

Ministry of Finance
of the Czech Republic

Macroeconomic Forecast of the Czech Republic

November 2021

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The Macroeconomic Forecast is prepared by the Economic Policy Department of the Czech Ministry of Finance. It contains a forecast for the years 2021 and 2022 and for certain indicators an outlook for 2 following years (i.e. until 2024). 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

Any comments or suggestions that would help us improve the quality of our publication and closer satisfy the needs of its users are welcome. Please send any comments to the following email address:

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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
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 forecast is based on the data known as of 29 October 2021; the cut-off date for selected forecast assumptions was 5 October 2021.

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 (August 2021) are indicated by italics. Data relating to the years 2023 and 2024 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 vaccination against COVID-19, the relaxation of anti-epidemic restrictions and the strong economic policy stimulus in the developed world have boosted global economic growth. In countries with high vaccination coverage, the new coronavirus mutations have so far had little impact, but elsewhere they have slowed economic dynamism and exacerbated problems in global supply chains. Sharp increases in the prices of shipping and commodities, including energy, as well as hitherto loose monetary and fiscal policies, have been reflected in accelerating inflation across all price categories, including consumer prices.

The very open Czech economy, with a high share of car production in value added, is highly vulnerable in this respect. Problems on the supply side of the economy are reinforcing the unfavourable inflationary developments, lead to a slowdown in the economic recovery after the coronavirus epidemic and contribute to a decrease in the current account surplus.

In Q2 2021, **real gross domestic product** of the Czech Republic, adjusted for seasonal and calendar effects, increased by 1.0% QoQ. The 8.8% year-on-year growth was affected by the extremely low base of Q2 2021. In Q3 2021, the economy grew by 1.4% QoQ, according to the preliminary estimate of the Czech Statistical Office.

Annual growth in Q2 was largely driven by **household consumption**, which rose by 7.7%. This was due both to a very dynamic increase in real disposable income and to the loosening of anti-epidemic restrictions, which, together with higher consumer confidence, resulted in a decline in the savings rate. **General government consumption** rose by 3.1%, driven by increased health spending as well as employment growth.

Gross fixed capital formation was 4.9% higher. The most significant increases were in investment in housing and in machinery and equipment, including vehicles. From a sectoral perspective, private sector investment was crucial, but the government sector also contributed positively to growth.

The **change in inventories** and valuables also provided a significant boost to the economy (contribution of 2.5 pp), which was related to restocking of inventories and an increase in stocks of work in progress. The contribution of the **foreign trade** balance was 0.8 pp.

In the forecast, we work with the **scenario** that both the vaccination of the population and the high number of people who have already had COVID-19 should prevent the need to adopt macroeconomically significant anti-epidemic restrictions. On the other hand, the adverse effects of rising input prices and disruptions in production chains should persist in the remainder of this year and early next year.

The expected **2.5% growth** in economic output **this year** should be driven by all components of domestic demand, most notably household consumption, inventory change and fixed capital investment. While problems in global supply chains should have a significant negative impact on exports, rising fixed investment and inventories should further support imports. The external trade balance should thus slow economic growth sharply.

In 2022, economic **growth** could reach **4.1%** thanks to a continued recovery in private consumption and fixed investment and a more favourable contribution from the external trade balance.

Accelerating **inflation** is becoming a major macroeconomic concern. Annual inflation was 4.9% in September 2021. Inflationary pressures are therefore much stronger than expected in the August macroeconomic forecast. High energy and other commodity prices are gradually feeding through to other prices. Supply-side problems are proving to be a major factor in inflation, while demand is still supported by very loose monetary and fiscal policy. Moreover, economic performance is likely to be above its potential next year. The accumulation of these factors leads us to raise our forecast for the average inflation rate to 3.5% in 2021 and 6.1% in 2022.

Despite the end of the government's employment support measures, there has been no increase in **unemployment** – the seasonally adjusted unemployment rate (Labour Force Survey) was 0.5 pp lower in August 2021 than at its peak in March. The effect of the easing of anti-epidemic restrictions and the impact of strong labour demand in some sectors, especially in industry, clearly prevailed. The unemployment rate is expected to average 3.0% in 2021 and could fall to 2.7% in 2022 thanks to the economic recovery.

The **current account of the balance of payments** showed a substantial surplus of 3.4% of GDP in Q2 2021, reflecting the peak of the surplus of goods balance driven by strong external demand for capital goods. However, in the second half of the year, the trade surplus is expected to decline significantly due to production shutdowns in the export-oriented automotive industry resulting from component shortages, and strong import dynamics for investment purposes. At the same time, the profitability of foreign-controlled enterprises can be expected to recover and the primary income deficit to widen. We therefore expect a slightly negative balance on the current account this year and next.

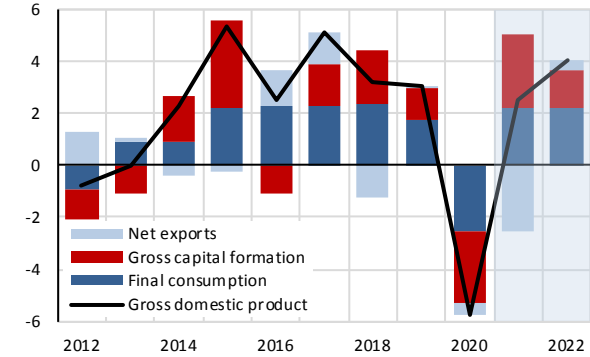
The general government sector's performance in 2021 is heavily weighed down by the situation triggered by the coronavirus epidemic, its economic consequences and the measures implemented in the health sector and

the stimulus fiscal policy. Expansionary fiscal policy is expected to lead to a deficit of 7.2% of GDP and a rise in debt to 43.3% of GDP. In 2022 the general government balance should no longer be affected by the effects of

the adopted anti-epidemic measures, and fiscal consolidation should start at the same time. We therefore estimate that the overall deficit will reach 4.4% of GDP, with debt rising to 46.2% of GDP.

The recovery driven by domestic demand

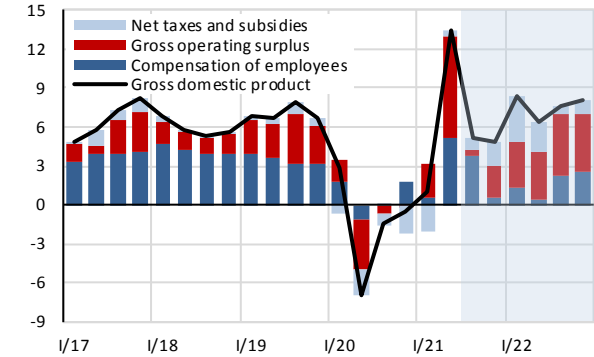
growth rate of real GDP in %, contributions in percentage points



Source: CZSO. Calculations and forecast of the MoF.

Firms' profits growing faster than nominal GDP

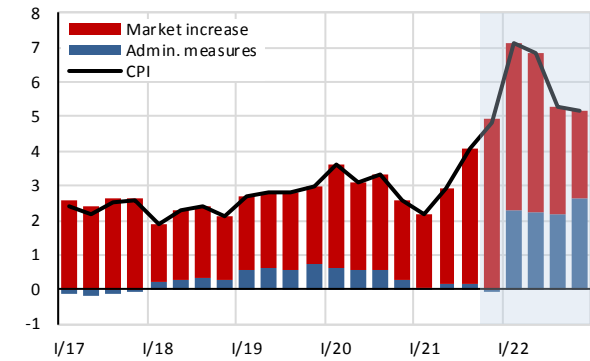
YoY growth of nominal GDP in %, contributions in percentage points



Source: CZSO. Calculations and forecast of the MoF.

Inflation well above the CNB's 2% target also next year

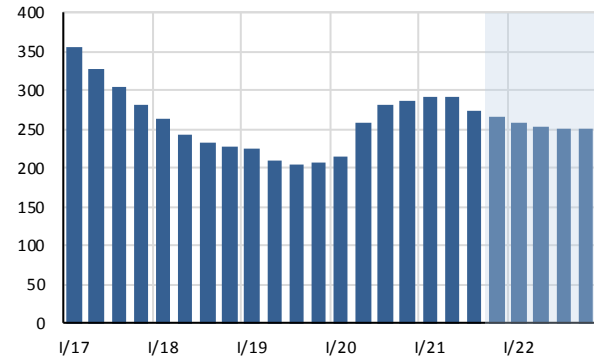
YoY growth rate of CPI in %, contributions in percentage points



Source: CZSO. Calculations and forecast of the MoF.

Unemployment should gradually decline

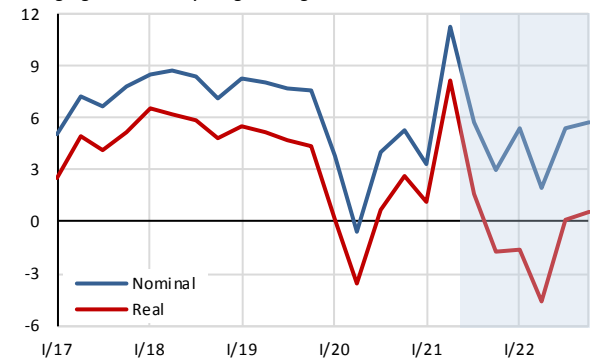
registered unemployment, in thous. of persons, seasonally adjusted



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

Wage growth should temporarily lag behind inflation

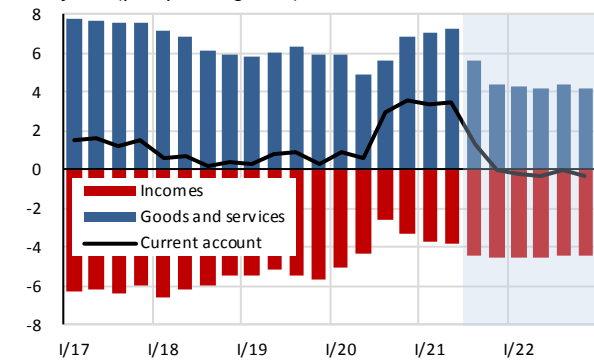
average gross monthly wage, YoY growth rate, in %



Source: CZSO. Calculations and forecast of the MoF.

Current account should be almost balanced

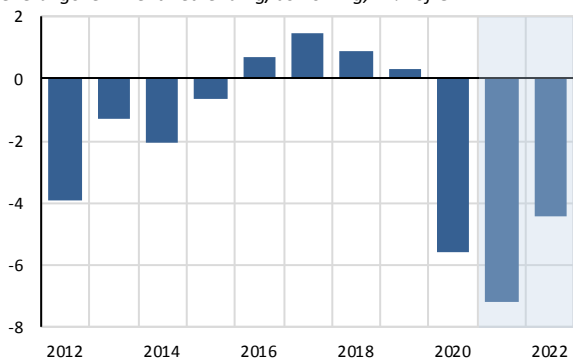
in % of GDP (yearly moving sums)



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

Public finances burdened by fiscal expansion

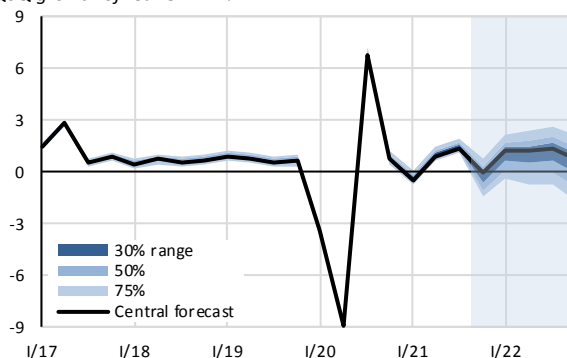
general government net lending/borrowing, in % of GDP



Source: CZSO. Calculations and forecast of the MoF.

Forecast risks are skewed to the downside

QoQ growth of real GDP in %



Note: Past probability distribution determined by data revisions.

Source: CZSO. Calculations and forecast of the MoF.

Table: Main Macroeconomic Indicators

		2016	2017	2018	2019	2020	2021	2022	2021	2022	
								Current forecast		Previous forecast	
Nominal GDP	bill. CZK	4 797	5 111	5 410	5 790	5 695	6 038	6 498	6 048	6 431	
	nominal growth in %	3.7	6.5	5.8	7.0	-1.7	6.0	7.6	6.2	6.3	
Gross domestic product	real growth in %	2.5	5.2	3.2	3.0	-5.8	2.5	4.1	3.2	4.2	
Consumption of households	real growth in %	3.8	4.0	3.5	2.7	-6.8	3.7	4.7	2.3	5.5	
Consumption of government	real growth in %	2.5	1.8	3.8	2.5	3.4	2.3	0.4	2.4	0.4	
Gross fixed capital formation	real growth in %	-3.0	4.9	10.0	5.9	-7.2	4.6	5.4	6.0	4.9	
Contribution of net exports	pp	1.4	1.2	-1.2	0.0	-0.5	-2.5	0.4	-0.6	0.3	
Contrib. of change in inventories	pp	-0.3	0.5	-0.5	-0.3	-0.9	1.6	0.0	0.7	0.0	
GDP deflator	growth in %	1.1	1.3	2.6	3.9	4.4	3.4	3.4	2.9	2.1	
Average inflation rate	%	0.7	2.5	2.1	2.8	3.2	3.5	6.1	3.2	3.5	
Employment (LFS)	growth in %	1.9	1.6	1.4	0.2	-1.3	-0.5	0.8	-1.0	0.4	
Unemployment rate (LFS)	average in %	4.0	2.9	2.2	2.0	2.6	3.0	2.7	3.0	2.7	
Wage bill (domestic concept)	growth in %	5.7	9.2	9.6	7.8	0.2	5.3	5.1	2.9	3.9	
Current account balance	% of GDP	1.8	1.5	0.4	0.3	3.6	-0.1	-0.3	1.1	0.5	
General government balance	% of GDP	0.7	1.5	0.9	0.3	-5.6	-7.2	-4.4	-7.7	-5.0	
Assumptions:											
Exchange rate CZK/EUR		27.0	26.3	25.6	25.7	26.4	25.6	25.0	25.7	25.3	
Long-term interest rates	% p.a.	0.4	1.0	2.0	1.5	1.1	1.9	2.7	2.0	2.6	
Crude oil Brent	USD/barrel	44	54	71	64	42	70	72	69	68	
GDP in the euro area	real growth in %	1.8	2.8	1.8	1.6	-6.5	5.0	3.9	4.9	4.3	

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

Forecast Risks and Uncertainty

The macroeconomic forecast is weighed down by a number of risks that we consider to be **skewed to the downside** in aggregate.

Persistent problems in **global supply chains** are contributing to inflationary pressures and are already a significant barrier to output growth in selected sectors. Due to shortages of key inputs, some firms are temporarily reducing or even completely suspending production. We expect the situation to improve gradually during the first half of next year, after which the problems in supply chains should no longer dampen economic growth to any significant extent. However, the risk is that component shortages extend deeper into 2022.

Once the disruptions in supply chains subside, upward pressures on the price level should ease. Even then, however, the risk of **inflation expectations** remaining significantly above the CNB's target and thus of a more vigorous increase in interest rates is likely to persist.

The development of the **epidemic situation** in the Czech Republic and abroad is also a negative risk. The forecast is based on the assumption that macroeconomically significant anti-epidemic restrictions will no longer be necessary due to the vaccination of the population against COVID-19 and the high number of people who have contracted the disease. However, the emergence and spread of new coronavirus mutations against which available vaccines may be less effective remains a risk.

It will also be crucial whether and how quickly **structural changes** will take place in the economy. The available data suggest that the imbalances that characterised the labour market before the outbreak are beginning to reappear to a greater extent after a short pause. If there was a downturn and more lay-offs in some sectors (e.g. in sectors hit hard by the crisis), insufficient matching between supply and demand – in the case of a mismatch between the skill structure of jobseekers and the requirements of employers – could push up unemployment. At the same time, this factor would limit the growth of firms in promising sectors as they would face a shortage of workers. Labour market tensions could boost **wage dynamics**, which could thus grow faster than forecast. This is particularly relevant at the outlook hori-

zon, when the strong increase in the prices of many production inputs should already have subsided.

In the medium and long term, in view of demographic developments, it will remain crucial to increase **labour productivity**. At the same time, labour market problems could spur **investment** in automation, robotics and digital technologies. Gross fixed capital formation could thus grow even faster than forecast. Given the high involvement of Czech firms in global supply chains, their shift to higher value-added positions (either towards the initial R&D phase or the sales phase of the final product) would also be an important impetus for productivity growth.

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 the same time, households could use these funds, at least in part, to finance **deferred consumption**. As a result, the recovery in household consumption could be more dynamic than forecast. On the other hand, it could be hampered, especially for low-income households, by a stronger-than-expected increase in the cost of living.

The downturn in economic activity and the associated deterioration in the financial situation of some households and firms did not lead to a significant increase in the volume of non-performing loans. However, **overvaluation of residential property prices** 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 latter factor is a current problem for the automotive industry, as some companies are temporarily limiting or completely suspending production due to a lack of inputs. The risks are also exacerbated by the structural changes that will take place in the automotive industry due to the gradual tightening of emission standards. However, the transition to alternative propulsion will require huge investments in technology development, machinery and equipment or infrastructure. An impact on employment or supplier-customer relations can also be expected.

1 Forecast Assumptions

1.1 External Environment

The improvement in the pandemic situation, progress in vaccination, government support schemes, as well as the easing of anti-epidemic restrictions and the subsequent realisation of deferred consumption have led to strong economic recovery in a number of countries in Q2 2021. However, problems in supply chains began to escalate in the third quarter, with a significant impact on manufacturing. The automotive industry was strongly affected. At the same time, global inflationary pressures are intensifying and uncertainties remain about the future course of the pandemic and the effectiveness of vaccines. Although the outlook is fraught with significant risks, the **global economy** could grow by 5.8% in 2021 and by 4.5% in 2022 (*unchanged in both years*).

The **US** economy grew by 1.6% QoQ in Q2 2021. Household consumption, which was supported by the ongoing economic recovery and government stimulus measures, contributed significantly to GDP growth. In the third quarter, GDP increased by 0.5% (*versus 3.0%*), according to the flash estimate.

Despite the visible effects of the coronavirus crisis, the labour market improved further in September. The unemployment rate fell to 4.8%, with the participation rate almost unchanged. Significant job gains were recorded in the leisure and hospitality, in professional and business services and in retail trade.

Annual inflation had been almost stagnant for the fourth consecutive month, having stood at 5.4% in September. However, the Fed did not decide at its September meeting to reduce asset purchases, nor raise the federal funds rate, which was maintained within the target range of 0.00–0.25%.

Retail sales rose 13.9% YoY in September. The manufacturing purchasing managers' index fell in October, but remains in expansion territory. Manufacturing output has been hampered by shortages of material and high input costs due to ongoing problems in supply chains. The services purchasing managers' index rose. Consumer confidence declined in October after a slight increase in September.

Given the considerably loose fiscal and monetary policy and the economic recovery, we expect US economic output to increase by 5.4% (*vs. 6.7%*) this year and by 3.0% (*vs. 3.9%*) next year. The USD 1 trillion infrastructure bill under discussion (about 5% of 2020 GDP) and the massive investment plan to rebuild the economy, proposed at USD 1.75 trillion (about 8% of 2020 GDP), could also have a positive impact on US economic growth. Persistent problems in supply chains and high

inflation rate, as well as increasing tensions in US-China trade relations, pose significant risks to the forecast.

China's GDP grew by 0.2% QoQ (*vs. 0.6%*) in Q3 2021. Due to higher consumption related to the containment of the COVID-19 outbreaks in parts of the country, retail sales increased 4.4% YoY in September. The services purchasing managers' index returned to expansionary territory in September on the back of easing anti-epidemic measures and growth in new orders and employment after a decrease in August. The manufacturing purchasing managers' index also increased due to growth in new orders, but remained near 50 points, at a level indicating stable conditions in the sector.

China's GDP growth could reach 7.8% in 2021 (*vs. 7.9%*), slowing to 4.7% in 2022 (*vs. 4.9%*). Economic growth could be negatively affected not only by the reintroduction of restrictive measures against the spread of the coronavirus, but also by widespread power outages in many parts of the country caused by coal shortages, high foreign demand for Chinese goods and China's climate policy. The situation of some major property developers in debt problems presents a risk as well.

In Q2 2021, the quarter-on-quarter GDP growth in **the European Union** accelerated to 2.0% and to 2.1% in the euro area. Household consumption was the major growth factor. General government final consumption and gross fixed capital formation also contributed to growth positively. The contribution of foreign trade was near zero. According to the preliminary estimate, GDP grew by 2.1% (*vs. 2.0%*) in the EU and by 2.2% (*vs. 2.1%*) in the euro area in Q3 2021.

Price dynamics accelerated significantly in the euro area during Q3 2021. Annual inflation reached 3.4% in September and accelerated further to 4.1% in October, according to the preliminary estimate. A jump in fuel and energy prices, caused by tight gas supplies and rising emissions allowances prices, significantly contributed to the increase in the price level. The European Central Bank's monetary policy did not undergo any major changes, with the key interest rate remaining at zero. Asset purchases continue, but should gradually slow down, starting in Q4 2021.

The unemployment rate in the euro area continued to be on a downward trend, reaching 7.5% in August. Purchasing managers' indices in services and manufacturing fell slightly again in October, and consumer confidence also declined in the context of the worsening economic outlook. Retail sales in the euro area rose by 0.3% month-on-month in August. In the same period, industrial production fell by 1.6% over the previous month.

We expect GDP of the European Union to increase by 4.9% (vs. 4.8%) this year and by 3.9% (vs. 4.4%) in 2022. The euro area economy could grow by 5.0% (vs. 4.9%) in 2021 and 3.9% (vs. 4.3%) next year. These expectations reflect, among others, persistent supply-side problems and a projected slower recovery in household consumption due to rising price levels. The forecast is weighed down by high uncertainty related to developments in supply chains and semiconductor shortages, which have a significant impact on the automotive industry. High energy price increases might have a negative impact on the manufacturing and household sectors.

Germany's economy grew by 1.9% QoQ in Q2 2021, driven mainly by a rebound in consumption of households (thanks to the improvement in the epidemic situation and the easing of austerity measures) and of the general government. In contrast, foreign trade dampened the growth momentum. As per preliminary data, household consumption was also the dominant factor behind the 1.8% (vs. 3.3%) GDP growth in Q3 2021.

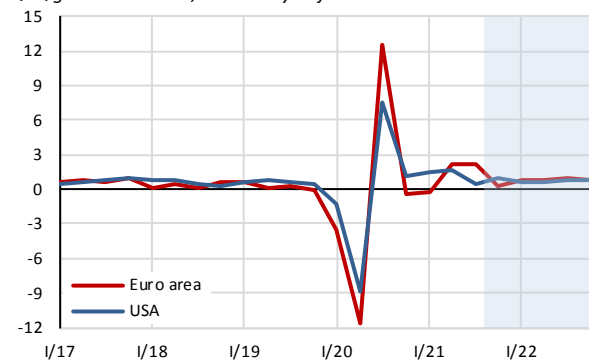
The situation in industry remains tense, with output falling by 4.0% month-on-month in August. Despite strong demand and growth in new orders, the recovery in manufacturing is being hit by a shortage of input materials and components. This is reflected in sharp increase in

prices and contributed, among other things, to a further decline in the manufacturing purchasing managers' index in September. In October, its value was virtually unchanged. The services purchasing managers' index and business confidence also declined over the same period. Consumer confidence, on the other hand, was the highest since April 2020. Given the increased intensity of the supply chains problems and unexpectedly high inflation, we expect that Germany's GDP could grow by 2.8% (vs. 3.3%) this year. In 2022, economic growth could accelerate to 3.9% (vs. 4.2%).

In **Slovakia**, GDP increased by 2.1% QoQ (vs. 1.8%) in Q2 2021. Household consumption, final consumption expenditure of the general government and fixed capital investment contributed significantly to GDP growth. The external trade balance dampened the dynamics noticeably, mainly due to a fall in exports. Industrial production fell by 3.8% month-on-month in August. The unemployment rate decreased further to 6.5%. In addition to supply chain disruptions, the development of the epidemic is also a major risk to the Slovak economy due to the low vaccination coverage. Given the importance of the automotive industry for the country and the above-mentioned risks, we lower the GDP growth forecast to 3.8% (vs. 4.6%) in 2021 and to 4.0% (vs. 4.9%) in 2022.

Graph 1.1.1: Real GDP in the euro area and USA

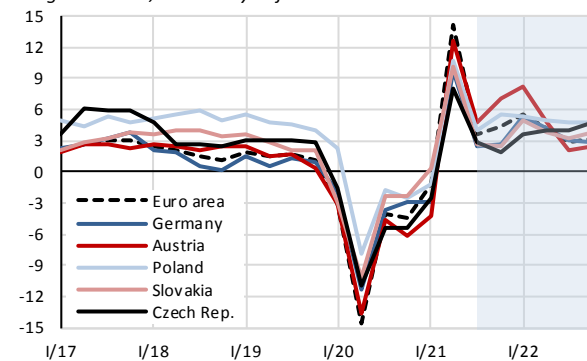
QoQ growth rate in%, seasonally adjusted



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

Graph 1.1.2: Real Gross Domestic Product

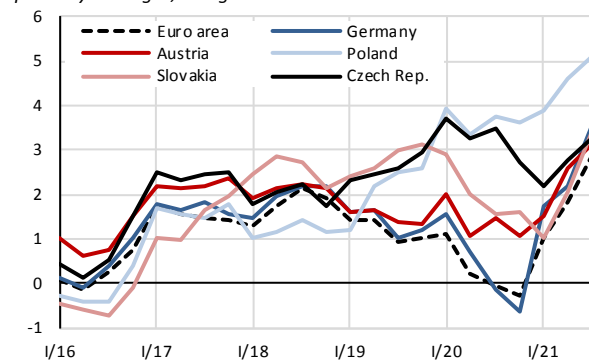
YoY growth in %, seasonally adjusted



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

Graph 1.1.3: HICP

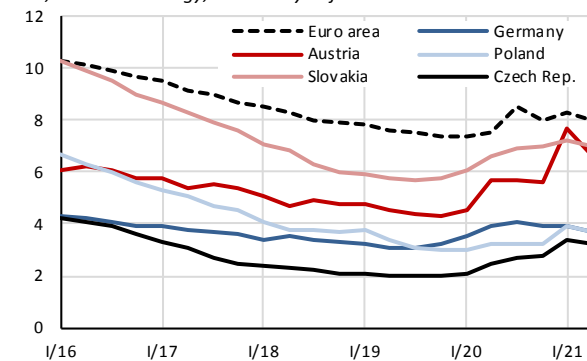
quarterly averages, YoY growth in %



Source: Eurostat. Calculations of the MoF.

Graph 1.1.4: Unemployment Rate

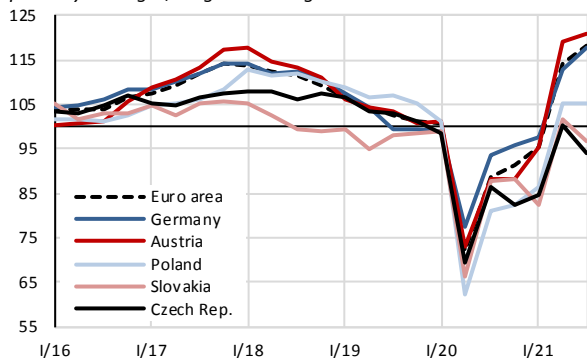
in %, LFS methodology, seasonally adjusted



Source: Eurostat.

Graph 1.1.5: Economic Sentiment Indicator

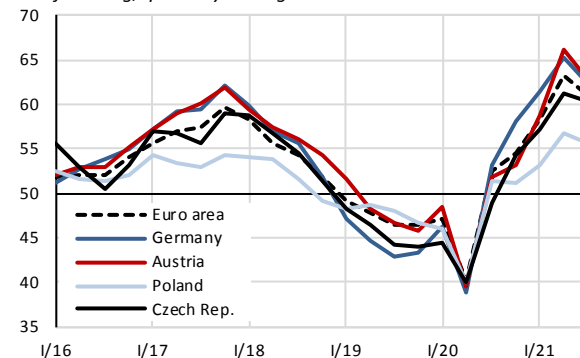
quarterly averages, long-run average = 100



Source: Eurostat. Calculations of the MoF.

