INTERNATIONAL MONETARY FUND

IMF Country Report No. 22/23

# CZECH REPUBLIC

January 2022

## 2021 ARTICLE IV CONSULTATION—PRESS RELEASE; STAFF REPORT; SUPPLEMENTARY INFORMATION; AND STATEMENT BY THE EXECUTIVE DIRECTOR FOR THE CZECH REPUBLIC

Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. In the context of the 2021 Article IV consultation with Czech Republic, the following documents have been released and are included in this package:

- A **Press Release**.
- The **Staff Report** prepared by a staff team of the IMF for the Executive Board's consideration on January 24, 2022, following discussions that ended on November 23, 2021, with the officials of Czech Republic on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on December 16, 2021.
- An **Informational Annex** prepared by the IMF staff.
- A **Supplementary Information** updating information on recent developments.
- A **Statement by the Executive Director** for the Czech Republic.

The IMF's transparency policy allows for the deletion of market-sensitive information and premature disclosure of the authorities' policy intentions in published staff reports and other documents.

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**International Monetary Fund**
**Washington, D.C.**

# IMF Executive Board Concludes 2021 Article IV Consultation with Czech Republic

**FOR IMMEDIATE RELEASE**

**Washington, DC – January 27, 2022:** On January 24, 2022, the Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation[1] with Czech Republic.

The Czech Republic entered the pandemic on a solid economic footing with significant policy space. Real GDP declined by 5.8 percent in 2020 and is estimated to have rebounded by about 3 percent in 2021. Strong and swift policy support softened the downturn and helped protect people, businesses, and jobs. Inflation in 2021 reached elevated levels on the back of high energy prices, supply chain disruptions, and tight labor and housing markets. Macro-financial vulnerabilities stem largely from record house price and mortgage credit growth.

The risks to the outlook are tilted to the downside and clouded by unusually high uncertainty due to the ongoing spread of the Omicron variant and high infection rates. Nevertheless, the economy is projected to recover further in the coming years and growth is estimated to converge to about 2½ percent in the medium term. After significantly increasing in the first half of 2022, inflation is projected to converge back to the Czech National Bank's (CNB) 2 percent target by late 2023, assuming energy prices stabilize, supply disruptions ease, and higher policy rates reduce demand pressures.

## Executive Board Assessment[2]

Executive Directors agreed with the thrust of the staff appraisal. They commended the authorities' comprehensive policy response to the pandemic, assisted by strong policy frameworks and prudently accumulated buffers. An economic recovery is underway, but the outlook remains clouded by elevated uncertainty and risks. While support to the economy should remain flexible until the recovery is broadly entrenched, sound policies are needed over the medium-term to support macro-financial stability and promote sustainable, greener and inclusive growth.

Directors agreed that the monetary policy stance is appropriate to counteract inflation pressures and manage inflation expectations. Looking forward, they underscored that policy action should remain data dependent and carefully weighing risks from raising rates too quickly against those from overshooting inflation.

Directors agreed that ample fiscal space had served the Czech Republic well during the crisis. While a flexible fiscal stance should be maintained in the near-term, they saw merit in a more ambitious consolidation path over the medium-term, including both expenditure and growth-friendly revenue measures, to regain policy space. To that effect, recently-adopted measures with permanent budgetary implications should be unwound as the recovery takes hold.

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[1] Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board.

[2] At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summings up can be found here: http://www.IMF.org/external/np/sec/misc/qualifiers.htm.

Directors also urged the authorities to address long-run spending issues related to growing demographic pressures. In this regard, they welcomed the authorities' commitment to put forward a pension system reform by end-2023.

Directors welcomed the resilience of the banking sector during the pandemic. They noted that the increased concentration of the banking system in residential mortgages amid declining risk weights may pose risks going forward. In this regard, Directors saw scope to enhance the existing risk-based prudential policy framework and to tighten macroprudential policy as needed to address household vulnerabilities.

Directors agreed that the recovery offers an opportunity to increase productivity growth, labor participation and investment. They highlighted that policies should ensure that workers are equipped with technical and digital skills, encouraging broad-based innovation. They also noted that well-targeted measures to capitalize on SMEs' potential and to improve the implementation of insolvency procedures can minimize barriers to corporate restructuring, spur capital reallocation and improve recovery rates. A strategy based on enhanced carbon pricing, reinforced by broader incentives across sectors, will help achieve the country's climate goals. Continued efforts to enhance governance and upgrade the AML/CFT framework are also important.

**Table 1. Czech Republic: Selected Economic Indicators, 2018–26**

(Annual percent change, unless otherwise indicated)

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Staff projections | | | | | |
| **NATIONAL ACCOUNTS** | | | | | | | | | |
| Real GDP (expenditure) | 3.2 | 3.0 | -5.8 | 2.9 | 3.6 | 4.4 | 3.5 | 3.1 | 2.5 |
| Domestic demand | 4.8 | 3.2 | -5.8 | 6.7 | -0.3 | 4.0 | 3.6 | 3.2 | 2.6 |
| Consumption | 3.6 | 2.6 | -4.0 | 4.4 | 3.6 | 2.8 | 2.6 | 2.6 | 2.2 |
| Public | 3.8 | 2.5 | 3.4 | 3.2 | 2.7 | 2.2 | 2.2 | 2.2 | 2.0 |
| Private | 3.5 | 2.7 | -6.8 | 4.9 | 4.0 | 3.1 | 2.8 | 2.8 | 2.3 |
| Investment | 7.7 | 4.5 | -10.2 | 12.6 | -9.4 | 7.0 | 6.0 | 4.5 | 3.5 |
| Exports | 3.7 | 1.5 | -6.9 | 5.2 | 9.3 | 3.2 | 2.6 | 2.6 | 2.5 |
| Imports | 5.8 | 1.5 | -6.9 | 10.3 | 4.4 | 2.6 | 2.6 | 2.6 | 2.6 |
| Contribution to GDP | | | | | | | | | |
| Domestic demand | 4.5 | 3.0 | -5.3 | 6.4 | -0.6 | 3.7 | 3.3 | 2.9 | 2.4 |
| Net exports | -1.3 | 0.0 | -0.5 | -3.5 | 4.2 | 0.7 | 0.2 | 0.2 | 0.1 |
| Investment (percent of GDP) | 26.3 | 27.1 | 26.2 | 28.9 | 25.3 | 25.8 | 26.2 | 26.5 | 26.6 |
| Gross domestic investments (percent of GDP) | 27.2 | 27.6 | 25.9 | 28.6 | 25.0 | 25.6 | 26.0 | 26.3 | 26.4 |
| Gross national savings (percent of GDP) | 27.6 | 27.9 | 29.5 | 28.4 | 25.9 | 26.4 | 26.8 | 27.1 | 27.2 |
| Output gap (percent of potential output) | 2.0 | 2.8 | -1.0 | 0.0 | 0.3 | 0.2 | 0.1 | 0.0 | 0.0 |
| Potential growth | 3.1 | 2.2 | (2.3) | 1.9 | 3.3 | 4.6 | 3.6 | 3.3 | 2.5 |
| **LABOR MARKET** | | | | | | | | | |
| Employment | 1.4 | 0.2 | -1.3 | 0.0 | 0.5 | 0.3 | 0.0 | 0.0 | 0.0 |
| Total labor compensation | 9.8 | 7.8 | 1.4 | 5.6 | 9.7 | 7.0 | 5.5 | 5.1 | 4.5 |
| Unemployment rate (average, in percent) | 2.2 | 2.0 | 2.5 | 2.9 | 2.5 | 2.3 | 2.3 | 2.3 | 2.3 |
| **PRICES** | | | | | | | | | |
| Consumer prices (average) | 2.1 | 2.8 | 3.2 | 3.6 | 5.6 | 2.3 | 2.0 | 2.0 | 2.0 |
| Consumer prices (end-of-period) | 2.0 | 3.2 | 2.3 | 5.3 | 4.1 | 2.0 | 2.0 | 2.0 | 2.0 |
| Producer price index (average) | 2.0 | 2.6 | 0.1 | ... | ... | ... | ... | ... | ... |
| GDP deflator (average) | 2.6 | 3.9 | 4.4 | 3.4 | 4.1 | 1.7 | 1.7 | 1.7 | 2.0 |
| **MACRO-FINANCIAL** | | | | | | | | | |
| Money and credit (end of year, percent change) | | | | | | | | | |
| Broad money (M3) | 6.3 | 6.4 | 10.0 | ... | ... | ... | ... | ... | ... |
| Private sector credit | 6.9 | 4.9 | 3.6 | ... | ... | ... | ... | ... | ... |
| Interest rates (in percent, year average) | | | | | | | | | |
| Three-month interbank rate | 1.3 | 2.1 | 0.9 | ... | ... | ... | ... | ... | ... |
| Ten-year government bond | 2.0 | 1.5 | 1.1 | ... | ... | ... | ... | ... | ... |
| Exchange rate | | | | | | | | | |
| Nominal effective exchange rate (index, 2005=100) | 101.5 | 100.9 | 99.7 | ... | ... | ... | ... | ... | ... |
| Real effective exchange rate (index, CPI-based; 2005=100) | 99.1 | 99.4 | 100.0 | ... | ... | ... | ... | ... | ... |
| **PUBLIC FINANCE (percent of GDP)** | | | | | | | | | |
| General government revenue | 41.5 | 41.4 | 41.6 | 40.2 | 40.3 | 40.3 | 39.8 | 39.5 | 39.4 |
| General government expenditure | 40.6 | 41.1 | 47.2 | 47.4 | 44.6 | 44.3 | 43.3 | 42.5 | 41.9 |
| Net lending / Overall balance | 0.9 | 0.3 | -5.6 | -7.2 | -4.4 | -3.9 | -3.5 | -3.0 | -2.5 |
| Primary balance | 1.5 | 0.8 | -5.0 | -6.5 | -3.6 | -3.2 | -2.7 | -2.2 | -1.8 |
| Structural balance (percent of potential GDP) | 0.2 | -0.8 | -5.1 | -7.2 | -4.5 | -4.0 | -3.5 | -3.0 | -2.5 |
| General government debt | 32.1 | 30.0 | 37.7 | 43.5 | 45.0 | 46.6 | 48.0 | 48.7 | 49.1 |
| **BALANCE OF PAYMENTS (percent of GDP)** | | | | | | | | | |
| Trade balance (goods and services) | 5.9 | 6.0 | 6.8 | 3.1 | 5.7 | 5.8 | 5.8 | 5.8 | 5.8 |
| Current account balance | 0.4 | 0.3 | 3.6 | -0.2 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| Gross international reserves (billions of euros) | 124.5 | 133.4 | 135.4 | 142.9 | 154.9 | 163.9 | 172.9 | 181.9 | 190.9 |
| (in months of imports of goods and services) | 10.0 | 10.5 | 11.8 | 10.3 | 10.3 | 10.5 | 10.7 | 10.7 | 10.9 |
| (in percent of short term debt, remaining maturity) | 118.9 | 129.9 | 141.1 | 140.9 | 144.6 | 150.2 | 154.0 | 156.8 | 158.4 |
| **MEMORANDUM ITEMS** | | | | | | | | | |
| Nominal GDP (USD billions) | 249.0 | 252.5 | 245.3 | 281.90 | 310.00 | 334.20 | 356.00 | 378.30 | 398.50 |
| Population (millions) | 10.6 | 10.6 | 10.7 | 10.7 | 10.8 | 10.8 | 10.8 | 10.8 | 10.8 |
| Real GDP per capita | 2.9 | 2.6 | -6.2 | 2.5 | 3.3 | 4.3 | 3.4 | 3.1 | 2.5 |
| GDP per capita (USD) | 23,464 | 23,709 | 22,943 | 26,271 | 28816.56 | 31006.45 | 33001.00 | 35062.62 | 36932.12 |

Sources: Czech National Bank; Czech Statistical Office; Ministry of Finance; Haver Analytics, and IMF staff estimates and projections.

Structural balances are net of temporary fluctuations in some revenues and one-offs. COVID-related one-offs are however included.

