. 7.2%) in Q4 2022. It averaged 6.3% (*in line with the forecast*) for the whole of 2022. With the expected monetary policy stance, it could rise to 7.1% (vs. 6.9%) on average this year.

The **yield to maturity on 10-year government bonds** rose to 4.8% (vs. 4.4%) on average in Q4 and reached 4.3% (vs. 4.5%) in 2022. Given the expected monetary policy stance, inflation developments and some reduction in risk premia, we believe that long-term interest rates could average 4.6% (vs. 5.2%) in 2023.

The year-on-year growth in total **loans to households** slowed further to 7.4% in Q3 2022, but net new loans fell by more than half year-on-year. The tightening of macroprudential limits on mortgage lending from April 2022 appears to have played a role, as did the rise in interest rates. The average customer interest rate on net new mortgage loans reached 6.1% (up 3.4 pp YoY) in November 2022. In October and November, the year-on-year growth in total lending to households continued its gradual deceleration trend, averaging 5.7%.

By contrast, growth in **loans to non-financial corporations** accelerated to almost 10% in Q3, driven exclusively by foreign currency loans. This can be explained mainly by the highly negative interest rate differential vis-à-vis koruna loans and the expected appreciation of the koruna. During October and November 2022, however, growth in

loans to non-financial corporations slowed to 6.0% on average. This was due to both lower growth in foreign currency loans and a higher decline in koruna loans. The average customer interest rate on total loans to non-financial corporates rose to 7.2% (up 4.5 pp YoY) in Q3.

The **share of non-performing loans** in total loans to households and non-financial corporations has continued to decline slowly. Although the financial situation of some economic agents deteriorated as a result of the coronavirus pandemic, the impact on the quality of banks' loan portfolios was minimal.

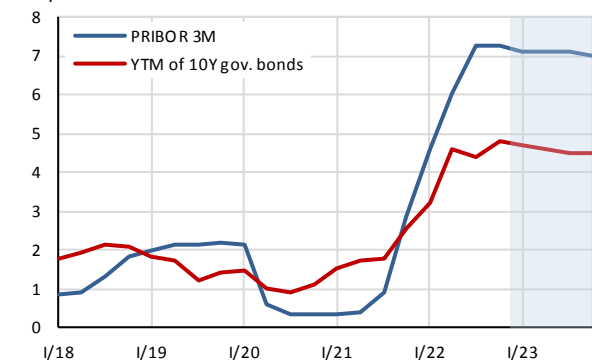
In Q4 2022, the average **exchange rate of the koruna against the euro** was CZK 24.4/EUR (vs CZK 24.6/EUR), a 4.1% (vs. 3.2%) annual appreciation. In 2022, the exchange rate averaged CZK 24.6/EUR (*in line with the forecast*). The stabilisation of global markets, particularly in relation to the positive development of European natural gas reserves, contributed strongly to the appreciation of the koruna at the end of the year. Thus, from November onwards, the CNB did not need to intervene in the foreign exchange market to support the domestic currency.

However, the expected narrowing of the positive interest rate differential may still exert slight depreciation pressures on the koruna, especially at the beginning of 2023. The average exchange rate should be CZK 24.2/EUR (vs. CZK 24.5/EUR) this year. Towards the end of the forecast period, the renewed real convergence of the Czech economy should support the positive exchange rate trajectory.

The forecast for the USD/EUR exchange rate, estimated at 1.07 (vs. 1.00) this year, is based on the development of forward contracts before the input data cut-off date. The USD/EUR exchange rate then implies the expected development of the koruna against the US dollar.

Graph 1.4.1: Interest Rates

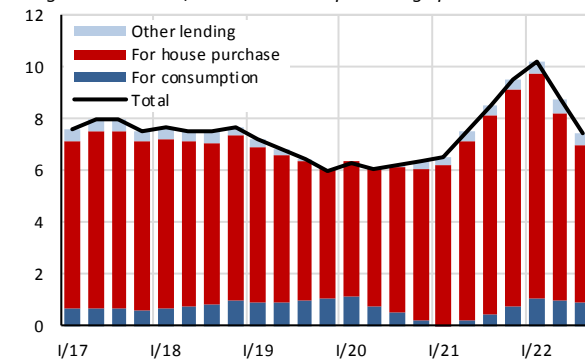
in % p.a.



Source: CNB. Calculations and forecast of the MoF.

Graph 1.4.2: Loans to Households

YoY growth rate in%, contributions in percentage points



Source: CNB. Calculations of the MoF.

Graph 1.4.3: New Mortgage Loans

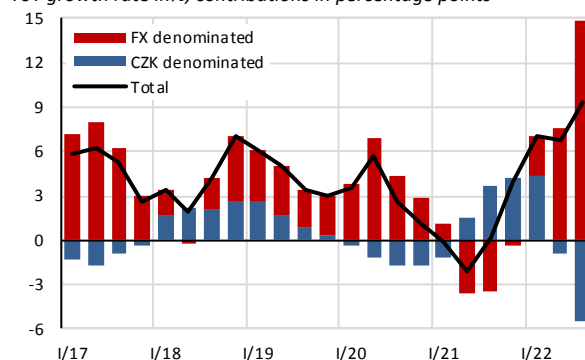
for purchase of residential property, YoY growth in %, contributions in pp



Source: CNB. Calculations of the MoF.

Graph 1.4.4: Loans to Non-financial Corporations

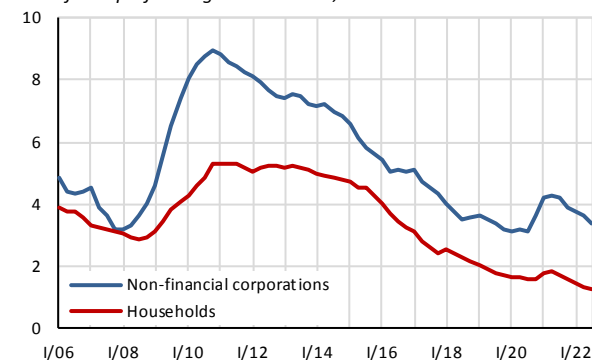
YoY growth rate in%, contributions in percentage points



Source: CNB. Calculations of the MoF.

Graph 1.4.5: Non-performing Loans

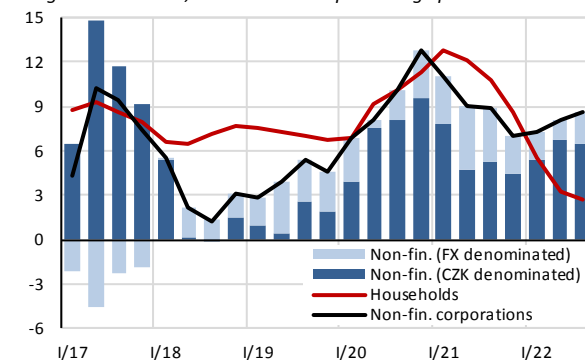
ratio of non-performing to total loans, in%



Source: CNB. Calculations of the MoF.

Graph 1.4.6: Deposits

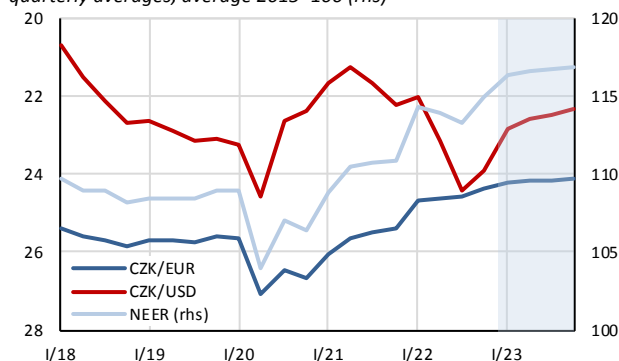
YoY growth rate in%, contributions in percentage points



Source: CNB. Calculations of the MoF.

Graph 1.4.7: Nominal Exchange Rates

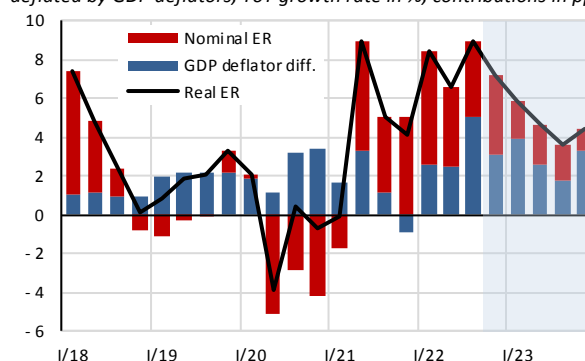
quarterly averages, average 2015=100 (rhs)



Source: CNB. Calculations and forecast of the MoF.

Graph 1.4.8: Real Exchange Rate to the EA19

deflated by GDP deflators, YoY growth rate in %, contributions in pp



Source: CNB, CZSO, Eurostat. Calculations and forecast of the MoF.

Table 1.4.1: Interest Rates – yearly*average of period, unless stated otherwise*

		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
											<i>Forecast</i>
Repo 2W rate CNB (<i>end of period</i>)	<i>in % p.a.</i>	0.05	0.05	0.05	0.50	1.75	2.00	0.25	3.75	7.00	.
Main refinancing rate ECB (<i>end of period</i>)	<i>in % p.a.</i>	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	2.50	.
Federal funds rate (<i>end of period</i>)	<i>in % p.a.</i>	0.25	0.50	0.75	1.50	2.50	1.75	0.25	0.25	4.50	.
PRIBOR 3M	<i>in % p.a.</i>	0.36	0.31	0.29	0.41	1.23	2.12	0.86	1.13	6.29	7.1
YTM of 10Y government bonds	<i>in % p.a.</i>	1.58	0.58	0.43	0.98	1.98	1.55	1.13	1.90	4.25	4.6
Client interest rates											
Loans to households	<i>in % p.a.</i>	5.59	5.15	4.65	4.10	3.76	3.66	3.53	3.31	.	.
Loans to non-financial corporations	<i>in % p.a.</i>	3.01	2.78	2.59	2.57	3.05	3.75	2.96	2.86	.	.
Deposits of households	<i>in % p.a.</i>	0.85	0.65	0.47	0.36	0.33	0.39	0.35	0.26	.	.
Deposits of non-financial corporations	<i>in % p.a.</i>	0.29	0.19	0.10	0.05	0.11	0.37	0.20	0.11	.	.

*Source: CNB, ECB, Fed. Calculations and forecast of the MoF.***Table 1.4.2: Interest Rates – quarterly***average of period, unless stated otherwise*

		Q1	2022	Q3	Q4	Q1	2023	Q3	Q4
			Q2			<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>
Repo 2W rate CNB (<i>end of period</i>)	<i>in % p.a.</i>	4.50	7.00	7.00	7.00	.	.	.	.
Main refinancing rate ECB (<i>end of period</i>)	<i>in % p.a.</i>	0.00	0.00	1.25	2.50	.	.	.	.
Federal funds rate (<i>end of period</i>)	<i>in % p.a.</i>	0.50	1.75	3.25	4.50	.	.	.	.
PRIBOR 3M	<i>in % p.a.</i>	4.59	6.03	7.27	7.27	7.1	7.1	7.1	7.0
YTM of 10Y government bonds	<i>in % p.a.</i>	3.23	4.58	4.41	4.78	4.7	4.6	4.5	4.5
Client interest rates									
Loans to households	<i>in % p.a.</i>	3.29	3.36	3.46	.	.	.	.	.
Loans to non-financial corporations	<i>in % p.a.</i>	5.12	6.07	7.20	.	.	.	.	.
Deposits of households	<i>in % p.a.</i>	0.62	0.92	1.31	.	.	.	.	.
Deposits of non-financial corporations	<i>in % p.a.</i>	0.86	1.65	2.48	.	.	.	.	.

Source: CNB, ECB, Fed. Calculations and forecast of the MoF.

Table 1.4.3: Loans and Deposits – yearly averages

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Households											
Loans	<i>growth in %</i>	5.0	4.0	3.4	4.8	7.2	7.8	7.6	6.6	6.3	8.0
For consumption	<i>growth in %</i>	-1.0	-0.1	-0.9	3.4	6.0	4.3	5.4	6.4	4.4	2.6
For house purchase	<i>growth in %</i>	6.4	5.5	4.5	5.6	8.1	9.0	8.5	7.4	7.3	9.5
Other lending	<i>growth in %</i>	6.0	1.2	2.9	1.0	3.0	4.2	4.3	1.1	0.9	4.2
CZK denominated	<i>growth in %</i>	4.9	4.0	3.4	4.7	7.2	7.7	7.6	6.6	6.3	8.0
FX denominated	<i>growth in %</i>	30.8	-1.3	0.0	12.7	8.5	36.3	1.7	9.0	6.1	16.9
Deposits	<i>growth in %</i>	4.5	3.3	2.9	4.8	7.0	8.7	7.0	7.2	9.4	11.1
CZK denominated	<i>growth in %</i>	4.7	3.3	2.7	4.1	6.9	9.7	7.1	6.9	9.2	10.9
FX denominated	<i>growth in %</i>	-2.1	2.3	8.5	22.5	7.3	-13.9	3.5	15.2	14.5	16.6
Non-performing loans (banking statistics)	<i>share, in %</i>	5.2	5.2	4.9	4.5	3.6	2.7	2.4	1.9	1.6	1.7
Loans to deposits ratio	<i>in %</i>	63	63	63	63	63	63	63	63	61	59
Non-financial corporations											
Loans	<i>growth in %</i>	3.5	1.3	1.9	6.5	6.6	5.0	4.2	4.3	3.2	0.5
CZK denominated	<i>growth in %</i>	2.6	0.3	-1.0	5.9	2.8	-1.4	3.0	1.9	-1.8	3.2
FX denominated	<i>growth in %</i>	7.8	5.7	13.7	9.0	20.5	24.4	6.9	10.0	14.0	-4.6
Deposits	<i>growth in %</i>	8.9	4.9	7.6	10.3	4.6	7.8	3.0	4.2	9.5	9.0
CZK denominated	<i>growth in %</i>	8.2	4.2	5.6	6.7	4.5	13.9	2.1	1.9	9.4	7.1
FX denominated	<i>growth in %</i>	11.8	8.0	15.2	23.2	4.8	-11.1	6.6	13.0	9.9	15.3
Non-performing loans (banking statistics)	<i>share, in %</i>	7.8	7.4	7.0	6.0	5.2	4.7	3.7	3.4	3.3	4.2
Loans to deposits ratio	<i>in %</i>	120	116	110	106	108	105	106	106	100	92

Note: All indicators, except for the share of non-performing loans, are from the monetary statistics.

Source: CNB, ECB. Calculations of the MoF.

Table 1.4.4: Loans and Deposits – quarterly averages

		2020	2021				2022		
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Households									
Loans	growth in %	6.4	6.5	7.5	8.5	9.5	10.2	8.7	7.4
For consumption	growth in %	1.6	0.0	1.7	3.3	5.5	7.8	7.1	6.5
For house purchase	growth in %	7.7	8.1	9.0	10.0	10.8	11.2	9.4	7.9
Other lending	growth in %	3.7	3.8	4.1	4.5	4.4	5.2	5.5	5.0
CZK denominated	growth in %	6.4	6.5	7.5	8.5	9.5	10.2	8.6	7.3
FX denominated	growth in %	15.5	15.8	11.7	21.6	18.3	22.8	43.1	50.6
Deposits	growth in %	11.3	12.8	12.1	10.8	8.6	5.6	3.2	2.8
CZK denominated	growth in %	11.2	12.9	11.9	10.5	8.4	5.3	2.8	2.2
FX denominated	growth in %	14.1	12.6	18.2	20.3	15.2	13.2	15.2	17.6
Non-performing loans (banking statistics)	share, in %	1.6	1.8	1.8	1.7	1.6	1.5	1.4	1.3
Loans to deposits ratio	in %	60	59	58	59	61	62	62	62
Non-financial corporations									
Loans	growth in %	1.2	-0.1	-2.1	0.2	3.9	7.1	6.7	9.3
CZK denominated	growth in %	-2.5	-1.7	2.3	5.7	6.6	6.6	-1.3	-8.1
FX denominated	growth in %	8.7	3.1	-10.0	-9.9	-0.9	8.0	22.8	46.5
Deposits	growth in %	12.9	11.1	9.0	8.9	7.0	7.2	8.1	8.6
CZK denominated	growth in %	12.4	10.2	6.0	6.7	5.8	7.1	9.0	8.6
FX denominated	growth in %	14.5	14.2	20.1	16.5	10.8	7.6	5.6	8.9
Non-performing loans (banking statistics)	share, in %	3.7	4.2	4.3	4.2	3.9	3.8	3.6	3.4
Loans to deposits ratio	in %	96	93	92	92	93	93	91	92

Note: All indicators, except for the share of non-performing loans, are from the monetary statistics.

Source: CNB, ECB. Calculations of the MoF.

Table 1.4.5: Exchange Rates – yearly

		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
								Estimate	Forecast	Outlook	Outlook
Nominal exchange rates											
CZK / EUR	average	27.03	26.33	25.65	25.67	26.44	25.65	24.57	24.2	24.1	23.9
	appreciation in %	0.9	2.7	2.7	-0.1	-2.9	3.1	4.4	1.7	0.4	0.4
CZK / USD	average	24.43	23.39	21.74	22.94	23.20	21.68	23.36	22.6	22.1	21.9
	appreciation in %	0.7	4.5	7.6	-5.2	-1.1	7.0	-7.1	3.6	1.9	1.2
NEER	average of 2015=100	102.3	105.2	109.1	108.7	106.7	110.4	114.8	117	117	118
	appreciation in %	2.3	2.8	3.7	-0.3	-1.9	3.4	4.0	1.6	0.6	0.5
Real exchange rate to EA19 ¹⁾	average of 2015=100	101.2	104.0	107.9	110.1	109.5	114.3	123	129	130	132
	appreciation in %	1.2	2.8	3.7	2.0	-0.5	4.4	7.8	4.6	1.1	1.1
REER ²⁾	average of 2015=100	102.6	106.6	111.1	111.5	112.4	116.6	.	.	.	.
	appreciation in %	2.6	3.9	4.3	0.3	0.8	3.8	.	.	.	.

¹⁾ Deflated by GDP deflators.

²⁾ Eurostat calculations, deflated by CPI, versus 42 countries.

Source: CNB, Eurostat. Calculations and forecast of the MoF.

Table 1.4.6: Exchange Rates – quarterly

		2022				2023			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
					Estimate	Forecast	Forecast	Forecast	Forecast
Nominal exchange rates									
CZK / EUR	average	24.65	24.64	24.57	24.39	24.2	24.2	24.1	24.1
	appreciation in %	5.7	4.0	3.8	4.1	1.9	1.9	1.8	1.1
CZK / USD	average	21.99	23.16	24.40	23.92	22.8	22.6	22.5	22.3
	appreciation in %	-1.6	-8.2	-11.4	-7.2	-3.7	2.5	8.6	7.1
NEER	average of 2015=100	114.3	113.9	113.3	115.0	116	117	117	117
	appreciation in %	5.0	3.1	2.3	3.7	1.8	2.3	3.0	1.7
Real exchange rate to EA19 ¹⁾	average of 2015=100	121.0	122.5	126.3	123	128	128	131	128
	appreciation in %	8.4	6.5	8.9	7.2	5.9	4.6	3.6	4.4
REER ²⁾	average of 2015=100	125.8	126.3	127.3	.	.	.	.	.
	appreciation in %	9.2	8.2	8.4	.	.	.	.	.

¹⁾ Deflated by GDP deflators.

²⁾ Eurostat calculations, deflated by CPI, versus 42 countries.

Source: CNB, Eurostat. Calculations and forecast of the MoF.

1.5 Demographic Trends

During the first three quarters of 2022, the population of the Czech Republic rose by 10.2 thousand to 10.527 million. Population growth was driven by a positive net migration (21.4 thousand), while the natural increase was negative (−11.2 thousand).

During the first three quarters of last year, 76.9 thousand children **were born** alive, a decrease of 8.4 thousand, or 9.8%, compared to the same period of the previous year. A lower number of live births during the first three quarters was last recorded in 2004.

The number of **deaths** from January to September 2022 reached 88.1 thousand. Compared to the same period in 2021, it was a decrease of 15.1 thousand or 14.6%. According to the data of the Ministry of Health, the number of deaths related to the COVID-19 decreased significantly (from 18.6 thousand in January–September 2021 to 4.8 thousand). Nevertheless, the number of deaths was 4.7 thousand higher than the 2015–2019 average.

The positive **balance of international migration** decreased by 12.8 thousand year-on-year in the first three quarters of 2022. While the number of immigrants fell by 10.5% to 44.9 thousand, the number of emigrants increased by 47.0% to 23.5 thousand. The data on interna-

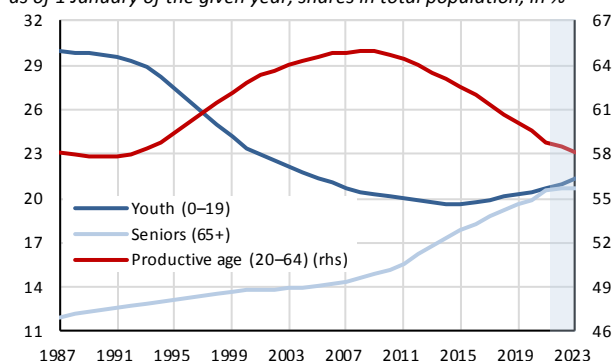
tional migration for the first three quarters of the year still do not include persons granted temporary protection in connection with the war in Ukraine. Nevertheless, this should have a major impact on the intensity of migration flows.

We assume that the positive net migration in 2022 was 325,000 persons higher than in the medium variant of the CZSO's demographic projection, i.e. 351,000 persons. Approximately 63% of refugees from Ukraine could have been in the working age group 20–64 years (70% of them women), 33% were children and young people under 19 years of age and the remaining 4% were seniors. While some refugees could return to Ukraine in 2023 and beyond, increased immigration from Ukraine can be expected. We therefore keep the migration balance as projected by the CZSO.