Graph 1.1.6: Purchasing Managers' Index

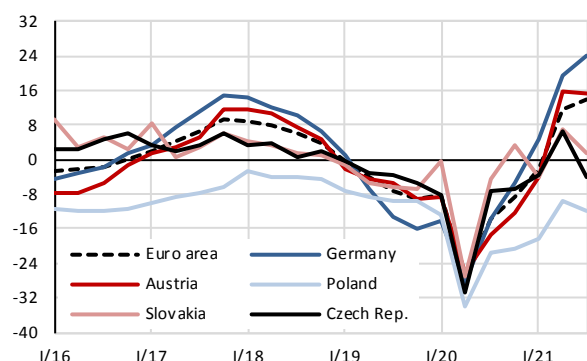
manufacturing, quarterly averages



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); seasonally adjusted index of 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 %

		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
											Forecast	Forecast
World	seasonally adjusted	3.5	3.6	3.5	3.3	3.8	3.6	2.8	-3.3	5.8	4.5	
USA	seasonally adjusted	1.8	2.3	2.7	1.7	2.3	2.9	2.3	-3.4	5.4	3.0	
China	seasonally adjusted	7.8	7.4	7.3	6.9	7.0	6.7	5.9	2.2	7.8	4.7	
United Kingdom	seasonally adjusted	1.9	3.0	2.6	2.3	2.1	1.7	1.7	-9.7	6.6	4.5	
European Union	seasonally adjusted	0.0	1.6	2.2	2.0	2.9	2.1	1.8	-6.1	4.9	3.9	
	unadjusted	0.0	1.6	2.3	2.0	2.8	2.1	1.8	-5.9	.	.	
Euro area	seasonally adjusted	-0.2	1.4	1.9	1.8	2.8	1.8	1.6	-6.5	5.0	3.9	
	unadjusted	-0.2	1.4	2.0	1.9	2.6	1.8	1.6	-6.4	.	.	
Germany	seasonally adjusted	0.6	2.2	1.2	2.1	3.0	1.1	1.1	-4.9	2.8	3.9	
	unadjusted	0.4	2.2	1.5	2.2	2.7	1.1	1.1	-4.6	2.9	4.0	
France	seasonally adjusted	0.6	1.0	1.0	1.0	2.4	1.8	1.8	-8.0	6.6	3.8	
	unadjusted	0.6	1.0	1.1	1.1	2.3	1.9	1.8	-7.9	6.7	3.8	
Italy	seasonally adjusted	-1.9	0.1	0.7	1.4	1.7	0.8	0.4	-9.0	6.1	3.9	
	unadjusted	-1.8	0.0	0.8	1.3	1.7	0.9	0.4	-8.9	6.1	3.8	
Austria	seasonally adjusted	0.0	0.8	0.9	2.0	2.4	2.4	1.5	-6.8	4.8	4.3	
	unadjusted	0.0	0.7	1.0	2.0	2.3	2.5	1.5	-6.7	4.8	4.3	
Hungary	seasonally adjusted	1.8	4.1	3.7	2.2	4.4	5.4	4.6	-4.8	6.8	5.0	
	unadjusted	1.8	4.2	3.7	2.2	4.3	5.4	4.6	-4.7	6.8	5.0	
Poland	seasonally adjusted	1.1	3.4	4.2	3.2	4.9	5.4	4.8	-2.5	4.7	5.0	
	unadjusted	1.1	3.4	4.2	3.1	4.8	5.4	4.7	-2.5	4.6	5.0	
Slovakia	seasonally adjusted	0.7	2.7	5.2	1.9	3.0	3.8	2.6	-4.4	3.8	4.0	
Czech Republic	seasonally adjusted	0.0	2.3	5.5	2.4	5.4	3.2	3.0	-5.8	2.4	4.1	
	unadjusted	0.0	2.3	5.4	2.5	5.2	3.2	3.0	-5.8	2.5	4.1	

Source: CZSO, Eurostat, IMF, NBS China, 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

		2020				2021			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
							Estimate	Forecast	
USA	QoQ	-1.3	-8.9	7.5	1.1	1.5	1.6	0.5	0.9
	YoY	0.6	-9.1	-2.9	-2.3	0.5	12.2	4.9	4.7
China	QoQ	-9.5	10.7	2.9	3.2	0.2	1.2	0.2	0.5
	YoY	-5.7	3.1	4.7	6.4	17.8	7.7	4.9	2.1
United Kingdom	QoQ	-2.7	-19.6	17.4	1.1	-1.4	5.5	1.0	0.6
	YoY	-2.2	-21.4	-8.1	-7.1	-5.8	23.6	6.2	5.7
European Union	QoQ	-3.1	-11.3	11.8	-0.2	-0.1	2.0	2.1	0.3
	YoY	-2.5	-13.7	-3.9	-4.1	-1.2	13.7	3.9	4.4
Euro area	QoQ	-3.5	-11.7	12.6	-0.4	-0.3	2.1	2.2	0.3
	YoY	-3.0	-14.5	-4.0	-4.4	-1.2	14.2	3.6	4.4
Germany	QoQ	-1.8	-10.0	9.0	0.7	-1.9	1.9	1.8	0.8
	YoY	-1.9	-11.3	-3.7	-2.9	-3.0	9.9	2.6	2.6
France	QoQ	-5.7	-13.5	18.5	-1.1	0.1	1.3	3.0	0.1
	YoY	-5.4	-18.6	-3.6	-4.3	1.5	18.8	3.3	4.5
Italy	QoQ	-5.7	-13.1	15.9	-1.7	0.2	2.7	2.6	0.1
	YoY	-5.8	-18.2	-5.4	-6.6	-0.8	17.2	3.8	5.7
Austria	QoQ	-2.5	-11.5	11.0	-2.0	-0.5	4.0	3.3	0.2
	YoY	-3.0	-13.7	-4.5	-6.1	-4.2	12.6	4.8	7.1
Hungary	QoQ	-0.2	-14.0	10.4	1.9	1.6	2.9	0.6	0.4
	YoY	1.9	-13.0	-4.6	-3.6	-1.7	17.6	7.1	5.7
Poland	QoQ	0.0	-9.3	7.9	-0.4	1.4	1.6	1.4	1.0
	YoY	2.2	-7.9	-1.8	-2.5	-1.1	10.8	4.1	5.5
Slovakia	QoQ	-3.9	-7.1	9.0	0.5	-1.4	2.1	1.5	0.4
	YoY	-2.9	-10.1	-2.2	-2.3	0.3	10.2	2.6	2.5
Czech Republic	QoQ	-3.4	-8.9	6.8	0.7	-0.4	1.0	1.4	0.0
	YoY	-1.5	-10.9	-5.4	-5.3	-2.5	8.1	2.8	1.9

Source: CZSO, Eurostat, NBS China, OECD, Office for National Statistics. Calculations and forecast of the MoF.

1.2 Commodity Prices

The **Brent crude oil** price averaged USD 74/bbl in Q3 2021 (vs. USD 73/bbl). Year-on-year, it increased by more than 70% due to the base effect, and by more than 60% in koruna terms.

The Organization of Petroleum Exporting Countries and other affiliates continued to gradually ease production limits in Q3 2021. Their agreement in early October brought confirmation of a further increase in daily oil production, by 0.4 million barrels each month.

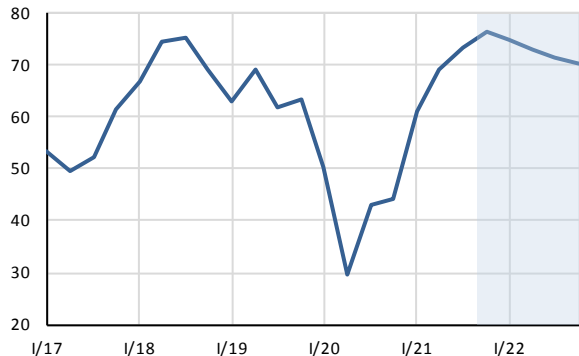
In addition to rising global oil production, oil consumption has continued to increase as the world economy has recovered. The United States Energy Information Administration estimates that crude oil production stocks declined from Q3 2020 to Q3 2021, but starting in Q4 2021, global oil production should roughly match consumption. This should create the conditions for a stable price.

However, on the futures market, oil with later delivery is trading cheaper than oil with closer delivery. The forecast Brent crude oil price reflects this downward curve in futures prices, which is, however, set slightly higher compared to the August macroeconomic forecast. In 2021, the average price of a barrel of crude oil should be 67% higher than in 2020, i.e. USD 70 (vs. USD 69), and in 2022 it should reach USD 72 (vs. USD 68). The rise in the koruna oil price should be dampened by the appreciation of the Czech koruna against the US dollar in 2021 (see Graph 1.2.2).

The strong upward trend seen in **commodity markets** since Q4 2020 has broken down for food and metal prices in Q3 2021, according to World Bank data. However, energy commodity prices continued to rise strongly during Q3. High commodity prices are gradually being reflected in consumer prices.

Graph 1.2.1: Dollar Price of Brent Crude Oil

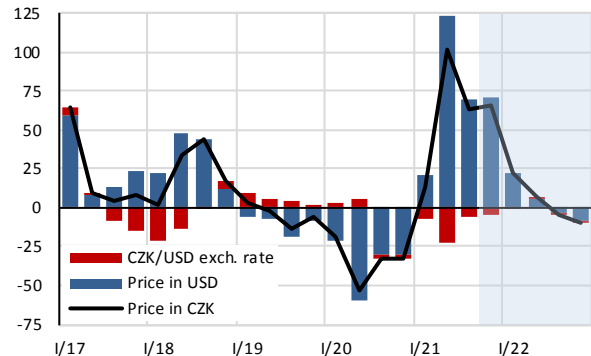
USD/barrel



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

		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
											Forecast	Forecast
Crude oil Brent	USD/barrel	108.6	99.0	52.4	43.6	54.2	71.4	64.3	41.8	70	72	
	growth in %	-2.6	-8.8	-47.1	-16.9	24.3	31.7	-9.9	-35.0	67.4	3.5	
Crude oil Brent index (in CZK)	2010=100	139.9	134.6	85.0	70.1	83.1	102.2	97.1	63.6	99	102	
	growth in %	-2.7	-3.8	-36.9	-17.4	18.5	23.0	-5.0	-34.6	56.0	2.8	
Natural gas (Europe)	USD/MMBtu	11.8	10.1	6.8	4.6	5.7	7.7	4.8	3.2	.	.	
	growth in %	2.7	-14.7	-32.1	-33.1	25.3	34.4	-37.5	-32.5	.	.	
Natural gas (Europe) index (in CZK)	2010=100	145.9	131.7	106.2	70.7	84.2	106.0	69.6	47.1	.	.	
	growth in %	2.6	-9.8	-19.4	-33.4	19.2	25.8	-34.3	-32.4	.	.	

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

		2020				2021				
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
										Forecast
Crude oil Brent	USD/barrel	50.3	29.7	42.9	44.3	61.0	69.0	73.5	76	
	growth in %	-20.3	-57.0	-30.7	-30.0	21.3	132.3	71.3	72.4	
Crude oil Brent index (in CZK)	2010=100	77.0	48.0	64.0	65.2	86.9	96.6	104.7	108	
	growth in %	-18.0	-53.8	-32.2	-32.3	12.9	101.2	63.7	66.1	
Natural gas (Europe)	USD/MMBtu	3.1	1.8	2.9	5.2	6.5	8.8	16.9	.	
	growth in %	-49.8	-57.6	-25.1	5.1	111.2	383.8	489.4	.	
Natural gas (Europe) index (in CZK)	2010=100	45.4	28.2	41.1	73.5	89.3	118.2	231.7	.	
	growth in %	-48.4	-54.5	-26.8	1.7	96.5	319.0	463.2	.	

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

1.3 Fiscal Policy

In 2020, the general government sector recorded a deficit of CZK 318.0 billion, or 5.6% of GDP. The balance adjusted for the effects of the business cycle and one-off or other temporary measures reached -2.5% of GDP. By revising the data for 2020, the CZSO improved the overall balance by CZK 29.9 billion, due to the revenue side with a positive adjustment of income taxes, especially corporate income tax (+ CZK 26.9 billion).

According to the current forecast, the general government is expected to end 2021 with a deficit of 7.2% of GDP (vs. 7.7% of GDP), which will be mainly attributable to the state budget. Local governments are likely to post a surplus again, helped by an adjustment to the tax assignment. By contrast, we estimate a deficit for social security funds, despite a further increase in the payment for the state insured persons. The estimate of the accrual outcome this year is supported by the cash performance of the state budget, state funds, local governments and health insurance companies, as well as by national accounts data for the first two quarters of the year. On the contrary, the year-on-year worse cash performance of the state budget for the first 10 months of the year (CZK -335 billion) is counterbalanced by a significant surplus of local governments (CZK 44.7 billion) at the end of September, as well as a higher surplus of state funds at the same date (CZK 7.1 billion). Health insurance companies ended September with a CZK 6.8 billion deficit, a year-on-year deterioration of CZK 12.2 billion. In terms of the structural balance, expansionary fiscal policy should lead to a deficit of 5.3% of GDP (vs. 6.1% of GDP). Compared to the August Macroeconomic Forecast, we expect higher dynamics of tax revenue, including social security contributions. On the expenditure side, the projected growth rate of cash social benefits has been revised downwards, while we expect higher growth in intermediate consumption and capital transfers.

This year's growth in tax revenues and social security contributions is estimated at 2.2%, while tax revenues themselves are expected to fall by 4.0%, mainly as a result of the approved "2021 tax package". The package brought, among other things, a reduction in the effective personal income tax rate with an estimated impact of CZK 99 billion, which is reflected in an expected 28.3% year-on-year decline in dynamics. For corporate income tax, we expect growth of 2.6% and revenue still below 2019 levels, also due to several measures of the "2021 tax package". Social security contributions are expected to grow by 10.0% year-on-year. Their pace reflects wage and salary growth in the economy, reinforced by the gradual unwinding of measures to mitigate the socio-economic impact of the anti-epidemic restrictions and exceptional remuneration in some parts of the public administration (see below). The increase in the payment for the state insured persons to the public health insurance system contributes to the dynamics of the revenue side by around CZK 30.0 billion, i.e. 1.2 pp.

We forecast growth of 5.4% in value added tax revenue. The autonomous development, driven by a recovery in household consumption and continued growth in the relevant part of government consumption, is being corrected by a number of discretionary measures with negative effects, including a temporary tax waiver on electricity and gas supplies in November and December this year, estimated at CZK 5.4 billion. Excise revenue (excluding renewable energy subsidies) is expected to increase by 5.7%. In particular, changes in tobacco tariffs, estimated at CZK 5.2 billion, will have a positive effect. On the other hand, mineral oil tax revenue is dampened by the reduction in the tax rate on diesel, estimated at CZK 5.6 billion for the full year.

Final consumption expenditure, which is expected to grow by 6.8%, is mainly driven by social transfers in kind, compensation of employees and intermediate consumption. Salary increases concern workers in education, health and social services, while salaries are fixed in other areas. Nevertheless, public sector wages are expected to increase by 5.8%, as they also include exceptional remuneration for workers in health care, social services and the armed forces in the context of the epidemic. The relatively strong growth in social transfers in kind should continue (11.5%). We expect that health spending will still be determined to some extent by the epidemic situation and the vaccination of the population. Intermediate consumption growth is expected to reach 5.6% this year; in addition to higher real consumption (especially in health care), we also account for higher inflation rate.

The 5.4% increase in cash social benefits reflects both the statutory indexation of pension benefits and the adjustment of some benefits supporting families with children, nursing allowances in the event of school closures or child quarantine, and an increase in transfers to public health insurance system.

Fixed capital investment is expected to grow at a rate of 11%, and in terms of financing, we are already expecting the first injection of funds from the Recovery and Resilience Facility.

The support programmes related to COVID-19 are behind the 11.5% increase in subsidies. These are both continuing programmes started in 2020 (mainly the Anti-virus programme) and the form of compensation for business entities approved for this year (COVID-2021 and COVID-Uncovered Costs programmes). Other forms of support, such as the compensation bonus or the tax loss carryback institute, are classified as capital transfers, which are currently forecast to grow by 3.4%.

The deficit performance of general government institutions, especially the state budget, will be reflected in the level of debt, which is expected to reach 43.3% of GDP at the end of the year (vs. 43.5% of GDP). The increase in debt and the projected evolution of interest rates will increase interest costs by 4.9%.

The public finances in 2022 should no longer be affected by the costs of measures effective during the epidemic in 2020 and 2021.

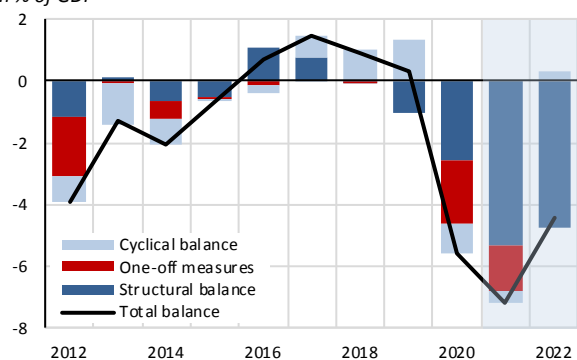
We expect **general government revenue** to grow at a rate of 6.5%, with tax revenue, including social security contributions, around 5%. Improvements in the labour market, household consumption no longer constrained by supply and a decline in the savings rate should have a positive impact on consumption tax revenues. **Value-added tax** is expected to grow at a rate of almost 11%, while **excises** will be boosted by the increase in rates on tobacco products, in addition to the economic recovery. The dynamics of income taxes will continue to be strongly influenced by measures under the “2021 tax package”. In the case of **personal income tax**, there will be a further increase in personal tax credit with an impact of over CZK 12 billion, which is likely to further reduce total tax revenue by 2.1% year-on-year. In contrast, the almost 5% growth in **corporate income tax** is positively affected by the end of extraordinary depreciation, apart from rising corporate profitability. Moreover, in terms of levels, higher-than-expected revenues in 2021 will be reflected.

General government expenditure is expected to grow only moderately, influenced by the high base in 2021. **Final consumption** should be significantly lower, influenced by higher health spending and the payment of extraordinary remuneration, which should not be repeated next year. **Subsidies** and **capital transfers**, which reflect the expiry of support measures during the epidemic, should show a significant negative dynamics. In contrast, **cash social benefits, interest costs** and **investment** have a stronger impact on expenditure growth. In the area of cash social benefits, the increase in pension benefits is mainly driven by both an increase of CZK 300 above the statutory indexation and, very likely, an extraordinary increase due to higher inflation. Interest costs reflect both the rising level of debt and the evolution of yields on issued assets. Investment should be significantly supported by the EU budget, both the upcoming end of the 2014–2020 programming period and new funds from the Next Generation EU instrument.

We therefore forecast the **general government deficit** to fall to -4.4% of GDP (vs. -5.0% of GDP) and the debt to rise to 46.2% of GDP (unchanged).

Graph 1.3.1: General Government Balance

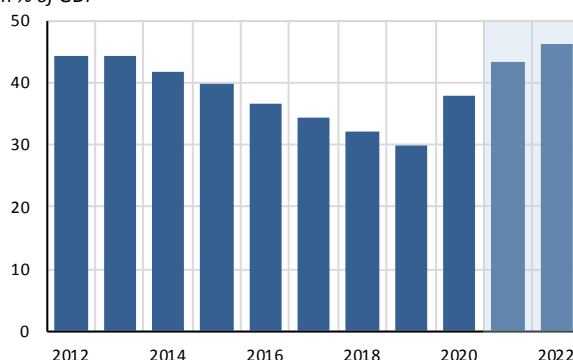
in % of GDP



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

		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
								Forecast	Forecast	Outlook	Outlook
General government balance	% GDP	-0.6	0.7	1.5	0.9	0.3	-5.6	-7.2	-4.4	-3.8	-3.4
	bill. CZK	-30	34	77	49	18	-318	-432	-287	-260	-238
Cyclical balance	% GDP	-0.1	-0.2	0.7	1.0	1.4	-1.0	-0.4	0.3	0.6	0.6
Cyclically adjusted balance	% GDP	-0.6	0.9	0.8	-0.1	-1.1	-4.6	-6.8	-4.8	-4.4	-3.9
One-off measures¹⁾	% GDP	-0.1	-0.1	0.0	-0.1	0.0	-2.1	-1.4	0.0	0.0	0.0
Structural balance	% GDP	-0.5	1.1	0.8	0.0	-1.1	-2.5	-5.3	-4.8	-4.4	-3.9
Fiscal effort²⁾	pp	0.2	1.6	-0.3	-0.8	-1.0	-1.5	-2.8	0.6	0.4	0.5
Interest expenditure	% GDP	1.1	0.9	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.9
Primary balance	% GDP	0.4	1.6	2.2	1.7	1.0	-4.8	-6.4	-3.6	-3.0	-2.5
Cyclically adjusted primary balance	% GDP	0.5	1.9	1.5	0.6	-0.4	-3.9	-6.0	-4.0	-3.5	-3.0
General government debt	% GDP	39.7	36.6	34.2	32.1	30.0	37.7	43.3	46.2	48.9	51.3
	bill. CZK	1 836	1 755	1 750	1 735	1 740	2 149	2 614	3 002	3 324	3 628
Change in debt-to-GDP ratio	pp	-2.2	-3.1	-2.3	-2.2	-2.0	7.7	5.5	2.9	2.7	2.4

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

1.4.1 Monetary Policy

The CNB raised the **two-week repo rate** by 0.25 percentage point in August and by 0.75 percentage point to 1.50% at the end of Q3 2021. This was mainly due to rising domestic and external inflationary pressures amid the economic recovery following the end of most of the restrictive anti-epidemic measures.

Given the relatively high inflation, the interest rate component of monetary conditions was still very loose in Q3 2021. Taking into account the inflation forecast and the expected gradual normalisation of monetary policy interest rates, real interest rates should be stimulative in the remainder of this year and in 2022, albeit at a gradually declining rate next year. The exchange rate component is broadly neutral in 2021, but should again have a slightly restrictive effect for most of 2022. As a result, monetary conditions can be characterised as easy in 2021, with a gradual normalisation during 2022.

1.4.2 Financial Sector and Interest Rates

The **three-month PRIBOR rate** averaged 1.1% in Q3 2021 (vs. 1.2%). With the expected monetary policy settings, it could be 2.3% in Q4 2021 (vs. 1.5%) and 1.0% on average for the whole of 2021 (vs. 0.9%). In 2022, the three-month PRIBOR rate could rise to an average of 2.8% (vs. 2.1%).

Yields to maturity on 10-year government bonds for convergence purposes rose to 1.8% in Q3 2021 (vs. 2.4%). Taking into account the assumed monetary policy settings of the CNB and the ECB, inflation developments and the already virtually zero spread to interbank rates, we believe that long-term interest rates could reach 2.4% in Q4 2021 (vs. 2.5%) and average 1.9% for the whole of 2021 (vs. 2.0%). For 2022, we expect a further slight increase to 2.7% (vs. 2.6%), with a relatively flat yield curve.

During Q3 2021, **lending to households** continued to grow strongly, **increasing by 8.5% YoY**, supported by still low interest rates and the CNB's previous relaxation of its recommendations on managing the risks associated with retail lending secured by residential property. The average customer interest rate on total household loans was

virtually unchanged in Q3, with interest rates on new mortgage loans already rising gradually.

Loans to non-financial corporations were virtually flat year on year in Q3 (up 0.2%). Their growth was driven by koruna-denominated loans, while loans denominated in foreign currencies, on the other hand, dampened their dynamics considerably. In terms of maturity, growth in loans to non-financial corporations was determined by medium-term loans with a maturity of 1–5 years, while long-term loans with a maturity of over 5 years acted in the opposite direction. The average client interest rate on total loans to non-financial corporations increased slightly to 2.9% in September.

The share of non-performing loans in total loans was virtually flat in Q3. Although the financial situation of some households and firms deteriorated as a result of the COVID-19 pandemic, the impact on the quality of banks' loan portfolios was minimal.

1.4.3 Exchange Rates

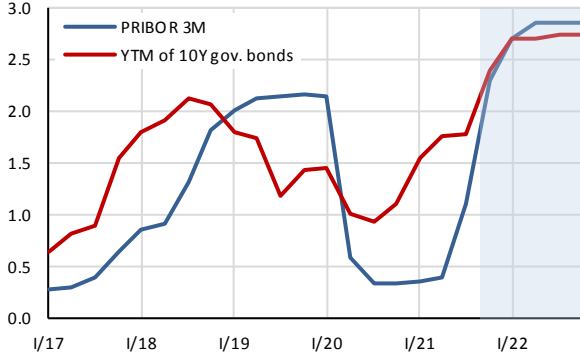
In Q3 2021, the exchange rate of the **koruna** against the euro averaged CZK 25.5/EUR (*against CZK 25.6/EUR*), which meant a year-on-year appreciation of 3.8% (vs. 3.6%). The koruna remains relatively volatile due to the highly instable sentiment on international financial markets.

In Q4 2021, we expect the koruna to appreciate to CZK 25.2/EUR (vs. CZK 25.5/EUR) as a result of monetary policy effects, and to CZK 25.6/EUR (vs. CZK 25.7/EUR) on average for the whole of 2021. In 2022, the koruna could trade at CZK 25.0/EUR (vs. CZK 25.3/EUR) on average. The gradual appreciation should reflect a positive and rising interest rate differential and also an improvement in global sentiment following the stabilisation of the epidemic situation.

The expected exchange rate of the koruna against the US dollar is implied by the USD/EUR exchange rate, for which an assumption had been adopted of stability at the average of the last 10 days preceding the cut-off date for selected forecast assumptions, i.e. USD/EUR 1.17 (vs. USD/EUR 1.18).

Graph 1.4.1: Interest Rates

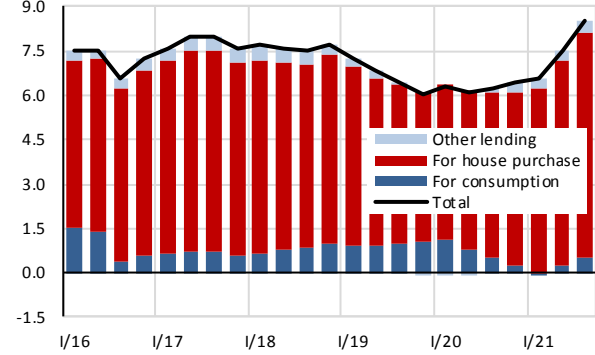
in % p.a.



Source: CNB. Calculations and forecast of the MoF.

Graph 1.4.2: Loans to Households

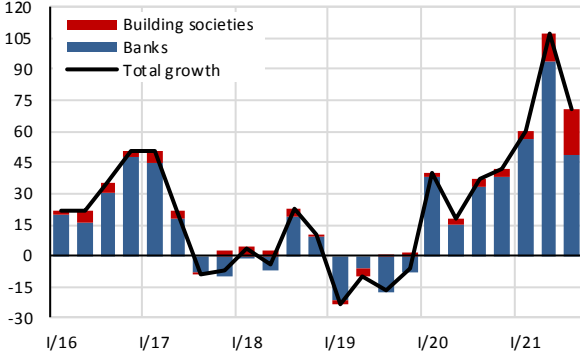
YoY growth rate in%, contributions in percentage points



Source: CNB. Calculations of the MoF.

Graph 1.4.3: New Mortgage Loans

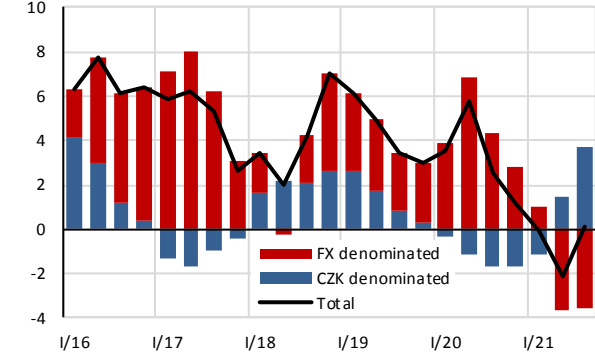
for purchase of residential property, YoY growth in %, contributions in pp



Source: CNB. Calculations of the MoF.