INTERNATIONAL MONETARY FUND

# CZECH REPUBLIC

## STAFF REPORT FOR THE 2021 ARTICLE IV CONSULTATION

December 16, 2021

## KEY ISSUES

**Context:** The Czech Republic entered the pandemic on a strong economic footing. Amid another surge in virus infections, the outlook is for a continued rebound in activity. However, the risks are tilted to the downside. Inflation remained marginally above the upper tolerance band in 2020 and increased substantially in late 2021. Pressures in the labor market remain. Macrofinancial vulnerabilities persist as house price growth has reached record highs amid significant risk-taking by lenders.

**Policy Recommendations:** Policy support should be gradually withdrawn to replenish buffers, including by pivoting toward more targeted support. The pace of withdrawal should remain flexible and adjusted to the strength of the recovery, which will likely continue to be affected by further waves of infections, while ensuring policy coordination to avoid cliff effects. Policies should also rein in increasing inflation, address macrofinancial imbalances and build forward better.

- ***Monetary policy.*** Amid high inflation and increasing domestic pressures, staff supports the recent tightening of the monetary policy stance. Going forward, in light of the high uncertainty, policy action should carefully weigh risks from raising rates too quickly, possibly jeopardizing the economic recovery, versus the potential costs from hiking too slowly and risking inflation expectations becoming untethered.

- ***Fiscal policy.*** Careful consolidation in the short term is appropriate, but given the uncertain outlook, fiscal policy should remain flexible, while facilitating reallocation and bridging to the economy of the future. Once the recovery is firmly established, addressing long-term debt sustainability issues will be paramount.

- ***Macrofinancial.*** Recent macroprudential tightening is warranted to address increasing lender risk-taking and reduce property market-related risks. These tools should be supported by a balancing of tax incentives and measures to improve housing supply. More macroprudential tightening may be needed down the road.

- ***Green transformation.*** A strategy based on enhanced carbon pricing, reinforced by broader incentives across sectors is recommended. The Recovery and Resilience Facility provides an opportunity to finance mitigation and productivity-enhancing investments to accelerate the transformation.

Approved By
**Jörg Decressin (EUR) and Kevin Fletcher (SPR)**

Discussions took place remotely and in Prague during November 8–23, 2021. The staff team comprised Messrs. Segoviano (head), Tudyka, Ayerst, and Dallari (EUR). Mr. Marek (OED) attended some meetings. Mses. Baldev and Sandhu (both EUR) assisted in the preparation of the staff report. The staff team met with CNB Vice Governor Mora, Fiscal Council Chairwoman Zamrazilová, other senior officials, and representatives from the private sector. The Czech Republic is an Article VIII country (Informational Annex: Fund Relations).

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**TABLES**



**ANNEXES**

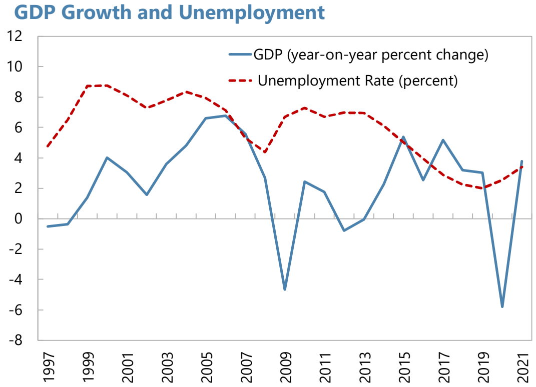
# CONTEXT AND RECENT DEVELOPMENTS

**1. The Czech Republic entered the crisis on a solid economic footing.** A steady upswing since 2014 with solid GDP growth and a declining unemployment rate provided substantial buffers (Figure 1). Inflation remained below the CNB's 3 percent upper bound, reaching 2.8 percent in 2019 (Figure 7). Prior to the pandemic, the fiscal balance was positive for four years, and debt reached a low of 30 percent (Figure 1).

**2. The pandemic continues to pose a challenge.** After a period of reopening in the summer of 2020, strict lockdowns—including a nationwide quarantine, mandatory testing, and closures of schools and businesses—were re-introduced following a second wave of the virus in late 2020. The state of emergency ended on April 11, 2021 following continued declining cases in the spring 2021. However, cases have recently significantly increased. Vaccination efforts are progressing with around 58.4 percent (6.2 million) of the population, and above 75 percent of older citizens (50 and older), having received two doses as of November 19, 2021 (Figure 2). Addressing any vaccination hesitancy—possibly through education campaigns—will continue supporting the recovery.

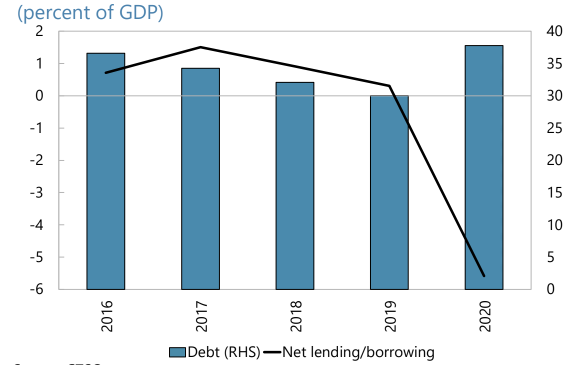
**Figure 1. Czech Republic: A Solid Economic Position Entering the Pandemic**

**GDP Growth and Unemployment**




Sources: Haver Analytics and IMF Staff Calculations

**General Government Fiscal Position**
(percent of GDP)

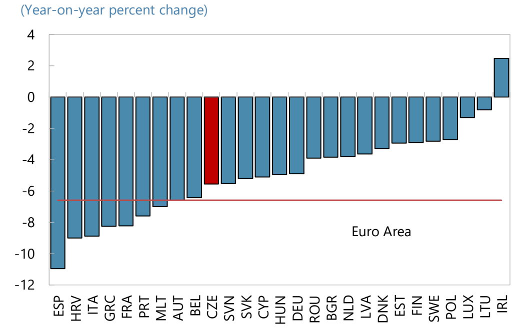



Source: CZSO

**3. The economic impact of the pandemic was less severe than elsewhere in Europe.**

- Real GDP declined by 5.8 percent in 2020. Growth turned negative in 2021:Q1 due to the continued lockdowns. Domestic demand sharply rebounded in 2021:H1, growing at an average pace of 4 percent on the back of pent-up demand. Investment growth was strong in 2021:H1 as firms built back inventories.

**Decline in GDP, 2020**
(Year-on-year percent change)

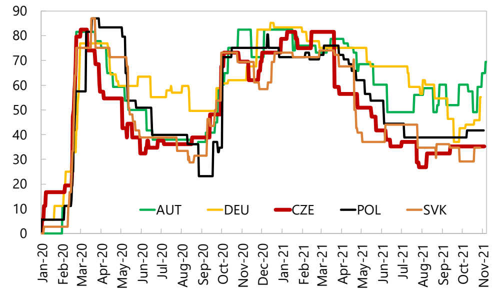



Sources: WEO and IMF Staff calculations

## Figure 2. Czech Republic: COVID-19 Developments

*Amid stringent lockdown measures implemented by the government in Fall of 2020…*

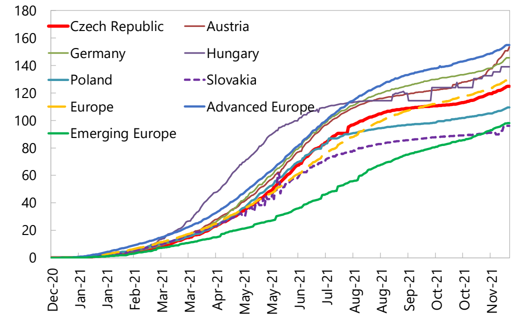
**COVID-19 Government Response Stringency Index**
(Index: 100=most restrictive)




Source: Our World in Data

*…and an inoculation effort, infection rates waned markedly by spring 2021.*

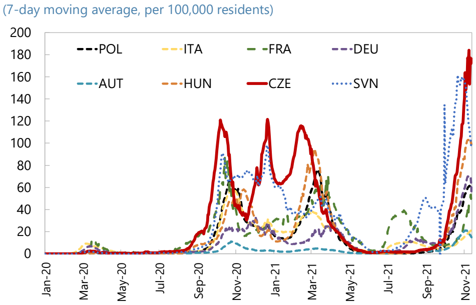
**COVID-19 Administered Vaccine Doses**
(Cumulative vaccine shots per 100 people; population weighted averages)




Sources: Bloomberg; WEO; and IMF staff calculations

*After a decline in the first half of 2021, cases have significantly increased in November.*

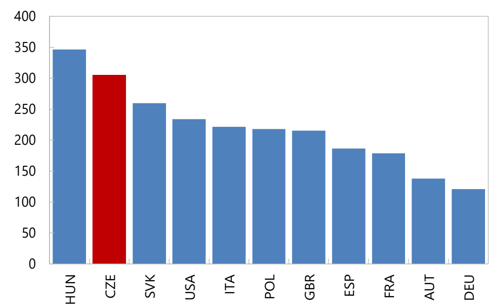
**COVID-19: Newly Reported Cases**
(7-day moving average, per 100,000 residents)




Sources: Bloomberg, WEO and IMF Staff calculations

*The Czech Republic has experienced a comparatively high death toll.*

**Cumulative Reported COVID-19 Deaths 1/**
(Per 100,000 inhabitants)




Sources: Haver Analytics; IMF World Economic Outlook; and IMF staff calculations.
1/ Data in the chart are as of Nov 26, 2021.

- Inflation remained above the CNB's tolerance band, averaging 3.2 percent in 2020. Core and headline inflation have continued to grow through 2021, reaching highs of 6.6 and 5.8 percent in October, driven by rising core inflation—due to a tight labor market, continued pressure from imputed rents, and global value chain (GVC) disruptions—and rising food and fuel prices (Figure 7). The exchange rate depreciated by 10 percent relative to the Euro in March 2020 due to pandemic-related uncertainty but recovered to pre-pandemic levels by May 2021 and has since remained stable.

- The labor market withstood the pandemic relatively well with unemployment peaking at 3.3 percent in 2021:Q1, a comparatively small decline in hours worked, and vacancies across most sectors stabilizing after an initial fall. Growth of compensation of employees declined to 1.4 percent in 2020, from 7.8 percent in 2019, but began to rebound to pre-pandemic rates in 2021 as the economy reopened.

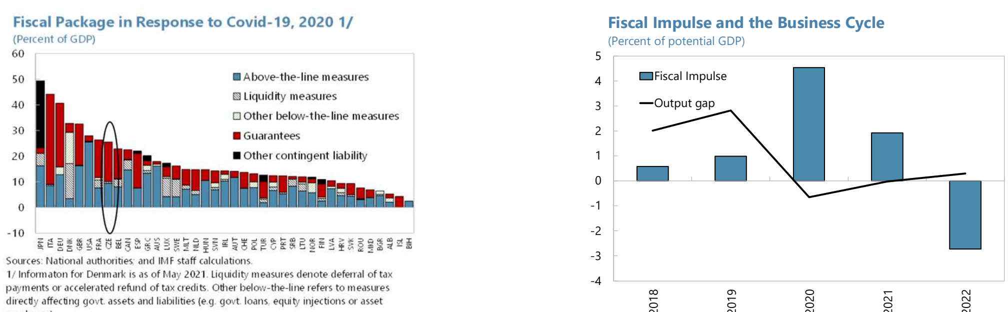
**4. Strong and swift policy support softened the downturn.**

- **Fiscal policy.** Announced measures as of end-October 2021 were about 25 percent of 2020 GDP. On the expenditure side, measures included wage compensation schemes, compensatory transfer payments to small businesses and the self-employed, a lump-sum payment for pensioners, care allowance packages, and an increase in health insurance payments for persons covered by the state. On the revenue side, measures included a change in the personal income tax (PIT) regime embedding a broad rate cut by about 5 percentage points, and the cancellation of the property sales tax, both of which are permanent. In addition, the government offered sizeable financing guarantees to the private sector of about 15½ percent of GDP. However, the uptake was only one-tenth of the available balance. The headline deficit was 5.6 percent of GDP in 2020. The fiscal impulse amounted to almost 4½ percent of potential GDP in 2020 and 2 percent in 2021.