At the end of September 2022, the Czech Social Security Administration registered 2.368 million **old-age pensioners**, which corresponded to 22.5% of the Czech population. The extension of the statutory retirement age combined with increased mortality led to a year-on-year decrease in the number of old-age pensioners by 14.7 thousand, i.e. by 0.6%.

Graph 1.5.1: Age Groups

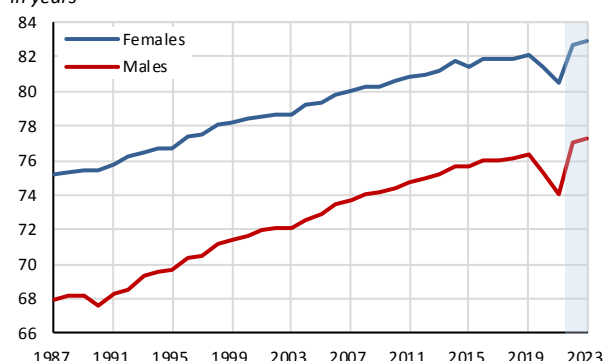
as of 1 January of the given year, shares in total population, in %



Source: CZSO. Calculations of the MoF.

Graph 1.5.2: Life Expectancy at Birth

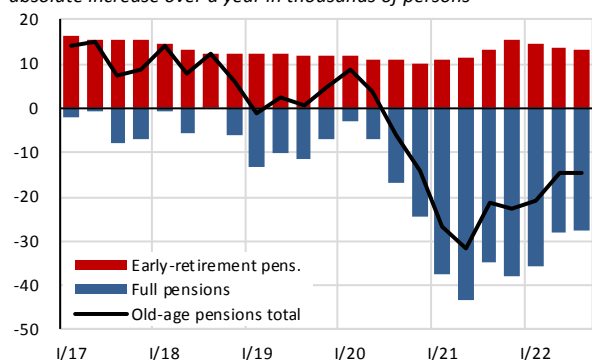
in years



Source: CZSO.

Graph 1.5.3: Old-Age Pensioners

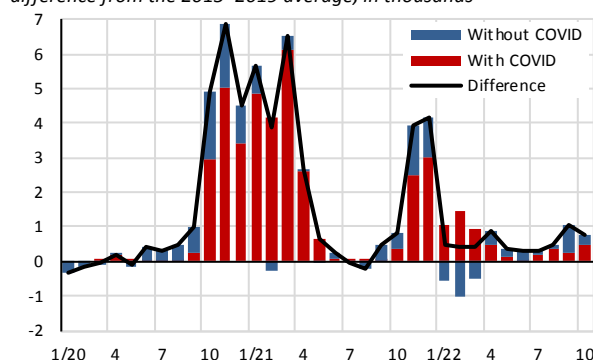
absolute increase over a year in thousands of persons



Source: Czech Social Security Administration. Calculations of the MoF.

Graph 1.5.4: Number of Deaths

difference from the 2015–2019 average, in thousands



Source: CZSO, Ministry of Health. Calculations of the MoF.

Table 1.5.1: Demographics

		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
								Estimate	Forecast	Outlook	Outlook
Population (as of 1 January)	<i>thous. persons</i>	10 554	10 579	10 610	10 650	10 694	10 495	10 517	10 857	10 872	10 884
	<i>growth in %</i>	0.1	0.2	0.3	0.4	0.4	-1.9	0.2	3.2	0.1	0.1
0–19 years	<i>thous. persons</i>	2 082	2 106	2 133	2 160	2 188	2 171	2 197	2 312	2 324	2 331
	<i>growth in %</i>	0.9	1.2	1.3	1.3	1.3	-0.8	1.2	5.3	0.5	0.3
20–64 years	<i>thous. persons</i>	6 540	6 484	6 437	6 403	6 374	6 172	6 151	6 306	6 284	6 275
	<i>growth in %</i>	-0.8	-0.9	-0.7	-0.5	-0.4	-3.2	-0.3	2.5	-0.3	-0.1
65 and more years	<i>thous. persons</i>	1 932	1 989	2 040	2 087	2 132	2 152	2 169	2 239	2 264	2 279
	<i>growth in %</i>	2.8	2.9	2.6	2.3	2.2	0.9	0.8	3.2	1.1	0.6
Old-age pensioners (as of 1 January) ¹⁾	<i>thous. persons</i>	2 377	2 395	2 404	2 410	2 415	2 400	2 378	2 420	2 422	2 412
	<i>growth in %</i>	0.9	0.8	0.4	0.3	0.2	-0.6	-0.9	1.8	0.1	-0.4
Old-age dependency ratios (as of 1 January)											
Demographic ²⁾	%	29.5	30.7	31.7	32.6	33.4	34.9	35.3	35.5	36.0	36.3
Under current legislation ³⁾	%	39.8	40.1	40.4	40.4	40.5	41.2	40.6	39.8	39.6	39.3
Effective ⁴⁾	%	46.8	46.2	45.7	45.2	45.5	46.0	45.2	46.6	46.7	46.3
Fertility rate	<i>children</i>	1.630	1.687	1.708	1.709	1.707	1.827	1.70	1.70	1.70	1.71
Population increase	<i>thous. persons</i>	25	31	40	44	8	22	341	15	12	9
Natural increase	<i>thous. persons</i>	5	3	1	0	-19	-28	-9	-11	-14	-17
Live births	<i>thous. persons</i>	113	114	114	112	110	112	105	103	101	99
Deaths	<i>thous. persons</i>	108	111	113	112	129	140	114	114	115	116
Net migration	<i>thous. persons</i>	20	28	39	44	27	50	351	26	26	26
Immigration	<i>thous. persons</i>	38	46	58	66	56	69	.	.	.	.
Emigration	<i>thous. persons</i>	17	18	20	21	29	19	.	.	.	.
Census difference	<i>thous. persons</i>	x	x	x	x	x	-207	x	x	x	x

Note: Between 2020 and 2021, there is a break in the population time series resulting from the 2021 Census.

¹⁾ In 2010 disability pensions of pensioners over 64 were transferred into old-age pensions.

²⁾ Demographic dependency: ratio of people in senior ages (65 and more) to people in productive age (20–64).

³⁾ Dependency under current legislation: ratio of people above the official retirement age to the people over 19 below the official retirement age.

⁴⁾ Effective dependency: ratio of old-age pensioners to working people (LFS methodology).

Source: Czech Social Security Administration, CZSO. Calculations and forecast of the MoF.

1.6 Other Assumptions

Apart from the factors mentioned in the previous chapters, the forecast is based on the following assumptions:

- the ongoing war in Ukraine will not have a lasting impact on commodity prices in world markets;
- households and businesses will reduce their consumption of natural gas in response to higher gas prices;
- the shortfall in gas supplies from Russia to the EU can be compensated by a combination of increased gas imports from other countries (including liquefied natural gas), savings, switching to alternative technologies and, in this heating season, the use of gas from storage;
- problems in supply chains will persist this year, but their intensity – along with upward pressures on the price level – will gradually decrease;
- thanks to the vaccination, high number of people who have contracted COVID-19 and wider treatment options, it won't be necessary to adopt macroeconomically significant restrictions in the future if the epidemic situation worsens;
- a temporary windfall profits tax is introduced in 2023–2025 for exceptionally profitable companies in the energy production and trading, banking, petroleum and fossil fuel mining sectors;
- as part of the support for part-time work, social security contributions on the employer's side will be reduced when specific groups of employees are employed;
- rates of major types of taxes and compulsory levies (value added tax, personal and corporate income tax, social and health insurance contributions) will otherwise remain unchanged;
- the minimum wage and the lowest levels of the guaranteed wage will be increased in the coming years in line with the forecast growth of the average nominal wage.

2 Economic Cycle

2.1 Position within the Economic Cycle

The coronavirus pandemic and related measures have brought the economy to the lowest-ever level below its potential, with the **output gap** falling to -8.3% in Q2 2020. However, the subsequent economic recovery has led to a moderation of the downturn. For the full year 2020, the output gap was -2.3% (*unchanged*), and was thus less negative compared to the recessions in both 2009 and 2013.

The output gap returned to negative territory in the middle of last year and, given the decline in economic activity, we expect it to widen until Q2 2023. However, as a result of only a gradual pace of economic recovery, the economy should remain below its potential over the forecast horizon. Nevertheless, given the extreme uncertainty and volatility of economic developments, the outlook should be treated with caution.

In addition to economic growth, the negative output gap in 2020–2021 was mitigated by weaker **potential output** dynamics. In 2022, its growth may have reached 2.1% (vs. 1.8%), while this year it should accelerate slightly to 2.2% (vs. 2.0%).

The trend component of **total factor productivity** is the long-term driver of potential growth. Its contribution has been below 1 percentage point over the past two years, but should increase gradually over the forecast horizon. Nevertheless, it should fall well short of the level it reached in the pre-pandemic boom.

The fall in investment activity in 2020 and only a slight recovery in 2021 resulted in a slower increase in the **capital stock**. At the expected pace of gross fixed capital formation, this factor could raise potential growth by 0.7 pp (*unchanged*) in 2023.

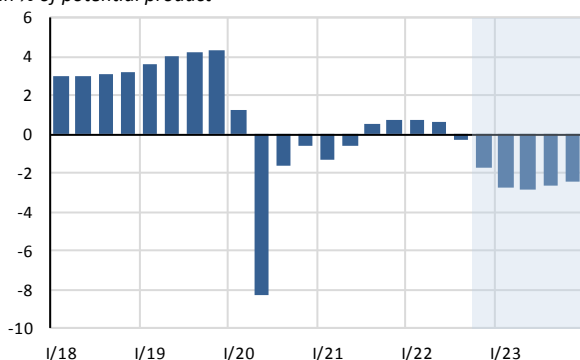
The ageing of the population, which is manifested by a long-term decline in the number of people of working age (20–64 years), has a negative impact on **labour supply**. On the other hand, the arrival of refugees from Ukraine should contribute positively over the forecast horizon. The time series of the employed, unemployed and working-age population have been adjusted following the results of the 2021 Population and Housing Census. While demographic developments could have had a neutral effect (*unchanged*) on potential growth last year, they should support it to the extent of 1.0 pp (*unchanged*) in 2023.

The economic upturn, accompanied by accelerating labour demand dynamics, was reflected in a rapid increase in **participation rates** until 2018. This trend came to a temporary halt during the coronavirus pandemic. This year, we expect a worsening of the labour market situation associated with the economic downturn, so the participation rate could take 0.5 pp (*unchanged*) off potential output growth.

The average number of **hours usually worked**, which has been on a long-term downward trend, has been in a narrow range of 39.9 – 40.2 hours between 2017 and 2020. However, in the following quarters, values around 39.4 hours were published. This has created a significant break in the time series (see Graph 2.1.4), which has no economic justification and is most likely due to methodological changes in the LFS. Given the disappearance of this negative factor, the contribution of the number of hours usually worked could be 0.1 pp (*unchanged*) in 2023.

Graph 2.1.1: Output Gap

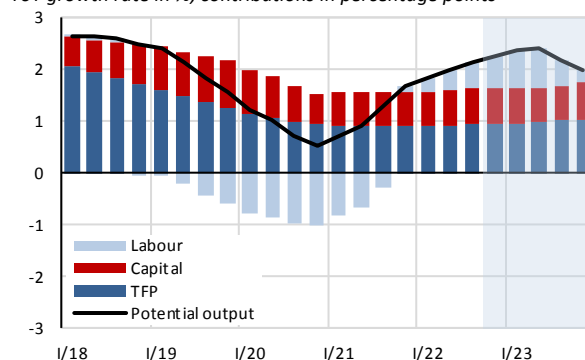
in % of potential product



Source: CZSO. Calculations and forecast of the MoF.

Graph 2.1.2: Potential Output

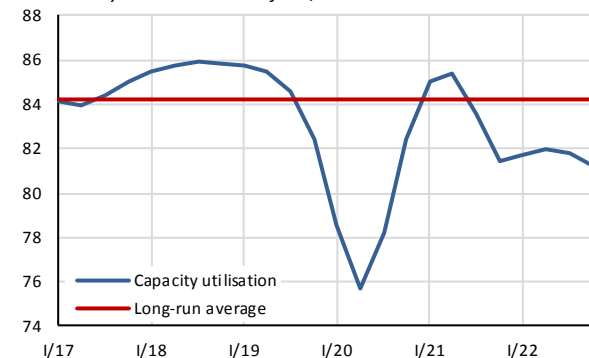
YoY growth rate in %, contributions in percentage points



Source: CZSO. Calculations and forecast of the MoF.

Graph 2.1.3: Capacity Utilisation in Industry

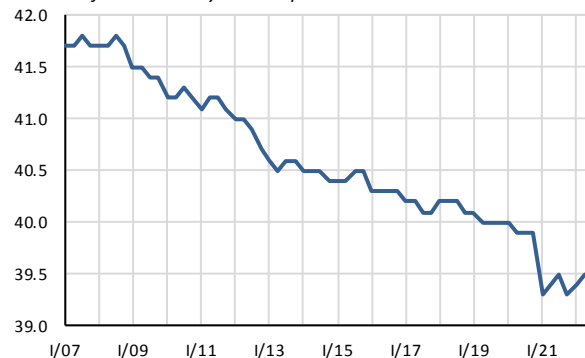
smoothed by Hodrick-Prescott filter, in %



Source: CZSO.

Graph 2.1.4: Hours Usually Worked

number of hours usually worked per week



Source: Eurostat.

Table 2.1.1: Output Gap and Potential Product

		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
		Estimate Forecast Outlook Outlook									
Output gap	%	-0.3	2.3	3.1	4.1	-2.3	-0.2	-0.2	-2.6	-1.7	-0.8
Potential product	growth in %	2.8	2.7	2.6	2.0	0.9	1.2	2.1	2.2	1.9	1.8
Contributions											
Trend total factor productivity	pp	2.2	2.2	1.9	1.4	1.0	0.9	0.9	1.0	1.1	1.2
Fixed assets	pp	0.6	0.5	0.6	0.9	0.7	0.6	0.7	0.7	0.7	0.6
Population 20–64 years	pp	-0.6	-0.6	-0.5	-0.4	-0.4	-0.2	0.0	1.0	-0.1	-0.1
Participation rate	pp	0.7	0.7	0.7	0.2	-0.2	0.2	0.5	-0.5	0.2	0.1
Usually worked hours	pp	-0.1	-0.2	-0.1	-0.1	-0.3	-0.4	-0.1	0.1	0.0	0.0

Source: CZSO. Calculations and forecast of the MoF.

2.2 Business Cycle Indicators

The development of confidence indicators in Q4 2022 points to a significant quarter-on-quarter decline in gross value added in industry, trade and services. In the construction sector, the confidence indicator also signals a year-on-year decline in gross value added. However, the correlation between the evolution of confidence and gross value added in construction is very low.

A composite indicator of exports of goods, compiled by the Ministry of Finance from sub-questions of the CZSO's business cycle survey and business confidence in Germany, indicated a stabilisation in the annual rate of exports of goods.

The CZSO's consumer confidence indicator continued to decline in Q4 2022. Its development signals a negative year-on-year dynamics of household final consumption expenditure in the first half of 2023 (the confidence indicator shows a lead of 1–2 quarter). The consumer confi-

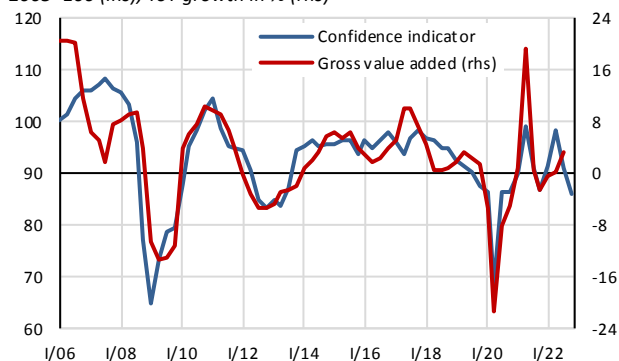
dence indicator compiled by the Ministry of Finance from sub-questions of the European Commission's consumer survey also declined noticeably in Q4 2022, compared to the previous period. Consumer pessimism stemmed mainly from a significantly negative assessment of the economic situation, but the financial situation of households and their ability to make purchases also deteriorated. Both indicators reached their lowest values in the entire time series.

As a result, the composite confidence indicator signals a significant year-on-year decline in total gross value added in Q4 2022.

According to the composite leading indicator, the negative output gap should widen in late 2022 and early 2023 in response to persistent inflationary pressures. This is in line with our current assessment of the economy's position in the business cycle (see Chapter 2.1).

Graph 2.2.1: Confidence and GVA in Industry

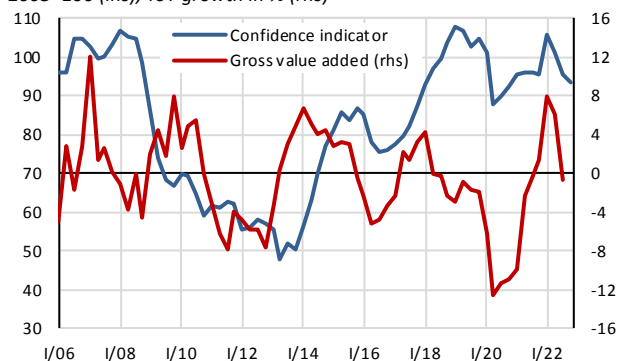
2005=100 (lhs), YoY growth in % (rhs)



Source: CZSO.

Graph 2.2.2: Confidence and GVA in Construction

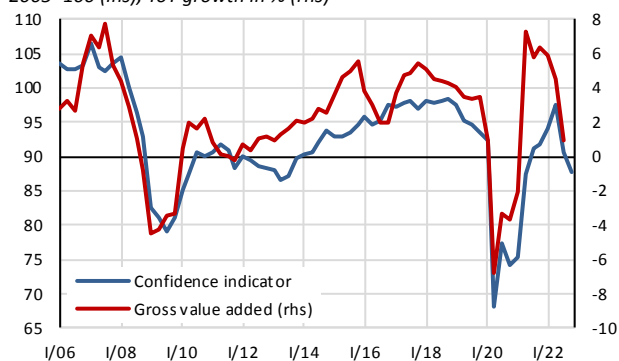
2005=100 (lhs), YoY growth in % (rhs)



Source: CZSO.

Graph 2.2.3: Confidence and GVA in Trade and Services

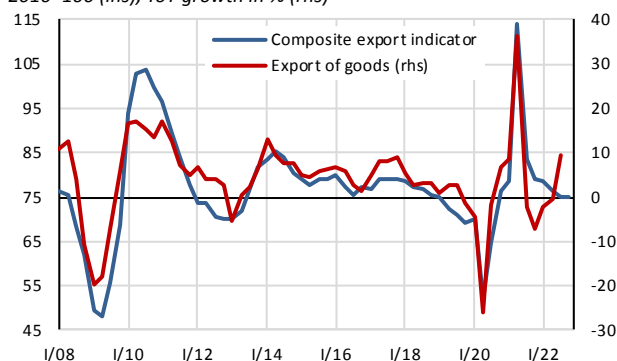
2005=100 (lhs), YoY growth in % (rhs)



Source: CZSO. Calculations of the MoF.

Graph 2.2.4: Composite Export Indicator

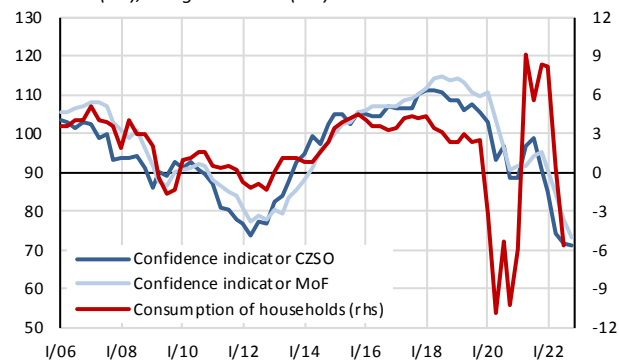
2010=100 (lhs), YoY growth in % (rhs)



Source: CESifo, CZSO. Calculations of the MoF.

Graph 2.2.5: Consumer Confidence and Consumption

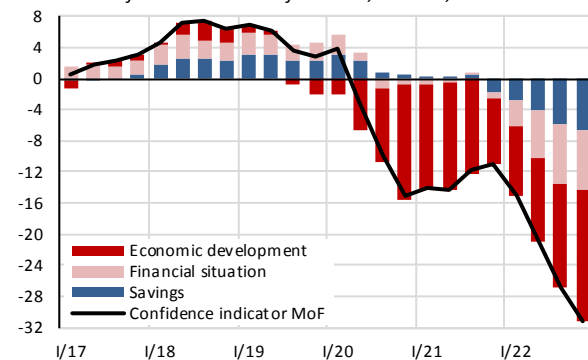
2005=100 (lhs), YoY growth in % (rhs)



Source: CZSO, European Commission. Calculations of the MoF.

Graph 2.2.6: Decomposition of Consumer Sentiment

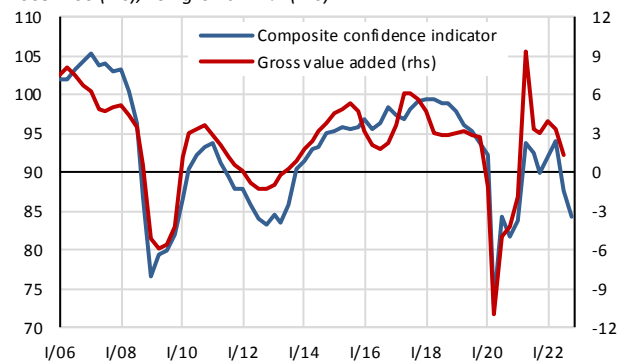
consumer confidence indicator of the MoF, balance, contributions



Source: European Commission. Calculations of the MoF.