Graph 1.4.4: Loans to Non-financial Corporations

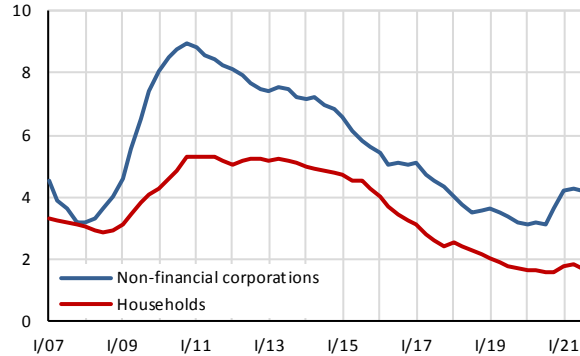
YoY growth rate in%, contributions in percentage points



Source: CNB. Calculations of the MoF.

Graph 1.4.5: Non-performing Loans

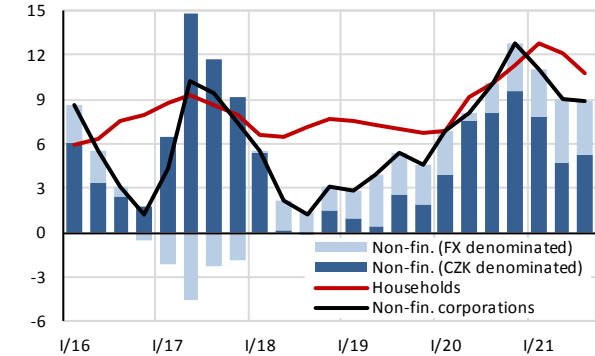
ratio of non-performing to total loans, in%



Source: CNB. Calculations of the MoF.

Graph 1.4.6: Deposits

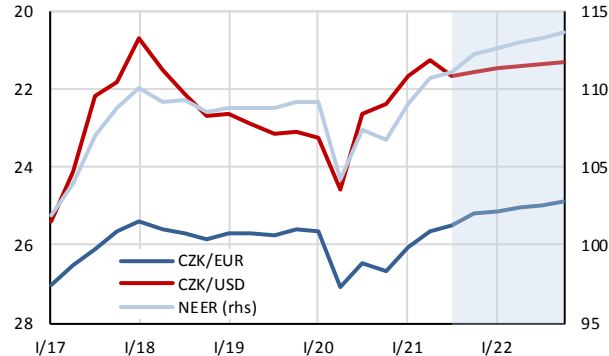
YoY growth rate in%, contributions in percentage points



Source: CNB. Calculations of the MoF.

Graph 1.4.7: Nominal Exchange Rates

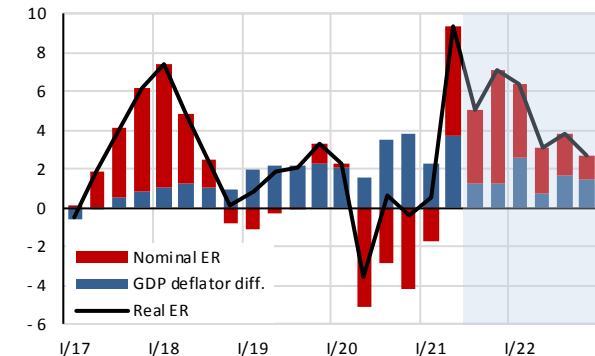
quarterly averages, average 2015=100 (rhs)



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*

		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
											Forecast	Forecast
Repo 2W rate CNB (end of period)	<i>in % p.a.</i>	0.05	0.05	0.05	0.05	0.50	1.75	2.00	0.25	.	.	
Main refinancing rate ECB (end of period)	<i>in % p.a.</i>	0.25	0.05	0.05	0.00	0.00	0.00	0.00	0.00	.	.	
Federal funds rate (end of period)	<i>in % p.a.</i>	0.25	0.25	0.50	0.75	1.50	2.50	1.75	0.25	.	.	
PRIBOR 3M	<i>in % p.a.</i>	0.46	0.36	0.31	0.29	0.41	1.23	2.12	0.86	1.0	2.8	
YTM of 10Y government bonds	<i>in % p.a.</i>	2.11	1.58	0.58	0.43	0.98	1.98	1.55	1.13	1.9	2.7	
Client interest rates												
Loans to households	<i>in % p.a.</i>	6.05	5.59	5.15	4.65	4.10	3.76	3.66	3.53	.	.	
Loans to non-financial corporations	<i>in % p.a.</i>	3.20	3.01	2.78	2.59	2.57	3.05	3.75	2.96	.	.	
Deposits of households	<i>in % p.a.</i>	1.02	0.85	0.65	0.47	0.36	0.33	0.39	0.35	.	.	
Deposits of non-financial corporations	<i>in % p.a.</i>	0.41	0.29	0.19	0.10	0.05	0.11	0.37	0.20	.	.	

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

		2020				2021				
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
										Forecast
Repo 2W rate CNB (end of period)	<i>in % p.a.</i>	1.00	0.25	0.25	0.25	0.25	0.50	0.75	.	
Main refinancing rate ECB (end of period)	<i>in % p.a.</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.	
Federal funds rate (end of period)	<i>in % p.a.</i>	0.25	0.25	0.25	0.25	0.25	0.25	0.00	.	
PRIBOR 3M	<i>in % p.a.</i>	2.15	0.59	0.34	0.35	0.36	0.40	1.11	2.3	
YTM of 10Y government bonds	<i>in % p.a.</i>	1.46	1.02	0.93	1.11	1.55	1.76	1.79	2.4	
Client interest rates										
Loans to households	<i>in % p.a.</i>	3.62	3.53	3.50	3.46	3.39	3.32	.	.	
Loans to non-financial corporations	<i>in % p.a.</i>	3.76	2.97	2.56	2.55	2.55	2.54	.	.	
Deposits of households	<i>in % p.a.</i>	0.44	0.38	0.30	0.27	0.25	0.23	.	.	
Deposits of non-financial corporations	<i>in % p.a.</i>	0.43	0.22	0.08	0.06	0.06	0.05	.	.	

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

Table 1.4.3: Loans and Deposits – yearly averages

		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Households											
Loans	<i>growth in %</i>	6.6	5.0	4.0	3.4	4.8	7.2	7.8	7.6	6.6	6.3
For consumption	<i>growth in %</i>	4.2	-1.0	-0.1	-0.9	3.4	6.0	4.3	5.4	6.4	4.4
For house purchase	<i>growth in %</i>	6.5	6.4	5.5	4.5	5.6	8.1	9.0	8.5	7.4	7.3
Other lending	<i>growth in %</i>	11.1	6.0	1.2	2.9	1.0	3.0	4.2	4.3	1.1	0.9
CZK denominated	<i>growth in %</i>	6.6	4.9	4.0	3.4	4.7	7.2	7.7	7.6	6.6	6.3
FX denominated	<i>growth in %</i>	2.4	30.8	-1.3	0.0	12.7	8.5	36.3	1.7	9.0	6.1
Deposits	<i>growth in %</i>	5.0	4.5	3.3	2.9	4.8	7.0	8.7	7.0	7.2	9.4
CZK denominated	<i>growth in %</i>	5.4	4.7	3.3	2.7	4.1	6.9	9.7	7.1	6.9	9.2
FX denominated	<i>growth in %</i>	-4.0	-2.1	2.3	8.5	22.5	7.3	-13.9	3.5	15.2	14.5
Non-performing loans (banking statistics)	<i>share, in %</i>	5.3	5.2	5.2	4.9	4.5	3.6	2.7	2.4	1.9	1.6
Loans to deposits ratio	<i>in %</i>	62	63	63	63	63	63	63	63	63	61
Non-financial corporations											
Loans	<i>growth in %</i>	4.7	3.5	1.3	1.9	6.5	6.6	5.0	4.2	4.3	3.2
CZK denominated	<i>growth in %</i>	4.9	2.6	0.3	-1.0	5.9	2.8	-1.4	3.0	1.9	-1.8
FX denominated	<i>growth in %</i>	3.7	7.8	5.7	13.7	9.0	20.5	24.4	6.9	10.0	14.0
Deposits	<i>growth in %</i>	0.4	8.9	4.9	7.6	10.3	4.6	7.8	3.0	4.2	9.5
CZK denominated	<i>growth in %</i>	2.0	8.2	4.2	5.6	6.7	4.5	13.9	2.1	1.9	9.4
FX denominated	<i>growth in %</i>	-6.1	11.8	8.0	15.2	23.2	4.8	-11.1	6.6	13.0	9.9
Non-performing loans (banking statistics)	<i>share, in %</i>	8.5	7.8	7.4	7.0	6.0	5.2	4.7	3.7	3.4	3.3
Loans to deposits ratio	<i>in %</i>	126	120	116	110	106	108	105	106	106	100

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

		2019	2020				2021		
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Households									
Loans	<i>growth in %</i>	6.0	6.3	6.1	6.2	6.4	6.5	7.5	8.5
For consumption	<i>growth in %</i>	7.0	7.6	5.2	3.6	1.6	0.0	1.7	3.3
For house purchase	<i>growth in %</i>	6.7	6.9	7.1	7.3	7.7	8.1	9.0	10.0
Other lending	<i>growth in %</i>	-0.7	-0.4	-0.7	1.1	3.7	3.8	4.1	4.5
CZK denominated	<i>growth in %</i>	6.0	6.3	6.1	6.2	6.4	6.5	7.5	8.5
FX denominated	<i>growth in %</i>	0.9	-2.7	4.9	7.4	15.5	15.8	11.7	21.6
Deposits	<i>growth in %</i>	6.7	6.9	9.1	10.1	11.3	12.8	12.1	10.8
CZK denominated	<i>growth in %</i>	6.3	6.4	8.9	10.1	11.2	12.9	11.9	10.5
FX denominated	<i>growth in %</i>	17.4	21.0	14.7	9.0	14.1	12.6	18.2	20.3
Non-performing loans (banking statistics)	<i>share, in %</i>	1.7	1.7	1.7	1.6	1.6	1.8	1.8	1.7
Loans to deposits ratio	<i>in %</i>	63	63	61	61	60	59	58	59
Non-financial corporations									
Loans	<i>growth in %</i>	3.0	3.5	5.7	2.6	1.2	-0.1	-2.1	0.2
CZK denominated	<i>growth in %</i>	0.4	-0.5	-1.6	-2.5	-2.5	-1.7	2.3	5.7
FX denominated	<i>growth in %</i>	8.7	12.5	21.8	13.4	8.7	3.1	-10.0	-9.9
Deposits	<i>growth in %</i>	4.5	6.9	8.2	10.0	12.9	11.1	9.0	8.9
CZK denominated	<i>growth in %</i>	2.5	5.0	9.7	10.4	12.4	10.2	6.0	6.7
FX denominated	<i>growth in %</i>	12.2	13.9	2.8	8.7	14.5	14.2	20.1	16.5
Non-performing loans (banking statistics)	<i>share, in %</i>	3.2	3.1	3.2	3.2	3.7	4.2	4.3	4.2
Loans to deposits ratio	<i>in %</i>	107	103	103	100	96	93	92	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

		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
								Forecast	Forecast	Outlook	Outlook
Nominal exchange rates											
CZK / EUR	average	27.28	27.03	26.33	25.65	25.67	26.44	25.6	25.0	24.7	24.4
	appreciation in %	0.9	0.9	2.7	2.7	-0.1	-2.9	3.4	2.4	1.2	1.2
CZK / USD	average	24.60	24.43	23.39	21.74	22.94	23.19	21.5	21.4	21.1	20.9
	appreciation in %	-15.7	0.7	4.5	7.6	-5.2	-1.1	7.8	0.7	1.2	1.2
NEER	average of 2015=100	100.0	102.4	105.4	109.3	108.9	106.9	111	113	115	116
	appreciation in %	-0.8	2.4	2.9	3.7	-0.3	-1.9	3.7	2.2	1.2	1.2
Real exchange rate to EA19 ¹⁾	average of 2015=100	100.0	101.1	104.0	107.9	110.1	109.9	116	120	123	125
	appreciation in %	0.5	1.1	2.8	3.8	2.0	-0.2	5.4	4.0	2.0	1.7
REER ²⁾	average of 2015=100	100.0	102.6	106.6	111.1	111.5	112.4	.	.	.	.
	appreciation in %	-0.9	2.6	3.9	4.3	0.3	0.8	.	.	.	.

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

		2020				2021			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
								Estimate	Forecast
Nominal exchange rates									
CZK / EUR	average	25.63	27.05	26.46	26.66	26.07	25.64	25.50	25.2
	appreciation in %	0.2	-5.1	-2.7	-4.1	-1.7	5.5	3.8	5.8
CZK / USD	average	23.25	24.55	22.64	22.36	21.64	21.27	21.63	21.5
	appreciation in %	-2.7	-6.9	2.3	3.3	7.4	15.5	4.6	3.8
NEER	average of 2015=100	109.2	104.2	107.4	106.8	109.1	110.7	111	112
	appreciation in %	0.4	-4.2	-1.3	-2.2	-0.2	6.2	3.4	5.2
Real exchange rate to EA19 ¹⁾	average of 2015=100	112.0	106.0	110.9	110.6	112.6	116.0	117	118
	appreciation in %	2.3	-3.5	0.7	-0.3	0.6	9.4	5.1	7.1
REER ²⁾	average of 2015=100	114.0	109.2	113.5	112.7	115.2	116.7	.	.
	appreciation in %	2.0	-1.7	2.0	0.8	1.0	6.8	.	.

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 Structural Policies

The elections to the Chamber of Deputies of the Parliament of the Czech Republic took place on 8 and 9 October 2021. The post-election negotiations will result in the establishment of the bodies of the Chamber of Deputies and the formation of the Government of the CR. Its programme statement will set out the **fiscal and structural policy priorities** for the next four-year period.

Czech society and economy have been deeply affected by the **COVID-19** epidemic. After a lull in the summer months of 2021, the numbers of positive cases and hospital admissions are increasing again as autumn approaches, but to a lesser extent than last year (see Graph 1.5.1). Meanwhile, the anti-epidemic restrictions in October 2020 were significantly stronger than in October this year.

Unlike last year, a **significant part of the Czech population has been vaccinated**. As of the forecast data cut-off

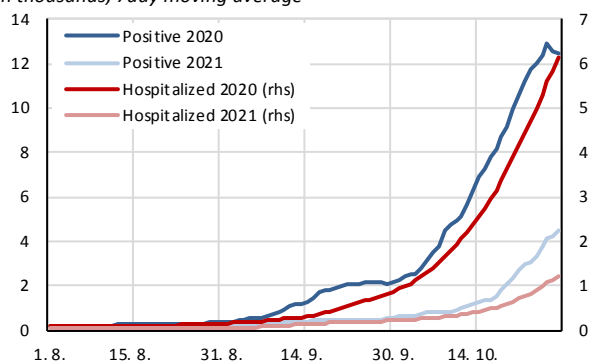
date, 6.1 million people (57% of the population) had been vaccinated. A certain part of the population also has increased immunity after having contracted the disease. In addition, vaccination with a further booster dose (6 months after the 2nd dose) has been initiated, particularly of people at risk of low antibody levels.

Achieving a higher vaccination coverage rate is hampered both by the inability to vaccinate children under 12 years of age (1.4 million, i.e. 13% of the population) and by the lower willingness of some, mostly younger, groups to be vaccinated (see Graph 1.5.2).

In view of these facts, we believe that the risk of overcrowding in hospitals and increased mortality is lower than in the previous year. Therefore, the assumption has been made that there will be no macroeconomically significant constraint to the economic activity in the coming period.

Graph 1.5.1: The Positive and Hospitalized

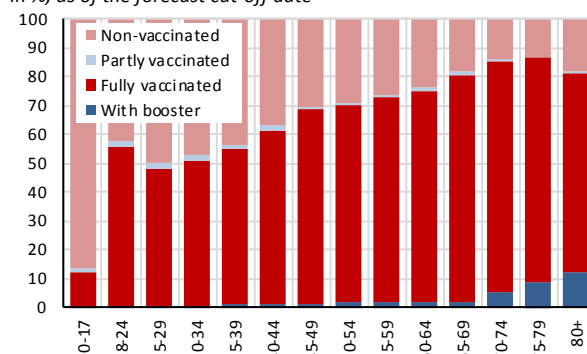
in thousands, 7day moving average



Source: Ministry of Health. Calculations of the MoF

Graph 1.5.2: Vaccination in Age Groups

in %, as of the forecast cut-off date



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

1.6 Demographic Trends

The population of the Czech Republic again exceeded the 10.7 million mark at the end of H1 2021, below which it fell due to the record high number of deaths in the first quarter. During the first half of the year, it increased by 1.2 thousand to 10.703 million. This was the smallest year-on-year population growth in eight years.

The difference between the number of births and deaths resulted in a natural population decline of 21.3 thousand persons, i.e. more than in the whole year 2020. The **number of live births** (55.0 thousand) increased only slightly compared to the same period of the previous year. Thus, the Czech Republic is among the countries where no increase in births was recorded in the context of epidemic restrictions.

On the other hand, the **number of deaths** from January to June this year reached 76.3 thousand. Compared to H1 2020, it was an increase of 19.1 thousand, or 33%. This was mainly due to the escalation of the coronavirus epidemic in Q1, when it was the highest quarterly figure since the beginning of the available time series in 1992.

Between March 2020 and August 2021 (according to weekly data), 37,000 more people died compared to the 2015–19 average. The Institute of Health Information

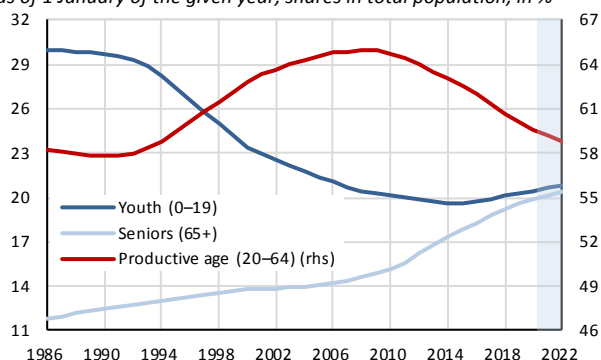
and Statistics reported more than 30 thousand deaths with COVID-19 over this period (just under 90% were people aged 65+). As the critical phase of the epidemic has subsided and the vaccination of the population has progressed, the number of deaths has returned to normal since the end of the second quarter.

The **positive balance of foreign migration** reached 22.5 thousand people in the first half of the year, up by 13.7 thousand year-on-year. There was both an increase in the number of immigrants and a decrease in emigration. As in previous years, the positive balance of migration was dominated by citizens of Ukraine (13.1 thousand). The intensity and directions of migration flows will probably continue to be influenced by economic developments and anti-epidemic measures.

At the beginning of July 2021, there were a total of 2.378 million **old-age pensioners** in the pension system, i.e. 22.2% of the population of the Czech Republic. The extension of the statutory retirement age combined with demographic developments, in particular increased mortality, led to a year-on-year decrease in the number of old-age pensioners by 31.8 thousand. This is a decrease of 1.3%.

Graph 1.6.1: Age Groups

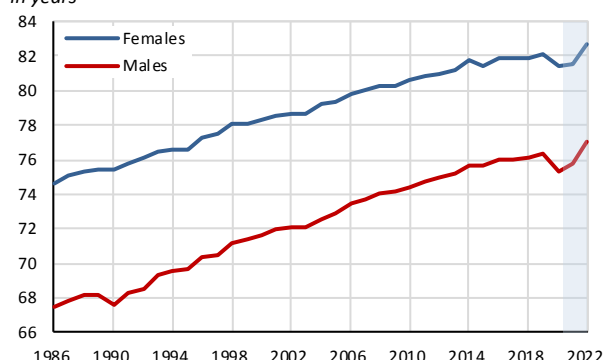
as of 1 January of the given year, shares in total population, in %



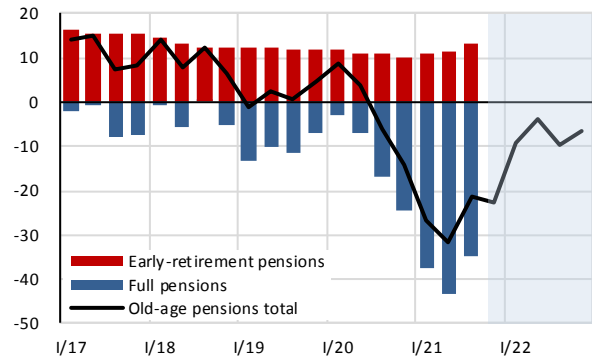
Source: CZSO. Calculations of the MoF.

Graph 1.6.2: Life Expectancy at Birth

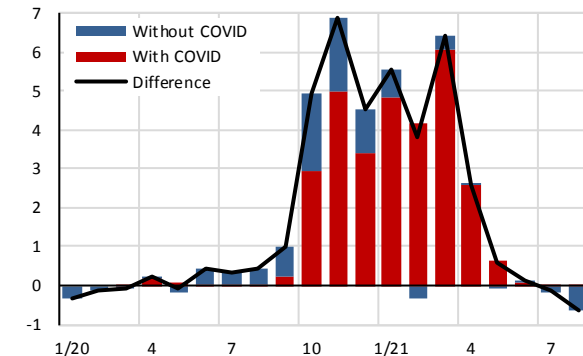
in years



Source: CZSO.

Graph 1.6.3: Old-Age Pensioners
absolute increase over a year in thousands of persons


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

Graph 1.6.4: Number of Deaths in 2020 and 2021
difference from the 2015–2019 average, in thousands


Note: June and July 2021 – estimate of the MoF.

Source: CZSO, Institute of Health Information and Statistics. Calculations of the MoF.

Table 1.6.1: Demographics

		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
								Forecast	Forecast	Outlook	Outlook
Population (as of 1 January)	<i>thous. persons</i>	10 538	10 554	10 579	10 610	10 650	10 694	10 702	10 702	10 719	10 734
	<i>growth in %</i>	0.2	0.1	0.2	0.3	0.4	0.4	0.1	0.0	0.2	0.1
0–19 years	<i>thous. persons</i>	2 064	2 082	2 106	2 133	2 160	2 188	2 210	2 228	2 244	2 256
	<i>growth in %</i>	0.3	0.9	1.2	1.3	1.3	1.3	1.0	0.8	0.7	0.5
20–64 years	<i>thous. persons</i>	6 594	6 540	6 484	6 437	6 403	6 374	6 333	6 289	6 257	6 235
	<i>growth in %</i>	-0.5	-0.8	-0.9	-0.7	-0.5	-0.4	-0.6	-0.7	-0.5	-0.4
65 and more years	<i>thous. persons</i>	1 880	1 932	1 989	2 040	2 087	2 132	2 158	2 184	2 219	2 243
	<i>growth in %</i>	3.0	2.8	2.9	2.6	2.3	2.2	1.3	1.2	1.6	1.1
Old-age pensioners (as of 1 January)¹⁾	<i>thous. persons</i>	2 355	2 377	2 395	2 403	2 410	2 415	2 400	2 378	2 371	2 361
	<i>growth in %</i>	0.6	0.9	0.8	0.3	0.3	0.2	-0.6	-0.9	-0.3	-0.4
Old-age dependency ratios (as of 1 January)											
Demographic ²⁾	%	28.5	29.5	30.7	31.7	32.6	33.4	34.1	34.7	35.5	36.0
Under current legislation ³⁾	%	39.3	39.8	40.1	40.4	40.4	40.5	40.2	40.0	39.8	39.6
Effective ⁴⁾	%	46.9	46.8	46.2	45.7	45.2	45.5	46.0	45.2	45.0	44.8
Fertility rate	<i>children</i>	1.570	1.630	1.687	1.708	1.715	1.707	1.70	1.70	1.70	1.70
Population increase	<i>thous. persons</i>	16	25	31	40	44	8	0	17	15	12
Natural increase	<i>thous. persons</i>	0	5	3	1	0	-19	-26	-9	-11	-14
Live births	<i>thous. persons</i>	111	113	114	114	112	110	107	105	103	101
Deaths	<i>thous. persons</i>	111	108	111	113	112	129	133	114	114	115
Net migration	<i>thous. persons</i>	16	20	28	39	44	27	26	26	26	26
Immigration	<i>thous. persons</i>	35	38	46	58	67	56	.	.	.	.
Emigration	<i>thous. persons</i>	19	17	18	20	22	29	.	.	.	.

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.

2 Economic Cycle

2.1 Position within the Economic Cycle

The Czech economy fell into a **deeply negative output gap** in 2020 due to the epidemic and measures to counter its spread. Real gross value added fell short of its potential level by more than 8% in Q2 2020, by far the highest in the history of the independent Czech Republic. The sharp recovery in economic output in Q3 2020 and the subsequent stagnation or only modest growth kept the output gap below -1% of potential output until Q2 2021. For the full year 2020, the output gap was -2.6% (vs. -3.1%), and thus less negative in full-year terms than in the recessions of 2009 and 2013. In 2021, the output gap is expected to reach -1.1% (vs. -0.6%).

The results of the calculations suggest that the negative output gap should close in the first half of next year and then reach positive values close to 2%. Given the uncertainties about the input data on usual hours worked (see below) and the increased uncertainty of the results in a period of considerable volatility in economic performance, these estimates should be treated with a high degree of caution.

The economic downturn has led to a deepening of the medium-term trend of slowing **potential output** growth. It is currently estimated to reach a low of only 0.8% in 2021 (*unchanged*). Once the epidemic subsides and the environment favourable for the development of economic activity returns, potential output growth should be slightly below 2%.

In terms of its components (see Graph 2.1.2), potential growth is mainly determined by the trend component of **total factor productivity**. Its contribution is expected to reach 0.7 pp in 2021 (vs. 1.1 pp) and to increase gradually in the following years.

The fall in gross fixed capital formation in 2020 led to a slower increase in the **capital stock**. Its contribution to potential growth is expected to reach 0.6 pp (*unchanged*)

this year. However, it could be slightly higher from 2022 onwards, thanks to renewed investment growth.

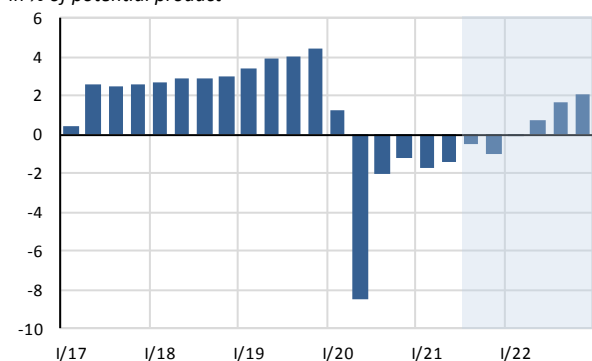
Labour supply is affected by the population ageing process (Chapter 1.6), which, among other things, is reflected in a long-term decline in the working-age population aged 20–64. This is expected to take 0.3 pp off potential output growth in 2021 (*unchanged*) and a slightly negative effect can be expected in the following period.

For a long time, the negative impact of demographic developments on labour supply has been cushioned by a dynamic increase in the **participation rate**, thanks to which the size of the labour force in the economy has been growing. However, in the early 2020, a turning point occurred and the participation rate started to decline. Despite the measures taken to protect the labour market, economic uncertainty during the epidemic is likely to have temporarily reinforced this trend, but a return to a growth trajectory is expected as early as this year. Thus, the contribution of the participation rate to potential output growth should reach 0.3 pp in 2021 (vs. 0.1 pp) and should not deviate much from this value in subsequent years.

Between 2017 and 2020, the number of **hours usually worked** varied within a very narrow range of 39.9–40.2 hours, with a slightly decreasing trend. However, figures of 39.3 and 39.4 hours have been published for Q1 and Q2 2021, which are completely out of line with the long-term time series (see Figure 2.1.4) and without economic justification. In our view, this may be a consequence of methodological changes in the LFS from Q1 2021. The results of the potential output and output gap calculations are very sensitive to the input variable of hours usually worked, leading to a negative contribution to potential output growth of -0.5 pp (*unchanged*) this year and a narrowing of the negative output gap estimate by a similar magnitude.