- **Monetary policy.** The CNB lowered the policy rate in three steps in spring 2020 by a cumulative 200 bps to 0.25 percent. It also increased the frequency of repo operations from one to three times a week and broadened eligible collateral instruments.[1]

- **Macrofinancial policy.** As the crisis unfolded, measures to support households and corporates mitigated liquidity and credit risks. The CNB introduced an extraordinary lending facility and released the countercyclical capital buffer (CCyB) to 0.5 percent from previously 1.75 percent, which provided additional lending and loss-absorbing capacity for banks. Mortgage markets continued operating without disruptions amongst the relaxation of macroprudential policy.[2] In line with ESRB guidelines, the CNB called on banks in 2020 to refrain from making dividend payouts to reinforce capital buffers.

**Figure 3. Czech Republic: Fiscal Policy Package and Stance**




Sources: National authorities; and IMF staff calculations.
1/ Informaton for Denmark is as of May 2021. Liquidity measures denote deferral of tax payments or accelerated refund of tax credits. Other below-the-line refers to measures directly affecting govt. assets and liabilities (e.g. govt. loans, equity injections or asset purchases).

Sources: Ministry of Finance; CNB; and IMF staff calculations.

Note: Above-the-line measures of about 3½ percent of GDP (CZK 201 billion) were implemented in 2020, while another 5.2 percent of GDP (CZK 316.2 billion) were allocated in the 2021 budget. The Czech Republic's above the-line fiscal support package allocated in the 2020 and 2021 budgets, announced as of June 2021, was among the larger packages in Europe.

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[1] An amended CNB act extended the CNB's powers regarding the types of securities and counterparties it can engage with in secondary markets in case of disorderly market conditions.

[2] Effective April 1, 2020, the CNB relaxed credit ratios for new mortgages, increasing the maximum recommended LTV ratio from 80 to 90 percent, the DSTI ratio from 45 to 50 percent (eventually abolished on June 18, 2020) and removing the DTI ratio (previously set at 9) from its list of recommendations.

## Table 1. Czech Republic: The COVID-19 Fiscal Policy Response

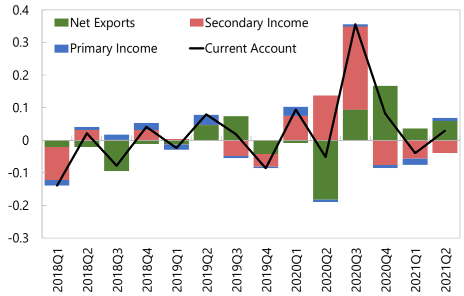
| | 2020 | | 2021 | | Total | | | |
|---|---|---|---|---|---|---|---|---|
| | Allocated | Uptake | Allocated | Uptake 1/ | Allocated | | Uptake | |
| | CZK bn | CZK bn | CZK bn | CZK bn | CZK bn | percent of 2020 GDP | CZK bn | percent of 2020 GDP |
| **Above-the-line-measures** | **216.8** | **201.3** | **316.2** | **229.0** | **533.0** | **9.4** | **430.4** | **7.6** |
| **Revenue side measures** | **54.7** | **38.7** | **143.8** | **81.3** | **198.5** | **3.5** | **120.0** | **2.1** |
| **Outright** | **40.4** | **24.4** | **143.8** | **81.3** | **184.2** | **3.2** | **105.7** | **1.9** |
| Personal income tax cuts | 0.0 | 0.0 | 99.1 | 71.3 | 99.1 | 1.7 | 71.3 | 1.3 |
| Cancellation of property sales tax | 13.8 | 11.1 | 13.8 | 2.7 | 27.6 | 0.5 | 13.8 | 0.2 |
| Waived social security contributions by employers | 13.3 | 13.3 | 0.0 | 0.0 | 13.3 | 0.2 | 13.3 | 0.2 |
| Decreased VAT rate for selected services; road tax rate, diesel excise tax | 1.8 | 0.0 | 8.4 | 4.2 | 10.2 | 0.2 | 4.2 | 0.1 |
| Other measures | 1.4 | 0.0 | 2.5 | 2.0 | 3.9 | 0.1 | 2.0 | 0.0 |
| Extraordinary allowance for employees in quarantine | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 | 0.0 | 1.1 | 0.0 |
| Extraordinary accelerated depreciation on assets and other measures | 10.1 | 0.0 | 18.9 | 0.0 | 29.0 | 0.5 | 0.0 | 0.0 |
| **Deferred/repayable revenue measures** | **14.3** | **14.3** | **0.0** | **0.0** | **14.3** | **0.3** | **14.3** | **0.3** |
| Social security and health insurance contributions for self-employed | 14.3 | 14.3 | 0.0 | 0.0 | 14.3 | 0.3 | 14.3 | 0.3 |
| **Expenditure side measures** | **162.1** | **162.6** | **172.4** | **147.7** | **334.5** | **5.9** | **310.4** | **5.5** |
| Increase in payments for state-insured persons | 20.9 | 20.9 | 50.9 | 41.8 | 71.8 | 1.3 | 62.7 | 1.1 |
| Labour support measures | 26.9 | 27.0 | 22.4 | 22.3 | 49.3 | 0.9 | 49.3 | 0.9 |
| Compensatory bonus | 26.3 | 26.3 | 17.3 | 17.3 | 43.6 | 0.8 | 43.6 | 0.8 |
| Purchases of medical equipment, vaccines, tests, etc. | 17.4 | 28.3 | 10.2 | 6.9 | 27.7 | 0.5 | 35.3 | 0.6 |
| Public wage increases (including healthcare) | 16.4 | 16.6 | 19.7 | 17.8 | 36.1 | 0.6 | 34.4 | 0.6 |
| Care allowances (employees, self-employed persons) | 12.0 | 12.0 | 4.3 | 4.4 | 16.3 | 0.3 | 16.5 | 0.3 |
| One-off lump sum to pensioners | 15.0 | 15.0 | 0.0 | 0.0 | 15.0 | 0.3 | 15.0 | 0.3 |
| Business property rent support | 5.1 | 5.1 | 4.8 | 4.8 | 9.9 | 0.2 | 9.9 | 0.2 |
| "COVID-Uncovered Costs" programme | 0.0 | 0.0 | 9.1 | 8.2 | 9.1 | 0.2 | 8.2 | 0.1 |
| "COVID 2021" programme | 0.0 | 0.0 | 6.8 | 6.6 | 6.8 | 0.1 | 6.6 | 0.1 |
| Support of tourism sector | 2.7 | 2.6 | 4.1 | 3.5 | 6.8 | 0.1 | 6.0 | 0.1 |
| Other sector support (restaurants, bus transport, etc.) | 0.9 | 0.9 | 4.0 | 5.0 | 4.9 | 0.1 | 5.9 | 0.1 |
| Support of agriculture sector | 5.5 | 3.6 | 3.0 | 1.6 | 8.5 | 0.1 | 5.2 | 0.1 |
| Other expenditure in healthcare system and social services | 2.5 | 2.2 | 3.8 | 2.3 | 6.4 | 0.1 | 4.5 | 0.1 |
| Support of culture sector | 1.4 | 1.0 | 3.4 | 1.4 | 4.8 | 0.1 | 2.4 | 0.0 |
| Support of sport sector | 0.6 | 0.6 | 3.9 | 1.5 | 4.6 | 0.1 | 2.1 | 0.0 |
| Loss carryback | 0.1 | 0.1 | 4.2 | 1.7 | 4.3 | 0.1 | 1.8 | 0.0 |
| Other expenditure measures | 8.3 | 0.3 | 0.4 | 0.6 | 8.7 | 0.2 | 1.0 | 0.0 |
| **Below-the-line measures** | **0.9** | **0.9** | **0.0** | **0.0** | **0.9** | **0.0** | **0.9** | **0.0** |
| **Guarantee programmes** | **864.4** | **63.3** | **18.5** | **44.1** | **882.9** | **15.5** | **107.4** | **1.9** |

1/ as of 31 October 2021;
ESA 2010 methodology
Source: Ministry of Finance

**5. The current account fluctuated significantly due to temporary crisis-related factors.** After a large surplus of 3.6 percent of GDP in 2020—largely due to an extraordinarily low primary income deficit due to falling bank profits, which led to lower dividend payments (Figure 4)—the current account has begun to stabilize in 2021:H1. Staff assesses the external position in 2021 to be broadly in line with fundamentals and policy settings but note that this assessment is subject to considerable uncertainty (Annex I).

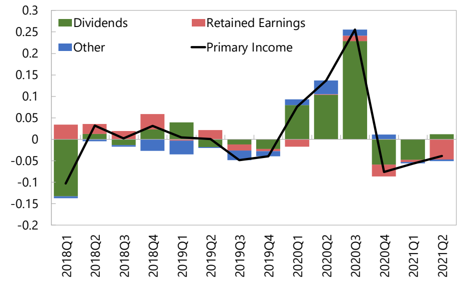
## Figure 4. Czech Republic: Changes in the Current Account

**Changes in Current Account**
(Percent GDP; Year-to-Year Change)




Sources: Haver Analytics; Staff Calculations

**Changes in Primary Income Balance**
(Percent GDP; Year-to-Year Change)

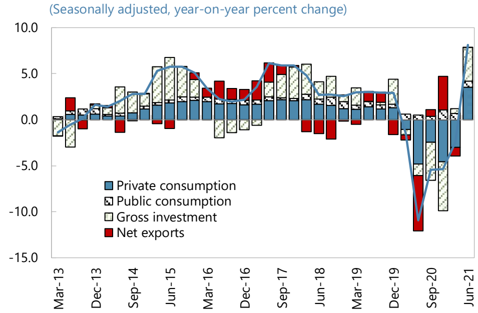



Sources: Haver Analytics; Staff Calculations

## Figure 5. Czech Republic: Recent Growth

*Growth began to recover in 2021 driven by domestic demand.*

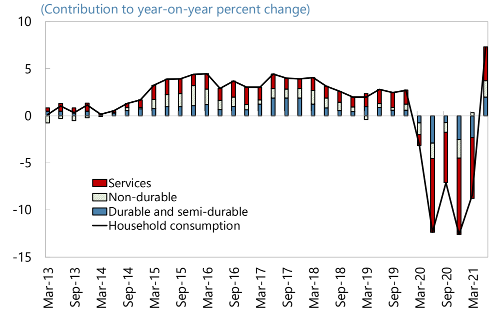
**Contribution to Real Expenditure GDP**
(Seasonally adjusted, year-on-year percent change)




Source: Haver Analytics.

*Durable and service consumption growth have begun to recover...*

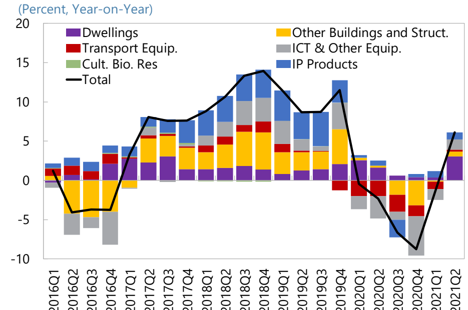
**Contribution to Household Consumption Growth**
(Contribution to year-on-year percent change)




Source: Eurostat.

*... along with GFCF in 2021.*

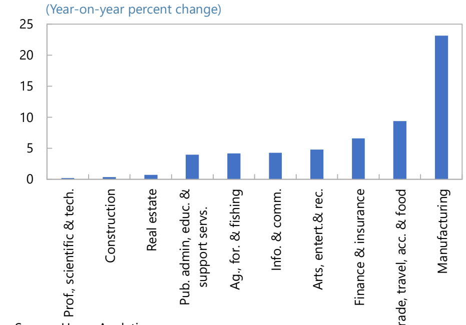
**Changes in GFCF**
(Percent, Year-on-Year)




Sources: Czech Statistics Office; Staff Calculations

*The recovery in Q2:2021 in value added was driven by the sectors most affected by the lockdown.*

**Gross Value Added, Q2-2021**
(Year-on-year percent change)

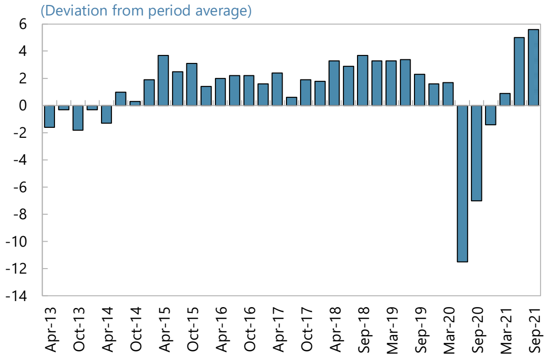



Source: Haver Analytics.