Graph 2.2.7: Composite Confidence Indicator and GVA

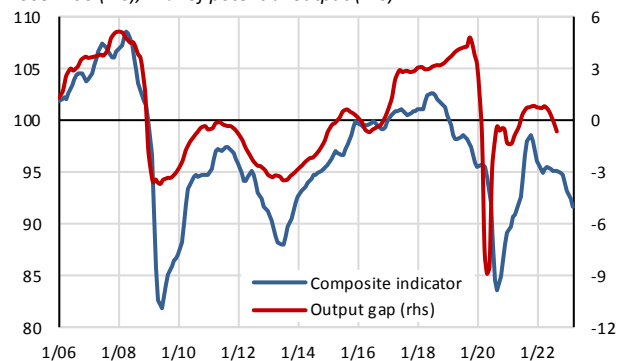
2005=100 (lhs), YoY growth in % (rhs)



Source: CZSO.

Graph 2.2.8: Composite Leading Indicator

2005=100 (lhs), in % of potential output (rhs)



Source: CZSO. Calculations of the MoF.

3 Forecast of Macroeconomic Developments in the CR

3.1 Economic Output

The Czech economy grew by 1.6% YoY (vs. 1.7%) in **Q3 2022**, with seasonally adjusted **GDP** dipping by 0.2% (vs. 0.4%) on the previous quarter. Economic activity was strongly supported by manufacturing, while the trade, transportation, accommodation, food services and construction sectors in particular had a negative impact. The CZSO revised up the quarter-on-quarter real GDP growth in Q2 2022 by 0.2 pp and, to the same extent compared to the preliminary estimate, moderated its negative dynamics in Q3.

Household consumption fell by 5.5% YoY (vs. 4.0%), due to both a fall in real disposable income and a rise in the savings rate. Households cut spending most on durable and semi-durable goods, but purchases of non-durable goods also fell. Spending on services rose slightly year-on-year, though it fell by more than 6% QoQ on a seasonally adjusted basis.

Government consumption fell by 1.5% YoY (vs. *growth of 1.2%*), mainly due to lower social transfers in kind and, conversely, strong growth in government output. However, continued growth in government employment dampened the decline in consumption.

Gross fixed capital formation increased by 4.9% YoY (vs. 3.1%) thanks to higher investment in non-residential structures, machinery, equipment and intellectual property products. However, investment in dwellings recorded a noticeable year-on-year decline. From a sectoral perspective, investment activity was driven by corporate investment, supported by the lagged effect of easy monetary conditions and the recovery in export markets. Investment by the general government sector also increased, thanks to projects financed from national and EU funds, while household investment declined year-on-year.

With a slightly positive contribution of 0.3 pp of **inventory change** to GDP growth, gross capital formation rose by 4.7% (vs. 2.1%). Firms were likely continuing to increase inventories to avoid component supply shortages or losses resulting from high inflation, but stocks of work in progress and finished goods (due to weak demand) may also have risen.

The **foreign trade balance** contributed 2.8 pp to GDP growth. The easing of supply chain disruptions and economic growth abroad had a positive impact on exports of goods and services, which grew by 10.5% (vs. 5.9%) in Q3 2022. Imports of goods and services strengthened by 6.1% (vs. 2.0%) thanks to export growth, higher fixed capital investment and inventory accumulation.

The Czech economy should still be going through a mild recession at the beginning of this year due to the deterioration in the main export markets, supply shortages of key components for the manufacturing and construction industries and a jump in energy prices. The baseline scenario of the forecast assumes that gas supplies are secured from storage facilities and gradually also from new LNG terminals. We estimate that economic growth, which was driven by investment activity and the foreign trade balance, slowed to 2.3% (vs. 2.4%) in 2022. This year, with a positive contribution from net exports and a negative impact of domestic demand, real **GDP** could fall by 0.5% (vs. 0.2%).

In 2022, **household final consumption expenditure** was negatively affected by the decline in real disposable income and the tightening of monetary policy. The increase in the cost-of-living mainly affected the consumption of low-income households, while for middle- and especially high-income households, the effect of the rising price level was partially offset by savings, including the drawdown of exceptional savings accumulated during the pandemic. The decline in labour taxation and government measures limiting the impact of rising energy prices had a positive effect on the year-on-year dynamics. Concerns about further price increases motivated households to undertake some spending earlier in the year, but the slump in consumer confidence took full effect in H2 2022. In view of the above strongly negative factors, real household consumption contracted by an estimated 0.7% (vs. *growth of 0.2%*) in the previous year. Given the persistent decline in real disposable income due to increased inflationary pressures, and the tight financial situation of households, the decline in consumption is expected to deepen to 2.2% (vs. 0.8%) in 2023. However, it should be supported by spending by refugees from Ukraine.

Government consumption could have grown by 0.8% (vs. 1.2%) in 2022. The migration wave from Ukraine has led to an increase in staff capacity, especially in education, which has been reflected in employment growth. Purchases and spending in the health sector weakened due to the waning of the pandemic, but this was offset to some extent by humanitarian needs. In 2023, general government consumption should be boosted by spending on goods and services, supported by current subsidies from EU funds as the end of the 2014–2020 financial perspective approaches. Its growth could therefore accelerate to 1.5% (vs. 1.7%).

Gross fixed capital formation rebounded strongly in 2022 on the back of economic growth abroad and high capacity utilisation in part of the year. Government spending, supported by projects co-financed by EU funds, might also have had a positive impact on investment activity. Monetary conditions, which had been strongly accommodative in 2021, had a significant stimulative effect, and given the length of the transmission mechanism, the positive impact was felt in 2022. However, private investment in the second half of the year was weighed down by economic problems in euro area countries, increases in capital goods prices and a substantial increase in uncertainty about Russian gas supplies and rising energy prices. The anticipated easing of these difficulties, together with purchases of military equipment and the use of expiring EU funds from the previous financial perspective, should cushion the impact of the marked slowdown in euro area economic growth and the restrictive effects of monetary policy this year. Thus, gross fixed capital formation could have increased by 5.4% (vs. 5.1%) in 2022, while growth could slow to 1.8% (vs. 1.5%) in 2023.

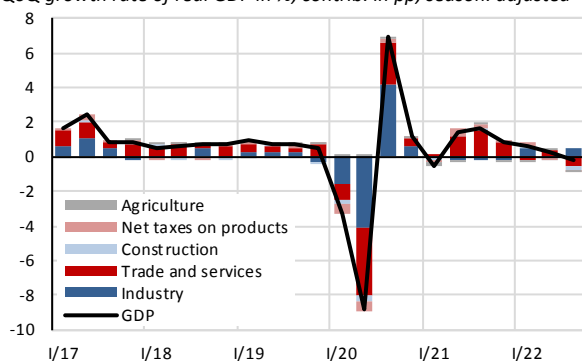
In 2022, we expect companies to accumulate **inventories** at an increased rate to avoid losses from high inflation

and component supply disruptions. Thus, the change in inventories had a positive impact of 0.8 pp (vs. 0.7 pp) on GDP growth in 2022. In the following years, the contribution should already be negative, yet the magnitude of inventory accumulation will remain exceptionally high. As a result, gross capital formation may have increased by 7.4% (vs. 6.8%) last year, but we expect it to fall by 2.1% (vs. 3.0%) this year.

We estimate that **exports of goods and services** grew by 4.9% (vs. 2.7%) last year, thanks to the recovery of export markets (see Chapter 3.4) and consumer spending by immigrants from Ukraine. However, a decline in export performance due to problems in supply chains dampened the momentum. The projected slowdown in export growth to 2.9% (vs. 2.1%) in 2023 reflects the expected slowdown in economic activity in the countries of major trading partners, while the fading supply-side frictions and the completion of work-in-progress inventories will have a positive impact. The dynamics of exports and import-intensive investment demand is reflected in the pace of **imports of goods and services**, which could have risen by 4.8% (vs. 2.8%) in 2022. The slowdown in growth in 2023 to 1.7% (vs. 1.0%) mainly reflects the decline in gross capital formation.

Graph 3.1.1: Resources of Gross Domestic Product

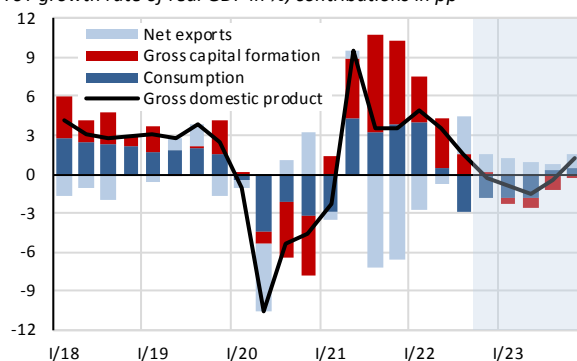
QoQ growth rate of real GDP in %, contrib. in pp, season. adjusted



Source: CZSO. Calculations of the MoF.

Graph 3.1.2: GDP by Type of Expenditure

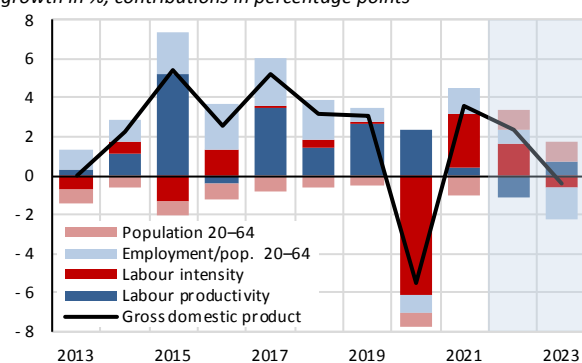
YoY growth rate of real GDP in %, contributions in pp



Source: CZSO. Calculations and forecast of the MoF.

Graph 3.1.3: Real Gross Domestic Product

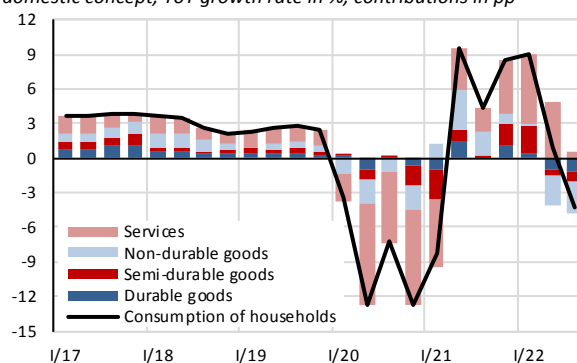
growth in %, contributions in percentage points



Note: Labour intensity gauges the number of hours worked per worker.
Source: CZSO. Calculations and forecast of the MoF.

Graph 3.1.4: Real Consumption of Households

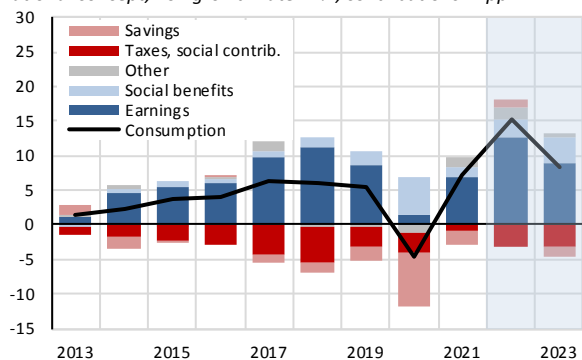
domestic concept, YoY growth rate in %, contributions in pp



Source: CZSO. Calculations of the MoF.

Graph 3.1.5: Nominal Consumption of Households

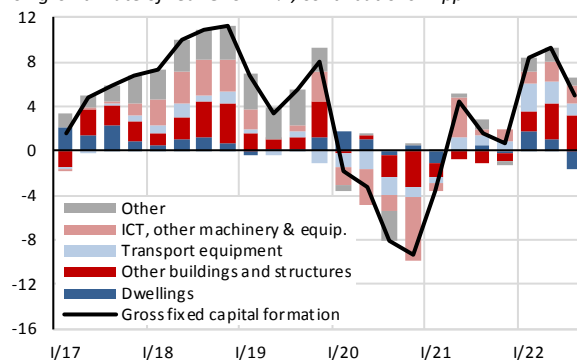
national concept, YoY growth rate in %, contributions in pp



Source: CZSO. Calculations and forecast of the MoF.

Graph 3.1.6: Investment by Type of Expenditure

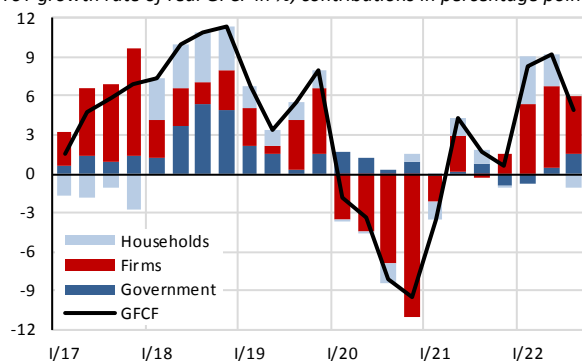
YoY growth rate of real GFCF in %, contributions in pp



Source: CZSO. Calculations of the MoF.

Graph 3.1.7: Investment by Sector

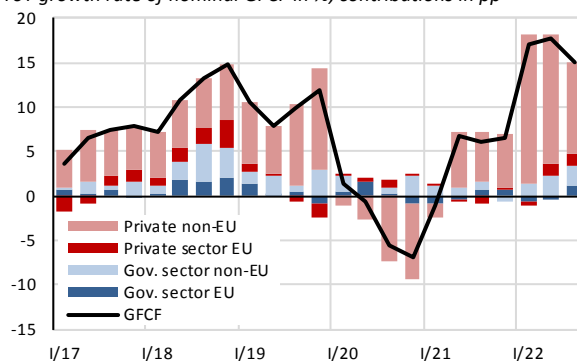
YoY growth rate of real GFCF in %, contributions in percentage points



Source: CZSO. Calculations of the MoF.

Graph 3.1.8: Sources of Investment Financing

YoY growth rate of nominal GFCF in %, contributions in pp



Source: CZSO. Calculations of the MoF.

Table 3.1.1: Real GDP by Type of Expenditure – yearly*chained volumes, reference year 2015*

		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
								<i>Estimate</i>	<i>Forecast</i>	<i>Outlook</i>	<i>Outlook</i>
Gross domestic product	<i>bill. CZK 2015</i>	4 743	4 988	5 148	5 304	5 013	5 191	5 311	5 287	5 443	5 591
	<i>growth in %</i>	2.5	5.2	3.2	3.0	-5.5	3.6	2.3	-0.5	3.0	2.7
	<i>growth in % ¹⁾</i>	2.5	5.3	3.2	3.0	-5.5	3.5	2.3	-0.3	2.8	2.8
Private consumption expenditure ²⁾	<i>bill. CZK 2015</i>	2 264	2 355	2 438	2 504	2 322	2 418	2 401	2 349	2 441	2 521
	<i>growth in %</i>	3.8	4.0	3.5	2.7	-7.2	4.1	-0.7	-2.2	3.9	3.3
Government consumption exp.	<i>bill. CZK 2015</i>	897	913	949	973	1 014	1 027	1 035	1 051	1 064	1 081
	<i>growth in %</i>	2.5	1.8	3.9	2.5	4.2	1.4	0.8	1.5	1.3	1.6
Gross capital formation	<i>bill. CZK 2015</i>	1 243	1 323	1 425	1 489	1 351	1 609	1 728	1 692	1 662	1 667
	<i>growth in %</i>	-4.0	6.5	7.7	4.5	-9.3	19.1	7.4	-2.1	-1.8	0.3
Gross fixed capital formation	<i>bill. CZK 2015</i>	1 190	1 248	1 374	1 455	1 368	1 379	1 453	1 479	1 473	1 505
	<i>growth in %</i>	-3.0	4.9	10.0	5.9	-6.0	0.8	5.4	1.8	-0.4	2.1
Change in stocks and valuables	<i>bill. CZK 2015</i>	53	75	51	34	-16	230	275	212	188	162
Exports of goods and services	<i>bill. CZK 2015</i>	3 888	4 168	4 322	4 386	4 034	4 312	4 523	4 655	4 859	5 013
	<i>growth in %</i>	4.3	7.2	3.7	1.5	-8.0	6.9	4.9	2.9	4.4	3.2
Imports of goods and services	<i>bill. CZK 2015</i>	3 549	3 771	3 989	4 051	3 719	4 214	4 414	4 488	4 603	4 706
	<i>growth in %</i>	2.8	6.3	5.8	1.5	-8.2	13.3	4.8	1.7	2.6	2.2
Gross domestic expenditure	<i>bill. CZK 2015</i>	4 404	4 592	4 811	4 964	4 693	5 053	5 162	5 090	5 169	5 273
	<i>growth in %</i>	1.2	4.3	4.8	3.2	-5.5	7.7	2.1	-1.4	1.6	2.0
Methodological discrepancy ³⁾	<i>bill. CZK 2015</i>	0	-1	3	3	10	38	39	28	20	16
Real gross domestic income	<i>bill. CZK 2015</i>	4 780	4 988	5 149	5 324	5 083	5 259	5 210	5 187	5 366	5 529
	<i>growth in %</i>	3.4	4.3	3.2	3.4	-4.5	3.4	-0.9	-0.4	3.4	3.0
Contributions to GDP growth ⁴⁾											
Gross domestic expenditure	<i>pp</i>	1.2	3.9	4.4	3.0	-5.1	7.1	2.1	-1.4	1.5	1.9
Consumption	<i>pp</i>	2.3	2.3	2.4	1.8	-2.6	2.2	-0.1	-0.7	2.1	1.9
Household expenditure	<i>pp</i>	1.8	1.9	1.7	1.3	-3.4	1.9	-0.3	-1.0	1.8	1.6
Government expenditure	<i>pp</i>	0.5	0.3	0.7	0.5	0.8	0.3	0.2	0.3	0.3	0.3
Gross capital formation	<i>pp</i>	-1.1	1.7	2.0	1.2	-2.6	5.0	2.2	-0.7	-0.6	0.1
Gross fixed capital formation	<i>pp</i>	-0.8	1.2	2.5	1.6	-1.6	0.2	1.4	0.5	-0.1	0.5
Change in stocks	<i>pp</i>	-0.3	0.5	-0.5	-0.3	-0.9	4.8	0.8	-1.2	-0.5	-0.5
Foreign balance	<i>pp</i>	1.4	1.2	-1.2	0.0	-0.4	-3.6	0.2	0.9	1.4	0.8
External balance of goods	<i>pp</i>	1.0	0.9	-1.0	0.4	-0.3	-3.6	0.5	0.8	1.3	0.6
External balance of services	<i>pp</i>	0.4	0.3	-0.2	-0.4	-0.1	0.0	-0.2	0.2	0.1	0.1
Gross value added	<i>bill. CZK 2015</i>	4 269	4 491	4 644	4 784	4 532	4 687	.	.	.	.
	<i>growth in %</i>	2.5	5.2	3.4	3.0	-5.3	3.4	.	.	.	.
Net taxes and subsidies on products	<i>bill. CZK 2015</i>	474	497	504	521	480	504	.	.	.	.

¹⁾ From working day adjusted data.²⁾ Including consumption of non-profit institutions serving households (NPISH).³⁾ Deterministic impact of using prices and structure of the previous year for calculation of y-o-y growth.⁴⁾ Calculated on the basis of prices and structure of the previous year with perfectly additive contributions.

Source: CZSO. Calculations and forecast of the MoF.

Table 3.1.2: Real GDP by Type of Expenditure – quarterly*chained volumes, reference year 2015*

		2022				2023			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
					<i>Estimate</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>
Gross domestic product	<i>bill. CZK 2015</i>	1 260	1 354	1 350	1 348	1 248	1 332	1 343	1 363
	<i>growth in %</i>	4.8	3.5	1.6	-0.3	-0.9	-1.6	-0.5	1.2
	<i>growth in % ¹⁾</i>	4.6	3.5	1.5	-0.2	-1.2	-1.1	-0.3	1.4
	<i>QoQ in % ¹⁾</i>	0.6	0.3	-0.2	-0.9	-0.4	0.5	0.6	0.7
Private consumption expenditure ²⁾	<i>bill. CZK 2015</i>	591	614	595	602	564	585	590	610
	<i>growth in %</i>	8.4	0.3	-5.5	-4.7	-4.5	-4.7	-0.8	1.4
Government consumption exp.	<i>bill. CZK 2015</i>	241	250	250	294	243	254	260	294
	<i>growth in %</i>	1.3	2.0	-1.5	1.3	1.0	1.7	3.6	-0.1
Gross capital formation	<i>bill. CZK 2015</i>	378	451	473	425	375	441	455	422
	<i>growth in %</i>	13.3	12.4	4.7	0.7	-1.0	-2.3	-3.8	-0.9
Gross fixed capital formation	<i>bill. CZK 2015</i>	321	376	370	386	324	375	374	406
	<i>growth in %</i>	8.3	9.3	4.9	0.0	1.1	-0.3	1.1	5.3
Change in stocks and valuables	<i>bill. CZK 2015</i>	58	75	102	40	51	66	80	16
Exports of goods and services	<i>bill. CZK 2015</i>	1 104	1 148	1 093	1 178	1 163	1 182	1 098	1 212
	<i>growth in %</i>	1.1	1.5	10.5	7.0	5.4	3.0	0.4	2.9
Imports of goods and services	<i>bill. CZK 2015</i>	1 061	1 117	1 069	1 167	1 100	1 136	1 069	1 183
	<i>growth in %</i>	5.1	2.7	6.1	5.2	3.7	1.7	-0.1	1.4
Gross domestic expenditure	<i>bill. CZK 2015</i>	1 209	1 313	1 316	1 324	1 182	1 279	1 303	1 325
	<i>growth in %</i>	8.2	4.4	-1.3	-1.6	-2.2	-2.6	-1.0	0.1
Methodological discrepancy ³⁾	<i>bill. CZK 2015</i>	7	8	8	16	3	6	10	9
Real gross domestic income	<i>bill. CZK 2015</i>	1 247	1 323	1 318	1 323	1 222	1 292	1 321	1 353
	<i>growth in %</i>	1.7	-0.7	-2.0	-2.4	-2.1	-2.3	0.2	2.3
Gross value added	<i>bill. CZK 2015</i>	1 143	1 220	1 213	.	.	.	.	.
	<i>growth in %</i>	4.2	3.2	1.4	.	.	.	.	.
	<i>growth in % ¹⁾</i>	4.0	3.3	1.4	.	.	.	.	.
	<i>QoQ in % ¹⁾</i>	0.4	0.4	-0.3	.	.	.	.	.
Net taxes and subsidies on products	<i>bill. CZK 2015</i>	116	133	138	.	.	.	.	.