Graph 2.1.1: Output Gap

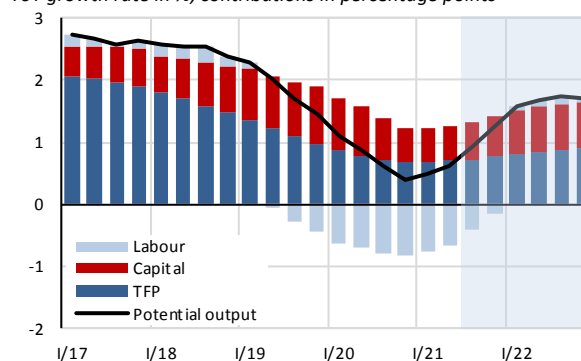
in % of potential product



Source: CZSO. Calculations and forecast of the MoF.

Graph 2.1.2: Potential Output

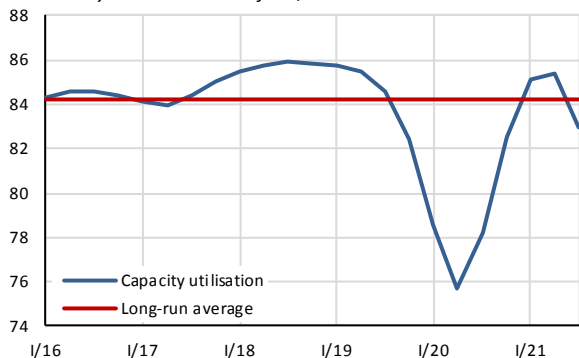
YoY growth rate in %, contributions in percentage points



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

		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
								Forecast	Forecast	Outlook	Outlook
Output gap	%	-0.2	-0.6	2.0	2.9	4.0	-2.6	-1.1	1.1	1.7	1.8
Potential product¹⁾	growth in %	2.5	2.8	2.7	2.5	1.9	0.8	0.8	1.7	1.8	1.8
Contributions											
Trend total factor productivity	pp	1.8	2.0	2.0	1.6	1.2	0.8	0.7	0.9	1.0	1.0
Fixed assets	pp	0.7	0.6	0.5	0.7	0.9	0.7	0.6	0.7	0.8	0.8
Population 20–64 years	pp	-0.3	-0.5	-0.5	-0.4	-0.3	-0.3	-0.3	-0.3	-0.2	-0.1
Participation rate	pp	0.5	0.8	0.7	0.7	0.2	-0.1	0.3	0.5	0.2	0.1
Usually worked hours	pp	-0.1	-0.1	-0.2	-0.1	-0.1	-0.3	-0.5	-0.1	0.0	0.0

¹⁾ Based on gross value added.

Source: CZSO. Calculations and forecast of the MoF.

2.2 Business Cycle Indicators

The development of confidence indicators in Q3 2021 points to a continued quarter-on-quarter recovery in gross value added in trade and services. In contrast, confidence in industry has declined markedly compared to the previous period, outlining an approximate year-on-year stagnation of gross value added in this sector. In the construction sector, the confidence indicator signals a stabilisation of year-on-year growth in gross value added, though the correlation is very low.

The composite indicator of exports of goods, compiled by the MoF from individual questions of the CZSO's business cycle survey and business confidence in Germany, indicates a sharp slowdown in the annual dynamics of exports of goods after the previous recovery.

The CZSO's consumer confidence indicator continued to grow in Q3 2021, but at a significantly slower pace than in the previous period. Its development for the second

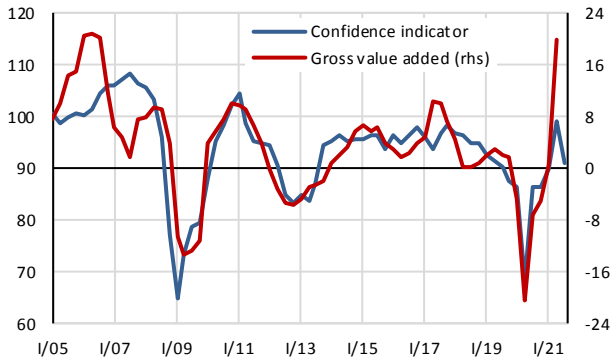
half of 2021 (the confidence indicator has a lead of 1–2 quarters) signals that the positive year-on-year dynamics of household final consumption expenditure will be maintained. The consumer confidence indicator, compiled by the MoF from individual questions of the European Commission consumer survey, improved in Q3 compared to the previous period, but still remains at low levels. Consumer pessimism stemmed from a significantly negative assessment of the economic situation.

Overall, the composite confidence indicator for Q3 2021 signals a slowdown in year-on-year growth of gross value added.

In response to the easing of restrictive measures, the composite leading indicator points to a noticeable closing of the negative output gap in H2 2021. However, given the persistent risks, the outlined closing of the output gap should still be seen more in qualitative terms.

Graph 2.2.1: Confidence and GVA in Industry

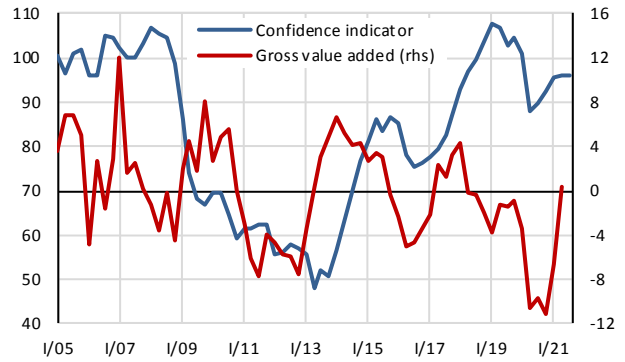
2005=100 (lhs), YoY growth in % (rhs)



Source: CZSO.

Graph 2.2.2: Confidence and GVA in Construction

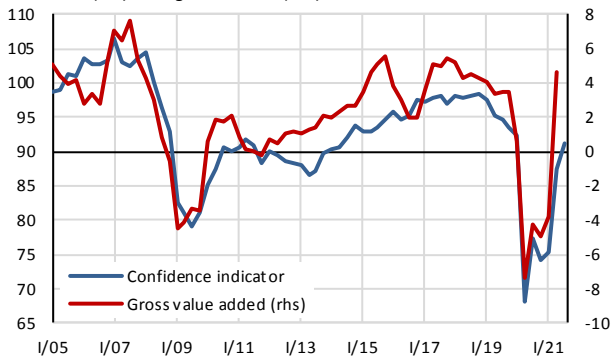
2005=100 (lhs), YoY growth in % (rhs)



Source: CZSO.

Graph 2.2.3: Confidence and GVA in Trade and Services

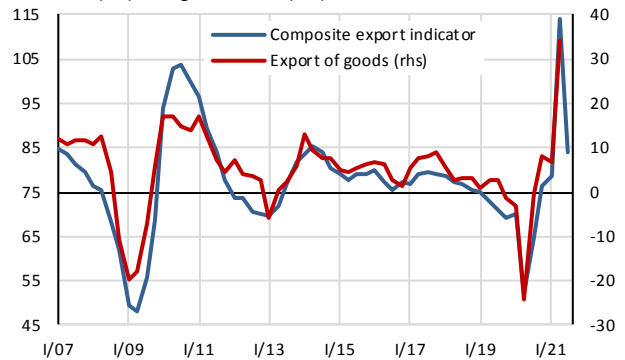
2005=100 (lhs), YoY growth in % (rhs)



Source: CZSO. Calculations of the MoF.

Graph 2.2.4: Composite Export Indicator

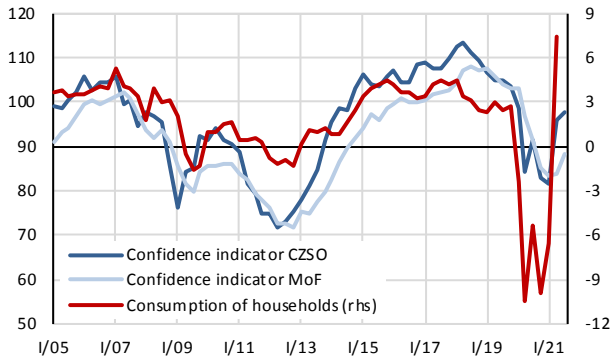
2010=100 (lhs), YoY growth in % (rhs)



Source: CESifo, CZSO. Calculations of the MoF.

Graph 2.2.5: Consumer Confidence and Consumption

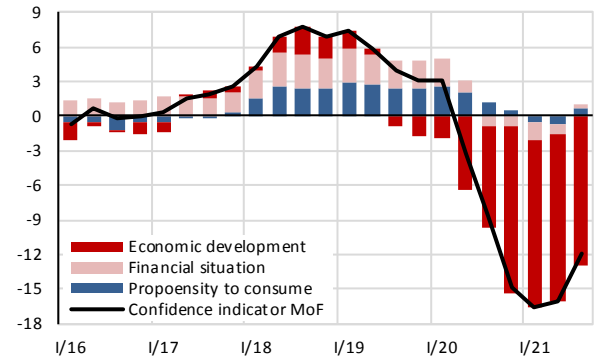
2005=100 (lhs), YoY growth in % (rhs)



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

Graph 2.2.6: Decomposition of Consumer Sentiment

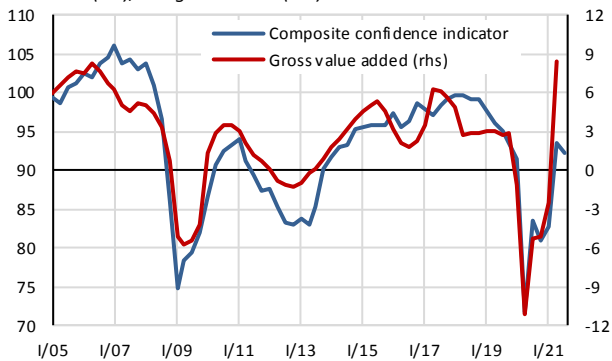
consumer confidence indicator of the MoF, balance, contributions



Source: European Commission. Calculations of the MoF.

Graph 2.2.7: Composite Confidence Indicator and GVA

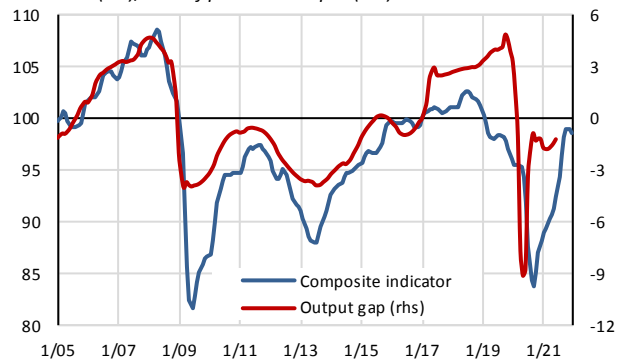
2005=100 (lhs), YoY growth in % (rhs)



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 8.8% YoY in **Q2 2021**. Thanks to the gradual easing of anti-epidemic measures, seasonally adjusted **GDP** increased by 1.0% QoQ, driven mainly by the trade, transportation, accommodation and food service activities, which were most affected by the restrictions to prevent contagion, and by manufacturing. In contrast, growth momentum was slightly dampened by real estate activities, financial services and agriculture. The CZSO revised up the year-on-year and quarter-on-quarter decline in real GDP in Q1 2021 by 0.1 pp.

Annual real GDP growth in Q2 2021 was driven mainly by domestic demand. The strong year-on-year dynamics resulted largely from the base effect.

Household consumption recovered significantly due to a strong increase in real disposable income, improved consumer sentiment and a relaxation of anti-epidemic measures. Renewed spending opportunities on selected goods and services were also reflected in a decline in the savings rate. Spending on durables and intermediate goods grew fastest, but the increase in spending on services was the most significant in terms of its impact on overall consumption. Expenditure on non-durable goods was also higher. In real terms, household consumption increased by 7.7% (vs. 4.5%). **General government consumption** rose by 3.1% (vs. 3.5%) due to stronger growth in purchases of goods and services and higher employment.

Gross fixed capital formation increased by 4.9% (vs. 5.2%), mainly due to investment in machinery and equipment and dwellings. In contrast, investment in non-residential buildings and structures dampened it. From a sectoral perspective, investment activity was mainly driven by private entities. A significantly positive contribution from the change in inventories was behind the 13.7% increase in gross capital formation (vs. 13.6%).

Foreign trade grew strongly due to the base effect, although the growth rates of exports and imports were much higher for goods than for services. Exports of goods and services increased by 31.9% (vs. 33.7%) in Q2 2021. Imports of goods and services, driven by growth in exports and gross capital formation, rose by 32.7% (vs. 33.1%). As a result, the external trade balance contributed positively to GDP growth to the extent of 0.8 pp.

Following the easing of restrictive measures, economic activity continued to recover in **Q3 2021**, but was dampened by problems in supply chains. According to the CZSO's preliminary estimate, seasonally adjusted real GDP grew by 1.4% QoQ (vs. 2.3%) and by 2.8% YoY (vs. 3.3%) in Q3 2021. Quarter-on-quarter GDP growth was thus slightly higher than indicated by the data on eco-

nomical developments in Q3 available at the forecast cut-off date (confidence indicators, industrial and construction output, retail and services sales, and foreign trade).

In **2021**, GDP growth should be driven exclusively by domestic demand, while the external trade balance should dampen it substantially. We expect real GDP to grow by 2.5% this year (vs. 3.2%) and by 4.1% in 2022 (vs. 4.2%). The forecast is based on the assumption that macroeconomically significant anti-epidemic restrictions will no longer be necessary due to the vaccination of the population against COVID-19 and the high number of people who have contracted the disease. We also expect that disruptions to global supply chains will affect mainly the second half of this year and the first half of next year. Thereafter, these problems should no longer dampen economic growth to any significant extent.

In 2021, **household final consumption expenditure** should be positively influenced by growth in real disposable income, the dynamics of which will benefit from a number of supportive fiscal programmes, in addition to the reduction in effective taxation of wages, salaries and self-employment income. The savings rate should gradually decline, but on average for the whole year should remain more or less at the previous year's level, due to the anti-epidemic restrictions during Q1 and Q2, which have considerably reduced households' ability to make some expenditures. The recovery in consumption should continue in the second half of the year, but the quarter-on-quarter dynamics should gradually slow down. In 2021, real household consumption could grow by 3.7% (vs. 2.3%). In 2022, household consumption should be supported by a continued normalisation of the savings rate (which should nevertheless remain above the long-term average), as well as the statistical effect of the recovery in consumer spending in H2. On the other hand, however, it will be dampened, especially in the case of low-income households, by a significant increase in the cost of living (for price developments, see Chapter 3.2). Household consumption could thus increase by 4.7% (vs. 5.5%).

We expect **general government consumption** to grow by 2.3% in 2021 (vs. 2.4%) and slow to 0.4% in 2022 (*unchanged*). The main drivers of growth in 2021 include an increase in purchasing volumes due to the epidemic, as well as growth in public sector employment. Despite savings in central government, staffing increases are foreseen in education and the armed forces. Growth in expenditure on purchases of goods and services, supported by current subsidies from EU funds, may also support the dynamism. The expected slowdown in 2022

is due to the unwinding of transitional factors related to the handling of the epidemic.

Gross fixed capital formation should start to recover in 2021 due to renewed economic growth abroad, easier monetary conditions, higher year-on-year capacity utilisation in industry and exceptional depreciation of tangible assets. Private investment should also be supported by the easing of restrictive measures and reduced uncertainty about the future course of the epidemic. Investment activity in the general government sector, supported by the implementation of projects co-financed by EU funds, should also contribute to growth. However, there are significant risks to the expected investment path (see Chapter Forecast Risks and Uncertainty). The outlook for 2023 includes the purchase of military helicopters, which will be fully reflected in imports of goods. Gross fixed capital formation could grow by 4.6% in 2021 (vs. 6.0%), and is forecast to increase by 5.4% in 2022 (vs. 4.9%).

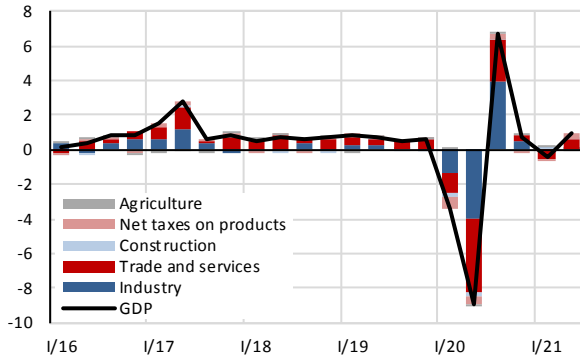
We anticipate that 2021 could see a **restocking** after the previous significant decline. This should be supported by a build-up of work-in-progress in warehouses due to supply disruptions of some components, or by firms' ef-

forts to increase inventories of production inputs. On the other hand, according to information available from the automotive industry, activity in Q4 2021 should focus on the completion of work-in-progress, which would be reflected in a decline in inventories. For the following years, the forecast works with the technical assumption of a zero contribution of the change in inventories to GDP growth. Gross capital formation could therefore increase by 11.0% in 2021 (vs. 8.8%) and by 5.2% next year (vs. 4.8%).

We expect **exports of goods and services** to grow by 6.4% this year (vs. 8.5%) and by 5.7% in 2022 (vs. 6.6%). Export growth in 2021 reflects solely growth in export markets (see Chapter 3.4), while export performance is expected to be noticeably dampened by supply disruptions. The dynamism of exports and import-intensive investment demand is then reflected in the pace of **imports of goods and services**, which could grow by 11.0% in 2021 (vs. 10.4%). In 2022, the slowdown in import growth to 5.5% (vs. 6.7%) should mainly reflect a much lower growth rate of gross capital formation.

Graph 3.1.1: Resources of Gross Domestic Product

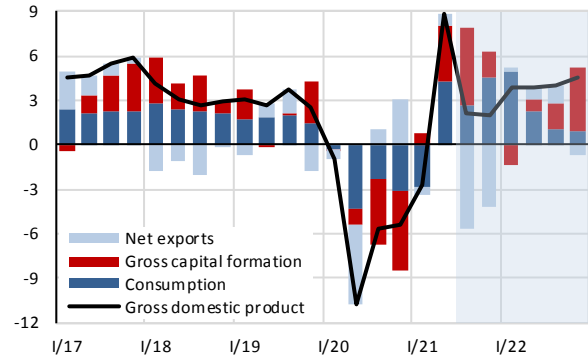
QoQ growth rate of real GDP in %, contrib. in pp, season. adjusted



Source: CZSO. Calculations of the MoF.

Graph 3.1.2: GDP by Type of Expenditure

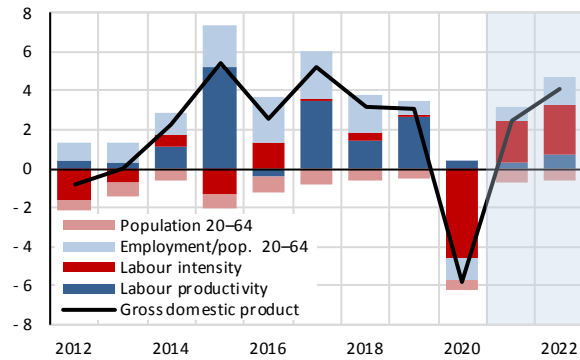
YoY growth rate of real GDP in %, contributions in pp



Source: CZSO. Calculations and forecast of the MoF.

Graph 3.1.3: Real Gross Domestic Product

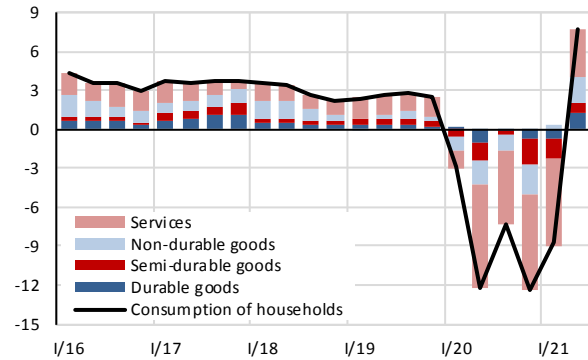
growth in %, contributions in percentage points



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

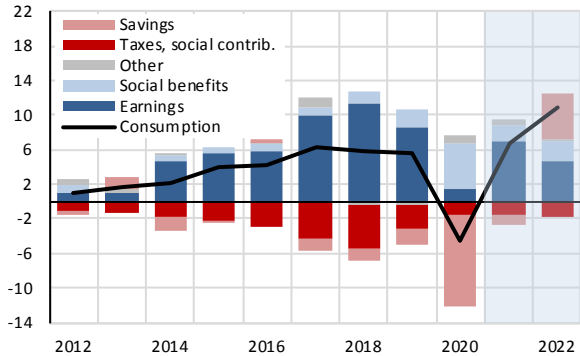
domestic concept, YoY growth rate in %, contributions in pp



Source: CZSO. Calculations of the MoF.

Graph 3.1.5: Nominal Consumption of Households

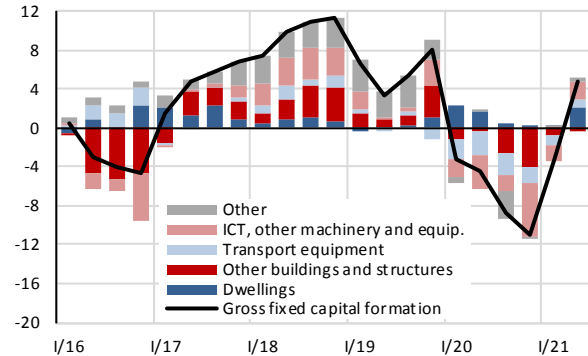
national concept, YoY growth rate in %, contributions in pp



Source: CZSO. Calculations and forecast of the MoF.

Graph 3.1.6: Investment by Type of Expenditure

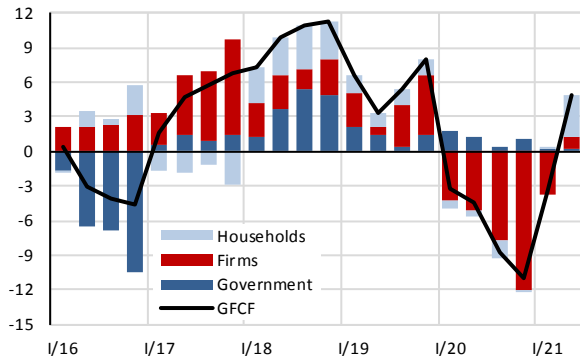
YoY growth rate of real GFCF in %, contributions in pp



Source: CZSO. Calculations of the MoF.

Graph 3.1.7: Investment by Sector

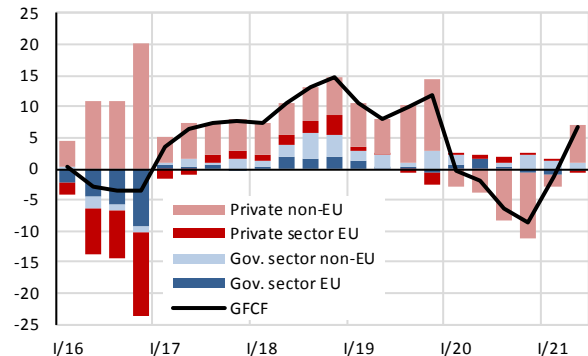
YoY growth rate of real GFCF in %, contributions in percentage points



Source: CZSO. Calculations of the MoF.

Graph 3.1.8: Investment Co-financing from EU Funds

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*

		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
								<i>Forecast</i>	<i>Forecast</i>	<i>Outlook</i>	<i>Outlook</i>
Gross domestic product	<i>bill. CZK 2015</i>	4 625	4 743	4 988	5 147	5 303	4 996	5 121	5 330	5 449	5 556
	<i>growth in %</i>	5.4	2.5	5.2	3.2	3.0	-5.8	2.5	4.1	2.2	2.0
	<i>growth in %¹⁾</i>	5.5	2.4	5.4	3.2	3.0	-5.8	2.4	4.1	2.4	1.8
Private consumption expenditure²⁾	<i>bill. CZK 2015</i>	2 181	2 264	2 355	2 438	2 504	2 332	2 418	2 532	2 582	2 639
	<i>growth in %</i>	3.9	3.8	4.0	3.5	2.7	-6.8	3.7	4.7	2.0	2.2
Government consumption exp.	<i>bill. CZK 2015</i>	875	897	913	948	972	1 006	1 029	1 033	1 043	1 058
	<i>growth in %</i>	1.8	2.5	1.8	3.8	2.5	3.4	2.3	0.4	1.0	1.4
Gross capital formation	<i>bill. CZK 2015</i>	1 294	1 243	1 323	1 425	1 489	1 338	1 484	1 562	1 632	1 645
	<i>growth in %</i>	13.1	-4.0	6.5	7.7	4.5	-10.2	11.0	5.2	4.5	0.8
Gross fixed capital formation	<i>bill. CZK 2015</i>	1 227	1 190	1 248	1 374	1 455	1 350	1 412	1 488	1 558	1 571
	<i>growth in %</i>	9.7	-3.0	4.9	10.0	5.9	-7.2	4.6	5.4	4.7	0.8
Change in stocks and valuables	<i>bill. CZK 2015</i>	67	53	75	51	34	-12	73	73	73	73
Exports of goods and services	<i>bill. CZK 2015</i>	3 726	3 888	4 168	4 322	4 386	4 083	4 342	4 591	4 802	4 961
	<i>growth in %</i>	6.0	4.3	7.2	3.7	1.5	-6.9	6.4	5.7	4.6	3.3
Imports of goods and services	<i>bill. CZK 2015</i>	3 451	3 549	3 771	3 989	4 051	3 773	4 187	4 418	4 643	4 780
	<i>growth in %</i>	6.8	2.8	6.3	5.8	1.5	-6.9	11.0	5.5	5.1	2.9
Gross domestic expenditure	<i>bill. CZK 2015</i>	4 351	4 404	4 592	4 810	4 963	4 682	4 935	5 125	5 253	5 338
	<i>growth in %</i>	6.0	1.2	4.3	4.8	3.2	-5.7	5.4	3.8	2.5	1.6
Methodological discrepancy³⁾	<i>bill. CZK 2015</i>	0	0	-1	3	3	11	34	31	34	33
Real gross domestic income	<i>bill. CZK 2015</i>	4 625	4 780	4 988	5 148	5 323	5 075	5 215	5 405	5 532	5 651
	<i>growth in %</i>	5.7	3.4	4.3	3.2	3.4	-4.7	2.8	3.6	2.4	2.1
Contributions to GDP growth⁴⁾											
Gross domestic expenditure	<i>pp</i>	5.6	1.2	3.9	4.4	3.0	-5.3	5.0	3.7	2.4	1.6
Consumption	<i>pp</i>	2.2	2.3	2.3	2.4	1.8	-2.5	2.2	2.2	1.1	1.3
Household expenditure	<i>pp</i>	1.9	1.8	1.9	1.7	1.3	-3.2	1.7	2.1	0.9	1.1
Government expenditure	<i>pp</i>	0.3	0.5	0.3	0.7	0.5	0.7	0.5	0.1	0.2	0.3
Gross capital formation	<i>pp</i>	3.4	-1.1	1.7	2.0	1.2	-2.8	2.8	1.4	1.2	0.2
Gross fixed capital formation	<i>pp</i>	2.5	-0.8	1.2	2.5	1.6	-2.0	1.2	1.4	1.2	0.2
Change in stocks	<i>pp</i>	0.9	-0.3	0.5	-0.5	-0.3	-0.9	1.6	0.0	0.0	0.0
Foreign balance	<i>pp</i>	-0.2	1.4	1.2	-1.2	0.0	-0.5	-2.5	0.4	-0.2	0.4
External balance of goods	<i>pp</i>	-1.0	1.0	0.9	-1.0	0.4	-0.4	-2.4	0.3	-0.1	0.4
External balance of services	<i>pp</i>	0.8	0.4	0.3	-0.2	-0.4	-0.1	-0.1	0.1	-0.1	0.0
Gross value added	<i>bill. CZK 2015</i>	4 165	4 269	4 491	4 643	4 783	4 515	.	.	.	.
	<i>growth in %</i>	4.8	2.5	5.2	3.4	3.0	-5.6	.	.	.	.
Net taxes and subsidies on products	<i>bill. CZK 2015</i>	460	474	497	504	521	481	.	.	.	.