## Figure 6. Czech Republic: Capacity Constraints

*Capacity utilization dropped sharply over the lockdown but has since overtaken its initial value…*

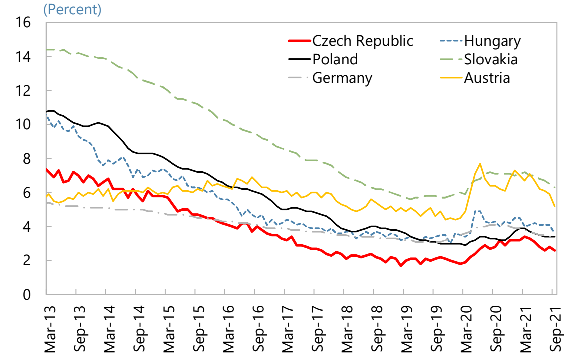
### Capacity Utilization
(Deviation from period average)




Source: Haver Analytics.

*…while unemployment remains relatively low.*

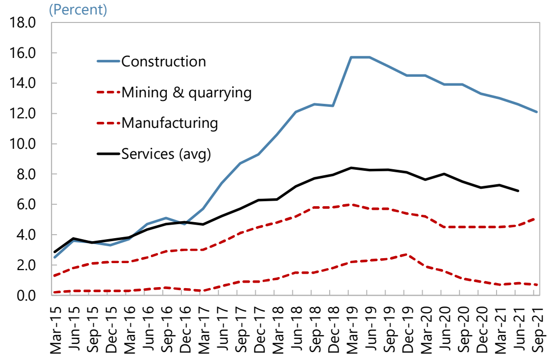
### Unemployment Rate
(Percent)




Source: Haver Analytics.

*Vacancy rates have followed a gradual decline consistent with pre-pandemic trends…*

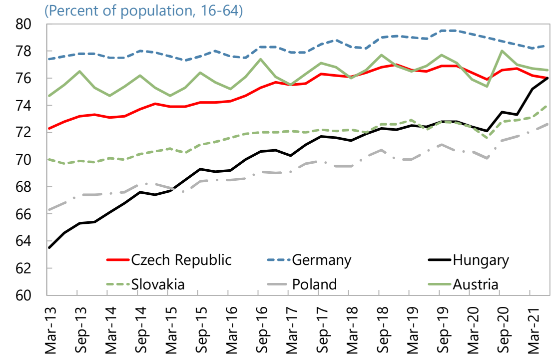
### Vacancy Rates Across Sectors
(Percent)




Source: Haver Analytics.

*…while labor force participation has remained stable…*

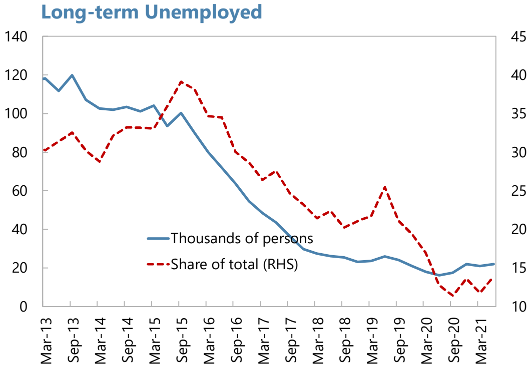
### Labor Force Participation Rate
(Percent of population, 16-64)




Source: Haver Analytics.

*… and long-term unemployment has risen slightly.*

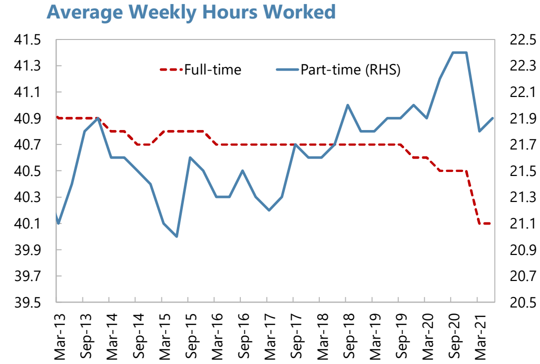
### Long-term Unemployed




Source: Haver Analytics.

*Utilization of workers remains relatively stable.*

### Average Weekly Hours Worked



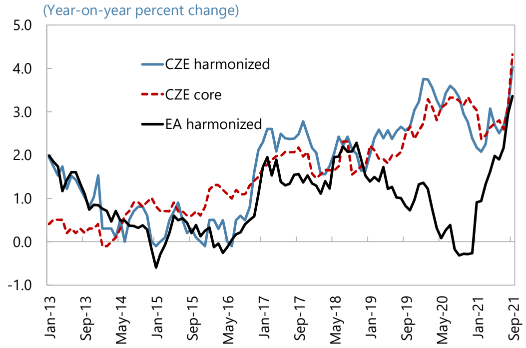

Sources: Statistical Office of the European Communities; and Haver Analytics.

## Figure 7. Czech Republic: Inflation

*Inflation has remained high since early 2019 and has risen above the CNB's 1–3 percent target range in 2021…*

### Consumer Price Index

(Year-on-year percent change)

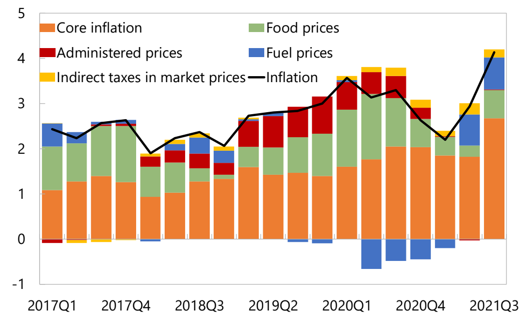



Source: Haver Analytics.

*… pushed up by core inflation, food prices, and fuel prices.*

### Contribution to Inflation

(Y-o-Y Changes in %; Contributions in Pecentage Points)

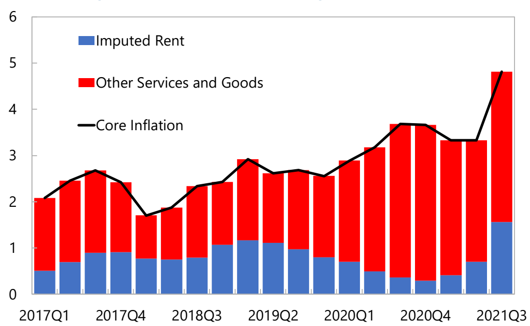



Source: Czech National Bank

*The already high contribution of imputed rent will increase further in the quarters ahead….*

### Contribution of Imputed Rent to Inflation

(Y-o-Y Changes in %; Contributions in Pecentage Points)

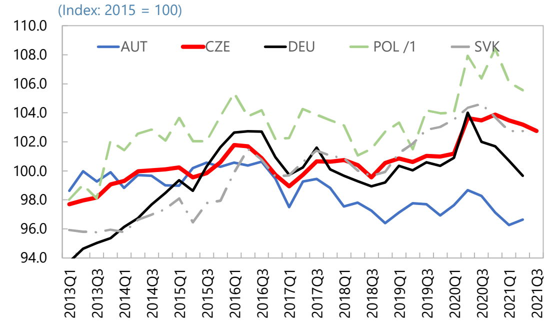



Source: Czech National Bank

*The terms of trade have improved…*

### Terms of Trade

(Index: 2015 = 100)

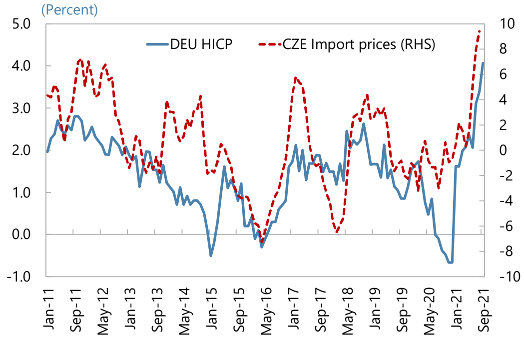



Source: Haver
/1: Poland is 2005=100

*… and import prices have rebounded.*

### Import Prices

(Percent)

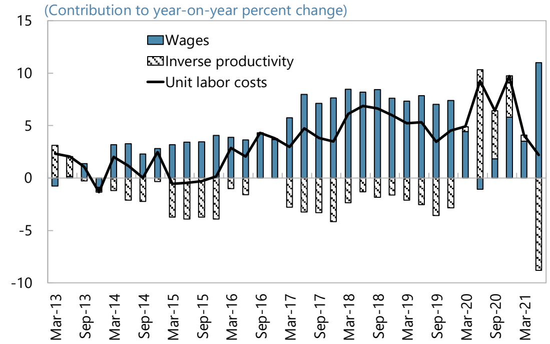



Source: Haver Analytics.

*Wage inflation has pushed up labor costs…*

### Unit Labor Cost Decomposition

(Contribution to year-on-year percent change)

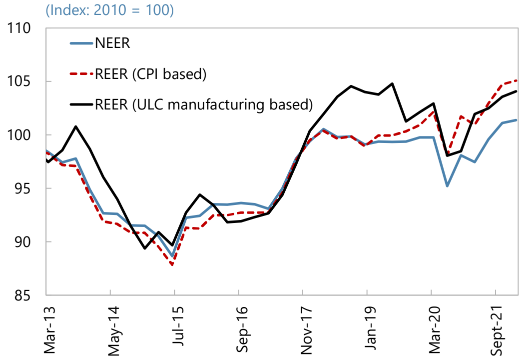



Source: Haver Analytics.

## Figure 8. Czech Republic: External Position and Competitiveness

*The NEER and REER depreciated at the onset of the pandemic but have since recovered…*

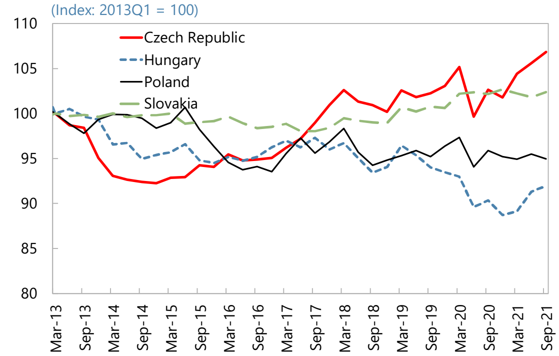
**Real Exchange Rate**
(Index: 2010 = 100)




Source: Haver Analytics.

*…while the REER continues to appreciate in 2021 relative to competitors.*

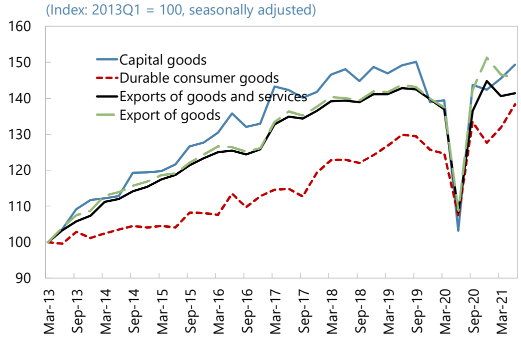
**Real Effective Exchange Rate: CPI Based**
(Index: 2013Q1 = 100)




Sources: Haver Analytics; and IMF staff calculations.

*Exports remain strong despite a drop at the onset of the pandemic…*

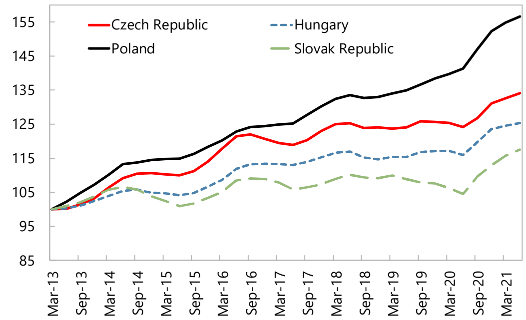
**Industrial Production and Real Exports**
(Index: 2013Q1 = 100, seasonally adjusted)




Source: Haver Analytics.