¹⁾ From seasonally and working day adjusted data²⁾ Including consumption of non-profit institutions serving households (NPISH).³⁾ Deterministic impact of using prices and structure of the previous year for calculation of y-o-y growth.

Source: CZSO. Calculations and forecast of the MoF.

Table 3.1.3: Nominal GDP by Type of Expenditure – yearly

		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
								Estimate	Forecast	Outlook	Outlook
Gross domestic product	bill. CZK	4 797	5 111	5 411	5 791	5 709	6 109	6 749	7 308	7 846	8 308
	growth in %	3.7	6.5	5.9	7.0	-1.4	7.0	10.5	8.3	7.4	5.9
Private consumption expenditure ¹⁾	bill. CZK	2 273	2 420	2 568	2 711	2 588	2 772	3 185	3 453	3 729	3 962
	growth in %	4.2	6.5	6.1	5.6	-4.5	7.1	14.9	8.4	8.0	6.2
Government consumption exp.	bill. CZK	910	959	1 050	1 134	1 243	1 310	1 368	1 476	1 543	1 602
	growth in %	4.0	5.4	9.5	8.0	9.5	5.4	4.4	7.8	4.5	3.9
Gross capital formation	bill. CZK	1 248	1 348	1 472	1 599	1 493	1 846	2 200	2 317	2 366	2 442
	growth in %	-3.6	8.0	9.2	8.7	-6.6	23.6	19.2	5.3	2.1	3.2
Gross fixed capital formation	bill. CZK	1 196	1 273	1 423	1 568	1 516	1 589	1 808	1 953	2 012	2 112
	growth in %	-2.5	6.4	11.7	10.2	-3.3	4.8	13.8	8.0	3.0	4.9
Change in stocks and valuables	bill. CZK	52	74	49	31	-22	257	392	364	353	330
External balance	bill. CZK	366	384	321	347	385	181	-4	62	209	302
Exports of goods and services	bill. CZK	3 795	4 039	4 163	4 279	3 993	4 443	5 065	5 535	6 031	6 403
	growth in %	1.8	6.4	3.1	2.8	-6.7	11.3	14.0	9.3	9.0	6.2
Imports of goods and services	bill. CZK	3 429	3 654	3 842	3 932	3 608	4 262	5 070	5 473	5 823	6 101
	growth in %	-0.7	6.6	5.1	2.3	-8.2	18.1	19.0	7.9	6.4	4.8
Gross national income	bill. CZK	4 473	4 821	5 114	5 441	5 424	5 859	6 439	7 046	7 564	8 003
	growth in %	3.8	7.8	6.1	6.4	-0.3	8.0	9.9	9.4	7.4	5.8
Primary income balance	bill. CZK	-324	-289	-297	-350	-285	-250	-311	-262	-282	-306

¹⁾ Including consumption of non-profit institutions serving households (NPISH).

Source: CZSO. Calculations and forecast of the MoF.

Table 3.1.4: Nominal GDP by Type of Expenditure – quarterly

		2022				2023			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
					Estimate	Forecast	Forecast	Forecast	Forecast
Gross domestic product	bill. CZK	1 539	1 698	1 757	1 755	1 687	1 814	1 878	1 928
	growth in %	11.2	10.5	11.4	8.9	9.6	6.8	6.9	9.9
Private consumption expenditure ¹⁾	bill. CZK	741	810	815	818	818	859	874	901
	growth in %	21.3	16.2	12.1	11.1	10.4	6.0	7.3	10.2
Government consumption exp.	bill. CZK	303	326	330	409	334	357	351	434
	growth in %	6.6	3.5	1.5	6.2	10.0	9.6	6.3	6.1
Gross capital formation	bill. CZK	461	566	627	546	497	598	647	574
	growth in %	23.3	25.3	19.0	10.8	7.9	5.6	3.2	5.2
Gross fixed capital formation	bill. CZK	389	458	472	489	420	486	506	541
	growth in %	17.1	17.7	15.1	7.0	7.9	6.0	7.2	10.8
Change in stocks and valuables	bill. CZK	72	108	155	58	78	112	141	33
External balance	bill. CZK	33	-4	-15	-18	38	0	6	19
Exports of goods and services	bill. CZK	1 186	1 292	1 252	1 336	1 344	1 415	1 325	1 451
	growth in %	8.2	12.1	21.0	15.2	13.4	9.5	5.8	8.6
Imports of goods and services	bill. CZK	1 152	1 296	1 267	1 354	1 307	1 415	1 319	1 432
	growth in %	17.4	20.0	22.2	16.5	13.4	9.2	4.1	5.8

¹⁾ Including consumption of non-profit institutions serving households (NPISH).

Source: CZSO. Calculations and forecast of the MoF.

Table 3.1.5: GDP by Type of Income – yearly

		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
								Estimate	Forecast	Outlook	Outlook
GDP	<i>bill. CZK</i>	4 797	5 111	5 411	5 791	5 709	6 109	6 749	7 308	7 846	8 308
	<i>growth in %</i>	3.7	6.5	5.9	7.0	-1.4	7.0	10.5	8.3	7.4	5.9
Balance of taxes and subsidies	<i>bill. CZK</i>	454	493	504	534	449	477	588	549	705	766
	<i>% of GDP</i>	9.5	9.7	9.3	9.2	7.9	7.8	8.7	7.5	9.0	9.2
	<i>growth in %</i>	4.8	8.6	2.2	6.0	-16.0	6.3	23.3	-6.6	28.3	8.6
Taxes on production and imports	<i>bill. CZK</i>	595	635	656	696	660	715	.	.	.	.
	<i>growth in %</i>	4.4	6.6	3.3	6.2	-5.3	8.3	.	.	.	.
Subsidies on production	<i>bill. CZK</i>	141	142	152	162	211	238	.	.	.	.
	<i>growth in %</i>	3.2	0.4	7.2	6.7	30.3	12.6	.	.	.	.
Compensation of employees	<i>bill. CZK</i>	2 003	2 185	2 399	2 586	2 625	2 787	3 002	3 198	3 384	3 532
<i>(domestic concept)</i>	<i>% of GDP</i>	41.7	42.8	44.3	44.6	46.0	45.6	44.5	43.8	43.1	42.5
	<i>growth in %</i>	5.9	9.1	9.8	7.8	1.5	6.1	7.7	6.5	5.8	4.4
Wages and salaries	<i>bill. CZK</i>	1 538	1 680	1 842	1 986	1 989	2 106	2 302	2 457	2 600	2 713
	<i>growth in %</i>	5.7	9.2	9.6	7.8	0.1	5.9	9.3	6.7	5.8	4.4
Social security contributions	<i>bill. CZK</i>	464	505	557	599	636	681	700	741	784	818
	<i>growth in %</i>	6.4	8.7	10.3	7.6	6.2	7.0	2.9	5.8	5.8	4.4
Gross operating surplus	<i>bill. CZK</i>	2 340	2 432	2 507	2 671	2 635	2 845	3 159	3 560	3 757	4 011
	<i>% of GDP</i>	48.8	47.6	46.3	46.1	46.2	46.6	46.8	48.7	47.9	48.3
	<i>growth in %</i>	1.7	4.0	3.1	6.5	-1.4	8.0	11.0	12.7	5.5	6.8
Consumption of capital	<i>bill. CZK</i>	988	1 022	1 074	1 153	1 229	1 302	1 440	1 549	1 638	1 747
	<i>growth in %</i>	3.2	3.5	5.0	7.4	6.5	6.0	10.6	7.6	5.7	6.7
Net operating surplus	<i>bill. CZK</i>	1 352	1 410	1 434	1 518	1 406	1 543	1 719	2 011	2 119	2 263
	<i>growth in %</i>	0.6	4.3	1.7	5.9	-7.4	9.7	11.4	17.0	5.4	6.8

Source: CZSO. Calculations and forecast of the MoF.

Table 3.1.6: GDP by Type of Income – quarterly

		2022				2023			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
					Estimate	Forecast	Forecast	Forecast	Forecast
GDP	<i>bill. CZK</i>	1 539	1 698	1 757	1 755	1 687	1 814	1 878	1 928
	<i>growth in %</i>	11.2	10.5	11.4	8.9	9.6	6.8	6.9	9.9
Balance of taxes and subsidies	<i>bill. CZK</i>	125	157	168	139	119	139	152	139
	<i>growth in %</i>	73.6	34.4	14.5	-2.2	-4.5	-11.2	-9.6	0.2
Compensation of employees	<i>bill. CZK</i>	703	746	742	811	748	792	789	868
<i>(domestic concept)</i>	<i>growth in %</i>	9.8	6.7	6.4	8.1	6.5	6.2	6.3	7.0
Wages and salaries	<i>bill. CZK</i>	537	571	570	623	575	609	606	667
	<i>growth in %</i>	11.7	8.5	7.7	9.4	7.1	6.5	6.3	7.0
Social security contributions	<i>bill. CZK</i>	166	174	172	188	173	184	183	201
	<i>growth in %</i>	4.1	1.2	2.3	3.9	4.4	5.3	6.5	7.0
Gross operating surplus	<i>bill. CZK</i>	711	796	847	805	819	883	937	921
	<i>growth in %</i>	5.9	10.4	15.6	11.9	15.2	10.9	10.6	14.4

Source: CZSO. Calculations and forecast of the MoF.

3.2 Prices

The **average inflation rate in 2022** was 15.1% (vs. 15.0%). The **consumer price index** rose by 15.8% (vs. 15.3%) YoY in December 2022. The forecast error was caused mainly by higher-than-expected increases in natural gas and food prices. In terms of the consumer basket divisions, the main drivers of the December annual inflation were the food and non-alcoholic beverages division (4.5 pp contribution), across almost all products, and the housing division (4.5 pp contribution), mainly due to price increases of 140.2% for natural gas, 28.8% for heat and hot water, and 10.9% for owner-occupied housing. Electricity prices, after taking into account the energy tariff and renewable energy fee waiver, fell¹ by 21.2% YoY. The growth of imputed rents continues to slow down, reflecting both high house prices (see Graph 3.2.8) and lower availability of mortgages. The restaurants and hotels division also contributed substantially (1.5 pp). In contrast, price dynamics slowed down considerably for fuels and cars. Administrative measures added 3.2 pp to inflation, of which regulated prices accounted for 1.8 pp and changes in indirect taxes for 1.4 pp. The contribution of regulated prices was substantially affected by the October decrease in electricity prices. In December, the effect of tax changes was reflecting mainly a reduction in the value added tax on energy at the end of 2021. An increase in excise duty on tobacco products also had a slightly positive effect, while a reduction in excise duty on diesel modestly reduced annual inflation.

Inflation saw a significant rise **in 2022** compared to the previous year. Administrative measures, driven by energy prices, contributed 2.8 pp (vs. 2.9 pp) to the average inflation rate.

The slightly positive contribution of the change in indirect taxes reflected the increase in excise duty on tobacco products at the beginning of the year. From June 2022, excise duty on fuel was reduced by CZK 1.5 per litre, with a small impact in the direction of lower inflation. In the case of gasoline, this tax measure was valid until September 2022, while for diesel it was extended until the end of 2023.

Last year, inflation was predominantly determined by market factors. On the supply side, they reflected high prices of energy, food, oil and many materials, which stem from supply frictions and global uncertainty. Costs of firms were rising, largely due to import prices of energy and industrial inputs, but unit labour costs also played a role, with higher inflation expectations being priced in.

The appreciation of the koruna against the euro had an anti-inflationary effect, while the depreciation of the currency against the dollar presented an inflationary factor through an increase in import prices, such as those of oil and electronics.

The effect of the economy's position in the business cycle on inflation should be slightly anti-inflationary from the end of 2022 onwards, mainly due to a reduction in household consumption as a result of a significant decline in real incomes. However, the tight labour market is increasing upward pressures on nominal wages, and is thus inflationary.

The lower average inflation rate in 2022 as measured by the **HICP** compared to the national CPI (see Tables 3.2.1 and 3.2.2) was due to the rapid growth in imputed rents, which are not included in the HICP. About 77% of imputed rents is made up of the cost of increasing the owners' housing stock, which includes the market price of new apartments and houses, the cost of individual construction, as well as renovations and rebuilding. In contrast to apartment prices (see Graph 3.2.7), in December 2022, rents grew by only 5.9% YoY. Steeper rise can be expected in the coming quarters due to the decreasing affordability of owner-occupied housing and higher demand from Ukrainian refugees.

A period of significantly elevated inflation will continue **this year**. Inflationary pressures will be driven mainly by market factors and energy prices.

In addition to the waiver of the renewable energy charge, a price cap on electricity and gas has been effective from January 2023. There should be an immediate drop in energy prices for those consumers whose electricity and gas prices were above the price cap as of January 2023. Unfixed prices for the rest of consumers can be expected to rise just about to the cap level. The successful filling of European gas reservoirs before the start of the heating season, the warm winter so far and the securing of new gas suppliers have contributed to a significant drop in wholesale energy prices, but these lower prices should not have a sizeable impact on consumer prices during 2023.

The contribution of regulated prices to the average inflation rate should be highly positive, mainly due to energy price increases. Changes in indirect taxes will include an increase in excise duties on tobacco products. Overall, the contribution of administrative measures to the average inflation rate in 2023 should be 3.9 pp (vs. 3.7 pp).

Supply problems and the associated surge in input prices should gradually subside over the course of the year. Growth in unit labour costs should continue, but real wages should fall further. Given the decline in living standards due to the high inflation, upward pressure on wages can be expected to increase gradually (see Chapter 3.3).

The price of oil should be anti-inflationary in 2023, as should the exchange rate of the koruna against major world currencies. However, sanctions on imports of Russian oil products and reduced global refinery capacity

¹ Without these measures, electricity prices would have been 67.9% higher year-on-year in December.

due to the COVID-19 pandemic pose a certain risk to gasoline and diesel prices.

Inflation in 2023 should already be partly dampened by the transmission mechanism of higher monetary policy rates. The risk to the CNB's monetary policy is mainly the threat of inflation expectations becoming unanchored from the inflation target and a loss of credibility, the implications of which for inflation in the coming years would be highly inflationary.

In line with the above, we expect the **average inflation rate** to reach 10.4% (vs. 9.5%) **in 2023**, with annual inflation slightly above 8% at the end of the year. However, it should fall below 5% in January 2024 after the statistical effect of the energy tariff wears off.

In Q3 2022, **GDP deflator** increased by 9.7% (vs. 7.7%), amid a 13.7% (vs. 13.2%) increase in the gross domestic expenditure deflator and a 4.9% (vs. 6.9%) deterioration of terms of trade. The evolution of the gross domestic expenditure deflator reflected mainly consumer price inflation. The weaker terms of trade performance was

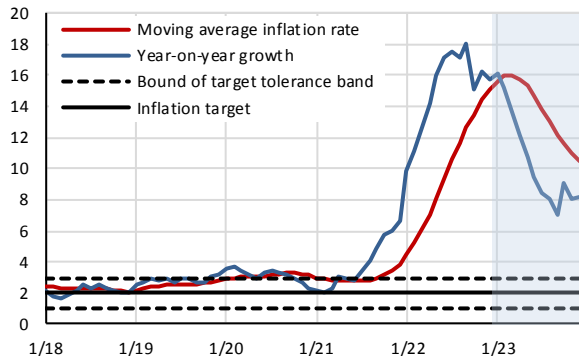
mainly due to high import prices of minerals and production inputs.

In 2022, GDP deflator could have increased by 8.0% (vs. 6.7%). The strong growth in dynamics against 2021 was due to the acceleration of the gross domestic expenditure deflator, but the deterioration in terms of trade worked in the opposite direction. Within domestic demand, the main factor was the growth of the household consumption deflator. GDP deflator growth could reach 8.8% (vs. 6.5%) in 2023. The lower dynamics of the domestic expenditure deflator, especially of household consumption, should no longer be partly offset by a deterioration of terms of trade this year (see Graph 3.2.5).

Export and import prices were strongly affected in 2022 not only by the increase in prices of energy commodities and other production inputs, but also by the appreciation of the effective exchange rate. As a result, the terms of trade may have deteriorated by 4.3% (vs. 5.6%) last year. They should stagnate (vs. a decrease of 1.6%) in 2023.

Graph 3.2.1: Consumer Prices

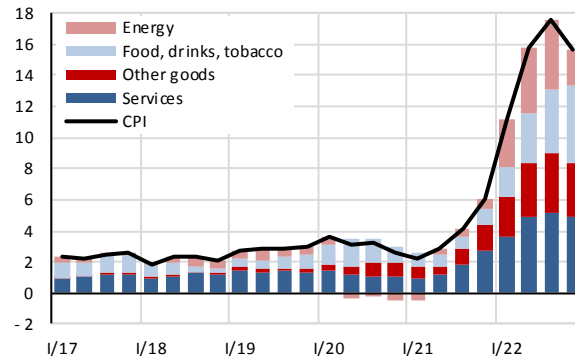
YoY growth rate in %



Source: CNB, CZSO. Calculations and forecast of the MoF.

Graph 3.2.2: Consumer Prices in Main Divisions

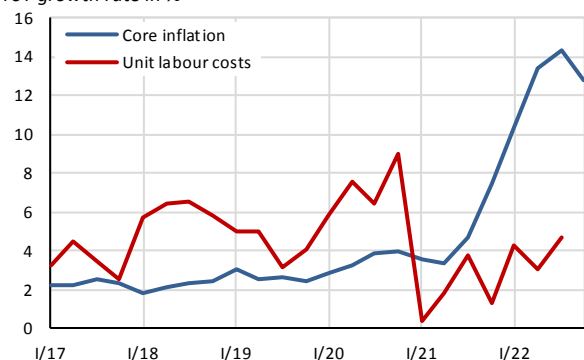
YoY growth of consumer price index in %, contributions in pp



Source: CZSO. Calculations of the MoF.

Graph 3.2.3: Core Inflation and Unit Labour Costs

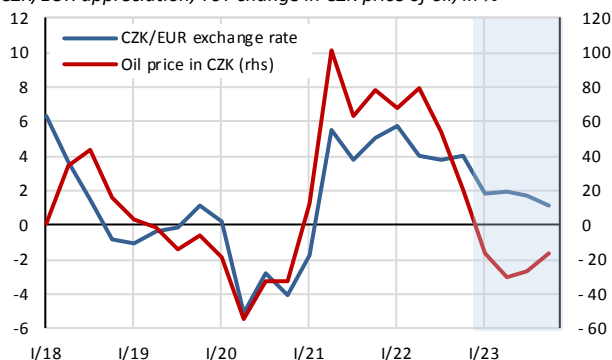
YoY growth rate in %



Source: CZSO. Calculations and forecast of the MoF.

Graph 3.2.4: CZK/EUR and Koruna Price of Oil

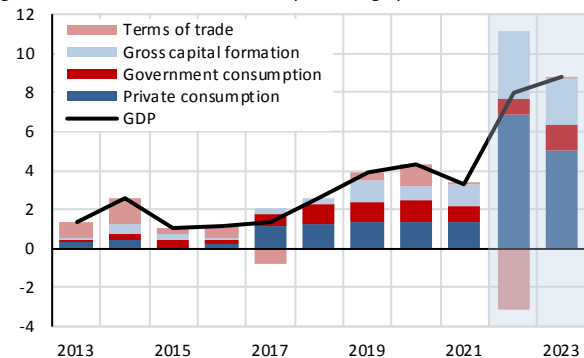
CZK/EUR appreciation, YoY change in CZK price of oil, in %



Source: CNB, U.S. EIA. Calculations and forecast of the MoF.

Graph 3.2.5: Gross Domestic Product Deflator

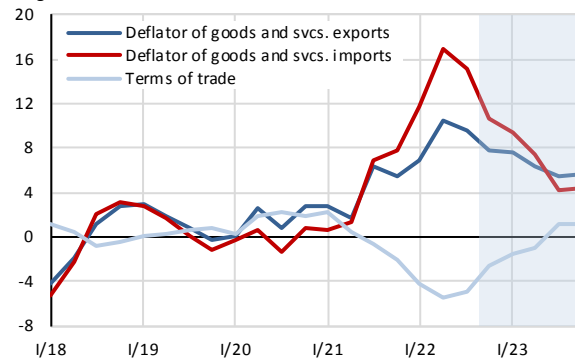
growth rate in %, contributions in percentage points



Source: CZSO. Calculations and forecast of the MoF.

Graph 3.2.6: Terms of Trade

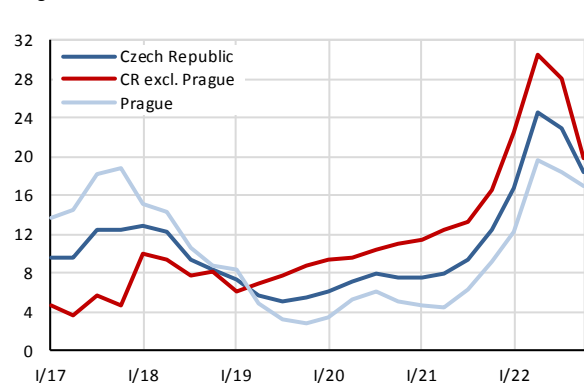
YoY growth rate in %



Source: CZSO. Calculations and forecast of the MoF.

Graph 3.2.7: Offering Prices of Flats

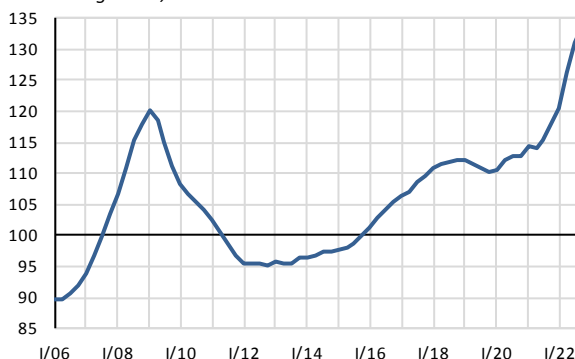
YoY growth rate in %



Source: CZSO.