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

		2020				2021			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
							Estimate	Forecast	
Gross domestic product	<i>bill. CZK 2015</i>	1 230	1 192	1 280	1 294	1 197	1 297	1 308	1 320
	<i>growth in %</i>	-1.0	-10.8	-5.7	-5.4	-2.7	8.8	2.2	2.0
	<i>growth in %¹⁾</i>	-1.5	-10.9	-5.4	-5.3	-2.5	8.1	2.8	1.9
	<i>QoQ in %¹⁾</i>	-3.4	-8.9	6.8	0.7	-0.4	1.0	1.4	0.0
Private consumption expenditure²⁾	<i>bill. CZK 2015</i>	584	563	601	584	546	607	622	643
	<i>growth in %</i>	-2.1	-9.9	-5.1	-9.8	-6.4	7.7	3.5	10.1
Government consumption exp.	<i>bill. CZK 2015</i>	237	242	240	286	239	250	252	288
	<i>growth in %</i>	3.9	1.8	0.5	7.2	0.9	3.1	5.2	0.5
Gross capital formation	<i>bill. CZK 2015</i>	316	344	351	327	325	391	420	349
	<i>growth in %</i>	-0.4	-4.2	-14.7	-18.6	2.8	13.7	19.7	6.7
Gross fixed capital formation	<i>bill. CZK 2015</i>	302	327	345	376	292	342	370	407
	<i>growth in %</i>	-3.2	-4.4	-8.8	-11.1	-3.4	4.9	7.5	8.1
Change in stocks and valuables	<i>bill. CZK 2015</i>	14	17	6	-49	33	48	49	-58
Exports of goods and services	<i>bill. CZK 2015</i>	1 061	851	1 018	1 152	1 088	1 122	1 021	1 111
	<i>growth in %</i>	-2.5	-23.9	-4.6	3.5	2.5	31.9	0.3	-3.6
Imports of goods and services	<i>bill. CZK 2015</i>	968	814	930	1 060	1 005	1 081	1 018	1 084
	<i>growth in %</i>	-1.9	-18.8	-6.5	-0.7	3.8	32.7	9.5	2.2
Gross domestic expenditure	<i>bill. CZK 2015</i>	1 137	1 151	1 192	1 202	1 111	1 247	1 293	1 283
	<i>growth in %</i>	-0.4	-5.9	-7.0	-8.8	-2.3	8.4	8.5	6.8
Methodological discrepancy³⁾	<i>bill. CZK 2015</i>	0	6	0	4	3	8	10	13
Real gross domestic income	<i>bill. CZK 2015</i>	1 241	1 211	1 301	1 322	1 227	1 326	1 324	1 339
	<i>growth in %</i>	-0.7	-9.7	-4.2	-3.8	-1.2	9.5	1.7	1.3
Gross value added	<i>bill. CZK 2015</i>	1 122	1 074	1 155	1 164	1 092	1 172	.	.
	<i>growth in %</i>	-0.5	-11.0	-5.5	-5.1	-2.7	9.1	.	.
	<i>growth in %¹⁾</i>	-1.1	-11.1	-5.2	-5.0	-2.5	8.4	.	.
	<i>QoQ in %¹⁾</i>	-3.0	-9.5	7.2	0.9	-0.4	0.6	.	.
Net taxes and subsidies on products	<i>bill. CZK 2015</i>	107	118	125	130	103	125	.	.

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

		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
								Forecast	Forecast	Outlook	Outlook
Gross domestic product	<i>bill. CZK</i>	4 625	4 797	5 111	5 410	5 790	5 695	6 038	6 498	6 793	7 070
	<i>growth in %</i>	6.4	3.7	6.5	5.8	7.0	-1.7	6.0	7.6	4.6	4.1
Private consumption expenditure ¹⁾	<i>bill. CZK</i>	2 181	2 273	2 420	2 568	2 711	2 596	2 773	3 073	3 212	3 354
	<i>growth in %</i>	3.9	4.2	6.5	6.1	5.6	-4.3	6.8	10.8	4.5	4.4
Government consumption exp.	<i>bill. CZK</i>	875	910	959	1 049	1 133	1 232	1 316	1 347	1 381	1 420
	<i>growth in %</i>	4.1	4.0	5.4	9.4	8.1	8.7	6.8	2.4	2.5	2.8
Gross capital formation	<i>bill. CZK</i>	1 294	1 248	1 348	1 472	1 599	1 478	1 682	1 806	1 927	1 980
	<i>growth in %</i>	14.5	-3.6	8.0	9.2	8.7	-7.6	13.8	7.4	6.7	2.8
Gross fixed capital formation	<i>bill. CZK</i>	1 227	1 196	1 273	1 423	1 568	1 495	1 595	1 719	1 839	1 891
	<i>growth in %</i>	11.2	-2.5	6.4	11.7	10.2	-4.7	6.7	7.8	7.0	2.8
Change in stocks and valuables	<i>bill. CZK</i>	67	52	74	49	31	-17	87	87	88	89
External balance	<i>bill. CZK</i>	275	366	384	321	347	389	267	271	273	315
Exports of goods and services	<i>bill. CZK</i>	3 726	3 795	4 039	4 163	4 279	4 042	4 471	4 846	5 147	5 368
	<i>growth in %</i>	4.6	1.8	6.4	3.1	2.8	-5.5	10.6	8.4	6.2	4.3
Imports of goods and services	<i>bill. CZK</i>	3 451	3 429	3 654	3 842	3 932	3 654	4 204	4 575	4 874	5 053
	<i>growth in %</i>	5.0	-0.7	6.6	5.1	2.3	-7.1	15.1	8.8	6.5	3.7
Gross national income	<i>bill. CZK</i>	4 308	4 473	4 821	5 113	5 440	5 496	5 792	6 221	6 495	6 749
	<i>growth in %</i>	6.4	3.8	7.8	6.0	6.4	1.0	5.4	7.4	4.4	3.9
Primary income balance	<i>bill. CZK</i>	-317	-324	-289	-297	-350	-199	-247	-277	-299	-321

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

		2020				2021			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
								Estimate	Forecast
Gross domestic product	<i>bill. CZK</i>	1 371	1 349	1 460	1 515	1 385	1 530	1 535	1 589
	<i>growth in %</i>	2.8	-7.0	-1.5	-0.5	1.0	13.4	5.1	4.9
Private consumption expenditure ¹⁾	<i>bill. CZK</i>	647	627	671	651	613	691	720	749
	<i>growth in %</i>	1.5	-7.1	-2.7	-8.1	-5.3	10.2	7.4	15.0
Government consumption exp.	<i>bill. CZK</i>	278	288	293	374	287	319	324	385
	<i>growth in %</i>	9.4	5.3	4.7	14.6	3.5	10.8	10.8	3.0
Gross capital formation	<i>bill. CZK</i>	344	377	388	368	367	443	468	404
	<i>growth in %</i>	2.5	-1.9	-12.2	-15.7	6.7	17.4	20.6	9.6
Gross fixed capital formation	<i>bill. CZK</i>	330	360	383	421	325	384	420	465
	<i>growth in %</i>	-0.3	-1.8	-6.3	-8.6	-1.4	6.6	9.7	10.5
Change in stocks and valuables	<i>bill. CZK</i>	14	17	5	-53	41	59	48	-62
External balance	<i>bill. CZK</i>	103	56	109	121	118	77	22	51
Exports of goods and services	<i>bill. CZK</i>	1 037	853	1 002	1 150	1 096	1 149	1 073	1 153
	<i>growth in %</i>	-2.4	-22.0	-3.8	6.4	5.6	34.7	7.1	0.3
Imports of goods and services	<i>bill. CZK</i>	935	796	893	1 029	977	1 072	1 051	1 103
	<i>growth in %</i>	-2.2	-18.4	-7.9	-0.1	4.6	34.6	17.7	7.1

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

		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
								Forecast	Forecast	Outlook	Outlook
GDP	<i>bill. CZK</i>	4 625	4 797	5 111	5 410	5 790	5 695	6 038	6 498	6 793	7 070
	<i>growth in %</i>	6.4	3.7	6.5	5.8	7.0	-1.7	6.0	7.6	4.6	4.1
Balance of taxes and subsidies	<i>bill. CZK</i>	434	454	493	504	534	448	467	581	622	636
	<i>% of GDP</i>	9.4	9.5	9.7	9.3	9.2	7.9	7.7	8.9	9.2	9.0
	<i>growth in %</i>	13.0	4.8	8.6	2.2	6.0	-16.1	4.3	24.4	6.9	2.4
Taxes on production and imports	<i>bill. CZK</i>	570	595	635	656	696	659	.	.	.	.
	<i>growth in %</i>	9.6	4.4	6.6	3.3	6.2	-5.3	.	.	.	.
Subsidies on production	<i>bill. CZK</i>	137	141	142	152	162	211	.	.	.	.
	<i>growth in %</i>	-0.1	3.2	0.4	7.2	6.7	30.4	.	.	.	.
Compensation of employees <i>(domestic concept)</i>	<i>bill. CZK</i>	1 891	2 003	2 185	2 399	2 586	2 621	2 762	2 861	2 982	3 112
	<i>% of GDP</i>	40.9	41.7	42.8	44.3	44.7	46.0	45.7	44.0	43.9	44.0
	<i>growth in %</i>	5.1	5.9	9.1	9.8	7.8	1.4	5.4	3.6	4.3	4.3
Wages and salaries	<i>bill. CZK</i>	1 455	1 538	1 680	1 842	1 986	1 990	2 096	2 203	2 296	2 396
	<i>growth in %</i>	5.0	5.7	9.2	9.6	7.8	0.2	5.3	5.1	4.3	4.3
Social security contributions	<i>bill. CZK</i>	437	464	505	557	599	631	666	658	686	716
	<i>growth in %</i>	5.5	6.4	8.7	10.3	7.6	5.4	5.4	-1.2	4.3	4.3
Gross operating surplus	<i>bill. CZK</i>	2 300	2 340	2 432	2 506	2 670	2 625	2 809	3 056	3 189	3 322
	<i>% of GDP</i>	49.7	48.8	47.6	46.3	46.1	46.1	46.5	47.0	46.9	47.0
	<i>growth in %</i>	6.4	1.7	4.0	3.0	6.5	-1.7	7.0	8.8	4.4	4.2
Consumption of capital	<i>bill. CZK</i>	957	988	1 022	1 074	1 153	1 225	1 273	1 344	1 412	1 474
	<i>growth in %</i>	3.8	3.2	3.5	5.0	7.4	6.2	3.9	5.6	5.1	4.4
Net operating surplus	<i>bill. CZK</i>	1 343	1 352	1 410	1 433	1 517	1 400	1 536	1 712	1 777	1 847
	<i>growth in %</i>	8.3	0.6	4.3	1.6	5.9	-7.7	9.7	11.4	3.8	4.0

Source: CZSO. Calculations and forecast of the MoF.

Table 3.1.6: GDP by Type of Income – quarterly

		2020				2021			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
								Estimate	Forecast
GDP	<i>bill. CZK</i>	1 371	1 349	1 460	1 515	1 385	1 530	1 535	1 589
	<i>growth in %</i>	2.8	-7.0	-1.5	-0.5	1.0	13.4	5.1	4.9
Balance of taxes and subsidies	<i>bill. CZK</i>	101	109	133	105	71	115	146	135
	<i>growth in %</i>	-8.8	-21.1	-10.0	-23.7	-28.9	5.6	9.3	28.3
Compensation of employees <i>(domestic concept)</i>	<i>bill. CZK</i>	642	630	640	709	651	701	695	716
	<i>growth in %</i>	3.9	-2.5	0.3	3.8	1.3	11.2	8.5	1.0
	Wages and salaries	<i>bill. CZK</i>	493	464	498	535	484	528	533	551
	<i>growth in %</i>	4.2	-6.2	1.3	1.6	-1.9	13.6	7.1	3.2
Social security contributions	<i>bill. CZK</i>	149	166	142	174	166	173	162	165
	<i>growth in %</i>	2.8	9.5	-2.8	11.3	11.7	4.4	13.6	-5.6
Gross operating surplus	<i>bill. CZK</i>	628	610	687	700	663	714	694	738
	<i>growth in %</i>	3.8	-8.5	-1.4	-0.3	5.6	17.1	1.1	5.3

Source: CZSO. Calculations and forecast of the MoF.

3.2 Prices

In the initial phase of the coronavirus pandemic, aggregate supply and demand were constrained, with ambiguous implications for inflation. The global economy recovered relatively quickly after the downturn in the first half of 2020. This was facilitated by expansionary fiscal and monetary policies. However, the supply side is still affected by the pandemic and is unable to respond adequately to rising demand. There are transport disruptions, supply frictions and production shutdowns. These developments have resulted in price rises, which were first evident in commodity markets but are gradually being reflected in other price categories.

In the Czech Republic, annual **consumer price** inflation in September 2021 was 4.9% (vs. 3.8%), and was thus well above the upper bound of the tolerance band of the CNB's inflation target. The deviation of the observed price developments from the forecast was exclusively due to market factors, in particular core inflation. In terms of consumer basket sections, the housing section (1.2 pp) contributed most to the September annual inflation, with imputed rent (owner-occupied housing costs) rising by 10.3%. The second largest contribution was recorded in the transport section (1.1 pp), where the prices of fuels and oils increased by 20.4% and cars by 6.0%. The contribution of the alcoholic beverages, tobacco division was also significant (0.6 pp), where the increase in the price of tobacco products was supported by an increase in excise duties. The year-on-year inflation was almost entirely driven by market factors. The contribution of administrative measures was only 0.2 pp, driven by the increase in excise duties.

In 2019 and 2020, the average inflation rate was elevated, close to 3%. We expect inflation to accelerate further in 2021 and 2022. We are raising our inflation forecast substantially not only because of the aforementioned deviation of year-on-year inflation from the previous forecast, but also because of supply-side frictions, which we see as an increasingly significant inflationary factor. Another reason is the higher projected growth in electricity and natural gas prices. However, an escalation in these prices may lead to regulatory intervention. Their forecasts are thus burdened with significant risks, including the approval of an amendment to the Value Added Tax Act, which would exempt electricity and gas supplies from the 21% tax in 2022, and the approval of amendments to the Law on Supported Energy Sources and the Law on the Conditions for Trading Greenhouse Gas Emission Allowances. As a result, these would mean that in 2022 and 2023, households would not pay the part of the regulated electricity price related to the subsidies of renewable energy sources, which amounts to approximately 12% of the total electricity price.

In 2021, inflation should be dominated by market factors. Administrative measures are likely to contribute only 0.1 pp to the average inflation rate (vs. 0.3 pp). The

adjustment to the forecast reflects the waiving of value added tax on electricity and gas in November and December. Inflationary factors in 2021 include supply-side frictions, a significant rise in oil and other commodity prices and, to some extent, a rise in unit labour costs. The appreciation of the Czech koruna against both major world currencies and, to some extent, the negative output gap should act in the direction of lower inflation. Annual inflation is likely to accelerate significantly in the remainder of this year. We expect the **average inflation rate** to reach 3.5% in 2021 (vs. 3.2%).

In 2022, the average inflation rate should reflect administrative measures more strongly, especially increases in administered prices. Among these, the most significant will be increases in the price of electricity and natural gas. As regards changes in indirect taxes, we expect further, albeit more modest compared to 2021, increase in excise duties on tobacco products. The administrative measures should contribute 2.3 pp to the average inflation rate (vs. 1.1 pp). The higher forecast mainly reflects an increase in the contribution of administered prices (mainly electricity and gas).

According to forecast assumptions, the oil price should be essentially flat next year, which should reduce supply pressure on consumer price growth, although frictions in supply chains are likely to persist. Conversely, demand factors should work towards higher inflation, as the output gap should already be positive and household consumption should recover strongly. The decline in unit labour costs should have a dampening effect on inflation. The appreciation of the Czech koruna against both major world currencies could also have a weak anti-inflationary effect. In line with the above, we expect the **average inflation rate** to reach 6.1% in 2022 (vs. 3.5%).

The lower forecast for the average inflation rate measured by the HICP compared to the national CPI in 2021 and 2022 (see Tables 3.2.1 and 3.2.2) is mainly due to the aforementioned rapid growth in imputed rents, which are not included in the HICP.

In Q2 2021, **GDP deflator** increased by 4.3% (vs. 3.5%), with gross domestic expenditure deflator rising by 3.8% (*in line with the estimate*) and terms of trade improving by 0.7% (vs. *deteriorating* by 0.4%). In 2021, GDP deflator is expected to increase by 3.4% (vs. 2.9%). The decline in dynamics compared to 2020 will be due to a lower contribution of terms of trade, while the growth of gross domestic expenditure deflator should remain almost unchanged. In 2022, GDP deflator could also increase by 3.4% (vs. 2.1%), but the structure should undergo substantial changes. The positive contribution of terms of trade should disappear. The pace of gross domestic expenditure deflator should accelerate, despite the slowdown in the growth of government consump-

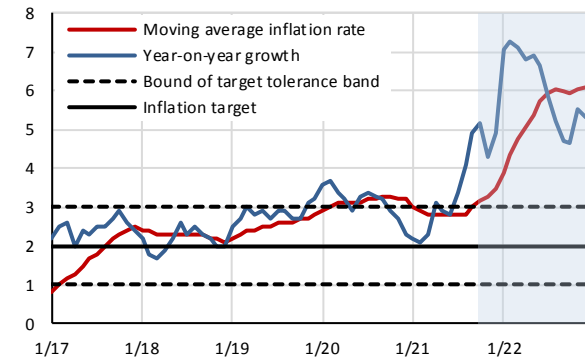
tion deflator, due to the marked acceleration in consumer prices.

The expected development of export and import prices would be influenced in 2021 by a strong increase in oil prices and renewed appreciation of the koruna, which is

expected to continue in subsequent periods. As a result, terms of trade are expected to show a markedly lower year-on-year improvement of 0.3% this year (vs. 0.2%) and a deterioration of 0.6% in 2022 (unchanged).

Graph 3.2.1: Consumer Prices

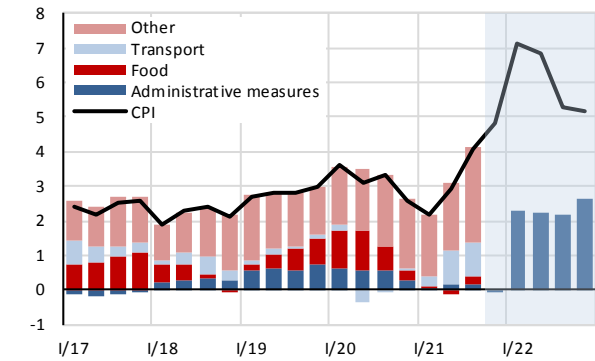
YoY growth rate in %



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

Graph 3.2.2: Consumer Prices in Main Divisions

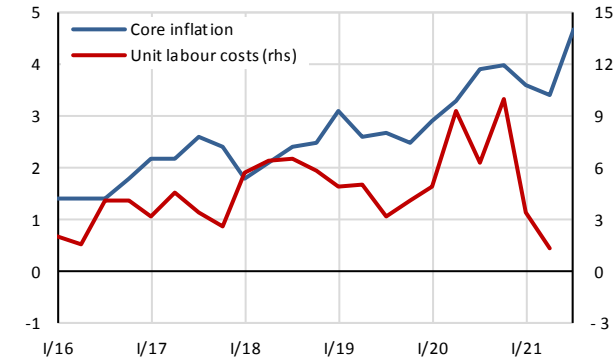
YoY growth of consumer price index in %, contributions in pp



Source: CZSO. Calculations and forecast of the MoF.

Graph 3.2.3: Core Inflation and Unit Labour Costs

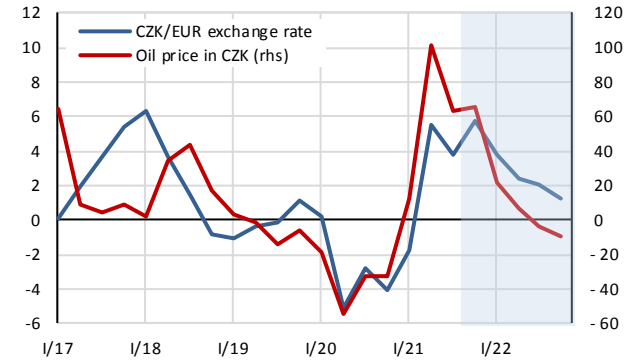
YoY growth rate in %



Source: CZSO. Calculations and forecast of the MoF.

Graph 3.2.4: CZK/EUR and Koruna Price of Oil

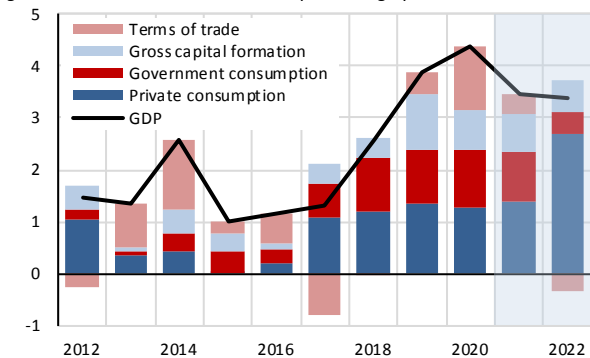
CZK/EUR appreciation, YoY change in CZK price of oil, in %



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

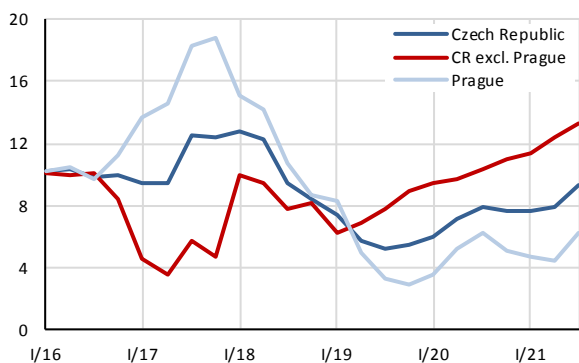
YoY growth rate in %



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, Q4 2010=100



Source: CZSO. Calculations and forecast of the MoF.

Table 3.2.1: Prices – yearly

		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
								Forecast	Forecast	Outlook	Outlook
Consumer Price Index											
Level	average 2015=100	100.0	100.7	103.1	105.3	108.3	111.8	115.7	122.7	125.8	128.6
Average inflation rate	%	0.3	0.7	2.5	2.1	2.8	3.2	3.5	6.1	2.5	2.2
Administrative measures ¹⁾	percentage points	0.2	0.2	-0.1	0.3	0.6	0.5	0.1	2.3	0.4	0.3
Market increase	percentage points	0.1	0.5	2.6	1.8	2.2	2.7	3.4	3.8	2.1	1.9
Harmonized index of consumer prices											
Level	average 2015=100	100.0	100.7	103.1	105.1	107.8	111.4	114.7	120.9	123.8	126.3
Average inflation rate	growth in %	0.3	0.6	2.4	2.0	2.6	3.3	3.0	5.4	2.3	2.0
Deflators											
GDP	average 2015=100	100.0	101.1	102.5	105.1	109.2	114.0	117.9	121.9	124.7	127.2
	growth in %	1.0	1.1	1.3	2.6	3.9	4.4	3.4	3.4	2.3	2.1
Gross domestic expenditure	average 2015=100	100.0	100.6	102.9	105.8	109.7	113.3	116.9	121.5	124.1	126.5
	growth in %	0.8	0.6	2.3	2.8	3.7	3.3	3.2	3.9	2.2	1.9
Consumption of households	average 2015=100	100.0	100.4	102.7	105.3	108.3	111.3	114.7	121.4	124.4	127.1
	growth in %	0.0	0.4	2.3	2.5	2.8	2.8	3.0	5.9	2.5	2.1
Consumption of government	average 2015=100	100.0	101.4	105.0	110.6	116.6	122.6	127.9	130.4	132.4	134.2
	growth in %	2.3	1.4	3.5	5.4	5.4	5.1	4.4	2.0	1.5	1.4
Fixed capital formation	average 2015=100	100.0	100.5	102.0	103.6	107.7	110.7	113.0	115.5	118.0	120.4
	growth in %	1.3	0.5	1.5	1.6	4.0	2.8	2.0	2.3	2.2	2.0
Exports of goods and services	average 2015=100	100.0	97.6	96.9	96.3	97.5	99.0	103.0	105.6	107.2	108.2
	growth in %	-1.3	-2.4	-0.7	-0.6	1.3	1.5	4.0	2.5	1.5	1.0
Imports of goods and services	average 2015=100	100.0	96.6	96.9	96.3	97.1	96.8	100.4	103.6	105.0	105.7
	growth in %	-1.7	-3.4	0.3	-0.6	0.8	-0.2	3.7	3.1	1.4	0.7
Terms of trade	average 2015=100	100.0	101.0	100.0	100.0	100.5	102.2	102.6	101.9	102.1	102.4
	growth in %	0.4	1.0	-1.0	0.0	0.5	1.7	0.3	-0.6	0.2	0.3

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

		2020				2021			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3 <i>Estimate</i>	Q4 <i>Forecast</i>
Consumer Price Index	<i>average 2015=100</i>	111.2	111.5	112.4	112.0	113.6	114.7	117.0	117.4
	<i>growth in %</i>	3.6	3.1	3.3	2.6	2.2	2.9	4.1	4.8
Of which the contribution of:									
Administrative measures ¹⁾	<i>percentage points</i>	0.6	0.5	0.6	0.3	0.0	0.1	0.1	-0.1
Market increase	<i>percentage points</i>	3.0	2.6	2.7	2.3	2.2	2.8	4.0	4.9
Harmonized index of consumer prices	<i>average 2015=100</i>	110.7	111.1	112.1	111.6	113.1	114.2	115.7	115.8
	<i>growth in %</i>	3.7	3.3	3.5	2.7	2.2	2.8	3.2	3.8
Deflators									
GDP	<i>average 2015=100</i>	111.5	113.1	114.1	117.0	115.8	118.0	117.3	120.3
	<i>growth in %</i>	3.8	4.2	4.4	5.1	3.8	4.3	2.9	2.8
Gross domestic expenditure	<i>average 2015=100</i>	111.5	112.3	113.4	115.9	114.0	116.5	117.0	119.9
	<i>growth in %</i>	3.8	3.0	3.0	3.8	2.2	3.8	3.2	3.4
Consumption of households	<i>average 2015=100</i>	110.9	111.3	111.6	111.4	112.2	113.9	115.7	116.4
	<i>growth in %</i>	3.7	3.1	2.5	1.9	1.2	2.3	3.7	4.5
Consumption of government	<i>average 2015=100</i>	117.2	118.8	122.0	130.6	120.2	127.7	128.6	133.9
	<i>growth in %</i>	5.3	3.4	4.2	6.9	2.6	7.4	5.4	2.5
Fixed capital formation	<i>average 2015=100</i>	109.1	110.3	111.1	111.9	111.4	112.2	113.4	114.4
	<i>growth in %</i>	3.1	2.7	2.7	2.8	2.1	1.7	2.0	2.2
Exports of goods and services	<i>average 2015=100</i>	97.8	100.3	98.4	99.8	100.7	102.4	105.0	103.8
	<i>growth in %</i>	0.1	2.5	0.9	2.7	3.0	2.1	6.8	4.0
Imports of goods and services	<i>average 2015=100</i>	96.5	97.9	96.0	97.1	97.3	99.2	103.3	101.8
	<i>growth in %</i>	-0.4	0.5	-1.5	0.5	0.8	1.4	7.5	4.8
Terms of trade	<i>average 2015=100</i>	101.3	102.5	102.4	102.8	103.5	103.2	101.7	102.0
	<i>growth in %</i>	0.5	2.0	2.4	2.2	2.2	0.7	-0.7	-0.8

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

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

3.3 Labour Market

Labour market developments were only slightly affected by the termination of government support programmes. The unemployment rate has been virtually stagnant at around 3% in recent months, contributing to strong earnings growth.

Employment fell by 0.8% YoY in Q2 2021, according to the LFS. The number of employees increased by 0.5%, while the total number of entrepreneurs decreased by 7.2%. The number of own-account workers was down by 6.9% YoY, while the number of entrepreneurs with employees fell by 5.4% (this indicator is, however, highly volatile). The number of contributing family workers fell by more than a quarter.