*… and the share of world imports increased in line with peers.*

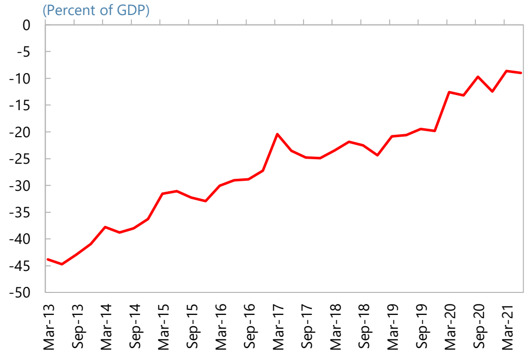
**Share of World Imports**
(Percent of world imports, index: 2000Q4 = 100)




Source: Direction of Trade Statistics.

*The NIIP is at a comfortable level…*

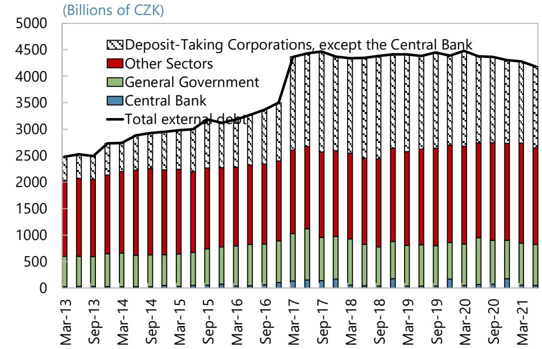
**Net International Investment Position**
(Percent of GDP)




Source: Haver Analytics.

*… and external debt remained stable nominally.*

**External Debt Composition by Sector**
(Billions of CZK)




Source: Czech National Bank.

# OUTLOOK AND RISKS

6. **Growth in the near term is projected to rebound, even if less than earlier projected because of a surge in virus infections and GVC disruptions.** The baseline outlook envisages economic activity to rebound to 2.9 percent in 2021 and 3.6 percent in 2022 as the pandemic subsides, the vaccination rollout continues, and GVC disruptions, which have weighed on the initial recovery, ease (Annex VIII). Private consumption is projected to increase, while public consumption tapers off as support measures are withdrawn. Supported by strong demand in the automotive sector and the recovery of trading partners, net exports are expected to recover throughout 2022 as GVC disruptions are resolved. Unemployment is expected to remain low and wage growth to return to pre-pandemic rates. The output gap will become slightly positive entering 2022 and is expected to close in the medium term as the economy adjusts to the new normal.

7. **Inflation is projected to remain elevated throughout 2021 and early 2022 but then gradually converge to the CNB's target range by early 2023.** In the near term, inflationary pressures are expected to be driven by domestic factors—tight labor and housing markets—and foreign drivers—supply chain disruptions and high energy prices. Inflation is forecasted to converge to the policy target range by early 2023 amid the rise in policy rates and ebbing of current inflationary pressures. The CNB has signaled a continuation of rate increases until inflation returns to its target in a sustainable manner over the monetary policy horizon, aiming to keep inflation expectations anchored. Staff's baseline scenario assumes that the CNB raises rates to 3.5 percent in early 2022.

8. **Amid high uncertainty, risks remain tilted to the downside.** The virus continues to pose major downside risks, including from the emergence of the Omicron variant. Also, longer-than-expected surges in energy prices or prolonged disruptions to GVCs could further hinder the recovery and further increase inflationary pressures, imperiling inflation expectations from becoming de-anchored. Conversely, a strong appreciation of the koruna due to larger-than-expected capital inflows may ease inflationary pressures. In the near-to-medium term, a disorderly reallocation process that leaves pandemic-affected sectors behind poses a downside risk (Annex IV) while an overheating of the labor market could deter a sound economic rebound.

9. **Macrofinancial vulnerabilities remain elevated.** Amid significant risk-taking by lenders, house price growth accelerated throughout the pandemic reaching a record high of 14½ percent year-over-year in 2021:Q2. The CNB estimates property prices to be overvalued by 25 percent on average. A domestic or regional house price correction could ignite adverse feedback loops and weigh on banks' balance sheets. Impairment charges, albeit remaining low, are likely to increase further as support policies are fully unwound.

***Authorities' Views***

10. **The authorities broadly agree with the outlook and balance of risks.** The authorities expect growth in the near-term to be hindered by GVC-related disruptions, despite a strong recovery in domestic demand, but to accelerate in 2022 as disruptions ease. They expect inflation to

remain high into 2022 before declining to the target rate. The authorities see downside risks stemming from prolonged GVC disruptions, deterioration of the epidemic situation, and further tightening of the labor market.

# POLICY DISCUSSIONS

*Policy support should be cautiously reduced, depending on the strength of the recovery, while ensuring policy coordination to avoid cliff effects. Fiscal policy should remain flexible and pivoted to targeted support to rebuild buffers, while providing a bridge to the economy of the future by facilitating reallocation and the green and digital transitions. Monetary policy should continue on a tightening path amid well-above-target inflation and increasing inflation expectations. Current developments in the housing market warrant tightening macroprudential tools while deploying tax and housing supply policies.*

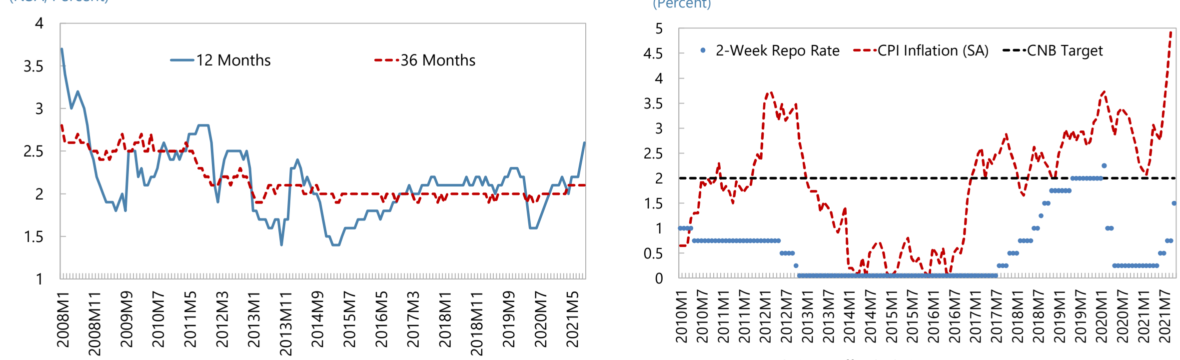
## A. Monetary Policy

**11. The CNB has begun to normalize monetary policy in the second half of 2021.** Policy tightening was motivated by increasing inflation in 2021—from already elevated levels in 2020—and rising inflation pressures coupled with the risks from a further tightening of the labor market. Policy actions consisted of two 25bp hikes in July and August, a 75bp hike in October, and a 125bp hike in November to 2.75 percent from 0.25 percent in the beginning of 2021 (Figure 9). The CNB has prepared markets for further tightening into 2022.

**Figure 9. Czech Republic: Inflation and Monetary Policy**

**Inflation Expectation: Financial Markets** (NSA, Percent)

**Inflation and Monetary Policy** (Percent)




Source: Haver Analytics

Sources: Haver Analytics; Staff Calculations

Note: For the left panel respondents are asked the following questions: (1) what year-on-year consumer price change in percent do you expect in the next 12 months; (2) what year-on-year consumer price change in percent do you expect in the period of 36 months. The survey includes respondents from seven Czech companies and seven foreign entities chosen to create a representative sample of traders.

**12. Staff supports the monetary policy stance.** Persistent labor and housing market pressures are contributing significantly to high and rising inflation. The CNB's stance of raising the policy rate is appropriate to counteract inflation pressures and prevent inflation expectations from becoming untethered.[3] Going forward, policy action should be taken primarily in response to movements in core inflation due to domestic pressures, including wage growth, and inflation expectations, while carefully considering risks from raising rates too quickly. Downside risks to the outlook due to possible strict lockdowns in response to the resurgent pandemic waves, longer-than-expected rises in energy prices or prolonged disruptions to GVCs may be exacerbated by excessive tightening of policy. Unexpected rate hikes may also destabilize asset prices and financial markets. On the other hand, delayed policy action, amid strong labor and housing market pressures, risks inflation expectations becoming untethered, wage spirals developing, and second round-inflation pressures spreading.

***Authorities' Views***

**13. The CNB has communicated that it will continue hiking rates into early 2022** to limit the pass-through of the current strong domestic and foreign inflation pressures into prices in the longer term and to ensure the return of inflation towards the 2 percent target at the monetary policy horizon. The CNB's response is also helping anchor inflation expectations at its target. The CNB expects that inflation will decline to the target by early 2023 as monetary policy takes effect and temporary factors subside.

## B. Fiscal Policy

**14. The 2021 fiscal deficit is estimated to have widened significantly reflecting the support measures.** Staff estimates the budget deficit to have widened to 7¼ percent of GDP in 2021 from 5.6 percent in 2020. The main drivers of the widening deficit are weak revenue generation and the expanded fiscal policy measures of which almost 4 percent of GDP were taken up by end-October 2021. General government debt is projected to increase by 5¾ percentage points to 43½ percent of GDP at end-2021.

**15. The fiscal balance in 2021 and beyond is significantly affected by the change in the PIT regime.** Beginning 2021, the PIT rate for employees was lowered to 15 percent from an effective 20.1 percent, while the basic tax deduction was raised by CZK 3,000 (from CZK 24,840) in 2021 and again in 2022.[4] The measure is non-targeted and no phasing out plans have been announced to date lowering revenue by about 2 percentage points of GDP beyond 2021.

**16. The 2022 budget envisages a deficit reduction as pandemic-related measures are set to expire.** Staff forecasts the 2022 budget deficit to reach 4.4 percent of GDP—as projected in the

[3] Based on a Taylor-type rule, staff estimates a neutral rate of 2–3 percent consistent with the CNB's 2 percent inflation target. Given recent trends in inflation, a higher policy rate than this range is appropriate.

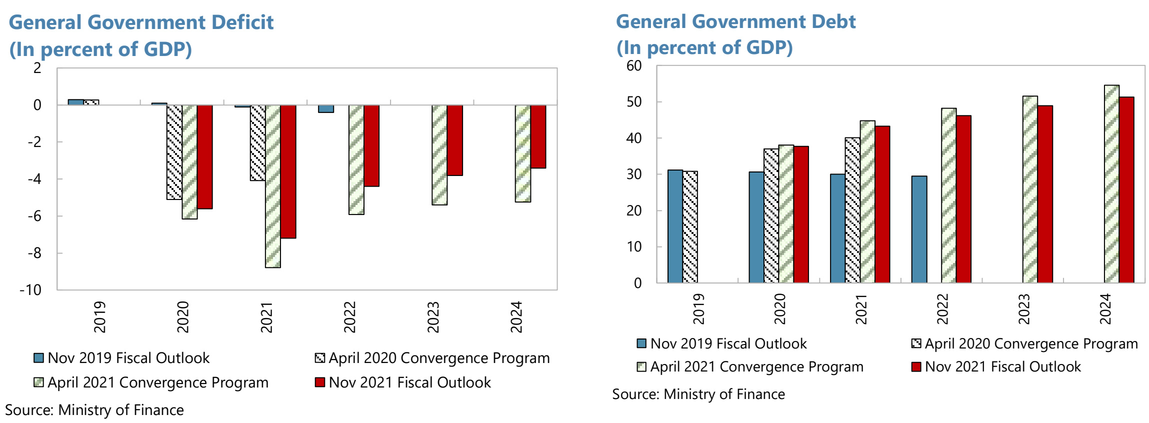
[4] The PIT rate was previously set at a flat 15 percent but based on the so-called super gross salary which included gross income plus health insurance and social security contributions paid by employers. The new regime is based on gross income only. High-income earners are now subject to a 23 percent rate instead of the previous solidarity surcharge of 7 percent.

November 2021 Fiscal Outlook. The improvement of the fiscal balance is largely driven by lower expenditures, in particular those related to expiring pandemic-related measures (Annex VII).