Graph 3.2.8: Prices of Flats Relative to Average Wage

ratio of index of offering prices of flats to index of average wage, annual moving totals, 2015=100



Source: CZSO. Calculations and forecast of the MoF.

Table 3.2.1: Prices – yearly

		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
								Estimate	Forecast	Outlook	Outlook
Consumer Price Index											
Level	<i>average 2015=100</i>	100.7	103.1	105.3	108.3	111.8	116.1	133.6	147.5	153.2	157.5
Average inflation rate	%	0.7	2.5	2.1	2.8	3.2	3.8	15.1	10.4	3.8	2.8
Administrative measures ¹⁾	<i>percentage points</i>	0.2	-0.1	0.3	0.6	0.5	0.0	2.8	3.9	0.8	0.2
Market increase	<i>percentage points</i>	0.5	2.6	1.8	2.2	2.7	3.8	12.3	6.6	3.0	2.7
Harmonized index of consumer prices											
Level	<i>average 2015=100</i>	100.7	103.1	105.1	107.8	111.4	115.1	132.1	146.3	151.9	156.2
Average inflation rate	<i>growth in %</i>	0.6	2.4	2.0	2.6	3.3	3.3	14.8	10.7	3.8	2.8
Deflators											
GDP	<i>average 2015=100</i>	101.1	102.5	105.1	109.2	113.9	117.7	127.1	138.2	144.1	148.6
	<i>growth in %</i>	1.1	1.3	2.6	3.9	4.3	3.3	8.0	8.8	4.3	3.1
Gross domestic expenditure	<i>average 2015=100</i>	100.6	102.9	105.8	109.7	113.4	117.3	130.8	142.4	147.8	151.8
	<i>growth in %</i>	0.6	2.3	2.8	3.7	3.4	3.4	11.5	8.8	3.8	2.8
Consumption of households	<i>average 2015=100</i>	100.4	102.7	105.3	108.3	111.4	114.6	132.6	147.0	152.8	157.2
	<i>growth in %</i>	0.4	2.3	2.5	2.8	2.9	2.9	15.7	10.8	3.9	2.9
Consumption of government	<i>average 2015=100</i>	101.4	105.0	110.6	116.6	122.6	127.5	132.2	140.4	145.0	148.3
	<i>growth in %</i>	1.4	3.5	5.4	5.4	5.2	4.0	3.6	6.2	3.2	2.3
Fixed capital formation	<i>average 2015=100</i>	100.5	102.0	103.6	107.7	110.8	115.2	124.5	132.0	136.6	140.3
	<i>growth in %</i>	0.5	1.5	1.6	4.0	2.9	3.9	8.0	6.1	3.5	2.8
Exports of goods and services	<i>average 2015=100</i>	97.6	96.9	96.3	97.5	99.0	103.0	112.0	118.9	124.1	127.7
	<i>growth in %</i>	-2.4	-0.7	-0.6	1.3	1.5	4.1	8.7	6.2	4.4	2.9
Imports of goods and services	<i>average 2015=100</i>	96.6	96.9	96.3	97.1	97.0	101.1	114.8	121.9	126.5	129.7
	<i>growth in %</i>	-3.4	0.3	-0.6	0.8	0.0	4.2	13.6	6.2	3.7	2.5
Terms of trade	<i>average 2015=100</i>	101.0	100.0	100.0	100.5	102.0	101.9	97.5	97.5	98.1	98.5
	<i>growth in %</i>	1.0	-1.0	0.0	0.5	1.5	-0.1	-4.3	0.0	0.6	0.4

¹⁾ The contribution of change in regulated prices and indirect taxes to the average inflation rate.

Source: CZSO, Eurostat. Calculations and forecast of the MoF.

Table 3.2.2: Prices – quarterly

		2022				2023			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
					Estimate	Forecast	Forecast	Forecast	Forecast
Consumer Price Index	<i>average 2015=100</i>	126.4	132.8	137.6	137.6	145.4	147.2	148.4	149.2
	<i>growth in %</i>	11.2	15.8	17.6	15.7	15.0	10.8	7.8	8.4
Of which the contribution of:									
Administrative measures ¹⁾	<i>percentage points</i>	2.2	3.1	3.6	2.5	4.2	3.4	3.0	4.8
Market increase	<i>percentage points</i>	9.0	12.7	14.0	13.2	10.8	7.4	4.9	3.7
Harmonized index of consumer prices	<i>average 2015=100</i>	124.7	131.4	135.9	136.5	144.4	146.1	146.6	148.0
	<i>growth in %</i>	10.2	15.0	17.4	16.5	15.8	11.2	7.9	8.4
Deflators									
GDP	<i>average 2015=100</i>	122.2	125.5	130.1	130.2	135.2	136.2	139.8	141.4
	<i>growth in %</i>	6.1	6.8	9.7	9.2	10.7	8.6	7.4	8.6
Gross domestic expenditure	<i>average 2015=100</i>	124.5	129.7	134.7	134.0	139.5	141.9	143.7	144.1
	<i>growth in %</i>	9.6	11.4	13.7	11.6	12.0	9.4	6.7	7.5
Consumption of households	<i>average 2015=100</i>	125.6	132.0	137.0	135.9	145.1	146.8	148.2	147.7
	<i>growth in %</i>	11.9	15.9	18.6	16.5	15.6	11.3	8.2	8.7
Consumption of government	<i>average 2015=100</i>	125.9	130.4	131.8	139.2	137.0	140.6	135.1	147.8
	<i>growth in %</i>	5.2	1.4	3.0	4.8	8.8	7.8	2.5	6.1
Fixed capital formation	<i>average 2015=100</i>	121.3	121.8	127.5	126.7	129.6	129.6	135.2	133.3
	<i>growth in %</i>	8.1	7.7	9.7	7.0	6.8	6.4	6.0	5.2
Exports of goods and services	<i>average 2015=100</i>	107.4	112.6	114.5	113.4	115.6	119.7	120.7	119.7
	<i>growth in %</i>	6.9	10.4	9.5	7.7	7.6	6.3	5.4	5.6
Imports of goods and services	<i>average 2015=100</i>	108.6	116.0	118.5	116.1	118.8	124.5	123.5	121.0
	<i>growth in %</i>	11.6	16.8	15.1	10.7	9.3	7.4	4.2	4.3
Terms of trade	<i>average 2015=100</i>	98.9	97.0	96.6	97.7	97.3	96.1	97.8	98.9
	<i>growth in %</i>	-4.2	-5.5	-4.9	-2.7	-1.6	-0.9	1.2	1.2

¹⁾ The contribution of change in regulated prices and indirect taxes.

Source: CZSO, Eurostat. Calculations and forecast of the MoF.

3.3 Labour Market

The downturn in economic activity has so far had only a limited impact on the labour market. Ongoing labour shortages continue to exert an upward pressure on the growth of nominal earnings, which has lagged well behind inflation, though.

Following the 2021 Population and Housing Census, new demographic weights were applied in the LFS statistics starting in Q1 2022. The lower population has led to a substantial reduction in the number of employed, unemployed and economically inactive persons. Thus, there is a break in the time series and the relevant data are not directly comparable. Relative indicators (e.g. unemployment or participation rates) have not been affected by this change.

When converted to the same population structure, **employment** rose by 1.2% YoY in Q3 2022, according to the LFS, driven mainly by an increase in the number of services workers. The number of employees was 1.0% higher, while the number of self-employed grew by 2.4%. The number of employers fell by 2.9%, and the number of contributing family members dropped by 9.9% (but these indicators are historically highly volatile).

According to the MoLSA data on job vacancies, the shortage of employees was also evident in Q4 2022. In December, more vacancies than registered unemployed were reported in 34 districts or 6 regions. However, far from all vacancies registered by the labour offices can be considered active. Of the vacancies advertised on the websites of labour offices, around 43% were active at the forecast cut-off date (offers with last change after 1 July 2022 and start date on or after 1 October 2022). Meanwhile, according to the CZSO's business cycle survey, the shortage of employees remains the main barrier to output growth in the construction sector and is not insignificant in other sectors as well. However, this problem is mitigated by new workers from Ukraine.

Demand for foreign workers remains strong. According to the data of the Ministry of Labour and Social Affairs, the number of such workers increased by 91,000 year-on-year to 793,000 in December. Workers from Ukraine and Slovakia have long dominated, with the number of Ukrainian employees reaching almost 270 thousand in December.

In terms of the number of economically active persons (whether employed or unemployed), the arrival of refugees from Ukraine will be only partially captured by the LFS. This is due to the fact that the survey is conducted only in dwellings and, in addition, a high non-response rate can be expected. Thus, the LFS employment indicator is likely to be underestimated compared to reality. According to the national accounts methodology, which should capture workers from Ukraine for the most part, employment in Q3 2022 grew by 1.6% YoY.

As a result of the economic downturn, to which the labour market usually responds with a lag, we expect a gradual, moderate quarter-on-quarter decline in employment until the middle of this year. With the subsequent economic recovery, employment could increase very slowly over the remaining forecast horizon. We estimate that employment decreased by 0.8% (vs. 0.9%) in 2022, but this is related to the break in the LFS time series noted above. In contrast, without the effect of applying the new demographic weights, employment would have grown by 1.7% in 2022. In 2023, employment could decrease by 0.4% (vs. 0.1%).

The **unemployment rate** (LFS) declined to 2.2% (vs. 2.6%) in Q3 2022. The number of job openings is noticeably above the number of attainable job seekers despite the slightly downward trajectory. This factor, together with the rising number of employed foreigners, is dampening any potential upward pressure on unemployment. The unemployment rate may have averaged 2.4% (vs. 2.5%) last year, and we forecast an increase to 3.2% (vs. 3.1%) in 2023.

The **share of unemployed persons** (MoLSA) in the labour office registers has been increasing slightly year-on-year since October last year, but has fallen to 3.4% (*in line with the forecast*) for the whole of 2022. In 2023, given the factors already mentioned, it could rise to 4.0% (vs. 3.9%) on average.

The **participation rate** (20–64 years) reached 83.3% (vs. 83.2%) in Q3 2022, and could increase to 83.0% (vs. 82.8%) over the whole of last year. It could fall to 81.7% (vs. 81.4%) in 2023. Over the forecast horizon, the increase in the statutory retirement age and demographic aspects in the form of a rising share of age groups with a naturally high economic activity rate (especially 45–54 years) will play a dominant role. On the other hand, the inflow of refugees from Ukraine could have a negative impact, as their labour market participation rate could temporarily lag behind the current level of participation. The economic activity rate could also be adversely affected by the increased use of early retirement in the context of extraordinary pension indexations.

The **volume of wages and salaries** increased by 7.7% (vs. 9.5%) in Q3 2022. All sectors contributed to the overall growth in earnings, with trade, transport, accommodation and food services contributing the most (10.6% growth). In the most macroeconomically important sector, manufacturing, earnings increased by 8.0%, while the number of employees rose by 0.9%.

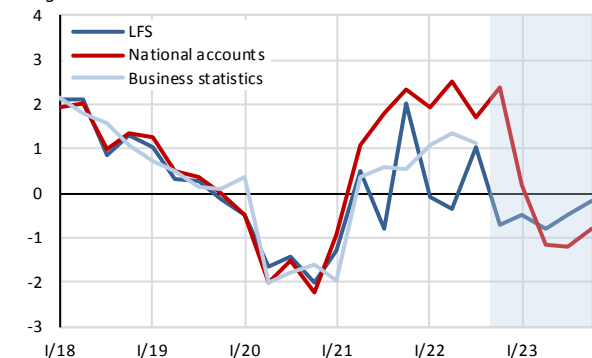
We assume that the tight labour market, reflected in the year-on-year growth in the number of employees, continued to support earnings growth in Q4 2022. In the same direction, the increase in salary tariffs for a significant part of civil servants as of 1 September 2022 also has an impact on the development this year. In contrast,

the decline in economic activity accompanied by weakening labour demand should dampen wage growth in 2023. Increased inflation expectations and, to some extent, the arrival of refugees from Ukraine are likely to be growth drivers. With effect from 1 January 2023, the minimum wage was increased by 6.8%. The guaranteed wage has increased at the same rate in the highest job group (but this is probably only received by a marginal number of people), while the other grades have remained unchanged. We estimate that wages and salaries increased by 9.3% (vs. 10.0%) in 2022, and the growth could slow to 6.7% (vs. 7.4%) this year.

The **average wage** (business statistics, full-time equivalent) grew by 6.1% (vs. 6.8%) in Q3 2022, with the largest contribution coming from a 7.8% increase in average wage in manufacturing, while earnings in the government-dominated sectors rose the least. Average earnings growth is supported by persistent labour market frictions and, through wage bargaining, by strong consumer price inflation. Higher representation of Ukrainian workers in relatively lower-paid sectors and occupations is working in the opposite direction. Average wage may have risen by 6.3% (vs. 6.7%) last year, and its growth rate could accelerate to 7.5% (vs. 6.6%) in 2023.

Graph 3.3.1: Employees in Different Statistics

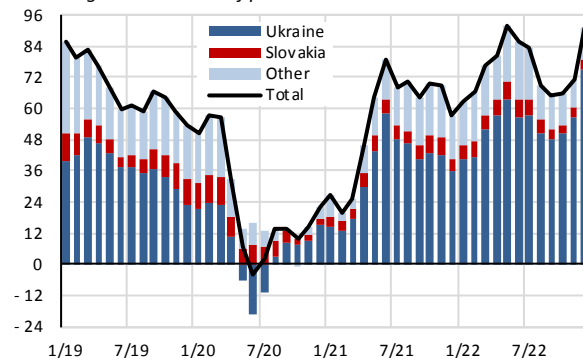
YoY growth rate in%



Source: CZSO. Calculations and forecast of the MoF.

Graph 3.3.2: Number of Foreign Employees in the CR

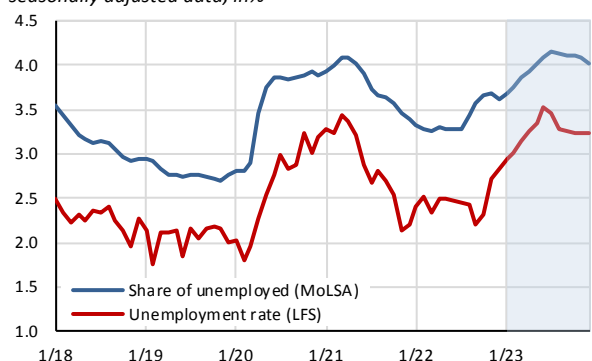
YoY change in thousands of persons



Source: MoLSA. Calculations of the MoF.

Graph 3.3.3: Indicators of Unemployment

seasonally adjusted data, in%



Source: CZSO, MoLSA. Calculations and forecast of the MoF.

Graph 3.3.4: Social Security Contributions and Earnings

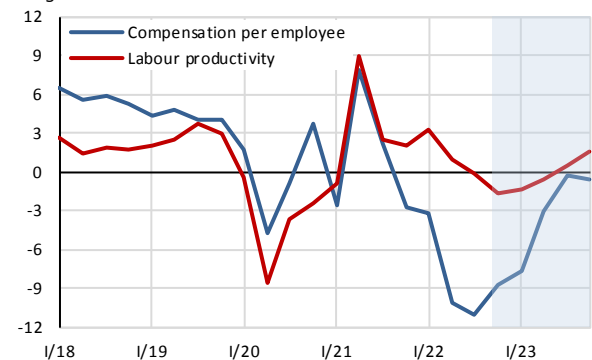
YoY growth rate in%



Source: CZSO, MoF. Calculations and forecast of the MoF.

Graph 3.3.5: Compens. per Employee and Productivity

YoY growth rate in%



Source: CZSO. Calculations and forecast of the MoF.

Graph 3.3.6: Nominal Monthly Wages

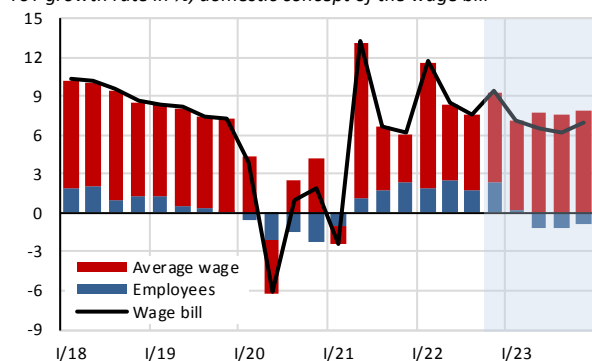
YoY growth rate in%



Source: CZSO. Calculations and forecast of the MoF.

Graph 3.3.7: Nominal Wage Bill

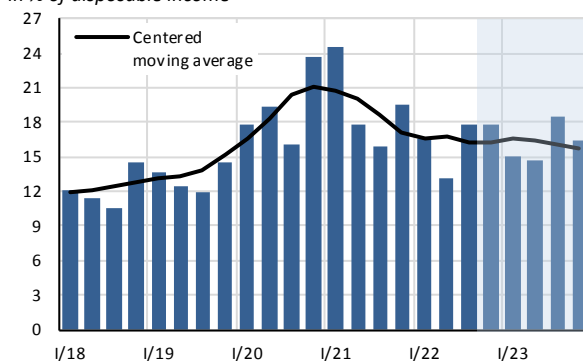
YoY growth rate in %, domestic concept of the wage bill



Source: CZSO. Calculations and forecast of the MoF.

Graph 3.3.8: Gross Savings Rate of Households

in % of disposable income



Source: CZSO. Calculations and forecast of the MoF.

Table 3.3.1: Labour Market – yearly

			2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
										Estimate	Forecast	Outlook	Outlook
Labour Force Survey													
Employment	av. in thous.persons		5 139	5 222	5 294	5 303	5 235	5 213	5 170	5 151	5 177	5 191	
	growth in %		1.9	1.6	1.4	0.2	-1.3	-0.4	-0.8	-0.4	0.5	0.3	
Employees	av. in thous.persons		4 257	4 327	4 396	4 412	4 351	4 355	4 354	4 333	4 355	4 367	
	growth in %		2.1	1.7	1.6	0.4	-1.4	0.1	0.0	-0.5	0.5	0.3	
Entrepreneurs and self-employed	av. in thous.persons		882	894	897	891	884	858	816	818	822	824	
	growth in %		1.0	1.4	0.4	-0.8	-0.7	-2.9	-4.9	0.2	0.5	0.3	
Unemployment	av. in thous.persons		211	156	122	109	137	150	127	170	161	149	
Unemployment rate	average in %		4.0	2.9	2.2	2.0	2.6	2.8	2.4	3.2	3.0	2.8	
Long-term unemployment ¹⁾	av. in thous.persons		89	54	37	33	30	41	.	.	.	.
Labour force	av. in thous.persons		5 350	5 377	5 415	5 412	5 372	5 364	5 297	5 321	5 338	5 339	
	growth in %		0.8	0.5	0.7	-0.1	-0.7	-0.2	-1.2	0.5	0.3	0.0	
Population aged 20–64	av. in thous.persons		6 510	6 456	6 414	6 383	6 355	6 311	6 169	6 298	6 281	6 273	
	growth in %		-0.9	-0.8	-0.7	-0.5	-0.4	-0.7	-2.2	2.1	-0.3	-0.1	
Employment/Pop. 20–64	average in %		78.9	80.9	82.5	83.1	82.4	82.6	83.8	81.8	82.4	82.7	
Employment rate 20–64 ²⁾	average in %		76.7	78.5	79.9	80.3	79.7	80.0	81.1	79.5	80.1	80.4	
Labour force/Pop. 20–64	average in %		82.2	83.3	84.4	84.8	84.5	85.0	85.9	84.5	85.0	85.1	
Participation rate 20–64 ³⁾	average in %		79.9	80.9	81.7	82.0	81.8	82.3	83.0	81.7	82.2	82.3	
Participation rate 15–64 ³⁾	average in %		75.0	75.9	76.6	76.7	76.4	76.6	77.0	75.5	75.6	75.4	
Registered unemployment													
Unemployment	av. in thous.persons		406	318	242	212	259	280	252	294	286	268	
Share of unemployed ⁴⁾	average in %		5.6	4.3	3.2	2.8	3.5	3.8	3.4	4.0	3.8	3.6	
Wages and salaries													
Average monthly wage ⁵⁾													
Nominal	CZK monthly		27 764	29 638	32 051	34 578	36 176	37 903	40 298	43 322	45 834	47 785	
	growth in %		4.4	6.7	8.1	7.9	4.6	4.8	6.3	7.5	5.8	4.3	
Real	CZK 2015		27 571	28 747	30 438	31 928	32 358	32 647	30 163	29 366	29 927	30 337	
	growth in %		3.7	4.3	5.9	4.9	1.3	0.9	-7.6	-2.6	1.9	1.4	
Median monthly wage	CZK monthly		23 692	25 398	27 561	29 439	31 049	32 408	.	.	.	.
	growth in %		5.7	7.2	8.5	6.8	5.5	4.4	.	.	.	.
Wage bill	growth in %		5.7	9.2	9.6	7.8	0.1	5.9	9.3	6.7	5.8	4.4	
Labour productivity	growth in %		0.9	3.6	1.9	2.8	-3.9	3.2	0.6	0.1	2.5	2.6	
Unit labour costs ⁶⁾	growth in %		3.0	3.5	6.1	4.3	7.3	1.8	4.9	7.2	2.8	1.7	
Compens. of employees / GDP	%		41.7	42.8	44.3	44.6	46.0	45.6	44.5	43.8	43.1	42.5	

Note: Following the 2021 Census, new demographic weights have been applied in the LFS since Q1 2022. This results in a break in time series.

¹⁾ Persons in unemployment for longer than 12 months.

²⁾ The indicator does not include employment over 64 years.

³⁾ The indicator does not include labour force over 64 years.

⁴⁾ Share of available job seekers aged 15 to 64 years in the population of the same age.

⁵⁾ Derived from full-time-equivalent employers in the entire economy.

⁶⁾ Ratio of nominal compensation per employee to real productivity of labour.

Source: CZSO, MoLSA. Calculations and forecast of the MoF.