According to official job vacancy data, a shortage of employees was evident in most sectors and regions in Q3 of this year. In September, more vacancies than registered unemployed were reported in 46 districts or 9 regions. However, far from all vacancies registered by the labour offices can be considered active. Of the vacancies advertised on the labour office's website, approximately 44% were active at the forecast cut-off date (vacancies for which the last change occurred after 1 May 2021 and the start date was on or after 1 August 2021). In the construction sector, staff shortages continue to be a major barrier to output growth.

Despite the fading effects of the economic downturn, demand for foreign workers remains very strong. Their number rose by 65,000 year-on-year to 720,000 in September. Workers from Slovakia and Ukraine have been predominant for a long time.

Government measures to cushion the impact of the COVID-19 epidemic and related restrictive measures were discontinued in Q3. We expect employment to increase modestly quarter-on-quarter from Q3 2021 onwards due to the economic recovery. However, for the whole of this year, it should fall by 0.5% (vs. 1.0%) due to developments in the first half of the year. In 2022, employment could rise by 0.8% (vs. 0.4%).

The **unemployment rate** (LFS) declined to 3.0% in Q2 2021. In addition to continued government support programs, persistent labour shortages in some occupations have helped. Although the lagged effects of the recession have been partially felt this year, the high number of job vacancies and employed foreigners limit the scope for unemployment to rise. The unemployment rate should gradually decline slightly as economic activity picks up. It could reach 3.0% on average this year (*unchanged*), and is forecast to fall to 2.7% in 2022 (*unchanged*).

The **share of unemployed persons** (MoLSA) in the labour office registers is already falling year-on-year, reaching 3.7% in Q3 (*in line with the forecast*). We expect it to av-

erage 3.8% this year (*unchanged*) and fall slightly to 3.6% in 2022 (*unchanged*).

We estimate that the **participation rate** (20–64 year olds) reached 82.3% in Q3 2021 (vs. 81.2%) and could rise slightly to 82.2% (vs. 81.6%) on average for the full year. The increase in the statutory retirement age and demographic aspects in the form of a growing share of age groups with a naturally high economic activity rate (especially 45–54 years) will play a dominant role over the forecast horizon. However, a decline in the participation rate of pre-retirement age individuals, who could retire early at an increased rate, may have the opposite effect. The participation rate could thus rise to 82.6% in 2022 (vs. 81.8%).

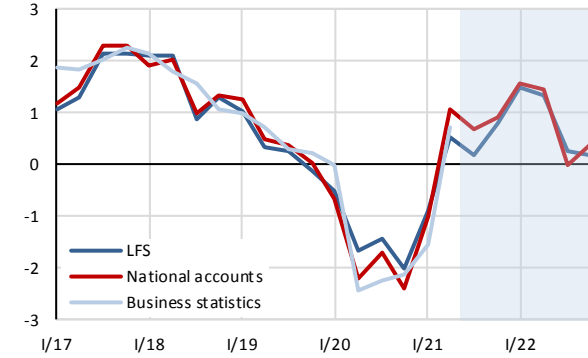
Wages and salaries increased by 13.6% in the second quarter of this year (vs. 9.5%), the highest rate since 1996. However, the high dynamism was largely influenced by the base effect and the extraordinary bonuses related to the epidemic that were paid in some parts of the government sector. Thus, the public administration, defence, education and health care and social work sector recorded the fastest growth rate (21.7%). In the most economically important sector, manufacturing, earnings increased by 15% on a slight 0.3% increase in the number of employees, but largely due to compensation paid from the Antivirus programme in Q2 last year, which are not classified as part of wages and salaries.

Monthly data for July and August of this year suggest that the average wage in industry may have increased by about 6% in Q3 2021. Rising headcount and the payment of a portion of epidemic-related bonuses in the government sector likely contributed to the economy's earnings momentum in Q3. Thus, we estimate that wages and salaries grew by 7.1% (vs. 2.5%) in Q3 2021 and could increase by 5.3% (vs. 2.9%) for the full year 2021. Persistent labour market frictions should once again be the dominant factor in wage developments in market sectors. Strong labour demand could support average wage and employment dynamics next year. Wages and salaries could thus grow by 5.1% in 2022 (vs. 3.9%).

The **average wage** (business statistics, full-time equivalent) increased by 11.3% in Q2 2021 (vs. 11.1%), while the median wage rose almost equally (by 11.5%). In addition to the unprecedented level of extraordinary remuneration in the healthcare sector and the increase in salary scales, the number of hours worked was significantly higher year-on-year. Given the above factors, average wage in the private sector could maintain strong momentum next year, but salaries in the general government sector should grow more slowly (partly due to bonuses paid this year). Thus, the average wage could rise by 5.8% this year (vs. 5.3%), and slow to 4.6% in 2022 (vs. 3.3%).

Graph 3.3.1: Employees in Different Statistics

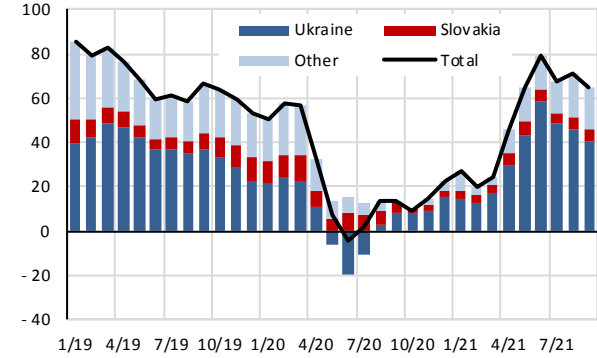
YoY growth rate in%



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 and forecast of the MoF.

Graph 3.3.3: Indicators of Unemployment

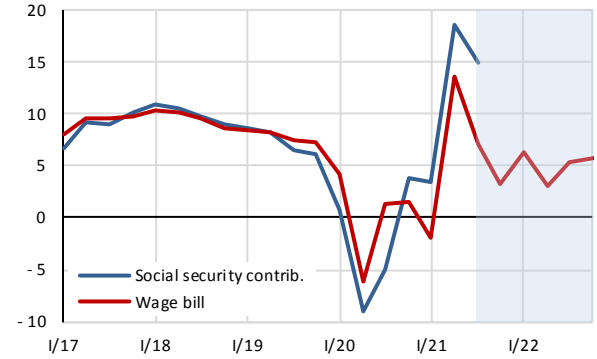
seasonally adjusted data, in%



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

Graph 3.3.4: Social Security Contributions and Earnings

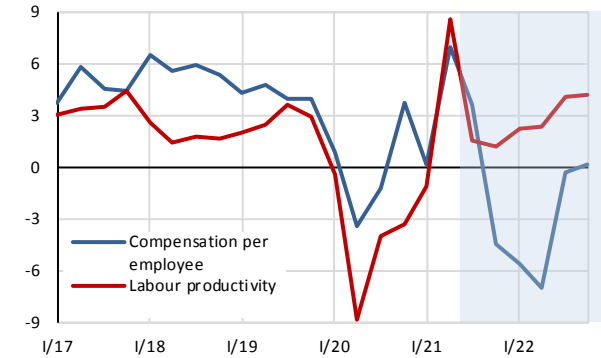
YoY growth rate in%



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

Graph 3.3.5: Compens. per Employee and Productivity

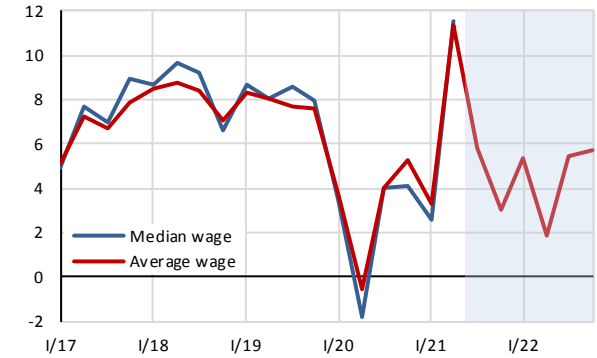
YoY growth rate in%



Source: CZSO. Calculations and forecast of the MoF.

Graph 3.3.6: Nominal Monthly Wages

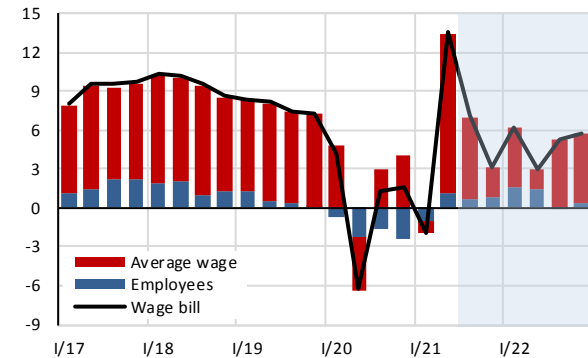
YoY growth rate in%



Source: CZSO. Calculations and forecast of the MoF.

Graph 3.3.7: Nominal Wage Bill

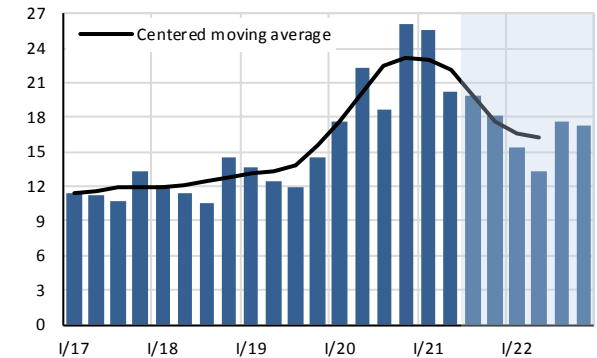
YoY growth rate in %, domestic concept of the wage bill



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

		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
								Forecast	Forecast	Outlook	Outlook
Labour Force Survey											
Employment	<i>av. in thous.persons</i>	5 042	5 139	5 222	5 294	5 303	5 235	5 208	5 248	5 254	5 260
	<i>growth in %</i>	1.4	1.9	1.6	1.4	0.2	-1.3	-0.5	0.8	0.1	0.1
Employees	<i>av. in thous.persons</i>	4 168	4 257	4 327	4 396	4 412	4 351	4 357	4 393	4 400	4 406
	<i>growth in %</i>	2.2	2.1	1.7	1.6	0.4	-1.4	0.1	0.8	0.2	0.1
Entrepreneurs and self-employed	<i>av. in thous.persons</i>	874	882	894	897	891	884	850	854	854	855
	<i>growth in %</i>	-2.4	1.0	1.4	0.4	-0.8	-0.7	-3.8	0.5	0.0	0.1
Unemployment	<i>av. in thous.persons</i>	268	211	156	122	109	137	162	146	142	136
Unemployment rate	<i>average in %</i>	5.1	4.0	2.9	2.2	2.0	2.6	3.0	2.7	2.6	2.5
Long-term unemployment¹⁾	<i>av. in thous.persons</i>	127	89	54	37	33	30	.	.	.	.
Labour force	<i>av. in thous.persons</i>	5 310	5 350	5 377	5 415	5 412	5 372	5 369	5 394	5 396	5 396
	<i>growth in %</i>	0.2	0.8	0.5	0.7	-0.1	-0.7	-0.1	0.5	0.0	0.0
Population aged 20–64	<i>av. in thous.persons</i>	6 566	6 510	6 456	6 414	6 383	6 355	6 316	6 278	6 253	6 239
	<i>growth in %</i>	-0.7	-0.9	-0.8	-0.7	-0.5	-0.4	-0.6	-0.6	-0.4	-0.2
Employment/Pop. 20–64	<i>average in %</i>	76.8	78.9	80.9	82.5	83.1	82.4	82.5	83.6	84.0	84.3
Employment rate 20–64²⁾	<i>average in %</i>	74.8	76.7	78.5	79.9	80.3	79.7	79.7	80.5	80.7	81.0
Labour force/Pop. 20–64	<i>average in %</i>	80.9	82.2	83.3	84.4	84.8	84.5	85.0	85.9	86.3	86.5
Participation rate 20–64³⁾	<i>average in %</i>	78.7	79.9	80.9	81.7	82.0	81.8	82.2	82.6	83.1	83.3
Participation rate 15–64³⁾	<i>average in %</i>	74.0	75.0	75.9	76.6	76.7	76.4	76.6	76.8	76.8	76.6
Registered unemployment											
Unemployment	<i>av. in thous.persons</i>	479	406	318	242	212	259	281	253	245	239
Share of unemployed⁴⁾	<i>average in %</i>	6.6	5.6	4.3	3.2	2.8	3.5	3.8	3.6	3.4	3.3
Wages and salaries											
Average monthly wage⁵⁾											
Nominal	<i>CZK monthly</i>	26 591	27 764	29 638	32 051	34 578	35 662	37 724	39 465	41 079	42 817
	<i>growth in %</i>	3.2	4.4	6.7	8.1	7.9	3.1	5.8	4.6	4.1	4.2
Real	<i>CZK 2015</i>	26 591	27 571	28 747	30 438	31 928	31 898	32 613	32 158	32 642	33 305
	<i>growth in %</i>	2.9	3.7	4.3	5.9	4.9	-0.1	2.2	-1.4	1.5	2.0
Median monthly wage	<i>CZK monthly</i>	22 414	23 692	25 398	27 561	29 851	30 592	.	.	.	.
	<i>growth in %</i>	2.9	5.7	7.2	8.5	8.3	2.5	.	.	.	.
Wage bill	<i>growth in %</i>	5.0	5.7	9.2	9.6	7.8	0.2	5.3	5.1	4.3	4.3
Labour productivity	<i>growth in %</i>	3.9	0.9	3.6	1.8	2.8	-4.2	2.5	3.2	2.0	1.7
Unit labour costs⁶⁾	<i>growth in %</i>	-0.8	3.0	3.5	6.1	4.3	7.7	2.4	-0.5	1.9	2.3
Compens. of employees / GDP	<i>%</i>	40.9	41.7	42.8	44.3	44.7	46.0	45.7	44.0	43.9	44.0

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

		2020				2021			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3 <i>Estimate</i>	Q4 <i>Forecast</i>
Labour Force Survey									
Employment	<i>av. in thous. persons</i>	5 277	5 213	5 233	5 217	5 166	5 171	5 239	5 256
	<i>YoY growth in %</i>	-0.5	-1.6	-1.4	-1.6	-2.1	-0.8	0.1	0.7
	<i>QoQ growth in %</i>	0.0	-1.2	0.0	-0.5	-0.6	0.2	1.1	0.1
Employees	<i>av. in thous. persons</i>	4 390	4 330	4 347	4 337	4 351	4 353	4 355	4 372
	<i>growth in %</i>	-0.5	-1.7	-1.4	-2.0	-0.9	0.5	0.2	0.8
Entrepreneurs and self-employed	<i>av. in thous. persons</i>	888	882	886	880	815	819	883	884
	<i>growth in %</i>	-0.7	-1.1	-1.2	0.1	-8.2	-7.2	-0.3	0.4
Unemployment	<i>av. in thous. persons</i>	106	126	154	162	179	159	159	150
Unemployment rate	<i>average in %</i>	2.0	2.4	2.9	3.0	3.4	3.0	2.9	2.8
Long-term unemployment ¹⁾	<i>av. in thous. persons</i>	29	26	31	35	40	45	.	.
Labour force	<i>av. in thous. persons</i>	5 384	5 339	5 387	5 379	5 345	5 330	5 397	5 406
	<i>growth in %</i>	-0.6	-1.1	-0.6	-0.6	-0.7	-0.2	0.2	0.5
Population aged 20–64	<i>av. in thous. persons</i>	6 374	6 355	6 358	6 333	6 333	6 321	6 310	6 299
	<i>growth in %</i>	-0.4	-0.5	-0.3	-0.6	-0.6	-0.5	-0.8	-0.5
Employment/Pop. 20–64	<i>average in %</i>	82.8	82.0	82.3	82.4	81.6	81.8	83.0	83.4
	<i>increase over a year</i>	-0.1	-0.9	-0.9	-0.9	-1.2	-0.2	0.7	1.1
Employment rate 20–64 ²⁾	<i>average in %</i>	80.1	79.4	79.7	79.7	79.0	79.2	80.0	80.4
	<i>increase over a year</i>	0.0	-0.8	-0.7	-0.8	-1.0	-0.2	0.3	0.6
Labour force/Pop. 20–64	<i>average in %</i>	84.5	84.0	84.7	84.9	84.4	84.3	85.5	85.8
	<i>increase over a year</i>	-0.1	-0.6	-0.3	-0.1	-0.1	0.3	0.8	0.9
Participation rate 20–64 ³⁾	<i>average in %</i>	81.7	81.3	82.0	82.1	82.2	81.7	82.3	82.6
	<i>increase over a year</i>	-0.1	-0.4	-0.1	-0.1	0.5	0.4	0.3	0.5
Participation rate 15–64 ³⁾	<i>average in %</i>	76.4	75.9	76.6	76.7	76.7	76.0	76.8	77.0
	<i>increase over a year</i>	-0.3	-0.6	-0.3	-0.2	0.3	0.1	0.2	0.3
Registered unemployment									
Unemployment	<i>av. in thous. persons</i>	226	256	277	277	307	291	269	256
Share of unemployed ⁴⁾	<i>average in %</i>	3.0	3.5	3.8	3.8	4.2	4.0	3.7	3.5
Wages and salaries									
Average monthly wage ⁵⁾									
Nominal	<i>CZK monthly</i>	34 197	34 382	35 487	38 584	35 329	38 275	37 543	39 751
	<i>growth in %</i>	3.8	-0.6	4.0	5.3	3.3	11.3	5.8	3.0
Real	<i>CZK 2015</i>	30 753	30 836	31 572	34 450	31 099	33 370	32 088	33 861
	<i>growth in %</i>	0.1	-3.6	0.7	2.7	1.1	8.2	1.6	-1.7
Median monthly wage	<i>CZK monthly</i>	29 137	29 054	31 258	32 920	29 904	32 408	.	.
	<i>growth in %</i>	3.5	-1.8	4.0	4.1	2.6	11.5	.	.
Wage bill	<i>growth in %</i>	4.2	-6.2	1.3	1.6	-1.9	13.6	7.1	3.2

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

		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
										Forecast	Forecast
Current income											
Compensation of employees	<i>bill.CZK</i>	1 751	1 825	1 923	2 038	2 223	2 430	2 599	2 646	2 785	2 887
	<i>growth in %</i>	1.5	4.2	5.4	6.0	9.1	9.3	7.0	1.8	5.3	3.6
Gross operating surplus and mixed income	<i>bill.CZK</i>	655	674	691	703	740	801	845	835	875	900
	<i>growth in %</i>	-0.7	3.0	2.4	1.7	5.2	8.3	5.5	-1.2	4.7	2.9
Property income received	<i>bill.CZK</i>	133	133	127	133	162	162	163	179	189	193
	<i>growth in %</i>	3.9	0.0	-4.3	4.1	21.9	0.2	0.5	10.0	5.2	2.6
Social benefits not-in-kind	<i>bill.CZK</i>	583	596	613	630	650	685	738	881	928	991
	<i>growth in %</i>	-0.8	2.2	2.8	2.8	3.2	5.4	7.7	19.3	5.4	6.8
Other current transfers received	<i>bill.CZK</i>	146	160	181	217	244	281	338	310	322	337
	<i>growth in %</i>	-3.1	9.2	13.3	19.4	12.8	15.1	20.4	-8.4	3.9	4.7
Current expenditure											
Property income paid	<i>bill.CZK</i>	21	16	14	14	13	19	28	27	23	24
	<i>growth in %</i>	40.5	-24.3	-10.7	0.2	-7.4	43.2	44.8	-3.1	-13.6	2.3
Curr. taxes on income and property	<i>bill.CZK</i>	185	197	205	227	264	309	316	308	249	244
	<i>growth in %</i>	3.5	6.5	3.9	10.8	16.3	16.9	2.2	-2.4	-19.3	-2.1
Social contributions	<i>bill.CZK</i>	670	696	732	775	836	911	976	1023	1 121	1 172
	<i>growth in %</i>	2.4	3.8	5.3	5.8	7.9	9.0	7.1	4.8	9.6	4.5
Other current transfers paid	<i>bill.CZK</i>	140	150	169	207	238	278	335	300	312	325
	<i>growth in %</i>	-9.3	7.3	12.5	22.4	15.3	16.5	20.6	-10.6	4.1	4.4
Gross disposable income	<i>bill.CZK</i>	2 251	2 328	2 414	2 497	2 666	2 842	3 029	3 194	3 393	3 544
	<i>growth in %</i>	0.2	3.4	3.7	3.4	6.8	6.6	6.6	5.4	6.3	4.4
Final consumption	<i>bill.CZK</i>	2 027	2 072	2 152	2 241	2 383	2 524	2 663	2 543	2 714	3 008
	<i>growth in %</i>	1.6	2.2	3.9	4.1	6.4	5.9	5.5	-4.5	6.7	10.8
Change in share in pension funds	<i>bill.CZK</i>	35	35	33	31	32	33	37	38	34	36
Gross savings	<i>bill.CZK</i>	260	292	295	286	315	350	404	689	713	572
Capital transfers											
<i>(income (-) / expenditure (+))</i>	<i>bill.CZK</i>	-13	-32	-12	-14	-11	-12	-13	-41	-33	-28
Gross capital formation	<i>bill.CZK</i>	203	214	220	237	216	261	297	292	309	317
	<i>growth in %</i>	1.7	5.2	2.9	7.9	-9.2	21.2	13.7	-1.8	5.9	2.5
Change in financial assets and liab.	<i>bill.CZK</i>	68	108	85	61	110	101	116	438	436	282
Real disposable income	<i>growth in %</i>	-0.5	2.6	3.7	3.0	4.4	4.0	3.7	2.6	3.2	-1.4
Gross savings rate	<i>%</i>	11.4	12.4	12.1	11.3	11.7	12.2	13.2	21.3	20.8	16.0

Source: CZSO. Calculations of the MoF.

3.4 External Relations

The **current account of the balance of payments** reached a surplus of 3.4% of GDP¹ in Q2 2021 (*in line with the estimate*). The year-on-year improvement in the balance of 2.8% of GDP was due to an increase in the surplus on the goods balance and, to a lesser extent, a lower deficit on the primary income balance.

Export markets grew by 16.3% YoY in Q2 2021. The strong dynamics mainly reflects GDP growth of the main trading partners, and to a lesser extent an increase in import intensity. Starting with this Macroeconomic Forecast, Italy and Hungary are newly included among the trading partners under review. This is due to their growing share in Czech exports. If the number of trading partners remained unchanged from the previous forecast, export markets growth would reach 16.1% in Q2 2021 (*vs. 15.2%*). We expect export markets to increase by 10.2% this year and by 5.5% in 2022.

Export performance rose by 15.1% in Q2 2021. Growth in manufacturing production contributed to a significant strengthening of performance, while the stronger exchange rate of the koruna dampened it. However, its momentum was also affected by the base effect due to last year's production shutdowns. Nevertheless, we expect a 3.3% decline in performance this year. The negative dynamics reflect the deepening problems of car manufacturers with component shortages, which led to forced production shutdowns in the second half of the year. For 2022, we estimate a slowdown in the decline in export performance to 0.1%, as the difficulties in supply chains are expected to subside gradually. A stronger appreciation of the koruna against the euro (see Chapter 1.4) should also weigh on the recovery of performance.

Within external trade (balance of payments methodology), the **goods trade** surplus rose to 5.6% of GDP in Q2 2021 (*in line with the estimate*). This was driven by a year-on-year improvement in the balance in the machinery and transport equipment group, which accounts for more than half of total goods exports. Within this group, exports of motor vehicles and electrical equipment increased. However, the resulting improvement in the goods balance needs to be seen in the context of the low comparative base caused by last year's production shutdowns related to the coronavirus epidemic.

Mineral fuel prices continue to be an important factor influencing **terms of trade** in external trade with goods. The deficit on the fuel part of the balance was 1.8% of GDP (*in line with the estimate*) in Q2 2021. Given the projected oil price (see Chapter 1.2), the deficit could widen to 2.1% of GDP this year (*unchanged*). For 2022, we estimate a slight reduction in the deficit of the mineral fuels class to 2.0% of GDP (*vs. 1.9% of GDP*).

We expect the goods surplus relative to GDP to reach 2.8% this year (*vs. 4.4%*). The deterioration in the forecast reflects the strong momentum in imports for investment purposes in July and August this year. The growth of the surplus will also be limited by shortages in supply chains and production cutbacks in the automotive industry. In 2022, we project a reduction in the surplus to 2.5% of GDP (*vs. 4.0% of GDP*) due to the deterioration in terms of trade and the acceleration in investment growth.

The **services balance** showed a surplus of 1.6% of GDP in Q2 2021 (*vs. 1.7% of GDP*). The slight year-on-year decline in the surplus was due to a deterioration in the tourism balance, which was, however, largely offset by a lower deficit in the other business services balance. Given the contraction in services activity in the first half of the year and the slow recovery in international tourism, we expect the services surplus to reach 1.6% of GDP this year (*unchanged*). In relative terms, the positive balance should remain at this level in 2022 (*vs. 1.7% of GDP*).

The **primary income** deficit widened slightly quarter-on-quarter to 3.2% of GDP in Q2 2021 (*in line with the estimate*). The increase in the deficit reflects income from direct investment in the form of dividends and reinvested earnings. Given the GDP and gross operating surplus forecasts, we estimate that profits of foreign-controlled firms will rise this year. Their profitability is likely to be lower due to production cutbacks and a decline in automotive revenues. The primary income deficit could thus be 3.9% of GDP (*vs. 4.1% of GDP*). The deficit could widen to 4.1% of GDP in 2022 (*vs. 4.4% of GDP*) due to continued growth in economic activity and hence in the profitability of non-resident-owned firms.

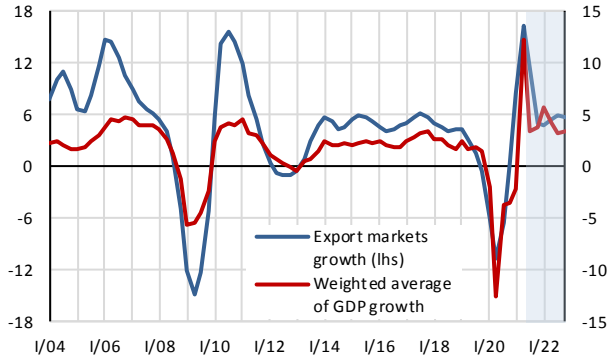
Against this background, we expect the **current account of the balance of payments** to fall into a moderate deficit of 0.1% of GDP this year (*vs. a surplus of 1.1% of GDP*). We also forecast a slight deficit of 0.3% of GDP in 2022 (*vs. a surplus of 0.5% of GDP*).

The **current external balance** (national accounts methodology) reached a surplus of 2.7% of GDP in Q2 2021 (see Graph 3.4.8). From a sectoral perspective, this was mainly driven by households, whose savings exceeded investment by 7.6% of GDP. In the general government sector, the relationship between savings and investment was reversed, with gross capital formation exceeding gross savings by 6.5% of GDP.

¹ All *quarterly* data relative to GDP are reported in annual moving totals.

Graph 3.4.1: GDP and Goods Imports of Partner Countries

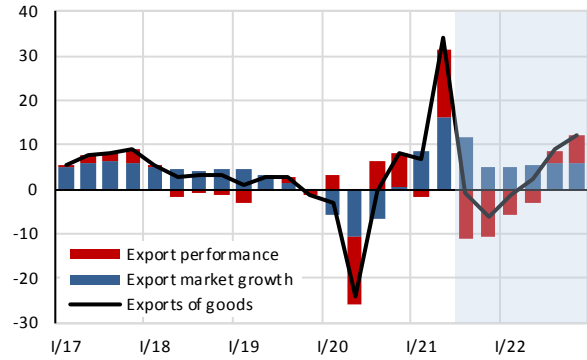
YoY growth rate in %, seasonally adjusted



Source: Eurostat. Calculations and forecast of the MoF.