**17. Carefully scaling back fiscal support measures in the short term is appropriate, but fiscal policy should remain flexible given the uncertain outlook.** The Czech Republic entered the pandemic with substantial fiscal space. Despite the resulting increase in public debt, its level as a share of GDP is still among the lowest in the EU. Nevertheless, fiscal consolidation should proceed in a state-contingent and well-communicated manner as the need for support to keep a strong economy is diminishing.

**18. The medium-term fiscal consolidation path is unambitious resulting in a debt-to-GDP ratio which does not stabilize by 2026.** The MoF's Fiscal Outlook envisages a yearly improvement of the structural balance of ½ percentage point. Based on this path, staff projects a headline deficit of 2½ percent of GDP in 2026 and a primary deficit of 1¾ percent. As a consequence, public debt is projected to increase to 49 percent of GDP by 2026—about 6 percentage points below the national debt brake threshold (Annex V).

**Figure 10. Czech Republic: Official Fiscal Projections**




Note: Official projections are available until 2022 for the 2019 Fiscal Outlook and 2024 for the 2020 and 2021 Convergence Programs and 2021 Fiscal Outlook.

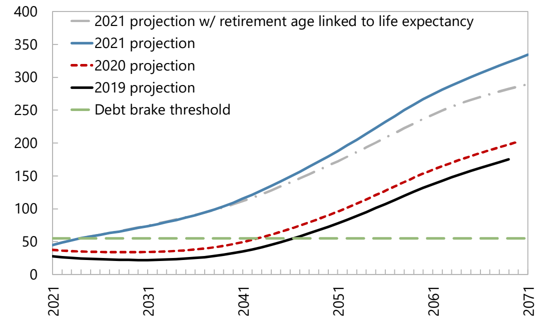
**19. Barring major setbacks in the recovery, the broad-based and non-targeted support measures should be reversed in the 2022 budget to arrest growing debt and replenish fiscal buffers.** Unless other—possibly more growth-friendly—revenue-side measures can be implemented, the relaxation of the personal income tax regime should be reversed and the real estate transfer tax reintroduced[5]. These measures alone would yield over 2 percent of GDP going forward thus lifting the primary balance above its debt-stabilizing level of -1.1 percent of GDP as early as 2023. Revenue side measures could be accompanied by expenditure consolidation. The

[5] The real estate transfer tax applied to the acquirer at a rate of 4 percent.

resulting savings could partially be used to boost growth-enhancing and green investments (Section E).

**20. Addressing public debt sustainability pressures in the long term will be paramount.** The sustainability of the pension system in the long run is challenged by demographic pressures, which will start to become increasingly pressing at the turn of the decade. The Fiscal Council projects public debt to reach 180 percent by 2050, and almost 330 percent by 2070 in its baseline scenario.[6] Re-linking the retirement age to adjust automatically to life expectancy would be an important first step but is insufficient to fully solve the problem. Consequently, net increases in revenue will be needed. Generating more revenue from taxes that promote growth and sustainability, such as consumption, carbon, and valuation-based real estate taxes, would help further. The latter would also contribute to reducing pressures in the real estate market (Section C).

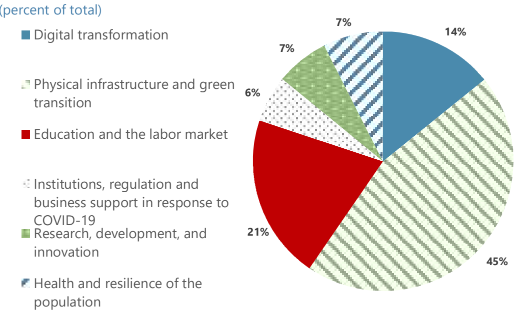
**Long-term Debt Projections (Baseline scenario)**
(Percent of GDP)




Source: Czech Fiscal Council

**21. Making the best possible use of the Recovery and Resilience Facility (RRF) can contribute to facilitate the transformation to the post-pandemic economy and to build forward better.** The National Recovery Plan of the RRF envisages CZK 199.9bn in spending, of which CZK 172bn will be funded by EU grants. 45 percent of funds are earmarked for projects on physical infrastructure and green transition and 14 percent for digital transformation. Focusing on key priority projects with a high impact and their timely and efficient implementation is of crucial importance (Annexes I and II).

**Pillars of the National Recovery Plan**
(percent of total)




Source: National Recovery Plan

***Authorities' Views***

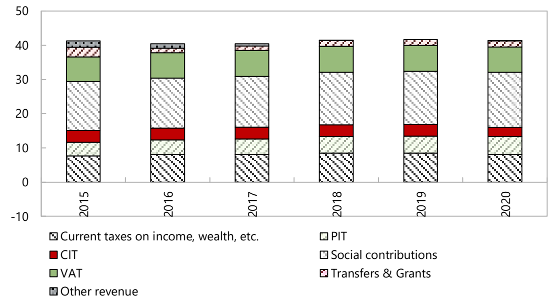
**22. The authorities concurred with the need for further fiscal consolidation in the medium term.** They agreed that increases in net revenues will be necessary to arrest the growth of public debt and address spending pressures arising from demographic shifts. However, they also pointed out that the incoming government already pledged not to raise taxes and proceed with consolidation solely on the expenditure side, including cuts in the public wage bill.

[6] 2021 Report on the Long-Term Sustainability of Public Finance

## Figure 11. Czech Republic: Fiscal Sector

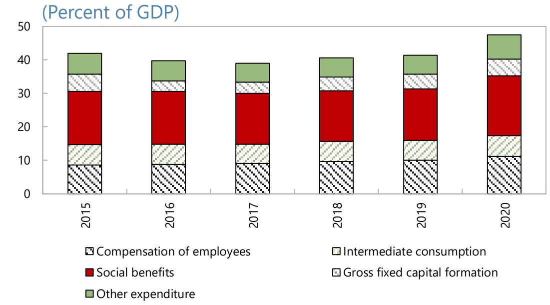
*Revenue remained relatively stable…*

**General Government Revenue**
(Percent of GDP)



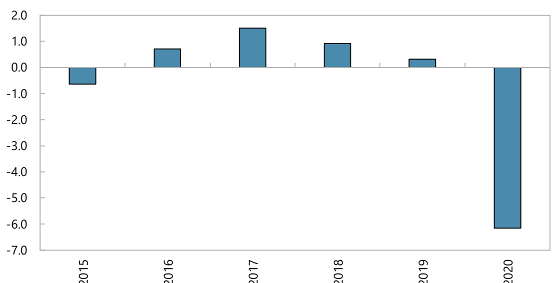

*… while spending increased strongly, reflecting the policy measures in response to COVID-19…*

**General Government Expenditure**
(Percent of GDP)



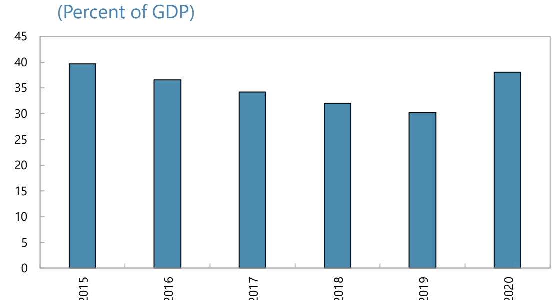

*… turning the fiscal surplus into a sizeable deficit…*

**General Government Balance**
(Percent of GDP)



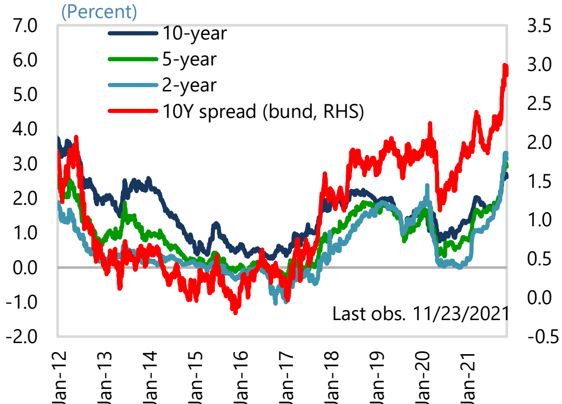

*… and increasing public debt.*

**Public Debt**
(Percent of GDP)



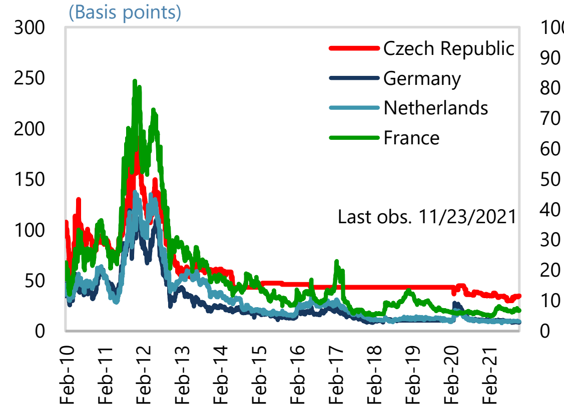

*Bond yields and spreads increased as the CNB started tightening monetary policy…*

**Sovereign Bond Yields**
(Percent)




*… while CDS spreads continue to be very low.*

**Sovereign 5-year EUR CDS Spreads**
(Basis points)

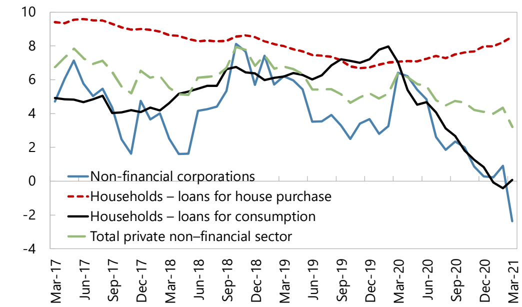



Sources: Czech Republic Ministry of Finance; Bloomberg; and IMF staff calculations.

## C. Real Estate Markets and Macroprudential Policy

**23. Amid robust mortgage credit growth, property price-growth significantly accelerated from already elevated levels stretching valuations and worsening affordability.** Property prices grew by about 8½ percent in 2020, down from about 9¼ percent in 2019, but accelerated to 14½ percent y-o-y in 2021:Q2. The Czech Republic has experienced one of the highest property price appreciation rates in the EU, reaching a cumulative growth rate of about 54 percent in the five years prior to 2021. The [CNB estimates](CNB estimates) property prices to be overvalued by 25 percent on average (as of mid-2021). The steep property price increase has deteriorated affordability as reflected in price-to-income and price-to-rent ratios.

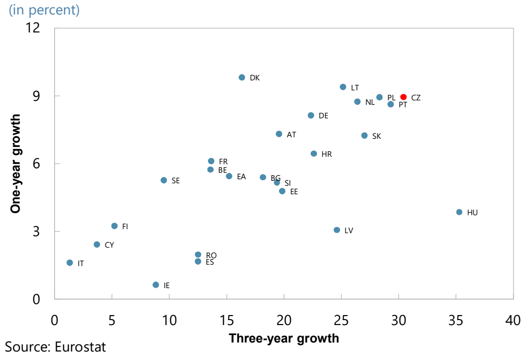
**Credit to the Private Sector**
(year-on-year percent change)




Source: CNB

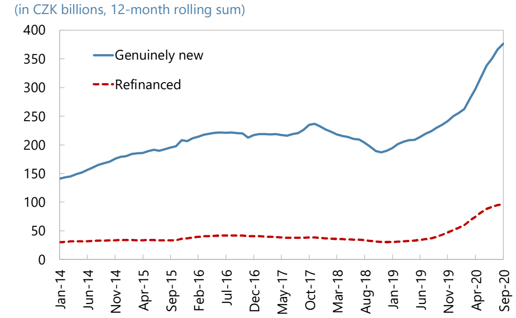
### Figure 12. Czech Republic: Property Price and Mortgage Growth

**House Price Growth in Select EU Countries**
(in percent)




Source: Eurostat

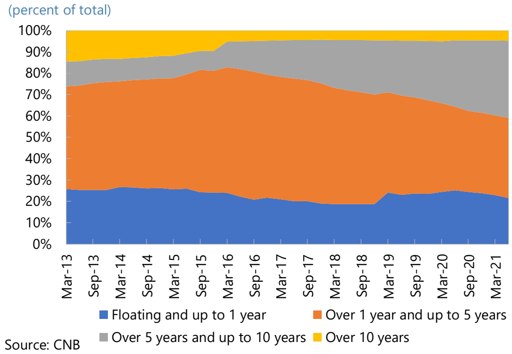
**New Loans to Households for Housing Purchases**
(in CZK billions, 12-month rolling sum)