Table 3.3.2: Labour Market – quarterly

		2022				2023			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
					Estimate	Forecast	Forecast	Forecast	Forecast
Labour Force Survey									
Employment	<i>av. in thous. persons</i>	5 141	5 160	5 189	5 191	5 131	5 128	5 164	5 181
	<i>YoY growth in %</i>	-0.5	-0.2	-1.3	-1.3	-0.2	-0.6	-0.5	-0.2
	<i>QoQ growth in %</i>	-1.5	0.3	0.0	-0.1	-0.3	-0.2	0.1	0.2
Employees	<i>av. in thous. persons</i>	4 330	4 336	4 357	4 392	4 309	4 300	4 337	4 385
	<i>growth in %</i>	-0.1	-0.4	1.0	-0.7	-0.5	-0.8	-0.5	-0.2
Entrepreneurs and self-employed	<i>av. in thous. persons</i>	811	824	832	799	822	828	827	796
	<i>growth in %</i>	-2.6	0.6	-12.0	-4.5	1.4	0.4	-0.6	-0.3
Unemployment	<i>av. in thous. persons</i>	130	126	118	134	162	174	177	167
Unemployment rate	<i>average in %</i>	2.5	2.4	2.2	2.5	3.1	3.3	3.3	3.1
Long-term unemployment ¹⁾	<i>av. in thous. persons</i>	37	32	30	.	.	.	.	.
Labour force	<i>av. in thous. persons</i>	5 271	5 286	5 306	5 325	5 293	5 302	5 341	5 348
	<i>growth in %</i>	-1.4	-0.8	-1.8	-1.0	0.4	0.3	0.6	0.4
Population aged 20–64	<i>av. in thous. persons</i>	6 151	6 139	6 156	6 231	6 306	6 300	6 295	6 289
	<i>growth in %</i>	-2.9	-2.9	-2.4	-0.8	2.5	2.6	2.3	0.9
Employment/Pop. 20–64	<i>average in %</i>	83.6	84.1	84.3	83.3	81.4	81.4	82.0	82.4
	<i>increase over a year</i>	2.0	2.2	1.0	-0.4	0.0	0.0	0.0	0.0
Employment rate 20–64 ²⁾	<i>average in %</i>	80.8	81.3	81.5	81.0	79.1	79.1	79.8	80.1
	<i>increase over a year</i>	1.7	2.0	1.0	-0.1	-1.7	-2.1	-1.7	-0.9
Labour force/Pop. 20–64	<i>average in %</i>	85.7	86.1	86.2	85.5	83.9	84.2	84.8	85.0
	<i>increase over a year</i>	1.3	1.8	0.6	-0.2	-1.8	-1.9	-1.4	-0.4
Participation rate 20–64 ³⁾	<i>average in %</i>	82.8	83.2	83.3	82.6	81.2	81.4	82.1	82.3
	<i>increase over a year</i>	1.0	1.5	0.6	-0.2	-1.6	-1.8	-1.2	-0.4
Participation rate 15–64 ³⁾	<i>average in %</i>	77.0	77.1	77.4	76.6	75.1	75.2	75.8	75.9
	<i>increase over a year</i>	0.7	1.1	0.4	-0.5	-1.9	-1.9	-1.7	-0.8
Registered unemployment									
Unemployment	<i>av. in thous. persons</i>	262	240	245	259	294	290	300	293
Share of unemployed ⁴⁾	<i>average in %</i>	3.5	3.3	3.3	3.5	4.0	3.9	4.1	4.0
Wages and salaries									
Average monthly wage ⁵⁾									
Nominal	<i>CZK monthly</i>	37 967	40 082	39 858	43 284	40 932	42 990	42 646	46 719
	<i>growth in %</i>	7.3	4.4	6.1	7.6	7.8	7.3	7.0	7.9
Real	<i>CZK 2015</i>	30 037	30 182	28 967	31 457	28 159	29 214	28 741	31 312
	<i>growth in %</i>	-3.6	-9.8	-9.8	-7.0	-6.3	-3.2	-0.8	-0.5
Median monthly wage	<i>CZK monthly</i>	31 955	34 108	34 993	.	.	.	.	.
	<i>growth in %</i>	6.7	5.3	6.5	.	.	.	.	.
Wage bill	<i>growth in %</i>	11.7	8.5	7.7	9.4	7.1	6.5	6.3	7.0

Note: Following the 2021 Census, new demographic weights have been applied in the LFS since Q1 2022. This results in a break in time series.

¹⁾ Persons in unemployment for longer than 12 months.

²⁾ The indicator does not include employment over 64 years.

³⁾ The indicator does not include labour force over 64 years.

⁴⁾ Share of available job seekers aged 15 to 64 years in the population of the same age.

⁵⁾ Derived from full-time-equivalent employers in the entire economy.

Source: CZSO, MoLSA. Calculations and forecast of the MoF.

Table 3.3.3: Income and Expenditures of Households – yearly

		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
										Estimate	Forecast
Current income											
Compensation of employees	bill.CZK	1 825	1 923	2 038	2 223	2 430	2 599	2 650	2 800	3 001	3 204
	growth in %	4.2	5.4	6.0	9.1	9.3	7.0	1.9	5.7	7.2	6.8
Gross operating surplus and mixed income	bill.CZK	674	691	703	740	801	845	833	856	998	1 074
	growth in %	3.0	2.4	1.7	5.2	8.3	5.5	-1.4	2.7	16.7	7.6
Property income received	bill.CZK	133	127	133	162	162	163	129	171	206	216
	growth in %	0.0	-4.3	4.1	21.9	0.2	0.5	-20.9	32.5	20.6	4.7
Social benefits not-in-kind	bill.CZK	596	613	630	650	685	738	885	924	997	1 118
	growth in %	2.2	2.8	2.8	3.2	5.4	7.7	19.9	4.4	7.9	12.1
Other current transfers received	bill.CZK	160	181	217	244	281	338	363	471	613	646
	growth in %	9.2	13.3	19.4	12.8	15.1	20.4	7.3	29.8	30.1	5.3
Current expenditure											
Property income paid	bill.CZK	16	14	14	13	19	28	27	26	43	44
	growth in %	-24.3	-10.7	0.2	-7.4	43.2	44.8	-2.7	-2.3	61.1	2.9
Curr. taxes on income and property	bill.CZK	197	205	227	264	309	316	342	266	283	301
	growth in %	6.5	3.9	10.8	16.3	16.9	2.3	8.3	-22.1	6.1	6.6
Social contributions	bill.CZK	696	732	775	836	911	976	1 028	1 129	1 196	1 279
	growth in %	3.8	5.3	5.8	7.9	9.0	7.1	5.3	9.8	6.0	6.9
Other current transfers paid	bill.CZK	150	169	207	238	278	335	358	469	582	613
	growth in %	7.3	12.5	22.4	15.3	16.5	20.6	6.7	31.1	24.2	5.2
Gross disposable income	bill.CZK	2 328	2 414	2 497	2 666	2 842	3 029	3 106	3 331	3 711	4 020
	growth in %	3.4	3.7	3.4	6.8	6.6	6.6	2.5	7.3	11.4	8.3
Final consumption	bill.CZK	2 072	2 152	2 241	2 383	2 524	2 663	2 536	2 716	3 126	3 390
	growth in %	2.2	3.9	4.1	6.4	5.9	5.5	-4.8	7.1	15.1	8.4
Change in share in pension funds	bill.CZK	35	33	31	32	33	37	38	38	26	26
Gross savings	bill.CZK	292	295	286	315	350	404	607	653	611	656
Capital transfers	(income (-) / expenditure (+))	bill.CZK	-32	-12	-14	-11	-12	-13	-41	-35	-25
Gross capital formation	bill.CZK	214	220	237	216	261	297	300	314	353	367
	growth in %	5.2	2.9	7.9	-9.2	21.2	13.7	0.9	4.9	12.3	3.8
Change in financial assets and liab.	bill.CZK	108	85	61	110	101	116	348	375	283	315
Real disposable income	growth in %	2.6	3.7	3.0	4.4	4.0	3.7	-0.4	4.3	-3.8	-2.2
Gross savings rate	%	12.4	12.1	11.3	11.7	12.2	13.2	19.3	19.4	16.4	16.2

Source: CZSO. Calculations of the MoF.

3.4 External Relations

The annual growth of **export markets** reached 4.9% (vs. 4.3%) in Q3 2022. The better-than-estimated development was due to stronger GDP growth of the Czech Republic's main trading partners (by 0.4 pp). The growth of import intensity also slightly exceeded expectations (by 0.2 pp). Given the more favourable development of economic activity abroad in Q3 2022, we estimate that export markets grew by 4.3% (vs. 3.8%) in 2022. In 2023, their growth should slow to 1.9% (vs. 1.2%) due to the expected stagnation of the economies of the main trading partners.

Export performance rose by 4.4% (vs. a decline of 0.1%) in Q3 2022, driven by a faster recovery in automotive production as global supply chain issues eased. For the full year 2022, we estimate that export performance declined by 1.0% (vs. 3.0%). For this year, we expect performance to grow by 1.1% (vs. 0.7%) as supply chain difficulties recede and inventories are reduced. The improvement in the forecast for 2023 also reflects easing price pressures in industry. By contrast, the projected lower volume of industrial orders from abroad and the stronger appreciation of the koruna against the euro will weigh on performance growth (see Chapter 1.4).

The **current account of the balance of payments** reached a deficit of 5.3% of GDP (vs. 4.2% of GDP) in Q3 2022². The 5.1% of GDP year-on-year deterioration in the balance was mainly due to a significant decline in the balance of goods.

The **balance of goods** deteriorated by 5.2% of GDP YoY to -1.7% of GDP (vs. -2.0% of GDP) in Q3 2022, and has remained in negative territory for four consecutive quarters. The deterioration in the balance reflects solely strong import dynamics, driven by high energy commodity prices. The recovery in production and exports of motor vehicles has corrected the overall negative trade balance.

Prices of mineral fuels continue to be an important factor influencing the **terms of trade**. The deficit on the fuel part of the balance was 4.4% of GDP (vs. 4.1% of GDP) in Q3 2022. Taking into account the evolution of oil prices (see Chapter 1.2) and other energy commodities (electricity, natural gas), we project a deficit of 4.4% of GDP (vs. 4.2% of GDP) in 2022. In 2023, the deficit could narrow to 3.4% of GDP (vs. 3.5% of GDP).

We estimate that the balance of goods ended last year with a deficit of 1.8% of GDP (vs. 3.0% of GDP). The improvement in the forecast reflects the evolution of the trade balance in Q3 2022 (foreign trade in goods ended with a CZK 18.5 billion lower deficit year-on-year) and a smaller-than-expected decline in the terms of trade. For this year, we then expect the deficit to ease to 1.0%

of GDP (vs. 3.5% of GDP), due to a further improvement in the terms of trade (energy commodity prices, base effect in H2 2022). Exports of previously accumulated stocks should have a positive impact on the overall balance, while the import side will be limited by a more pronounced decline in consumer demand. Conversely, a slowdown in economic developments abroad and a decline in export orders should work against further improvement in the balance.

The **balance of services** showed a surplus of 1.7% of GDP (vs. 1.8% of GDP) in Q3 2022. A slight year-on-year increase in the positive balance of 0.1% of GDP was driven by stronger revenues from telecommunication services and tourism. In contrast, higher costs in the transport sector and growth in imports in the consulting services sector reduced the surplus. The surplus on the balance of services in 2022 is estimated at 1.6% of GDP (*unchanged*). It should reach the same level (*unchanged*) this year, although it will be limited by weaker economic activity in the euro area (see Chapter 1.1) and higher costs in the transport sector due to more expensive fuels.

The **primary income** deficit widened by 1.5% of GDP quarter-on-quarter to 4.7% of GDP (vs. 3.3% of GDP) in Q3 2022 due to the highest ever outflow of direct investment income (in the form of dividends). Taking into account the forecast for the gross operating surplus, we estimate the primary income deficit to reach 5.1% of GDP (vs. 3.5% of GDP) in 2022. The higher deficit was also driven by a record amount of dividend payments in Q3, which may have been partly related to the distribution of the domestic banking sector's 2019–2020 profits, which was restricted during the COVID-19 pandemic based on the CNB's recommendations. In the absence of this one-off factor, we forecast the deficit to ease to 4.0% of GDP (vs. 3.1% of GDP) in 2023.

Against this background, we expect the **current account of the balance of payments** to be in significant deficit over the forecast horizon. Last year, the deficit could have reached 5.8% of GDP (vs. 5.4% of GDP). Relative to GDP, this would be the highest deficit since 1996, and in absolute terms it would be the deepest deficit ever. For 2023, we expect the balance to improve to -3.6% of GDP (vs. -5.3% of GDP).

The **current external balance** (national accounts methodology) reached a deficit of 5.2% of GDP in Q3 2022 (see Graph 3.4.8). While households' savings were 4.1% of GDP higher than their investment, the relationship between savings and investment was reversed in the non-financial corporations and general government sectors, with gross capital formation 6.4% and 3.8% of GDP, respectively, higher than gross savings.

² All quarterly data relative to GDP are reported in annual moving totals.

Graph 3.4.1: GDP and Goods Imports of Partner Countries

YoY growth rate in %, seasonally adjusted



Source: Eurostat. Calculations and forecast of the MoF.

Graph 3.4.2: Real Exports of Goods

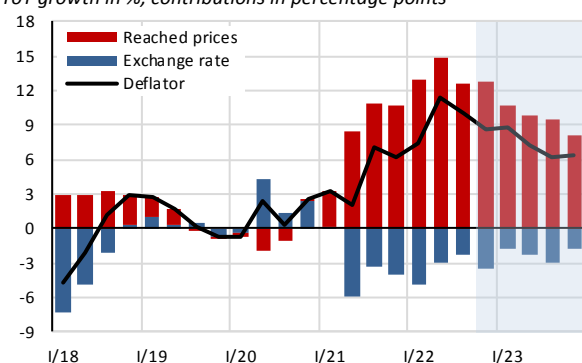
YoY growth in %, contributions in pp, seasonally adjusted



Source: CZSO, Eurostat. Calculations and forecast of the MoF.

Graph 3.4.3: Deflator of Exports of Goods

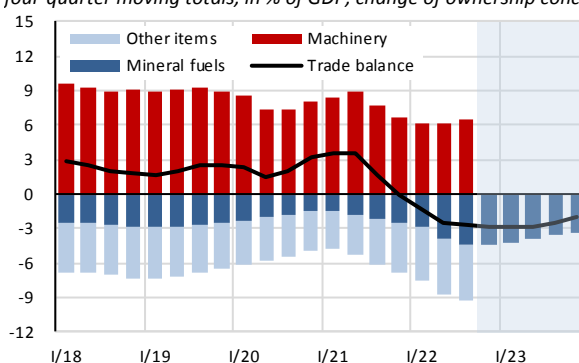
YoY growth in %, contributions in percentage points



Source: CNB, CZSO. Calculations and forecast of the MoF.

Graph 3.4.4: Balance of Trade

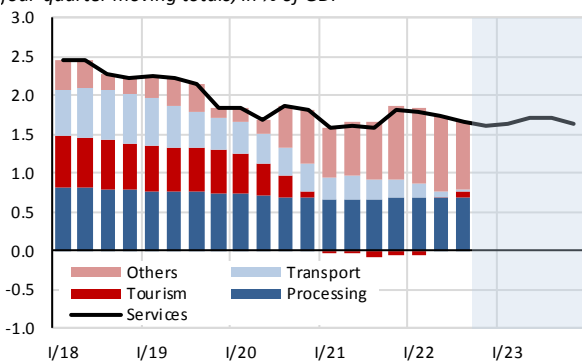
four-quarter moving totals, in % of GDP, change of ownership concept



Source: CZSO. Calculations and forecast of the MoF.

Graph 3.4.5: Balance of Services

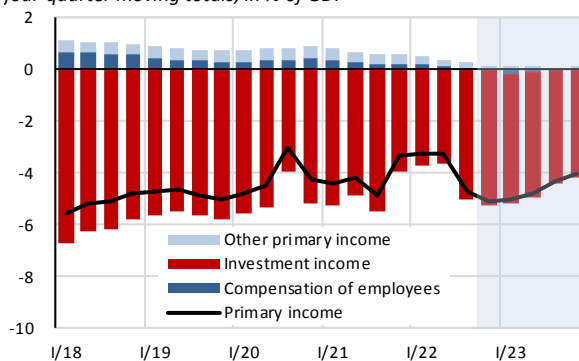
four-quarter moving totals, in % of GDP



Source: CNB, CZSO. Calculations and forecast of the MoF.

Graph 3.4.6: Balance of Primary Income

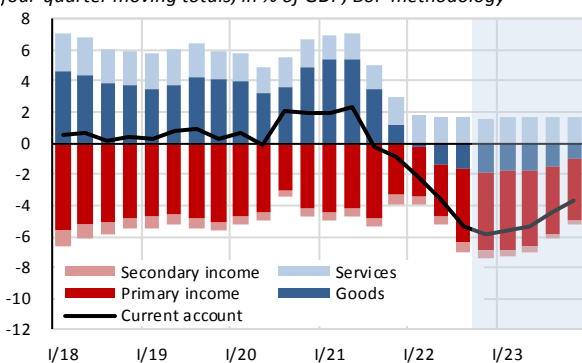
four-quarter moving totals, in % of GDP



Source: CNB, CZSO. Calculations and forecast of the MoF.

Graph 3.4.7: Current Account

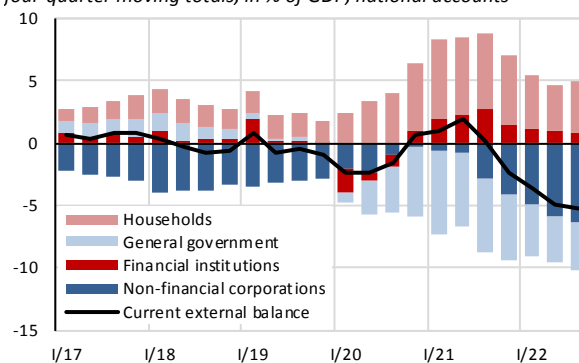
four-quarter moving totals, in % of GDP, BoP methodology



Source: CNB, CZSO. Calculations and forecast of the MoF.

Graph 3.4.8: Current External Balance

four-quarter moving totals, in % of GDP, national accounts



Source: CZSO. Calculations of the MoF.

Table 3.4.1: Decomposition of Exports of Goods (National Accounts Methodology) – yearly
seasonally adjusted

		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
											Estimate Forecast
GDP ¹⁾	average of 2010=100	106.8	109.2	111.5	114.9	117.5	119.6	113.8	118.7	122	122
	growth in %	2.3	2.2	2.1	3.1	2.2	1.9	-4.9	4.3	2.8	0.1
Import intensity ²⁾	average of 2010=100	106.6	110.0	112.4	115.3	117.8	118.1	116.8	122.9	125	127
	growth in %	2.7	3.2	2.2	2.5	2.2	0.2	-1.2	5.2	1.4	1.8
Export markets ³⁾	average of 2010=100	113.9	120.1	125.3	132.4	138.4	141.3	132.9	145.9	152	155
	growth in %	5.0	5.5	4.4	5.6	4.5	2.1	-6.0	9.8	4.3	1.9
Export performance	average of 2010=100	111.2	111.1	110.9	113.0	111.9	110.9	110.4	107.3	106	107
	growth in %	4.1	-0.1	-0.2	1.9	-1.0	-0.9	-0.4	-2.8	-1.0	1.1
Real exports	average of 2010=100	126.6	133.4	138.9	149.6	154.8	156.7	146.7	156.5	162	167
	growth in %	9.3	5.4	4.1	7.6	3.5	1.2	-6.4	6.7	3.3	3.1
1 / NEER	average of 2010=100	108.4	109.1	106.8	103.9	100.2	100.5	102.4	99.0	96	94
	growth in %	5.4	0.6	-2.1	-2.8	-3.6	0.3	1.9	-3.3	-3.4	-2.2
Prices on foreign markets	average of 2010=100	101.0	98.9	98.2	100.3	103.2	103.9	103.1	111.6	126	138
	growth in %	-1.6	-2.0	-0.7	2.1	2.9	0.7	-0.8	8.3	13.3	9.5
Exports deflator	average of 2010=100	109.5	108.0	104.9	104.1	103.4	104.4	105.5	110.5	121	129
	growth in %	3.7	-1.4	-2.8	-0.8	-0.7	1.0	1.1	4.7	9.4	7.1
Nominal exports	average of 2010=100	138.6	144.0	145.8	155.7	160.0	163.5	154.7	172.9	196	216
	growth in %	13.4	3.9	1.2	6.8	2.8	2.2	-5.4	11.8	13.1	10.3

¹⁾ Weighted average of GDP of eight most important partners – Germany, Slovakia, Austria, the United Kingdom, Poland, France, Italy and Hungary.

²⁾ Index of ratio of real imports of goods to real GDP.

³⁾ Weighted average of imports of goods of main partners.

Source: CNB, CZSO, Eurostat. Calculations and forecast of the MoF.

Table 3.4.2: Decomposition of Exports of Goods (National Accounts Methodology) – quarterly
seasonally adjusted

		2022				2023			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
						Estimate	Forecast	Forecast	Forecast
GDP ¹⁾	average of 2010=100	121.9	122.0	122.4	122	122	122	122	123
	growth in %	5.3	3.0	1.9	1.2	-0.1	0.0	-0.1	0.7
Import intensity ²⁾	average of 2010=100	122.9	124.1	125.3	126	126	127	127	128
	growth in %	-1.2	1.0	3.0	3.0	2.9	2.0	1.4	1.0
Export markets ³⁾	average of 2010=100	149.7	151.4	153.4	154	154	154	155	157
	growth in %	4.1	4.1	4.9	4.2	2.9	2.0	1.3	1.6
Export performance	average of 2010=100	105.4	104.6	108.6	106	106	107	108	108
	growth in %	-6.0	-4.5	4.4	2.6	1.0	2.3	-0.5	1.7
Real exports	average of 2010=100	157.8	158.4	166.6	164	164	165	168	170
	growth in %	-2.2	-0.6	9.5	6.9	3.9	4.4	0.8	3.3
1 / NEER	average of 2010=100	95.5	95.8	96.3	95	94	94	93	93
	growth in %	-4.8	-3.0	-2.2	-3.6	-1.8	-2.3	-3.0	-1.7
Prices on foreign markets	average of 2010=100	121.0	127.5	127.8	129	134	140	140	140
	growth in %	12.9	14.9	12.5	12.7	10.7	9.8	9.4	8.1
Exports deflator	average of 2010=100	115.5	122.2	123.1	123	126	131	131	131
	growth in %	7.5	11.5	10.1	8.7	8.7	7.3	6.2	6.3
Nominal exports	average of 2010=100	182.2	193.6	205.0	202	206	217	219	221
	growth in %	5.2	10.8	20.6	16.2	13.0	11.9	7.0	9.8

¹⁾ Weighted average of GDP of eight most important partners – Germany, Slovakia, Austria, the United Kingdom, Poland, France, Italy and Hungary.