Graph 3.4.2: Real Exports of Goods

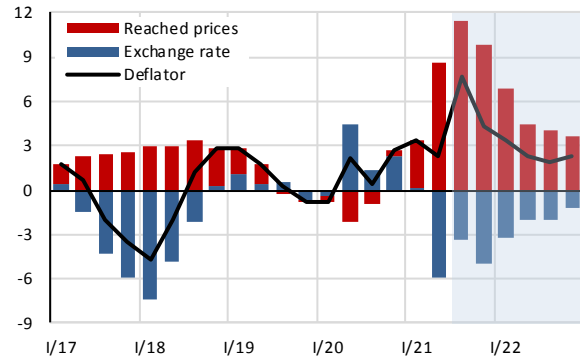
YoY growth in %, contributions in pp, seasonally adjusted



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

Graph 3.4.3: Deflator of Exports of Goods

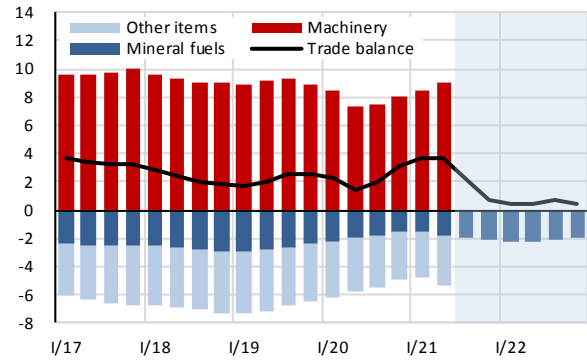
YoY growth in %, contributions in percentage points



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

Graph 3.4.4: Balance of Trade

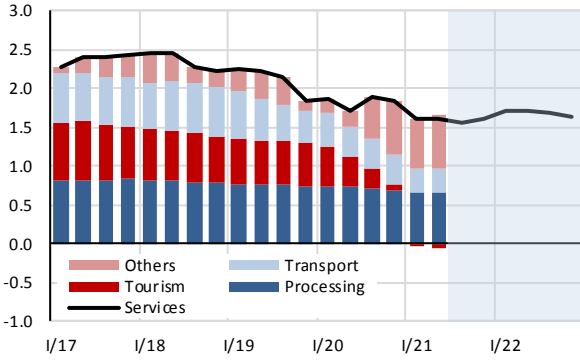
four-quarter moving totals, in % of GDP, change of ownership concept



Source: CZSO. Calculations and forecast of the MoF.

Graph 3.4.5: Balance of Services

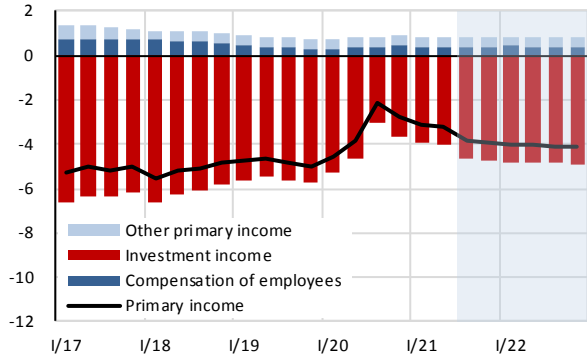
four-quarter moving totals, in % of GDP



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

Graph 3.4.6: Balance of Primary Income

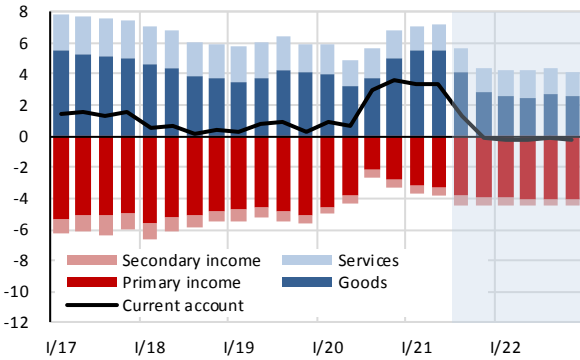
four-quarter moving totals, in % of GDP



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

Graph 3.4.7: Current Account

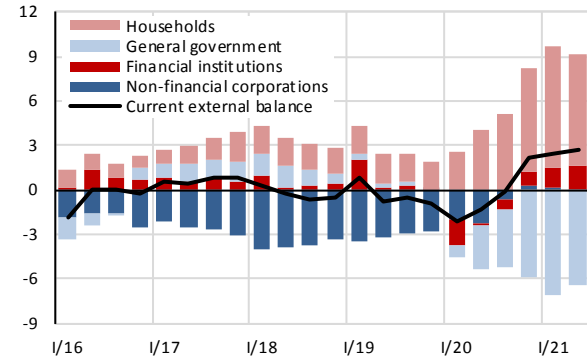
four-quarter moving totals, in % of GDP, BoP methodology



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

		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
											Forecast	Forecast
GDP ¹⁾	average of 2010=100	104.5	106.8	109.2	111.5	114.8	117.3	119.6	113.1	118	123	
	growth in %	0.6	2.2	2.2	2.1	3.0	2.2	1.9	-5.4	4.2	4.1	
Import intensity ²⁾	average of 2010=100	103.9	106.6	110.2	112.7	115.7	118.3	118.6	118.2	125	127	
	growth in %	1.4	2.7	3.3	2.3	2.6	2.3	0.3	-0.3	5.8	1.3	
Export markets ³⁾	average of 2010=100	108.5	113.9	120.3	125.6	132.8	138.8	141.8	133.7	147	155	
	growth in %	2.0	5.0	5.6	4.5	5.7	4.5	2.2	-5.7	10.2	5.5	
Export performance	average of 2010=100	106.7	111.1	110.9	110.6	112.5	111.5	110.4	111.2	108	107	
	growth in %	-1.3	4.2	-0.2	-0.3	1.8	-1.0	-0.9	0.7	-3.3	-0.1	
Real exports	average of 2010=100	115.7	126.5	133.3	138.9	149.4	154.7	156.6	148.7	158	167	
	growth in %	0.7	9.3	5.4	4.2	7.6	3.5	1.2	-5.0	6.6	5.4	
1 / NEER	average of 2010=100	103.0	108.6	109.9	106.9	103.9	100.2	100.5	102.4	99	97	
	growth in %	2.4	5.5	1.2	-2.8	-2.8	-3.6	0.4	1.9	-3.5	-2.1	
Prices on foreign markets	average of 2010=100	102.5	100.8	98.2	98.2	100.2	103.2	103.9	103.0	111	117	
	growth in %	-0.9	-1.7	-2.6	-0.1	2.1	3.0	0.6	-0.8	8.2	4.7	
Exports deflator	average of 2010=100	105.6	109.5	108.0	104.9	104.1	103.4	104.4	105.5	110	113	
	growth in %	1.5	3.7	-1.4	-2.8	-0.8	-0.7	1.0	1.1	4.4	2.5	
Nominal exports	average of 2010=100	122.2	138.5	143.9	145.7	155.6	159.9	163.4	156.8	174	188	
	growth in %	2.2	13.4	3.9	1.2	6.8	2.8	2.2	-4.1	11.3	8.0	

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

		2020				2021						
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
											Estimate	Forecast
GDP ¹⁾	average of 2010=100	117.0	104.3	115.4	115.7	114.6	117.2	119	120			
	growth in %	-2.0	-12.5	-3.6	-3.4	-2.0	12.3	3.4	3.8			
Import intensity ²⁾	average of 2010=100	114.6	121.8	114.8	122.2	126.9	126.0	124	124			
	growth in %	-4.0	2.1	-2.9	4.0	10.8	3.5	7.9	1.2			
Export markets ³⁾	average of 2010=100	134.0	127.0	132.5	141.4	145.5	147.7	148	148			
	growth in %	-5.9	-10.7	-6.5	0.5	8.6	16.3	11.6	5.0			
Export performance	average of 2010=100	113.0	94.3	118.3	117.9	111.0	108.6	105	105			
	growth in %	3.1	-15.3	6.3	7.7	-1.8	15.1	-11.0	-10.7			
Real exports	average of 2010=100	151.4	119.8	156.7	166.7	161.5	160.4	156	156			
	growth in %	-3.0	-24.3	-0.6	8.1	6.6	33.8	-0.7	-6.3			
1 / NEER	average of 2010=100	100.2	105.0	101.9	102.5	100.4	98.9	99	97			
	growth in %	-0.4	4.4	1.3	2.3	0.2	-5.9	-3.3	-4.9			
Prices on foreign markets	average of 2010=100	103.6	102.0	102.7	103.7	106.9	110.7	114	114			
	growth in %	-0.4	-2.2	-1.0	0.3	3.2	8.6	11.4	9.8			
Exports deflator	average of 2010=100	103.9	107.1	104.7	106.4	107.4	109.5	113	111			
	growth in %	-0.8	2.1	0.4	2.6	3.4	2.2	7.7	4.4			
Nominal exports	average of 2010=100	157.3	128.4	164.1	177.3	173.4	175.6	176	173			
	growth in %	-3.8	-22.7	-0.2	11.0	10.3	36.8	7.0	-2.2			

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

		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
											Forecast	Forecast
Goods and services	<i>bill.CZK</i>	237	276	274	365	384	321	346	390	268	271	
	% GDP	5.7	6.3	5.9	7.6	7.5	5.9	6.0	6.8	4.4	4.2	
Goods	<i>bill.CZK</i>	167	220	188	259	259	201	240	285	170	166	
	% GDP	4.0	5.1	4.1	5.4	5.1	3.7	4.1	5.0	2.8	2.5	
Services	<i>bill.CZK</i>	70	56	87	107	125	120	106	105	97	106	
	% GDP	1.7	1.3	1.9	2.2	2.4	2.2	1.8	1.8	1.6	1.6	
Primary income	<i>bill.CZK</i>	-249	-261	-255	-253	-255	-260	-292	-158	-237	-268	
	% GDP	-6.0	-6.0	-5.5	-5.3	-5.0	-4.8	-5.0	-2.8	-3.9	-4.1	
Secondary income	<i>bill.CZK</i>	-10	-7	1	-27	-50	-37	-34	-29	-34	-22	
	% GDP	-0.2	-0.2	0.0	-0.6	-1.0	-0.7	-0.6	-0.5	-0.6	-0.3	
Current account	<i>bill.CZK</i>	-22	8	21	85	79	24	19	204	-4	-18	
	% GDP	-0.5	0.2	0.4	1.8	1.5	0.4	0.3	3.6	-0.1	-0.3	
Capital account	<i>bill.CZK</i>	82	32	99	52	45	13	24	71	63	83	
	% GDP	2.0	0.7	2.1	1.1	0.9	0.2	0.4	1.3	1.0	1.3	
Net lending/borrowing	<i>bill.CZK</i>	61	40	120	137	124	37	44	275	59	65	
	% GDP	1.5	0.9	2.6	2.9	2.4	0.7	0.8	4.8	1.0	1.0	
Financial account	<i>bill.CZK</i>	68	64	173	122	116	61	8	244	.	.	
	<i>bill.CZK</i>	7	-80	50	-187	-46	-51	-137	-73	.	.	
Direct investments	<i>bill.CZK</i>	-93	90	-164	-170	-268	30	-105	-136	.	.	
Portfolio investments	<i>bill.CZK</i>	-5	-6	-5	11	-14	-15	1	12	.	.	
Financial derivatives	<i>bill.CZK</i>	-30	-13	-59	-97	-802	47	139	393	.	.	
Other investments	<i>bill.CZK</i>	188	73	351	564	1 246	50	110	48	.	.	
Reserve assets	<i>bill.CZK</i>	-1 695	-1 577	-1 523	-1 304	-1 273	-1 320	-1 147	-709	.	.	
International investment position	<i>bill.CZK</i>	-40.9	-36.3	-32.9	-27.2	-24.9	-24.4	-19.8	-12.5	.	.	
	% GDP	2 733	2 947	3 119	3 499	4 370	4 413	4 384	4 301	.	.	
Gross external debt	<i>bill.CZK</i>	66.0	67.8	67.4	72.9	85.5	81.6	75.7	75.5	.	.	
	% GDP											

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*

		2020				2021			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
								Estimate	Forecast
Goods and services	<i>bill.CZK</i>	343	282	320	390	404	425	338	268
	<i>% GDP</i>	5.9	4.9	5.6	6.8	7.1	7.2	5.7	4.4
Goods	<i>bill.CZK</i>	234	184	212	285	313	329	246	170
	<i>% GDP</i>	4.0	3.2	3.7	5.0	5.5	5.6	4.1	2.8
Services	<i>bill.CZK</i>	108	98	108	105	91	96	93	97
	<i>% GDP</i>	1.9	1.7	1.9	1.8	1.6	1.6	1.6	1.6
Primary income	<i>bill.CZK</i>	-266	-220	-124	-158	-178	-191	-229	-237
	<i>% GDP</i>	-4.6	-3.8	-2.2	-2.8	-3.1	-3.2	-3.8	-3.9
Secondary income	<i>bill.CZK</i>	-25	-27	-25	-29	-36	-32	-33	-34
	<i>% GDP</i>	-0.4	-0.5	-0.4	-0.5	-0.6	-0.5	-0.6	-0.6
Current account	<i>bill.CZK</i>	52	35	171	204	191	201	76	-4
	<i>% GDP</i>	0.9	0.6	3.0	3.6	3.3	3.4	1.3	-0.1
Capital account	<i>bill.CZK</i>	48	57	73	71	50	53	58	63
	<i>% GDP</i>	0.8	1.0	1.3	1.3	0.9	0.9	1.0	1.0
Net lending/borrowing	<i>bill.CZK</i>	100	92	244	275	241	254	134	59
	<i>% GDP</i>	1.7	1.6	4.3	4.8	4.2	4.3	2.2	1.0
Financial account	<i>bill.CZK</i>	109	69	257	244	227	250	.	.
Direct investments	<i>bill.CZK</i>	-107	-94	-27	-73	-46	-45	.	.
Portfolio investments	<i>bill.CZK</i>	1	-13	33	-136	-33	58	.	.
Financial derivatives	<i>bill.CZK</i>	23	20	21	12	-11	-27	.	.
Other investments	<i>bill.CZK</i>	70	46	123	393	232	187	.	.
Reserve assets	<i>bill.CZK</i>	121	109	107	48	86	76	.	.
International investment position	<i>stock in bill.CZK</i>	-731	-755	-553	-709	-493	-530	.	.
	<i>% GDP</i>	-12.5	-13.2	-9.7	-12.5	-8.6	-9.0	.	.
Gross external debt	<i>stock in bill.CZK</i>	4 476	4 373	4 366	4 301	4 277	4 184	.	.
	<i>% GDP</i>	76.8	76.4	76.6	75.5	74.9	71.0	.	.

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

4 Survey of Other Institutions' Forecasts

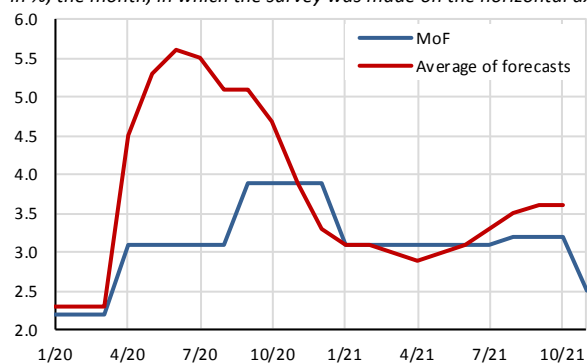
On average, the institutions surveyed expect the economic recovery to lead to a 3.6% increase in real GDP this year after the downturn in 2020. Economic growth is expected to accelerate to 4.5% in 2022. The average inflation rate should reach 3.1% in 2021, slowing to 2.7% next year. Average wage growth could slow slightly to 4.7% in 2022 from 4.9% this year. The current account of the balance of payments should continue to show a surplus in both 2021 and 2022, albeit smaller than in the record year 2020.

In some aspects, the current forecasts of the MoF differ significantly from the average of the estimates of individual institutions and are outside the range of their values. However, given the date of publication, many of these forecasts could not take into account the current turbulent macroeconomic environment.

The MoF expects the economy to grow by only 2.5% this year due to problems in industry caused by shortages of some production inputs. The inflation rate forecast for 2021 and 2022 is significantly higher than the forecasts of the monitored institutions, as it already includes both the extreme acceleration in price growth starting in July this year and new information on the expected development of the external environment and the impact of inflationary factors within the Czech economy, including the increase in administered prices (see Chapter 3.2). As regards average wage growth in 2021 and 2022, there are no significant differences between the MoF's forecast and the average of the monitored forecasts. The forecast of a slight deficit on the current account of the balance of payments is based mainly on the current and expected evolution of the balance of goods, which is affected by the problems of export-oriented industry.

Graph 4.1: Forecasts for Real GDP Growth in 2021

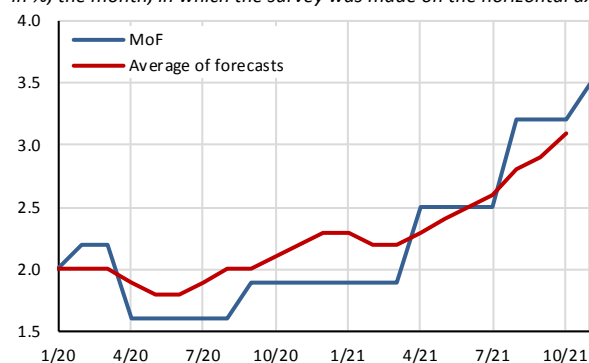
in %; the month, in which the survey was made on the horizontal axis



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

Graph 4.2: Forecasts for Average Inflation Rate in 2021

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

		October 2021			November 2021
		min.	max.	average	MoF forecast
Gross domestic product (2021)	growth in %, const.pr.	3.2	4.2	3.6	2.5
Gross domestic product (2022)	growth in %, const.pr.	3.7	5.3	4.5	4.1
Average inflation rate (2021)	%	2.4	3.6	3.1	3.5
Average inflation rate (2022)	%	2.3	3.6	2.7	6.1
Average monthly wage (2021)	growth in %	3.4	6.5	4.9	5.8
Average monthly wage (2022)	growth in %	3.5	6.0	4.7	4.6
Current account / GDP (2021)	%	1.1	5.2	2.2	-0.1
Current account / GDP (2022)	%	0.5	3.1	1.1	-0.3

Note: The survey is based on publicly available forecasts of 13 institutions, of which 8 institutions are domestic (CNB, Ministry of Labour and Social Affairs, domestic banks and investment companies) and the remaining are foreign entities (European Commission, OECD, IMF etc.). 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 Supply Chains in the Czech Foreign Trade

International supply chains have become a dominant factor in a globalised world. The process of international fragmentation and optimisation of production, made possible by technological advances and trade agreements, has opened up new ways of looking at the flows of goods and services and the origin of the products themselves. Intermediate products often cross national borders more than once in global supply chains. Therefore, gross (volume) flows from traditional trade statistics may not provide an adequate measure for understanding domestic value added and national income (Aslam et al., 2017).

The importance of global value chains is also reflected in the involvement of international institutions. Quantifying and benchmarking foreign trade through value added has become an integral part of their regular publications (Aslam et al., 2017; Bayoumi et al., 2018; WTO, 2019a) or official policies and trade strategies, e.g. within the EU (Arto et al., 2020).

International trade is itself strongly influenced by the economic cycle. In addition to economic fluctuations, structural factors associated with the transition to electromobility and a carbon-neutral economy have recently become more prevalent (EC, 2018). The structural changes in the Czech economy are related to the shift of firms in supply chains to higher value-added positions and the achievement of higher productivity and competitiveness (see Bayoumi et al., 2018; OECD, 2020).

The Czech Republic benefits substantially from the openness of its economy and the removal of trade barriers. High dependence on the external environment and the involvement of Czech companies in international supply chains (especially within the EU) affects a large part of the Czech economy.

The Czech economy is very open. Its pro-export orientation has strengthened significantly with the accession of the Czech Republic to the EU and the subsequent inflow of foreign investment. With the exception of the crisis years 2009 and 2020, both sides of foreign trade in the national accounts methodology (CZSO, 2021a) have increased annually. In 2014, nominal exports and imports of goods and services as a proportion of GDP reached their peak at 82.0% and 75.6%, respectively (see Graph 5.1). However, a gradual decline is evident in the following years. Thus, exports accounted for 71.0% of GDP in 2020, while imports accounted for 64.2% of GDP. This decrease reflects the different price developments of the foreign trade and GDP deflators. While the GDP deflator grew by 2.4% per year on average between 2015 and 2020, the prices of exports and imports fell by 0.4% and 0.8% per year respectively over the same period. In real terms, exports have thus been above 80% of GDP in recent years (81.7% in 2020), while imports have been around 75% of GDP (75.5% in 2020).

Given the high openness and structure of the Czech economy, it is not surprising that foreign trade, or its balance, contributes significantly to economic activity (see Graph 5.2).

In terms of the industrial structure, according to the statistics on foreign trade in goods (CZSO, 2021b), the most important export segment is the manufacturing industry (95.7% of exports), especially the production of motor vehicles. In the case of the passenger car commodity class, 91.7% of manufactured vehicles were exported in 2020, according to statistics published by the Automotive Industry Association. The electronic products and machinery and equipment commodity classes also have a strong export share (see Graph 5.3). In addition to machinery and transport equipment, imports of semi-finished goods and raw materials, i.e. imports into production, play a significant role in imports.

The main export markets for the Czech economy are the EU countries, where 79.6% of Czech exports went last year according to the International Trade in Goods Statistics (CZSO, 2021b), followed by the United Kingdom from non-EU countries (see Graph 5.4). On the import side, China also plays a significant role alongside the EU.

5.1 Choice and Description of Methodology

The international symmetric input-output tables for 2015 published by the OECD (2018)² were used to provide a more detailed view of the position of Czech exports within supply chains. For the analysis of the symmetric input-output tables, the so-called Leontief input-output model is used, based on the assumption of the impossibility of substitution between production factors.

Thus, to produce one unit of output, a fixed quantity of each input is required, which is expressed by a so-called structural (technical) coefficient (see e.g. Isard and Langford, 1971 or Miller and Blair, 2009, for more details). The elements of the matrix, formed by inverting Leontief's matrix of structural (technical) coefficients, express the total output required directly and indirectly to produce a unit of the good for final use (Aslam et al., 2017).

² The latest version of the international input-output tables was published in December 2018.

The advantage of input-output analysis is to capture the indirect effects of the initial shocks through the international subcontracting chain. The disadvantage of this approach is the considerable input data intensity. A complete capture of all cross-country and cross-sector flows requires a full set of national input-output tables that take into account all bilateral trade in intermediate goods and services, which then logically implies a delay in their publication beyond the published macroeconomic data (about 3 years).

The international input-output tables include 69 economies and economic zones, each economy is divided into 36 industries. The input-output tables capture sales (transactions) from each sector (selling segment) to the production process (buying sector) and final demand components (household final consumption expenditure, general government final consumption, gross fixed capital formation, etc.). The decomposition of Czech exports into intermediates use and final demand components is described in Chapter 5.3.

Decomposing exports into subcontracts and final products is not the only way to use international input-output tables. Their considerable advantage is the possibility to separate the domestic and foreign components of production. Conventional foreign trade statistics do not provide a representation of domestic and foreign value added in bilateral trade flows. The benefit lies in the ability to separate domestic and foreign value added in the context of production chains, especially where there is so-called trade circulation (inputs are sent abroad and then returned as final products). This type of trade is particularly important within the EU, but also in East and South-East Asia (ASEAN Free Trade Area) or in North America (NAFTA). As also illustrated by OECD and WTO (2012), the concept of value-added is useful to understand where economic activity is generated, not only internationally within supply chains, but also domestically, where each export-oriented industry depends on inputs (intermediate goods) purchased from other domestic subcontractors. Foreign trade in value-added terms is thus important for the analysis of the supply side of international trade.

The analysis of foreign trade viewed through the concept of value added has come to the fore with the development of globalisation in manufacturing. Its premise is based on the assumption that trade flows measured in volume do not correspond to the value of goods and services that cross borders for further processing and are thus counted multiple times (Mauer and Degain, 2010). In this context, a comparison of the contributions of domestic value added in international trade is offered (Miroudot and Ye, 2018). In doing so, the first step is to decompose trade flows into a domestic value added component and an imported component.

The OECD Methodological Manual (2019) is used to estimate the value added of Czech exports. Based on in-

ternational input-output tables and the Leontief inverse matrix, it allows, through transformations of symmetric tables, to decompose the structure of production and exports not only by territories and commodities, but also by the representation of domestic and foreign production, i.e. domestic and foreign value added of exports. As a result, each export can be decomposed into value added contributions from different domestic and foreign sectors (OECD and WTO, 2012).

At the outset, it should be noted that the structure of the OECD (2018) symmetric input-output tables is not fully consistent with the structure of this table published by the CZSO. In fact, unlike the OECD, the CZSO also works with the item “imports for exports” in the national supply and use tables, where foreign value added is broken down into a direct component (final goods from abroad are imported into the Czech Republic and subsequently resold to a third country) and an indirect component (imports of goods and services into the production process). The OECD (2019) methodology completely abstracts from the direct component of foreign value added, which in 2015 amounted to approximately 12.4% of the Czech Republic’s exports (CZSO, 2021a), as the imported product no longer enters the production process and is only re-exported. Value added is therefore zero in OECD terms, as it is not linked to the production process in the economy. The foreign value added of Czech exports in this thematic chapter is consistent with the OECD (2019) manual, so only imports for the production of goods and services enter the calculations.

The OECD (2019) methodology, like the WTO (2019b), allows for the decomposition of nominal exports into the following components:

- Domestic value added exported to a foreign economy for final use or further production that is directly consumed by the importing economy. This is so-called direct domestic value added.
- Domestic value added exported to a partner economy in the form of intermediate products (subcontracted) which are further exported to third countries through an additional production process – indirect domestic value added.³
- The foreign share of value added in exports corresponding to the value added of inputs imported for the production of intermediate or final goods or services for export. This is the foreign value added of exports.

Although quantification of foreign trade in the form of value added does not provide complete information on the functioning of global production linkages, it allows a closer look at the raw material or energy dependence of

³ Domestic value added also includes the so-called re-import of domestic value added. This is domestic value added re-imported into the economy. In view of its marginal share in Czech exports (0.1%), direct reporting has been abandoned and reimports are reported as part of indirect value added.

the domestic economy, where, for example, domestic production of goods for export may require significant imports of intermediate goods. As a result, a large part of the value added from the sale of exported goods is

thus allocated abroad, leaving only partial value added in the export economy. The decomposition of Czech production and exports into value added is described in Section 5.4.

5.2 Position of Foreign Trade in Supply Chains

Based on the aggregation of world input-output tables, an analysis of the sectoral and territorial structure of exports of goods and services is first carried out. From the point of view of the national economy as a whole (see Figure 5.5), it is evident that exports for intermediates use, e.g. in the context of subcontracting, are more represented in Czech industry. Subcontracting accounts for 56.2% of Czech exports, with the remaining 43.8% accounted for by exports for final use. In the case of the motor vehicles and accessories class, as the main product of the Czech industry, the representation of subcontracting and finished products is more evenly spread – 48.9% of production goes to further production abroad, and 51.1% to consumer or investment demand (see Graph 5.6). The distribution of motor vehicle exports is similar in the case of Hungary (also 51.1 % of exports of this segment for final use), with a higher share of final products in Slovakia (54.8 %) and especially Germany (64.6 %), which concentrates more on the production of finished motor vehicles and outsources the production of components to neighbouring countries.

From a territorial perspective (see Graph 5.7), Germany accounts for the largest share of subcontracting (15.7% of total Czech exports), followed by Slovakia, Poland and Italy. In the case of goods for final use (see Graph 5.8), Germany remains the main trading partner (9.2% of total exports), with a significant proportion of final products also going to the UK and France.

In the case of the industrial breakdown of exports for intermediate consumption (see Graph 5.9), motor vehicles, trailers and semi-trailers account for the largest share of total exports (11.9%), followed by rubber and plastic products (4.2%) and fabricated metal products (3.9%). For exports for final use (see Graph 5.10), with the exception of motor vehicles (12.5%), the composition is different. The main products here are computers, electronic and optical products (3.8%), transport and storage (3.6%) and machinery equipment (3.5%).

Another picture offers a comparison in terms of the industries to which Czech exports are directed (see Graph

5.11). The motor vehicles segment accounted for 11.8% of exports, the construction sector for 5.2% and the wholesale, retail trade and repair of motor vehicles for 3.6%. In terms of the foreign expenditure components of GDP (see Graph 5.12), 21% of exports are destined for household and non-profit institutions consumption, and 15% for investment demand.