Source: CNB

**24. Macrofinancial vulnerabilities due to increasing risk-taking by lenders amid growing household leverage and high and rapidly rising property valuations warrant close monitoring.** Although aggregate household indebtedness is still low compared to other EU countries, it increased robustly by 2½ percentage points to 34 percent of GDP during 2020. Fast increases in property prices, amid loosening credit standards and macroprudential policy during the pandemic, resulted in households/lenders taking larger and riskier

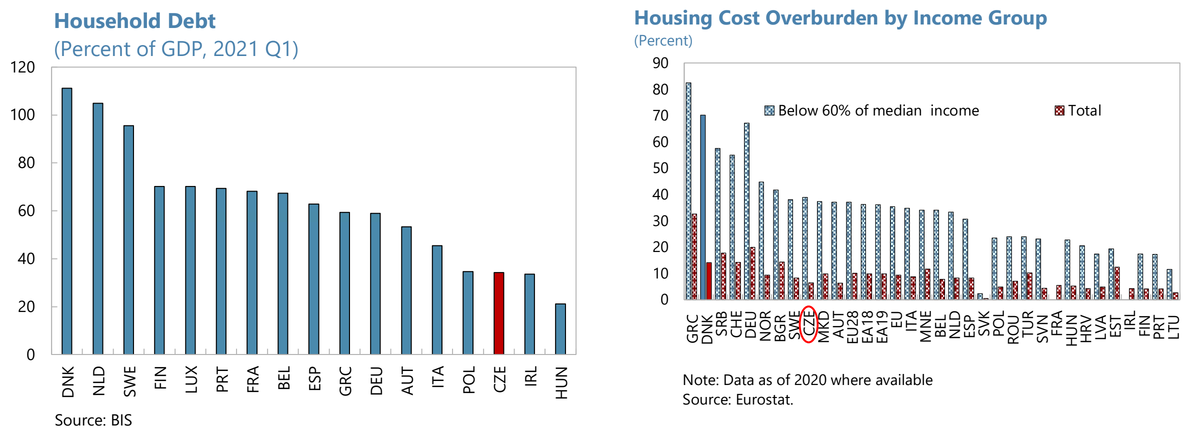
**Outstanding Mortgages by Interest Rate Fixation Period**
(percent of total)




Source: CNB

mortgages (Figure 15).[7] Significant increases in risk taking, in an environment of high and rapidly rising house prices, exposes households to price and interest rate shocks that could harm those who purchased in overvalued areas, who are highly levered, or low-income households—for which debt service is already burdensome. These vulnerabilities might be compounded by the large proportion of mortgages with fixation periods up to five years.

**Figure 13. Czech Republic: Household Debt and Housing Cost**




Note: Housing cost overburden is defined as the percentage of the population living in households where the total housing costs (net of housing allowances) represent more than 40 percent of disposable income.

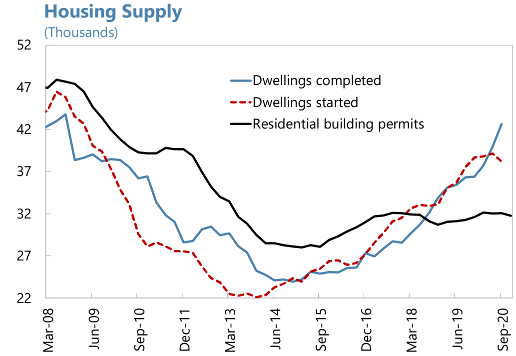
**25. Recent developments warrant tightening prudential tools while deploying coordinated housing supply and tax policies.** Properly calibrated income-based measures can improve risk taking incentives and support affordability. Staff welcomes the CNB's decision in November 2021 (effective from April 2022) to tighten limits on mortgage loan ratios as follows: DTI (8.5), DSTI (45 percent) and LTV (80 percent).[8] Close monitoring of market developments is necessary with a potential for further tightening down the road. Importantly, clear communication of macroprudential policy actions and adequate coordination of the overall policy mix are key to ensure a smooth stabilization. Proper calibration of macroprudential tools for lower risk groups—first-time home buyers and low-levered households—is warranted to safeguard proper access to financing. An improved risk-based prudential framework (Section D) could be combined with the macroprudential setup to facilitate calibration of these measures.

[7] The share of loans with DTI ratios of above eight increased from about 17 percent at end-2019 to about 27 percent in February 2020, and those with a DTI ratio of above nine increased from about 3¼ percent to about 14 percent. DSTI ratios of above 45 percent increased from about five to 17¾ percent and those with ratios of above 50 from about three to 8 percent.

[8] Limits for applicants under the age of 36 are DTI (9.5), DSTI (50 percent) and LTV (90 percent).

### *Housing Supply*

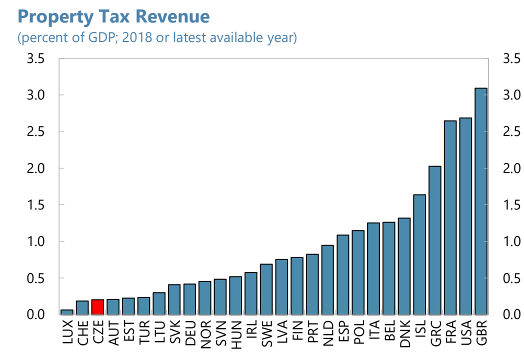
**26. Pre-existing housing supply shortages persisted throughout the pandemic, partly reinforced by temporary pauses in construction activity.** A new construction law, aimed at simplifying the construction code and the reportedly cumbersome permitting process, through creation of a one-stop-shop for construction companies, was adopted in July, 2021 but implementation of some of its provisions will take until 2023. The impact on the number of granted residential building permits has been limited so far.



Sources: Czech Statistical Office; and Haver Analytics.

### *Tax Policy*

**27. Revenues from property taxes are low in comparison to other countries and will further fall after the recent cancellation of the property transaction tax.** Real estate property taxation should be based on current market valuations and not on floor space. While the recent reduction of the maximum deductible amount of mortgage interest from CZK 300,000 to CZK 150,000 per year starting in 2021 is welcome, this benefit could be eliminated completely as in other countries.[9]



Source: OECD

**28. Staff welcomes the recent reform of the macroprudential framework that provides the CNB with the legal powers to implement macroprudential policy.** In July 2021, the CNB was given powers to make macroprudential limits legally binding, which is consistent with international best practice.

### *Authorities' Views*

**29. The authorities acknowledge the risks stemming from the heated property market and stand ready to tighten macroprudential policies as needed.** They acknowledged the increasing risk taking by households amid high and rapid house price growth and stand committed to closely monitor market developments to decide on further policy actions. On the basis of new statutory powers, the CNB Bank Board decided on November 25, 2021 to reintroduce limits on DTI and DSTI ratios and to tighten the LTV limit.

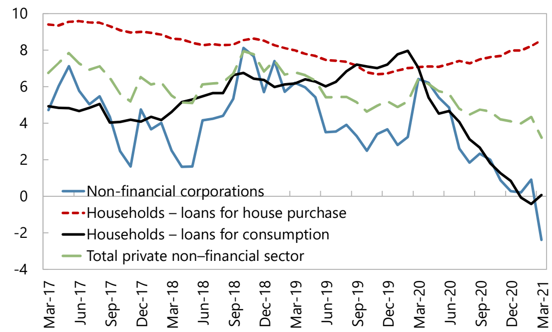
---

[9] E.g. Germany, Ireland, Spain, and the U.K.

## Figure 14. Czech Republic: Credit Developments

*Household credit growth has recently accelerated, driven by lending for housing purchases,...*

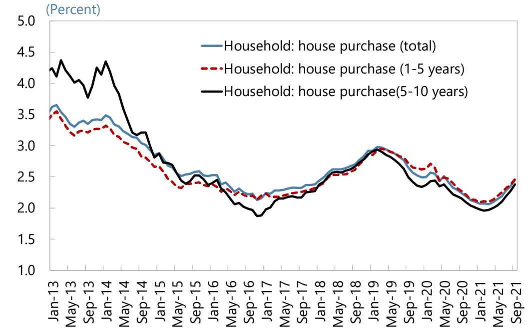
**Credit to the Private Sector**
(year-on-year percent change)




Source: CNB

*...as lending rates fell...*

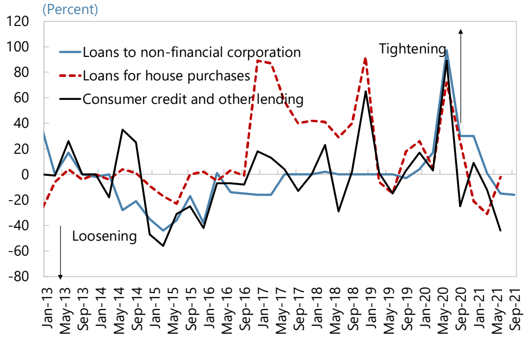
**Lending Rates**
(Percent)




Source: Haver Analytics.

*and credit standards loosened.*

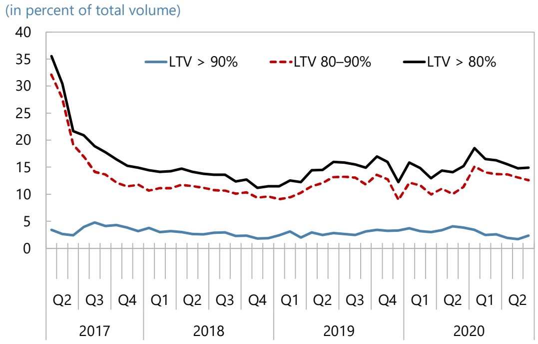
**Credit Standards**
(Percent)




Source: Czech National Bank lending survey.

*While the share of loans with higher LTVs has remained broadly constant,...*

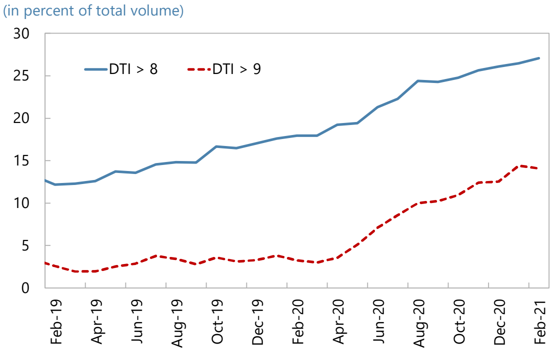
**Shares of Loans with Elevated LTVs**
(in percent of total volume)




Source: CNB

*...stronger risk taking by households is reflected in an increase in the share of new loans with elevated DTIs...*

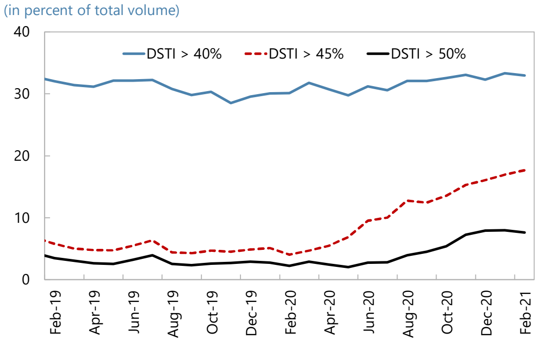
**Shares of Loans with Elevated DTIs**
(in percent of total volume)




Source: CNB

*...as well as DSTIs.*

**Shares of Loans with Elevated DSTIs**
(in percent of total volume)



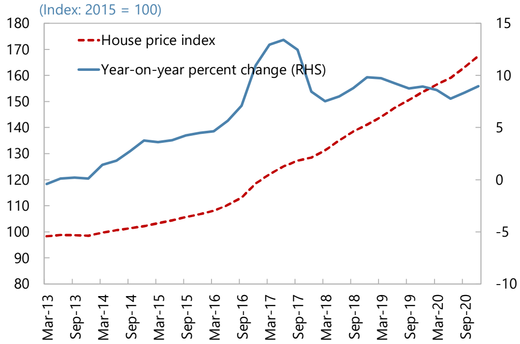

Source: CNB

## Figure 15. Czech Republic: Housing Sector

*Property price growth has moderated but is still strong…*

### Residential Property Transaction Prices

(Index: 2015 = 100)

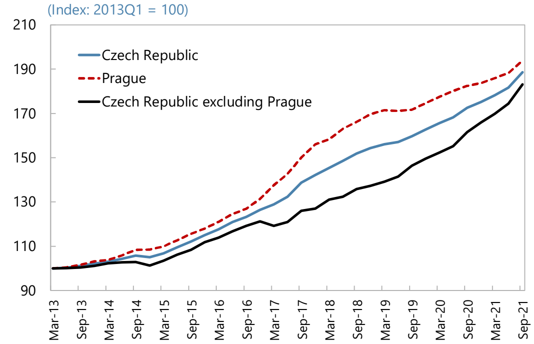



Source: Czech National Bank.