²⁾ Index of ratio of real imports of goods to real GDP.

³⁾ Weighted average of imports of goods of main partners.

Source: CNB, CZSO, Eurostat. Calculations and forecast of the MoF.

Table 3.4.3: Balance of Payments – yearly*international investment position and gross external debt – end of period*

		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
											<i>Estimate Forecast</i>
Goods and services	<i>bill.CZK</i>	276	274	365	384	321	346	384	183	-16	50
	<i>% GDP</i>	6.3	5.9	7.6	7.5	5.9	6.0	6.7	3.0	-0.2	0.7
Goods	<i>bill.CZK</i>	220	188	259	259	201	240	280	73	-125	-70
	<i>% GDP</i>	5.1	4.1	5.4	5.1	3.7	4.1	4.9	1.2	-1.8	-1.0
Services	<i>bill.CZK</i>	56	87	107	125	120	106	104	110	108	120
	<i>% GDP</i>	1.3	1.9	2.2	2.4	2.2	1.8	1.8	1.8	1.6	1.6
Primary income	<i>bill.CZK</i>	-261	-255	-253	-255	-260	-292	-242	-204	-342	-294
	<i>% GDP</i>	-6.0	-5.5	-5.3	-5.0	-4.8	-5.0	-4.2	-3.3	-5.1	-4.0
Secondary income	<i>bill.CZK</i>	-7	1	-27	-50	-37	-34	-28	-33	-33	-21
	<i>% GDP</i>	-0.2	0.0	-0.6	-1.0	-0.7	-0.6	-0.5	-0.5	-0.5	-0.3
Current account	<i>bill.CZK</i>	8	21	85	79	24	19	114	-51	-391	-265
	<i>% GDP</i>	0.2	0.4	1.8	1.5	0.4	0.3	2.0	-0.8	-5.8	-3.6
Capital account	<i>bill.CZK</i>	32	99	52	45	13	24	67	95	25	57
	<i>% GDP</i>	0.7	2.1	1.1	0.9	0.2	0.4	1.2	1.6	0.4	0.8
Net lending/borrowing	<i>bill.CZK</i>	40	120	137	124	37	44	180	44	-367	-208
	<i>% GDP</i>	0.9	2.6	2.9	2.4	0.7	0.8	3.2	0.7	-5.4	-2.8
Financial account	<i>bill.CZK</i>	64	173	122	116	61	8	163	11	.	.
Direct investments	<i>bill.CZK</i>	-80	50	-187	-46	-51	-137	-149	-5	.	.
Portfolio investments	<i>bill.CZK</i>	90	-164	-170	-268	30	-105	-136	75	.	.
Financial derivatives	<i>bill.CZK</i>	-6	-5	11	-14	-15	1	11	-58	.	.
Other investments	<i>bill.CZK</i>	-13	-59	-97	-802	47	139	389	-297	.	.
Reserve assets	<i>bill.CZK</i>	73	351	564	1 246	50	110	48	296	.	.
International investment position	<i>bill.CZK</i>	-1 577	-1 523	-1 304	-1 273	-1 320	-1 147	-929	-952	.	.
	<i>% GDP</i>	-36.3	-32.9	-27.2	-24.9	-24.4	-19.8	-16.3	-15.6	.	.
Gross external debt	<i>bill.CZK</i>	2 947	3 119	3 499	4 370	4 413	4 384	4 321	4 471	.	.
	<i>% GDP</i>	67.8	67.4	72.9	85.5	81.6	75.7	75.7	73.2	.	.

Source: CNB, CZSO. Calculations and forecast of the MoF.

Table 3.4.4: Balance of Payments – quarterly*four-quarter moving totals, international investment position and gross external debt – end of period*

		2022				2023			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
					Estimate	Forecast	Forecast	Forecast	Forecast
Goods and services	<i>bill.CZK</i>	100	22	-2	-16	-12	-8	13	50
	<i>% GDP</i>	1.6	0.3	0.0	-0.2	-0.2	-0.1	0.2	0.7
Goods	<i>bill.CZK</i>	-11	-89	-112	-125	-124	-127	-109	-70
	<i>% GDP</i>	-0.2	-1.4	-1.7	-1.8	-1.8	-1.8	-1.5	-1.0
Services	<i>bill.CZK</i>	112	112	110	108	112	119	122	120
	<i>% GDP</i>	1.8	1.7	1.7	1.6	1.6	1.7	1.7	1.6
Primary income	<i>bill.CZK</i>	-201	-209	-313	-342	-346	-337	-306	-294
	<i>% GDP</i>	-3.2	-3.3	-4.7	-5.1	-5.0	-4.8	-4.3	-4.0
Secondary income	<i>bill.CZK</i>	-33	-38	-38	-33	-31	-27	-23	-21
	<i>% GDP</i>	-0.5	-0.6	-0.6	-0.5	-0.4	-0.4	-0.3	-0.3
Current account	<i>bill.CZK</i>	-131	-225	-352	-391	-388	-372	-316	-265
	<i>% GDP</i>	-2.1	-3.5	-5.3	-5.8	-5.6	-5.3	-4.4	-3.6
Capital account	<i>bill.CZK</i>	91	79	52	25	33	41	49	57
	<i>% GDP</i>	1.5	1.2	0.8	0.4	0.5	0.6	0.7	0.8
Net lending/borrowing	<i>bill.CZK</i>	-40	-146	-300	-367	-356	-331	-267	-208
	<i>% GDP</i>	-0.6	-2.3	-4.5	-5.4	-5.2	-4.7	-3.7	-2.8
Financial account	<i>bill.CZK</i>	-77	-222	-375	.	.	.	.	.
Direct investments	<i>bill.CZK</i>	-54.7	-61.7	-77.9	.	.	.	.	.
Portfolio investments	<i>bill.CZK</i>	137	337	265	.	.	.	.	.
Financial derivatives	<i>bill.CZK</i>	-65	-75	-92	.	.	.	.	.
Other investments	<i>bill.CZK</i>	-480	-706	-333	.	.	.	.	.
Reserve assets	<i>bill.CZK</i>	386	283	-137	.	.	.	.	.
International investment position	<i>stock in bill.CZK</i>	-1 070	-1 160	-1 442	.	.	.	.	.
	<i>% GDP</i>	-17.1	-18.1	-21.8	.	.	.	.	.
Gross external debt	<i>stock in bill.CZK</i>	4 631	4 585	4 341	.	.	.	.	.
	<i>% GDP</i>	73.9	71.4	65.7	.	.	.	.	.

Source: CNB, CZSO. Calculations and forecast of the MoF.

4 Survey of Other Institutions' Forecasts

On average, the institutions surveyed estimate that Czech GDP will grow by 0.1% in 2023 and that the growth will accelerate to 2.9% in 2024. According to their forecasts, the average inflation rate should reach 10.0% this year and slow to 3.2% next year. The growth rate of the average wage could rise to 8.4% this year and decelerate to 5.8% next year. The current account of the balance of payments is expected to reach a deficit of 2.7% and 1.9% of GDP in 2023 and 2024, respectively.

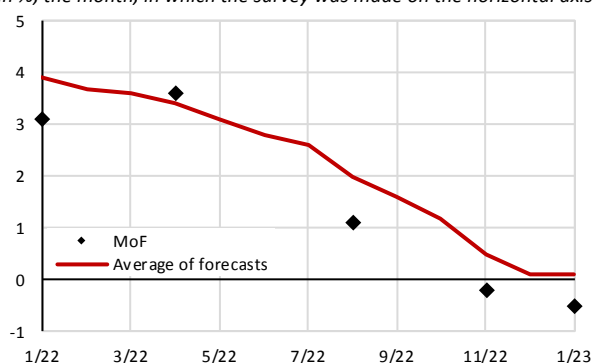
When assessing the differences between the current forecast of the MoF and the average of the projections of individual institutions, it is necessary to consider the date of preparation of individual forecasts and the information available to their authors.

In connection with the impact of the ongoing war in Ukraine and the continuing exceptionally strong growth in the cost of living, the MoF expects the Czech economy to contract by 0.5% this year. However, it expects the

economy to grow by 3.0% next year, similar to the institutions surveyed. The forecast for the inflation rate does not differ significantly from the average of the surveyed forecasts. However, the MoF expects a higher inflation rate for 2023 and 2024 in view of the current information on the possible development of inflationary pressures within the Czech economy (see Chapter 3.2). Inflation rate will still be above the upper boundary of the tolerance band around the CNB's inflation target. Compared with the forecasts of the institutions surveyed, the MoF expects the average wage to grow more slowly in 2023. The MoF's forecast for next year is in line with the average of the projections. The forecast of a deeper deficit on the current account of the balance of payments this year is based mainly on the previous and expected evolution of the balance of goods, which is affected by the persistent problems of export-oriented industry and, in particular, high prices of imported commodities.

Graph 4.1: Forecasts for Real GDP Growth in 2023

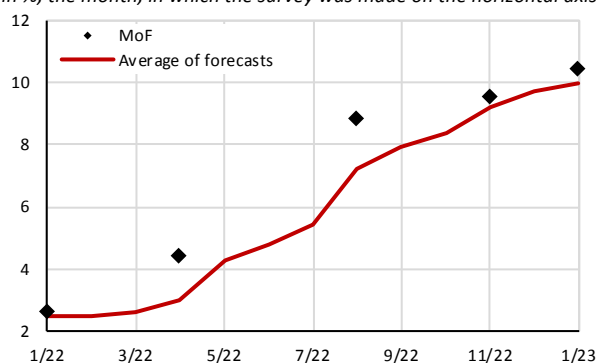
in %; the month, in which the survey was made on the horizontal axis



Source: Forecasts of individual institutions. Calculations of the MoF.

Graph 4.2: Forecasts for Average Inflation Rate in 2023

in %; the month, in which the survey was made on the horizontal axis



Source: Forecasts of individual institutions. Calculations of the MoF.

Table 4.1: Summary of the Surveyed Forecasts

			January 2023			January 2023
			min.	max.	average	MoF forecast
Gross domestic product (2023)	growth in %, const.pr.		-0.7	1.5	0.1	-0.5
Gross domestic product (2024)	growth in %, const.pr.		1.8	3.9	2.9	3.0
Average inflation rate (2023)	%		8.6	12.0	10.0	10.4
Average inflation rate (2024)	%		2.0	4.6	3.2	3.8
Average monthly wage (2023)	growth in %		5.3	12.2	8.4	7.5
Average monthly wage (2024)	growth in %		4.2	7.5	5.8	5.8
Current account / GDP (2023)	%		-3.2	-2.0	-2.7	-3.6
Current account / GDP (2024)	%		-3.1	-1.0	-1.9	-1.9

Note: The survey is based on publicly available forecasts of 11 institutions, of which 7 institutions are domestic (Czech Banking Association, CNB, Ministry of Labour and Social Affairs, domestic banks) and the remaining are foreign entities (European Commission, OECD, IMF, The Economist). In the case of GDP, no difference is being made between working-day adjusted and unadjusted forecasts.

Source: Forecasts of individual institutions. Calculations and forecast of the MoF.

5 International Comparison

Due to the economic recovery after a slump in 2020, GDP per capita in current purchasing power parity terms increased in 2021 in all countries surveyed (see Table 5.1), most notably in Croatia and Estonia. In 2021, the purchasing power parity of the Czech currency compared to the EU27 was 19.22 CZK/PPS, and 18.22 CZK/EUR compared to the EA19. In the same year, the relative economic level of the Czech Republic in current purchasing power parity declined slightly to 87% of the euro area average. Due to the impact of the Russian invasion of Ukraine, the Czech economy could further decrease to 85% of the EA19 average economic performance in 2022 and 83% in 2023, respectively.

Czech GDP per capita in **exchange rate** terms rose to EUR 22,300 in 2021, equivalent to around 62% of the average level of euro area countries, to which the Czech economy should slowly converge in the coming years. Given high inflation and appreciation of the domestic currency, it could reach 67% of the EA19 average in 2023.

In 2021, **actual individual consumption** per capita in current purchasing power parity terms in the Czech Republic remained at around 78% of the euro area average. Due to strong growth in consumer prices and subdued consumption, we estimate that the relative level vis-à-vis the EA19 fell slightly last year. However, despite persistently high inflation, it could return to 78% of the euro area average this year.

After a slight decline in 2020, the **comparative price level of GDP**, expressed as the ratio of GDP in purchasing power parity to GDP in exchange rate terms, rose again in 2021, to 71% of the euro area average. We estimate that it could rise to 80% in 2023 due to the inflation differential and the appreciation of the koruna.

In 2021, **average earnings** in current purchasing power parity terms remained at 74% of the euro area average, mainly as a result of persistent labour shortages, wage increases and epidemic-related exceptional bonus payments in selected parts of the general government sector, and further increases in the minimum and guaranteed wages.

The explanation of the differences in relative economic performance compared to the euro area average in 2021 is summarised in Graph 5.21, which decomposes GDP per capita in purchasing power parity into hourly labour productivity, average hours worked, the employment rate of people of working age (20–64), and the effect of demographic factors.

In 2021, all countries surveyed (countries listed in Tables 5.1 and 5.2), except for France, experienced an increase in hourly **labour productivity**. While labour productivity in France or Germany remains well above the EA19 average over the long term, in the new EU Member States it is still several tens of percent below the euro area average. In 2021, labour productivity in the Czech Republic was 72% of the EA19 average, while it was higher only in Slovenia (77%) among the new EU Member States.

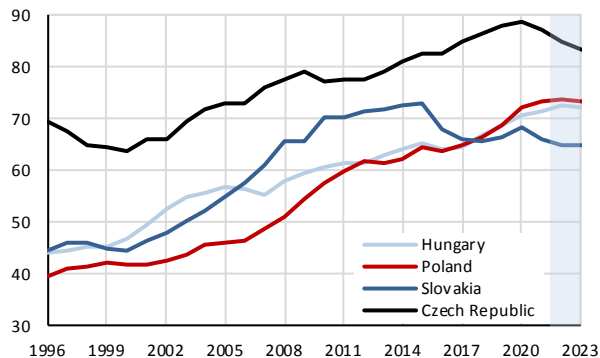
The **average number of hours worked** per worker in 2021 has increased in all countries surveyed. In general, the average number of hours worked in the new Member States is higher than the euro area average, with a difference of 13% in the Czech Republic in 2021.

The countries under review differ considerably in the **ratio of employed people to the working-age population** (20–64 years). Countries with high rates of structural unemployment, such as Spain or Italy, have long been below the euro area average. The Czech Republic is above the euro area average (by 5% in 2021) thanks to very dynamic employment growth until 2019, limited labour market effects of the epidemic, and an increase in the effective retirement age.

As the population has aged over the last decade, the share of the working-age population captured by the **demographic component** has declined in almost all countries. Although the level of the demographic component in the Czech Republic is about 2% above the EA19 average, given demographic developments, no significant improvement can be expected over the forecast horizon.

Graph 5.1: GDP per Capita in Current PPP

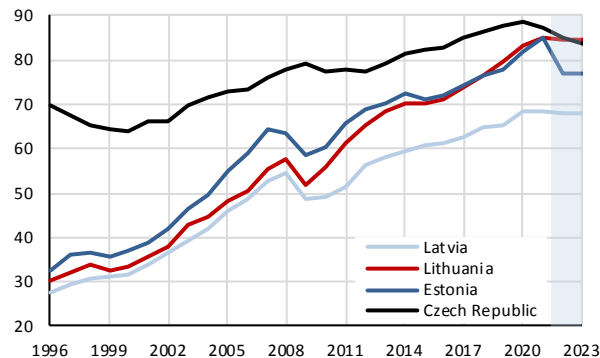
EA19=100



Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

Graph 5.2: GDP per Capita in Current PPP

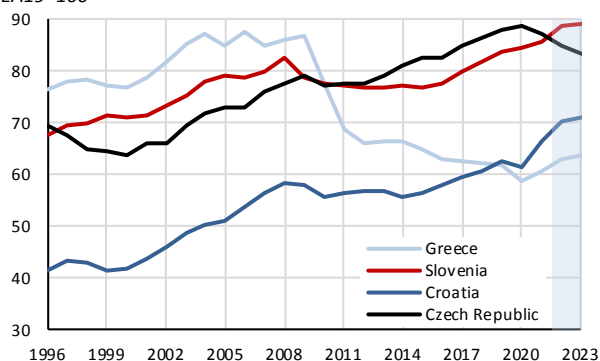
EA19=100



Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

Graph 5.3: GDP per Capita in Current PPP

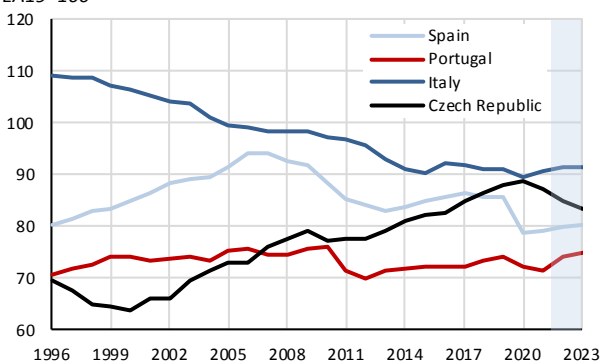
EA19=100



Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

Graph 5.4: GDP per Capita in Current PPP

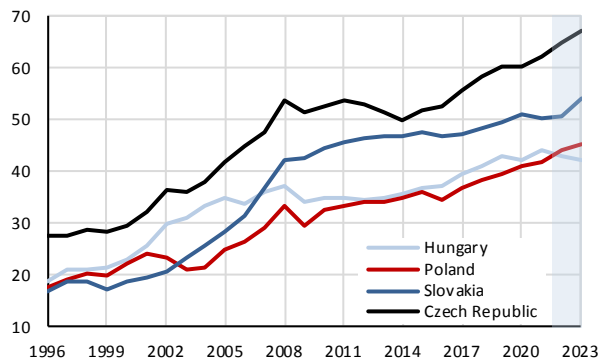
EA19=100



Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

Graph 5.5: Exchange Rate Adjusted GDP per Capita

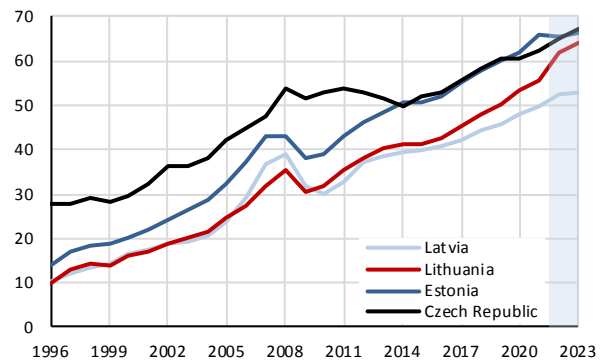
EA19=100



Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

Graph 5.6: Exchange Rate Adjusted GDP per Capita

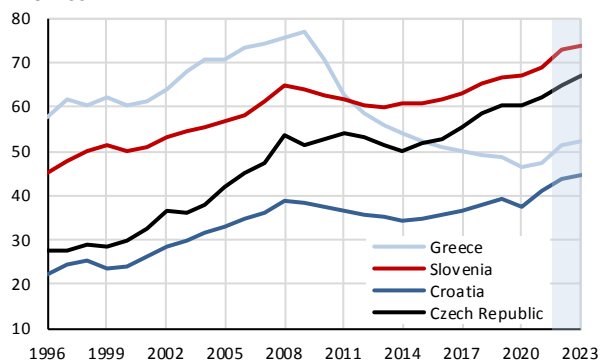
EA19=100



Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

Graph 5.7: Exchange Rate Adjusted GDP per Capita

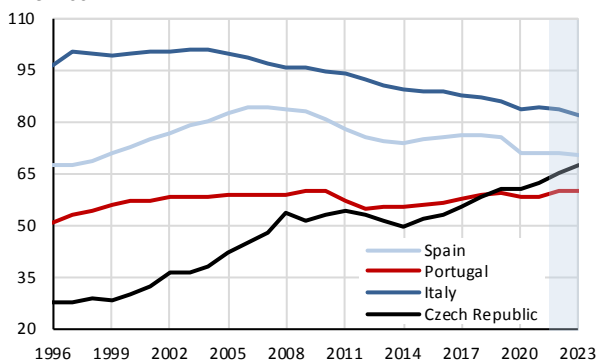
EA19=100



Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

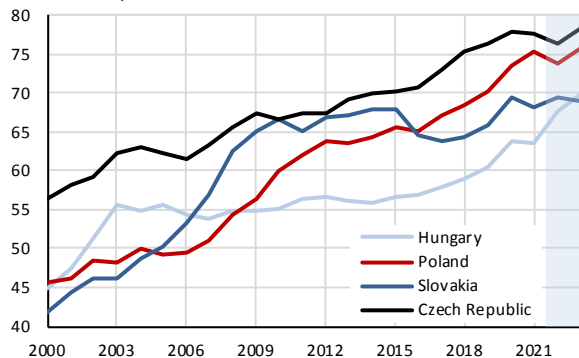
Graph 5.8: Exchange Rate Adjusted GDP per Capita