A characteristic feature of the Czech production process is the significant import of semi-finished products and raw materials. The production of motor vehicles is the most dependent on foreign inputs (see Graph 5.13) (14.7% of total imports), followed by computers and electronic products (4.9% of imports) and electrical equipment (3.4%). In terms of the share of foreign industries in imports, i.e. what is imported the most (see Graph 5.14), the largest shares are motor vehicles and accessories (9.4%), wholesale and retail trade and repair of motor vehicles (7.0%) and basic metals manufacturing (4.8%). The computer and electronic products class, which includes, among other things, the much-discussed and currently scarce semiconductors (chips), accounts for 4.2% of imports.

In general, it can be concluded that exports from the Czech Republic are largely oriented towards intermediate consumption, i.e. domestic production serves as an input for the further production process abroad. Given the fact that exports for further production do not deviate from the regional average and differ only marginally compared to the Czech Republic's trading partners (see Graph 5.5), the over-representation of exports for intermediate consumption compared to final use cannot be perceived a priori negatively. As illustrated by the example of Germany or Austria, a higher share of supplies to manufacturing is not mutually exclusive with high productivity. As a result, even a subcontractor with technically advanced components (e.g. in the case of chips) can achieve high margins. More than the position in the supply chains itself, the value added of the sector (economy) is more important.

5.3 Position of Foreign Trade in Terms of Value Added

The second way to use international input-output tables is to decompose them into value-added. According to the calculations of the MoF, domestic value added accounted for more than 60% of Czech exports in 2015. Thus, in comparison with trading partners, it is a rather

lower value (see Graph 5.15). In this respect, the Czech economy exceeds Hungary or Slovakia, economies with a similar industrial composition and export orientation. Other countries in the region are characterised by lower import dependence or higher margins on production.

Also, the development between 2010 and 2015 suggested rather stagnation of domestic value added and, from a regional perspective, a slight divergence of “technological progress” (as a synonym for a higher share of domestic production in exports) from Germany and Austria (see Graph 5.16). The largest share of domestically generated value added went to Germany (14.8%), followed by Slovakia, Poland and France (see Graph 5.17). The ranking of countries is thus similar to that of export countries, with a lower weight on Czech exports.

A decomposition of value added into direct, indirect and foreign components offers a similar conclusion (see Graph 5.18). The direct component accounts for 38.3% of Czech exports, while the indirect component accounts for 22.4%. The lower share of domestic value added compared to neighbouring countries points to a higher share of foreign production in domestic exports (similar to the indicators on import intensity of exports). Only Hungary and Slovakia have a higher share. The main suppliers of value added to Czech exports (see Graph 5.19) are Germany (9.3% of our exports), China (3.6%) and Poland (2.6%).

The evolution of value added over time (see Graph 5.20) also shows a rather constant distribution since EU accession. The highest share of domestic value added was in 2009 (66.7%), when there was a global freeze in international trade in response to the financial crisis. In 2010, the share of domestic value added in exports had already fallen by 3.9 p.p., with smaller declines in the domestic share of exports in the following years.

In terms of industry structure, the main export commodity in terms of value added is the motor vehicles segment (see Graph 5.21). However, the vast majority of its value added is generated abroad. Items from the machinery and transport equipment class (besides motor vehicles, these are computer and electronic products, machinery equipment and electrical equipment) are the most represented, while the other classes are transpor-

tation and storage or wholesale and retail trade and repair of motor vehicles.

As regards the breakdown of domestic value added by territory (see Graph 5.22), for Germany Czech exports are evenly distributed between intermediate consumption and final use (domestic demand). With a share of more than 4% of domestic value added in exports, the United States is next. Indirect exports via Germany (33.1% of total Czech indirect exports to the United States go via Germany), where the Czech Republic exports as a major subcontractor, and to a lesser extent via Italy, the United Kingdom, Slovakia and Hungary (the presence of German car manufacturers, for which the United States is an important market, probably plays a role here). In the case of China, subcontracted exports also play a dominant role.

The breakdown of domestic value added into intermediate consumption and final use (see Graph 5.23) offers a slightly different perspective compared with Graph 5.21, which includes foreign value added. At the same time, it was not possible to distinguish between components and final products. Motor vehicles remain the main export commodity, with a larger share of domestic value added in transportation and storage and wholesale, retail and repair of motor vehicles. Domestic value added is more evenly split between exports for intermediate and final use.

These outputs thus discuss the position and composition of Czech exports differently from the traditional concept of foreign trade. Compared to the nominal value of exports (see Graph 5.24), lower shares of domestic value added can be seen. This comparison is most striking for Germany, with half the domestic value added (in the case of foreign trade in goods statistics in the CSO methodology, the share is even one-third). On the other hand, countries that are not among the main trading partners (the United States of America) have a higher share of exports in terms of value added precisely because of indirect exports.

5.4 Vulnerability of Czech Exports

Using international supply-use tables and their mathematical transformations, it is also possible to simulate potential shocks to aggregate demand (domestic and foreign) and to assess the sensitivity of the Czech economy (or exports) to possible international shocks. The rapid decline in the production of traditional propulsions in the automotive industry and the reduction in demand for motor vehicles are currently offered as a model example.

The potential impact on the Czech economy is simulated through a decrease in demand for cars as a reaction to the increase in vehicle prices related to the implementation of new emission standards, the expansion of man-

datory equipment resulting from legislation and, last but not least, the shortage of some components. In the case of the assumed 10% decline in demand for cars (domestic and foreign), the short-term decline in gross value added in the Czech Republic would thus be 1.18%. The contribution of domestic demand to GDP would be -0.48 pp, while the balance of foreign trade (net exports) would contribute negatively to GDP by -0.68 pp.

In terms of the impact of a reduction in demand for motor vehicles across industries, the motor vehicle sector would logically be the most affected (8.2% decline in output), followed by wholesale, retail trade and repair of motor vehicles (1.2% decline), basic metals (2.0% de-

cline), rubber and plastic products (2.3% decline) and fabricated metal products and electrical equipment (both 1.4% decline).

The simulated shock to aggregate demand would only lead to a one-off decline in output and economic activity in the Czech Republic. In the medium term, a weakening

of the nominal exchange rate and probably a more accommodative monetary policy could help restore the dynamics of economic growth. The ability of firms to shift production to other commodities would also play a role in the longer term.

5.5 Conclusion

The analysis of symmetric input-output tables shows that the structure of Czech exports in terms of subcontracting and end-use does not differ in any way from neighbouring countries. The final producer usually has a higher margin per product, but this is not self-evident. It is associated with high fixed costs for research and development, experience and coordination of production. As a result, even a subcontractor can have large margins on high-tech components (e.g. chip manufacturers). If, on the other hand, it is a supplier of simple components, logically the margins will also be low. However, even low margins combined with high production volumes can lead to higher labour productivity. Thus, it is not impossible that a subcontracting firm can achieve high wages and profits because few workers are able to perform multiple work tasks. Relying purely on shifting supply chains is not in itself a guarantee of higher earnings.

The problem lies rather in the Czech economy's ability to generate a greater share of domestic value added. In this respect, the Czech Republic, with a share of 60.7%, ranks

among the countries with a lower share of domestic production in international comparison. Thus, there is a higher supplier dependency. However, the development of domestic value added remains rather constant over time. In the case of the main manufacturing and export commodity, motor vehicles, the share of domestic value added is only 45.7%. Therefore, more than half of the value of the exported cars from the Czech Republic is generated abroad, which is probably related to the fact that Czech car manufacturers are part of multinational groups.

The challenge for the future remains the transition from conventional propulsions to alternative energy sources in motor vehicles and the associated possibility of applying new technologies to production. Given the lower component requirements, exports for intermediate consumption are likely to decline. The ongoing convergence process through research and higher capital stock should then strengthen the domestic value added of exports.

5.6 References

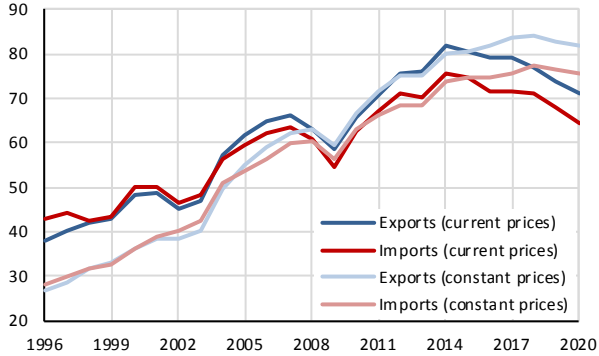
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List of Numerical Codes Used in Graphs

- 05–06 Mining and extraction of energy producing products
- 10–12 Food products, beverages and tobacco
- 20–21 Chemicals and pharmaceutical products
- 22 Rubber and plastic products
- 24 Basic metals
- 25 Fabricated metal products
- 26 Computer, electronic and optical products
- 27 Electrical equipment
- 28 Machinery and equipment
- 29 Motor vehicles, trailers and semi-trailers
- 31–33 Other manufacturing; repair and installation of machinery and equipment
- 35–39 Electricity, gas, water supply, sewerage, waste and remediation services
- 41–43 Construction
- 45–47 Wholesale and retail trade; repair of motor vehicles
- 49–53 Transportation and storage
- 55–56 Accommodation and food services
- 69–82 Other business sector services

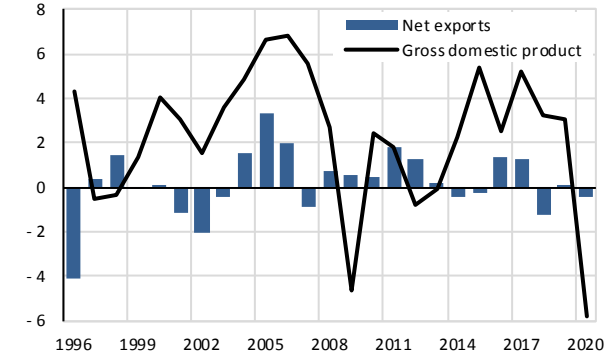
Graph 5.1: Exports and Imports of Goods and Services
in % of GDP



Source: CZSO. Calculations of the MoF.

Graph 5.2: Real GDP and Net Exports – CR

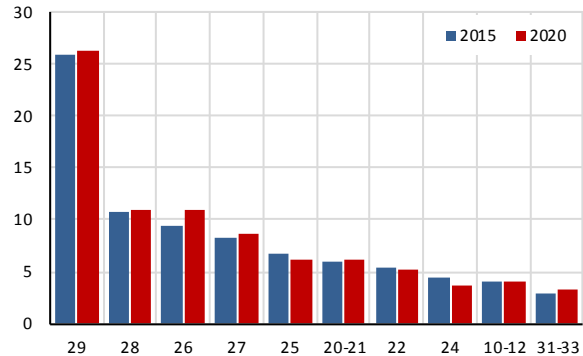
real GDP growth in %, contribution of net exports in pp



Source: CZSO. Calculations of the MoF.

Graph 5.3: Commodity Structure of Czech Exports

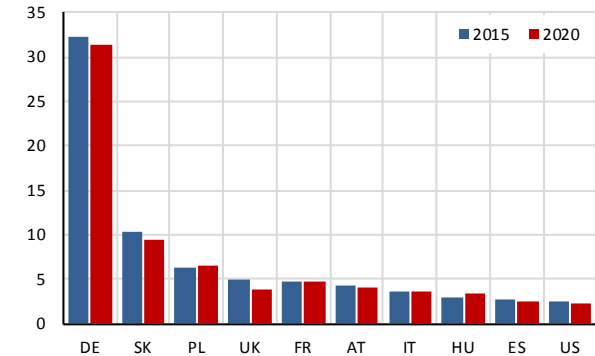
in % of gross exports of goods, 2015 and 2020, CZ-CPA classification



Source: CZSO. Calculations of the MoF.

Graph 5.4: Czech Exports – Main Trading Partners

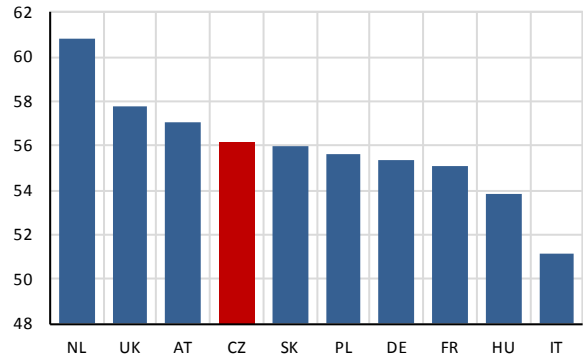
in % of gross exports of goods, 2015 and 2020



Source: CZSO. Calculations of the MoF.

Graph 5.5: Exports of Intermediate Products

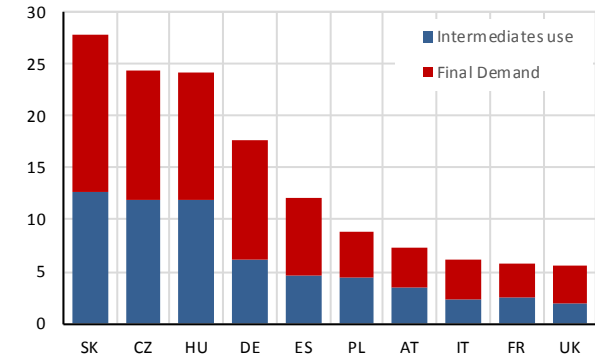
in % of gross exports, 2015, international comparison



Source: OECD. Calculations of the MoF.

Graph 5.6: Exports of Motor Vehicles

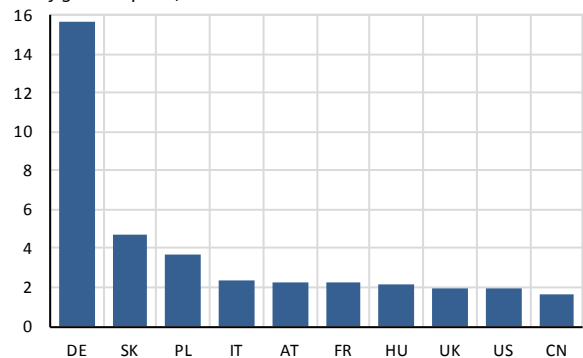
in % of gross exports, 2015, selected territories



Source: OECD. Calculations of the MoF.

Graph 5.7: EX of Intermediate Products – Destinations

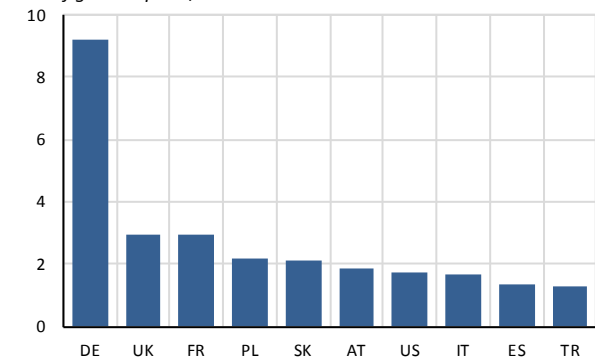
in % of gross exports, 2015



Source: OECD. Calculations of the MoF.

Graph 5.8: Exports of Final Products – Destinations

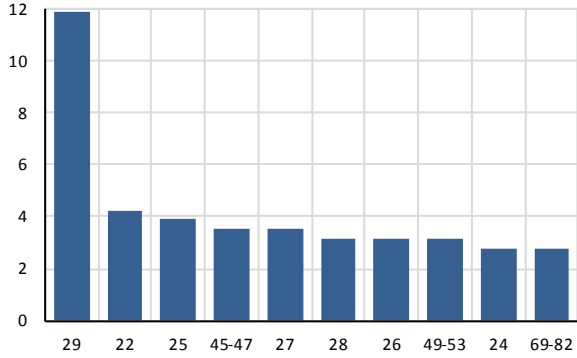
in % of gross exports, 2015



Source: OECD. Calculations of the MoF.

Graph 5.9: EX of Intermediate Products – Industries

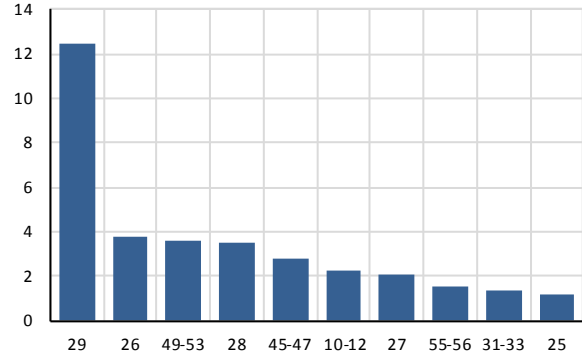
in % of gross exports, 2015



Source: OECD. Calculations of the MoF.

Graph 5.10: Exports of Final Products – Industries

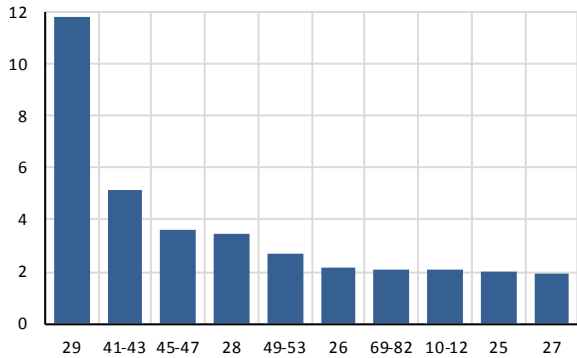
in % of gross exports, 2015



Source: OECD. Calculations of the MoF.

Graph 5.11: Exports to Intermediates Use – Industries

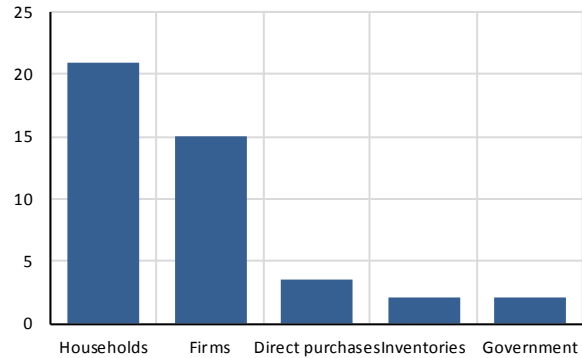
in % of gross exports, 2015



Source: OECD. Calculations of the MoF.

Graph 5.12: Exports to GDP Expenditure Components

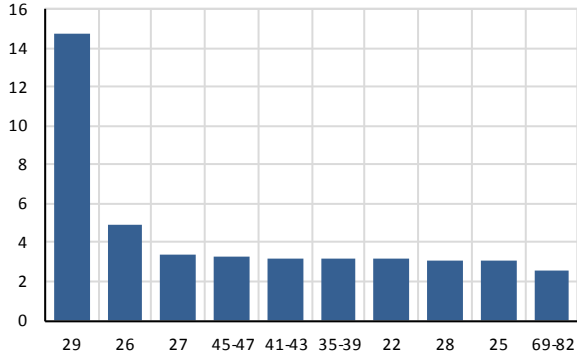
in % of gross exports, 2015



Source: OECD. Calculations of the MoF.

Graph 5.13: Imports to Intermediates Use – Industries

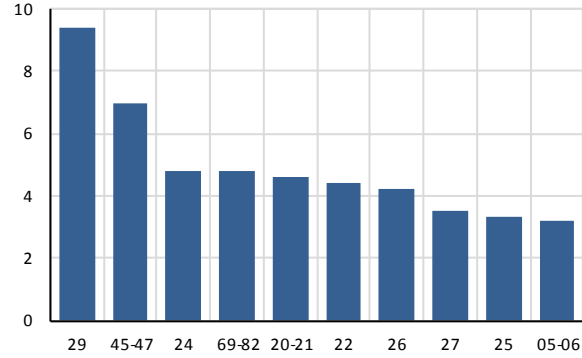
in % of gross exports, 2015



Source: OECD. Calculations of the MoF.

Graph 5.14: Imports of Foreign Industries

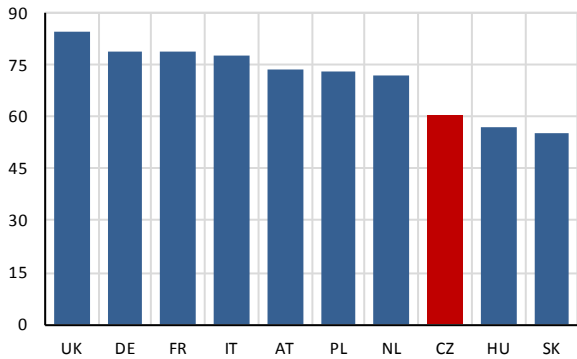
in % of gross exports, 2015



Source: OECD. Calculations of the MoF.

Graph 5.15: Domestic Value Added – Comparison

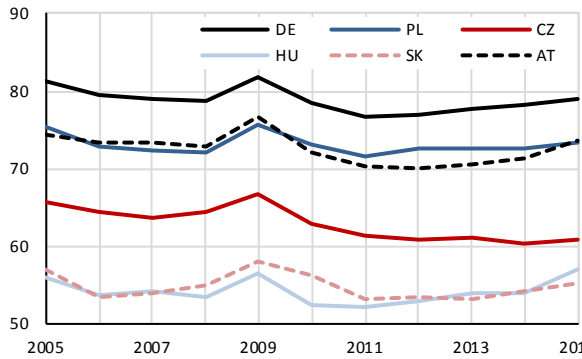
in % of gross exports, 2015, international comparison



Source: OECD. Calculations of the MoF.

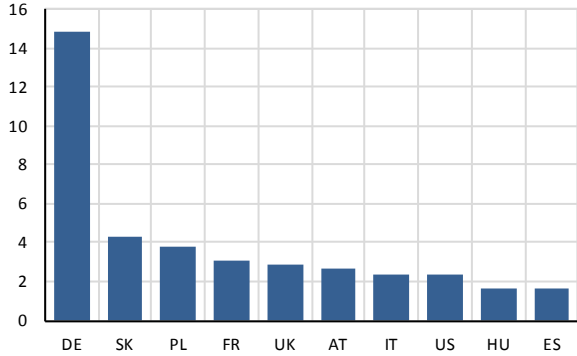
Graph 5.16: Domestic Value Added

in % of gross exports, 2005–2015, selected territories



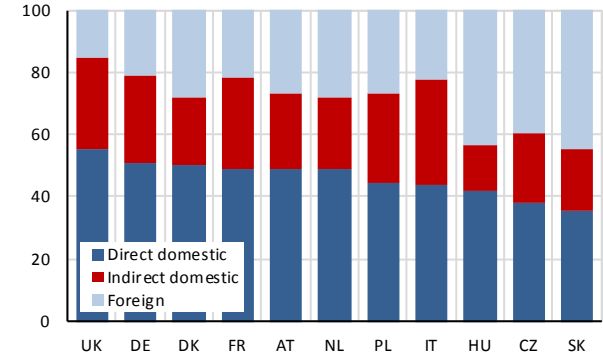
Source: OECD. Calculations of the MoF.

Graph 5.17: Domestic Value Added – Final Destination
in % of gross exports, 2015



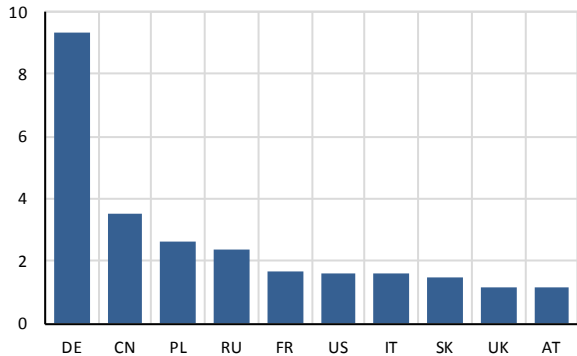
Source: OECD. Calculations of the MoF.

Graph 5.18: Decomposition of Value Added
in % of gross exports, 2015, international comparison



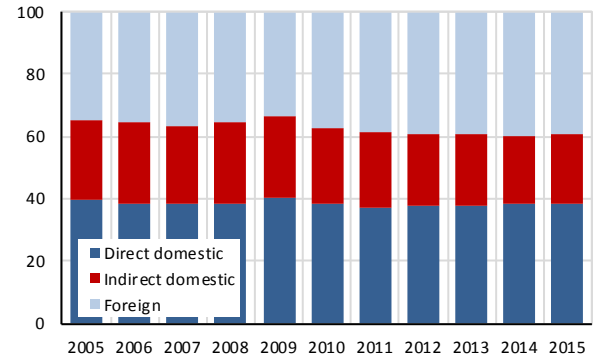
Source: OECD. Calculations of the MoF.

Graph 5.19: Origin of Foreign Value Added of Czech EX
in % of gross exports, 2015



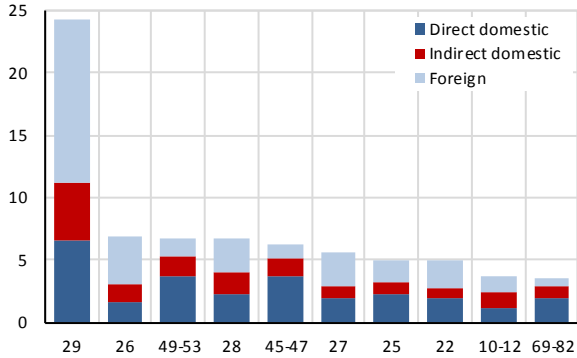
Source: OECD. Calculations of the MoF.

Graph 5.20: Value Added of Czech Exports
in % of gross exports, 2015



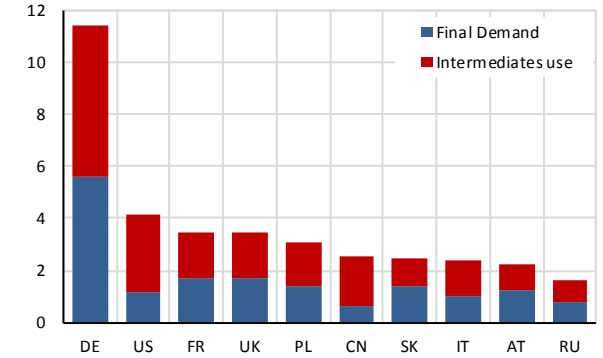
Source: OECD. Calculations of the MoF.

Graph 5.21: Decomposition of Value Added – Industries
in % of gross exports, 2015



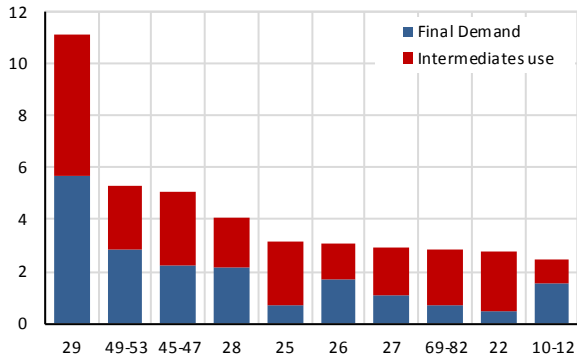
Source: OECD. Calculations of the MoF.

Graph 5.22: Decomposition of Domestic Value Added
in % of gross exports, 2015, selected territories



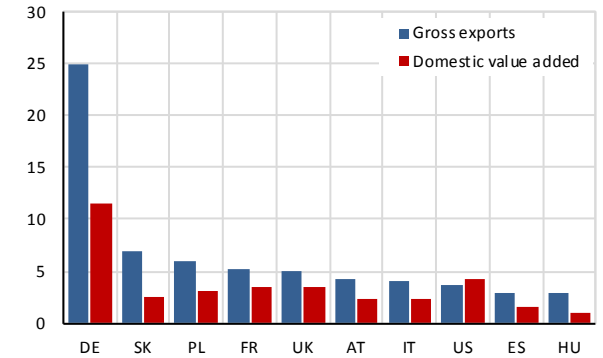
Source: OECD. Calculations of the MoF.

Graph 5.23: Decomposition of Domestic Value Added
in % of gross exports, 2015, main industries



Source: OECD. Calculations of the MoF.

Graph 5.24: Comparison of Exports and Value Added
in % of gross exports, 2015, selected territories



Source: OECD. Calculations of the MoF.