EA19=100



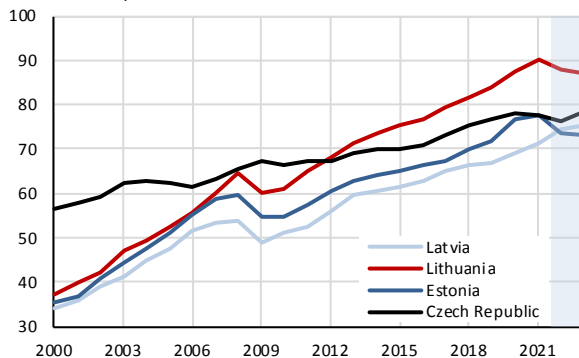
Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

Graph 5.9: Actual Individual Consumption per Capita
in current PPP, EA19=100



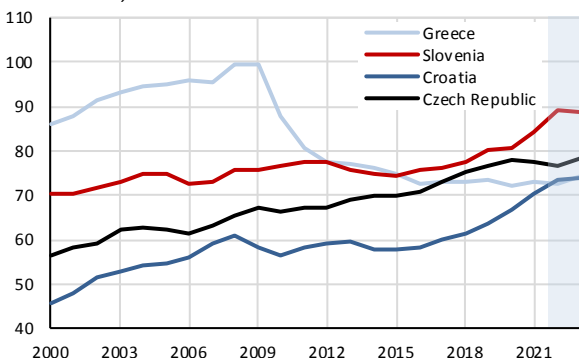
Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

Graph 5.10: Actual Individual Consumption per Capita
in current PPP, EA19=100



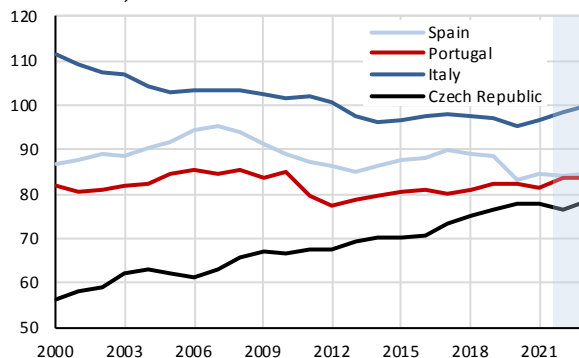
Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

Graph 5.11: Actual Individual Consumption per Capita
in current PPP, EA19=100



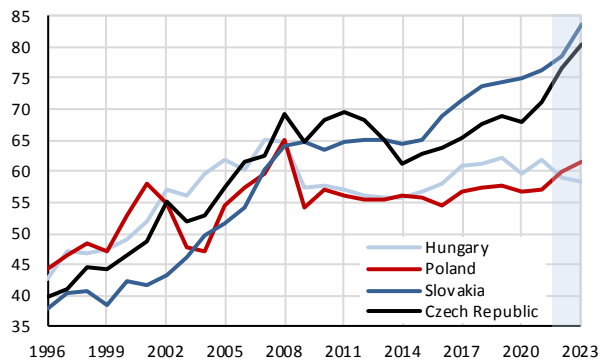
Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

Graph 5.12: Actual Individual Consumption per Capita
in current PPP, EA19=100



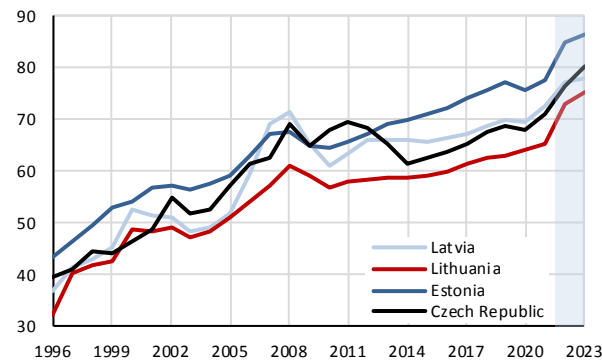
Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

Graph 5.13: Comparative Price Level of GDP
EA19=100



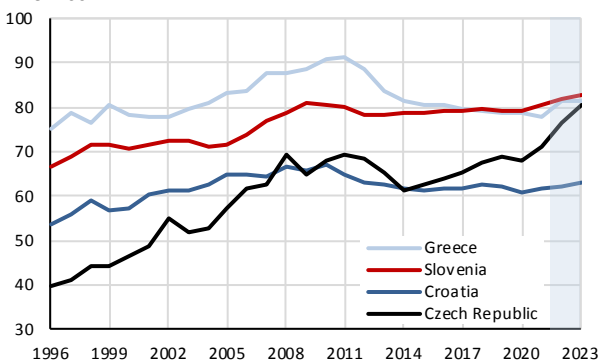
Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

Graph 5.14: Comparative Price Level of GDP
EA19=100



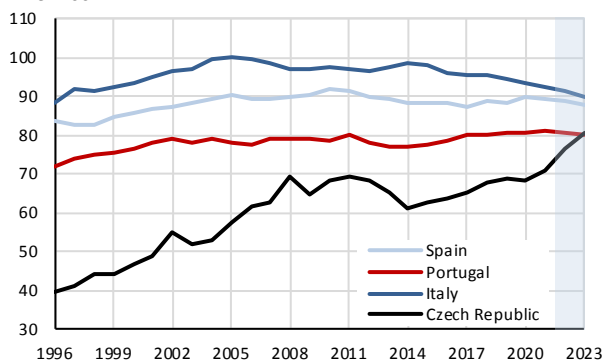
Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

Graph 5.15: Comparative Price Level of GDP
EA19=100



Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

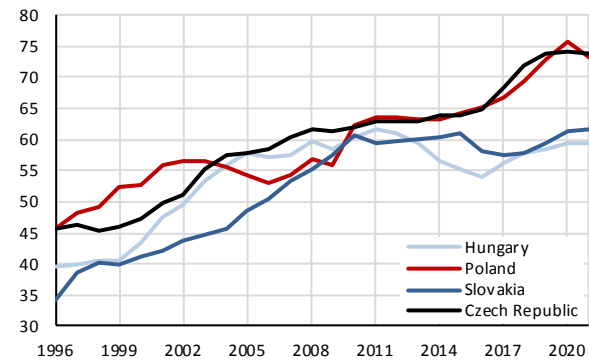
Graph 5.16: Comparative Price Level of GDP
EA19=100



Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

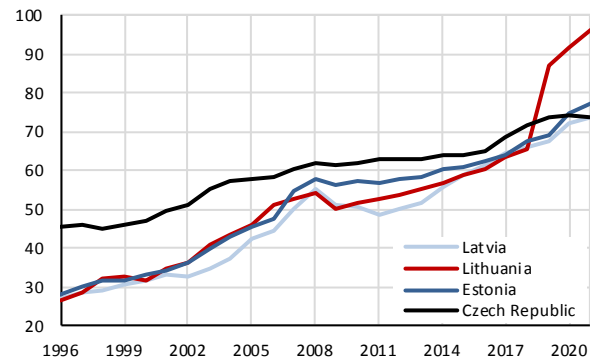
Graph 5.17: Average Earnings in Current PPP

EA19=100



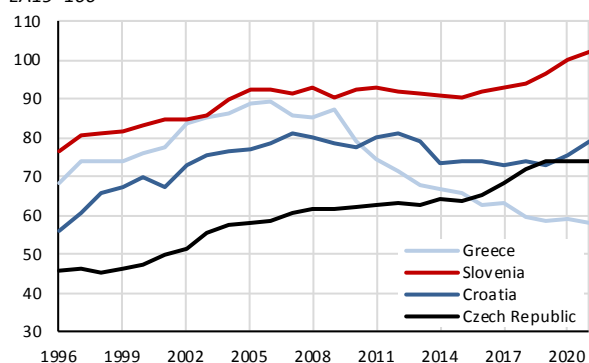
Graph 5.18: Average Earnings in Current PPP

EA19=100



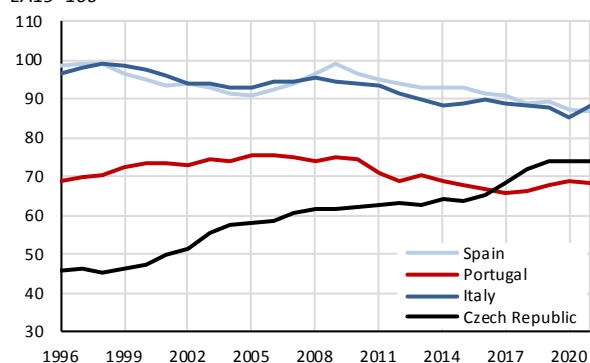
Graph 5.19: Average Earnings in Current PPP

EA19=100



Graph 5.20: Average Earnings in Current PPP

EA19=100



Graph 5.21: Current PPP Adjusted GDP per Capita Level Relative to the EA19 Average in 2020

in percentage points

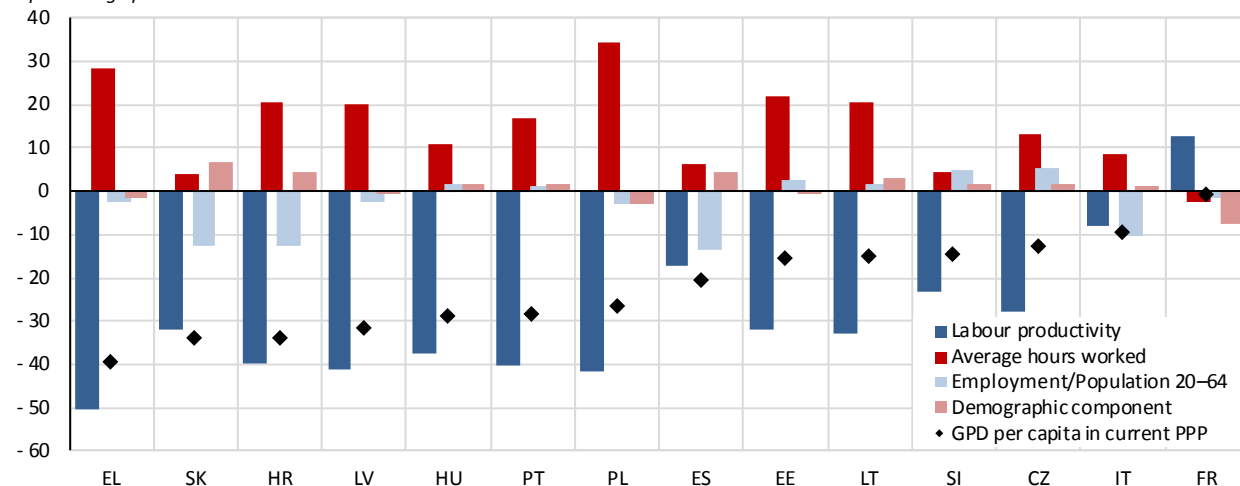


Table 5.1: GDP per Capita in Current Purchasing Power Parity

		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
											<i>Estimate Forecast</i>
Austria	<i>PPS</i>	35 000	35 900	36 600	37 200	38 600	39 400	37 500	39 800	43 100	45 200
	<i>EA19=100</i>	122	121	121	119	120	119	119	117	118	118
Germany	<i>PPS</i>	33 700	34 200	35 100	36 500	37 400	37 900	37 000	39 000	41 100	43 100
	<i>EA19=100</i>	117	116	116	116	116	114	117	115	113	112
France	<i>PPS</i>	28 800	29 400	29 800	30 500	31 400	33 100	31 300	33 800	36 100	38 000
	<i>EA19=100</i>	100	99	98	97	97	100	99	99	99	99
Italy	<i>PPS</i>	26 100	26 700	28 000	28 800	29 400	30 200	28 300	30 900	33 300	35 100
	<i>EA19=100</i>	91	90	92	92	91	91	89	91	91	91
Czech Republic	<i>PPS</i>	23 300	24 400	25 100	26 700	27 900	29 200	28 000	29 700	31 000	32 100
	<i>EA19=100</i>	81	82	83	85	86	88	89	87	85	83
Slovenia	<i>PPS</i>	22 100	22 700	23 600	25 100	26 500	27 800	26 800	29 200	32 400	34 300
	<i>EA19=100</i>	77	77	78	80	82	84	85	86	89	89
Lithuania	<i>PPS</i>	20 200	20 700	21 500	23 200	24 700	26 400	26 300	29 000	30 900	32 500
	<i>EA19=100</i>	70	70	71	74	76	79	83	85	85	85
Estonia	<i>PPS</i>	20 700	21 000	21 700	23 300	24 700	25 800	25 800	28 800	28 100	29 500
	<i>EA19=100</i>	72	71	72	74	77	78	82	85	77	77
Spain	<i>PPS</i>	24 000	25 100	25 900	27 200	27 600	28 500	24 900	27 000	29 200	30 900
	<i>EA19=100</i>	84	85	86	87	86	86	79	79	80	80
Poland	<i>PPS</i>	17 900	19 000	19 300	20 300	21 500	22 800	22 900	25 000	26 900	28 200
	<i>EA19=100</i>	62	64	64	65	66	69	72	73	74	73
Portugal	<i>PPS</i>	20 600	21 300	22 000	22 700	23 700	24 600	22 900	24 300	27 100	28 800
	<i>EA19=100</i>	72	72	72	72	73	74	72	72	74	75
Hungary	<i>PPS</i>	18 400	19 300	19 400	20 300	21 600	22 900	22 400	24 300	26 600	27 800
	<i>EA19=100</i>	64	65	64	65	67	69	71	71	73	72
Latvia	<i>PPS</i>	17 100	18 000	18 600	19 700	20 900	21 700	21 600	23 300	24 800	26 100
	<i>EA19=100</i>	59	61	61	63	65	65	68	69	68	68
Croatia	<i>PPS</i>	16 000	16 800	17 600	18 700	19 600	20 800	19 500	22 600	25 600	27 300
	<i>EA19=100</i>	56	57	58	59	61	63	62	66	70	71
Slovakia	<i>PPS</i>	20 800	21 600	20 700	20 700	21 300	22 100	21 600	22 500	23 700	24 900
	<i>EA19=100</i>	72	73	68	66	66	66	68	66	65	65
Greece	<i>PPS</i>	19 100	19 200	19 100	19 600	20 100	20 600	18 600	20 700	23 000	24 500
	<i>EA19=100</i>	66	65	63	63	62	62	59	61	63	64

Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

Table 5.2: Exchange Rate Adjusted GDP per Capita

		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
											Estimate Forecast
Austria	EUR	39 000	39 900	40 900	42 000	43 600	44 700	42 700	45 400	49 900	52 600
	EA19=100	129	128	129	127	128	128	128	126	130	130
	Comparative price level	EA19=100	106	106	107	107	108	108	108	110	110
Germany	EUR	36 100	37 000	38 100	39 500	40 600	41 800	40 900	43 300	46 000	48 900
	EA19=100	120	119	120	120	119	119	123	121	120	121
	Comparative price level	EA19=100	102	103	103	103	105	105	105	106	108
France	EUR	32 400	33 000	33 400	34 200	35 000	36 000	34 000	36 700	38 500	40 400
	EA19=100	108	106	105	104	103	103	102	102	100	100
	Comparative price level	EA19=100	107	107	107	107	106	103	103	101	101
Italy	EUR	27 000	27 500	28 200	28 900	29 600	30 100	27 900	30 100	32 100	33 200
	EA19=100	90	88	89	88	87	86	84	84	83	82
	Comparative price level	EA19=100	98	98	96	96	95	94	93	91	90
Spain	EUR	22 200	23 200	24 000	25 000	25 800	26 400	23 600	25 500	27 300	28 500
	EA19=100	74	75	75	76	76	76	71	71	71	70
	Comparative price level	EA19=100	88	88	88	87	89	88	90	89	88
Slovenia	EUR	18 300	18 800	19 600	20 800	22 100	23 200	22 400	24 800	28 000	30 000
	EA19=100	61	61	62	63	65	66	67	69	73	74
	Comparative price level	EA19=100	79	79	79	79	80	79	79	81	83
Estonia	EUR	15 200	15 700	16 500	18 100	19 700	21 000	20 700	23 600	25 200	26 900
	EA19=100	51	51	52	55	58	60	62	66	65	66
	Comparative price level	EA19=100	70	71	72	74	76	77	76	85	86
Czech Republic	EUR	15 000	16 100	16 800	18 300	19 900	21 100	20 200	22 300	25 000	27 200
	EA19=100	50	52	53	56	58	60	60	62	65	67
	Comparative price level	EA19=100	61	63	64	65	68	69	68	77	80
Portugal	EUR	16 600	17 400	18 100	19 000	20 000	20 800	19 500	20 800	23 000	24 400
	EA19=100	55	56	57	58	59	60	58	58	60	60
	Comparative price level	EA19=100	77	77	78	80	80	80	81	80	80
Lithuania	EUR	12 500	12 900	13 600	14 900	16 200	17 500	17 800	20 000	23 800	25 900
	EA19=100	41	41	43	45	48	50	53	56	62	64
	Comparative price level	EA19=100	59	59	60	61	63	63	64	73	75
Slovakia	EUR	14 100	14 800	15 000	15 600	16 500	17 300	17 100	18 100	19 600	22 000
	EA19=100	47	48	47	47	49	49	51	50	51	54
	Comparative price level	EA19=100	65	65	69	72	74	74	75	78	84
Latvia	EUR	11 800	12 400	12 900	13 900	15 100	16 000	15 900	17 900	20 200	21 500
	EA19=100	39	40	41	42	45	46	48	50	52	53
	Comparative price level	EA19=100	66	66	66	67	69	70	73	77	78
Greece	EUR	16 300	16 300	16 200	16 400	16 700	17 100	15 500	17 000	19 700	21 100
	EA19=100	54	52	51	50	49	49	46	47	51	52
	Comparative price level	EA19=100	81	81	81	80	79	79	78	81	82
Hungary	EUR	10 800	11 500	11 800	13 000	13 900	15 000	14 100	15 800	16 500	17 100
	EA19=100	36	37	37	39	41	43	42	44	43	42
	Comparative price level	EA19=100	56	57	58	61	61	62	62	59	58
Poland	EUR	10 600	11 200	11 100	12 100	13 000	13 900	13 700	15 100	17 000	18 300
	EA19=100	35	36	35	37	38	40	41	42	44	45
	Comparative price level	EA19=100	56	56	54	57	58	57	57	60	62
Croatia	EUR	10 400	10 800	11 300	12 100	12 900	13 700	12 500	14 700	16 900	18 100
	EA19=100	34	35	36	37	38	39	37	41	44	45
	Comparative price level	EA19=100	62	61	62	62	63	62	61	62	63

Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

Table 5.3: Actual Individual Consumption per Capita in Current Purchasing Power Parity

		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
											<i>Estimate Forecast</i>
Austria	<i>PPS</i>	23 000	23 400	23 600	24 100	24 800	25 200	23 900	25 500	27 800	29 200
	<i>EA19=100</i>	118	117	116	115	115	115	115	115	114	115
Germany	<i>PPS</i>	22 200	22 500	23 100	23 700	24 300	24 600	23 700	24 700	27 000	27 900
	<i>EA19=100</i>	114	113	113	113	113	112	114	112	111	109
France	<i>PPS</i>	20 100	20 400	20 800	21 200	21 700	22 700	21 800	23 300	25 300	26 500
	<i>EA19=100</i>	103	103	102	101	101	103	105	105	104	104
Italy	<i>PPS</i>	18 800	19 200	19 900	20 500	20 900	21 300	19 800	21 400	24 000	25 500
	<i>EA19=100</i>	96	97	98	98	97	97	95	97	99	100
Lithuania	<i>PPS</i>	14 400	15 000	15 600	16 600	17 500	18 400	18 200	20 000	21 300	22 200
	<i>EA19=100</i>	74	75	77	79	82	84	88	90	88	87
Spain	<i>PPS</i>	16 900	17 500	17 900	18 800	19 100	19 500	17 300	18 700	20 500	21 500
	<i>EA19=100</i>	87	88	88	90	89	89	83	84	84	84
Slovenia	<i>PPS</i>	14 600	14 800	15 400	16 000	16 700	17 600	16 800	18 600	21 600	22 700
	<i>EA19=100</i>	75	74	76	76	78	80	81	84	89	89
Portugal	<i>PPS</i>	15 600	16 000	16 400	16 800	17 400	18 100	17 100	18 000	20 400	21 300
	<i>EA19=100</i>	87	88	88	90	89	89	83	84	84	84
Czech Republic	<i>PPS</i>	13 700	14 000	14 400	15 300	16 200	16 800	16 200	17 200	18 600	20 000
	<i>EA19=100</i>	70	70	71	73	75	76	78	78	76	78
Estonia	<i>PPS</i>	12 600	13 000	13 500	14 100	15 000	15 700	15 900	17 200	17 900	18 700
	<i>EA19=100</i>	64	65	66	67	70	72	77	78	74	73
Poland	<i>PPS</i>	12 600	13 100	13 300	14 100	14 700	15 400	15 300	16 700	17 900	19 400
	<i>EA19=100</i>	64	66	65	67	68	70	74	75	74	76
Greece	<i>PPS</i>	14 900	14 900	14 800	15 300	15 700	16 200	15 000	16 100	17 700	19 000
	<i>EA19=100</i>	76	75	72	73	73	74	72	73	73	74
Latvia	<i>PPS</i>	11 800	12 300	12 800	13 600	14 300	14 600	14 400	15 800	18 000	19 200
	<i>EA19=100</i>	60	62	63	65	66	67	69	71	74	75
Croatia	<i>PPS</i>	11 300	11 500	11 900	12 600	13 200	14 000	13 800	15 500	17 900	18 900
	<i>EA19=100</i>	58	58	58	60	61	64	67	70	74	74
Slovakia	<i>PPS</i>	13 300	13 500	13 200	13 400	13 800	14 500	14 400	15 100	16 900	17 600
	<i>EA19=100</i>	68	68	65	64	64	66	69	68	70	69
Hungary	<i>PPS</i>	10 900	11 300	11 600	12 100	12 700	13 300	13 300	14 100	16 400	17 900
	<i>EA19=100</i>	56	57	57	58	59	61	64	64	68	70

Source: AMECO, CZSO, Eurostat. Calculations and forecast of the MoF.

Ministry of Finance of the Czech Republic
Economic Policy Department
Letenska 15
118 10 Prague 1

<http://www.mfcr.cz/en>