*… with apartment prices in Prague having experienced the strongest increase.*

### Apartment Price Index, Offer Price

(Index: 2013Q1 = 100)

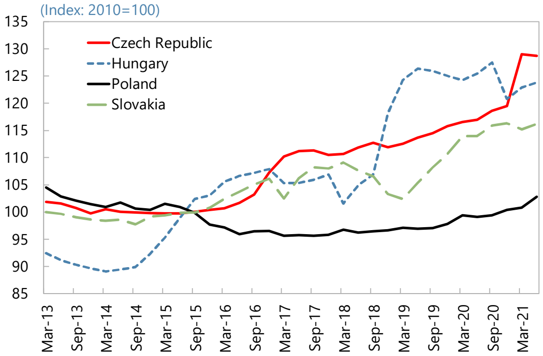



Source: Haver Analytics.

*Housing prices have risen faster than incomes…*

### Price to Income Ratio

(Index: 2010=100)

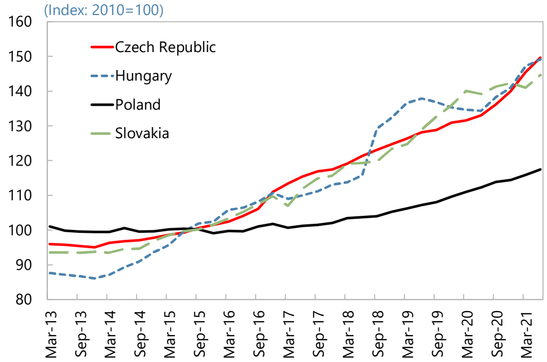



Source: OECD.

*… and faster than rental prices.*

### Price to Rent Ratio

(Index: 2010=100)

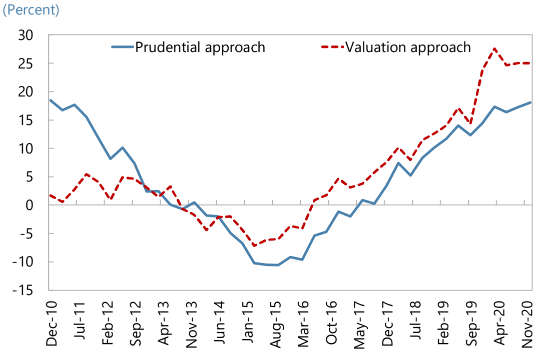



Source: OECD.

*Real estate price overvaluation has grown steadily.*

### Estimated Overvaluation of Apartment Prices

(Percent)

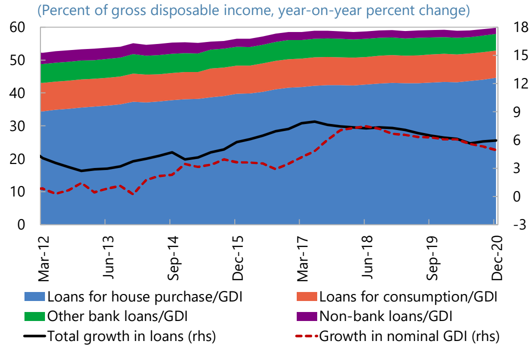



Source: CNB

*Rising incomes slowed the increase in household indebtedness.*

### Household Indebtedness and Income

(Percent of gross disposable income, year-on-year percent change)




Source: Czech National Bank.

## D. Financial Sector Policies

**30. Banks remain well capitalized, profitable, and liquid, though in a challenging environment.** Capitalization in the banking sector, which accounts for almost 80 percent of financial sector assets, remained comfortably above regulatory minima throughout the pandemic as capital surpluses reached historical highs (Figure 17). Capital was preserved with the suspension of dividend payments consistent with ESRB guidelines, as well as EU regulatory relief. In 2020, profits, while remaining positive, dropped by nearly half y-o-y on the back of higher provisioning and lower net-interest income. The liquidity coverage ratio (LCR) also reached all-time highs (Figure 17). While default rates of the hardest-hit sub-sectors increased after the end of the statutory loan moratorium, banks were not particularly exposed to these sectors.

**31. But vulnerabilities remain.** The current outlook with very loose financial conditions, increasing asset prices—in particular residential real estate prices—and prospects for a rapid recovery provide ground for risk buildup. This is a concern particularly because the banking system has continued to become more concentrated in residential mortgages.[10] Moreover, risk weights have been declining on the back of positive market developments and support programs for households and corporates. Thus, a sudden correction of real estate prices or a shock to household incomes jeopardizing their ability to repay could have a system-wide impact on regulatory capital buffers with potential spillovers to financial stability. By the end of 2020—after the statutory loan moratorium ended—banks assessed credit quality to have deteriorated leading to higher provisioning amid increased impairment charges (Figures 16 and 17). While impairment charges remain low, they are likely to eventually increase further once support policies are unwound, further putting pressure on bank profitability. Close regional financial system interlinkages expose the Czech banking system to potential regional spillover vulnerabilities which merit close monitoring.

**32. Staff welcomes measures to limit the economic impact of the pandemic.** Unless the risk buildup subsides markedly, or there is a new negative shock to the economy, the phasing out of policy measures to support the financial system should continue, albeit under close monitoring to ensure the adequate functioning of markets as risks unwind. While safeguarding profit distribution is important to support the efficiency of the system, the easing of limits on banks' dividend payouts should proceed gradually given uncertainty about the evolution of private-sector balance sheet risks once pandemic-related policy support is removed.[11] As the economy recovers, increases in the CCyB should continue with appropriate phase-in periods.[12] Close monitoring of non-performing loans and cross-border linkages should continue as policy support is reduced.

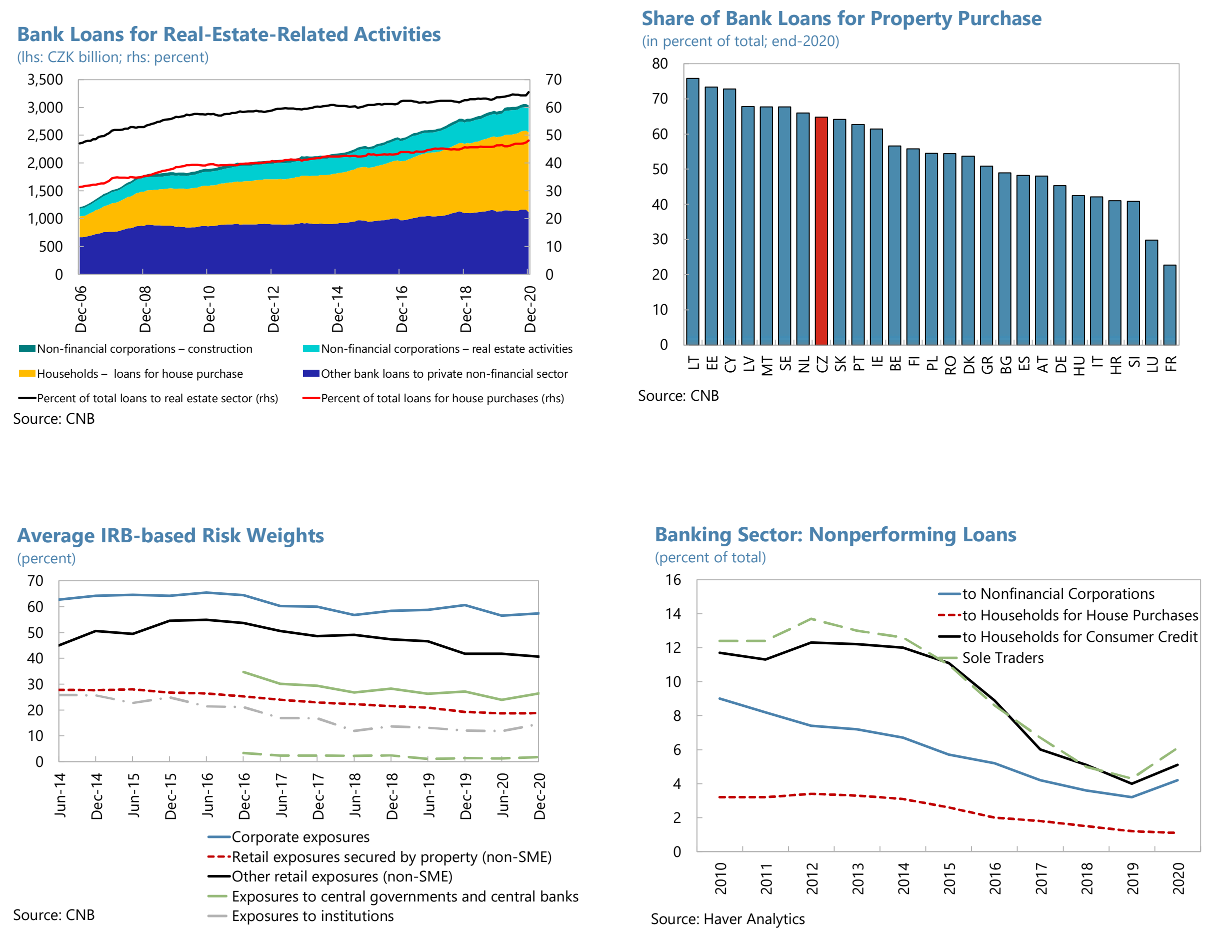
---

[10] Lending by banks for the financing of real-estate accounted for almost two-thirds of loans at the end of 2020.

[11] Up to 15 percent of 2019 and 2020 profits are allowed to be distributed.

[12] The CCyB buffer rate was increased to 2 percent (on November 25, 2021) effective January 2023.

**Figure 16. Czech Republic: Concentration of Bank Loans and Credit Losses**




**33. Improvements in risk measurement across the cycle and for individual exposures should be considered.** If credit is identified as fueling overheating-prone sectors, risk weights for individual exposures could be considered to ensure capital buffers remain consistent with higher-risk sectors. Leveraging information of individuals and corporates, a fully risk-based prudential framework should be enhanced to ensure at all times that adequate provisioning and capital buffers remain consistent with higher risks in overheating-prone sectors and risk measurement is adequately forward looking.[13] Moreover, staff recommends combining this proposed framework with macroprudential stress tests to quantify spillovers (losses) due to contagion across Czech and foreign financial entities with strong links. Such a framework would also be of great use to improve calibration of macroprudential tools.

[13] The credit registry allows developing risk measurement models to estimate probabilities of default and loss-given-default parameters at the individual debtor level, which could be used to estimate expected and unexpected losses; hence, estimates of provisioning and capital requirements at the individual exposure level. This would allow authorities to ensure that buffers are set adequately, consistently, and timely as risks change (CNBV Mexico).

**34. Authorities are making efforts to monitor foreign financial flows in line with staff's previous recommendations, and improvements to the AML/CFT framework should continue.** Authorities are monitoring cross-border financial flows, including by following up with banks on the extent to which they are seeking information on the sources of foreign funds and country of origin to support their risk-based supervision of the sector. Authorities should also continue to enhance implementation of AML/CFT measures related to politically-exposed-persons, and track and analyze data on non-resident and beneficial owners of real estate assets to aid monitoring and supervision of the sector for ML/TF risks.

***Authorities' Views***

**35. The authorities assess the financial system as stable but vigilantly continue to monitor risks.** The authorities acknowledged risks stemming from increasing impairments due to prolonged GVC disruptions and rising inflation, which is pushing up costs both for the corporate and household sector. The authorities therefore consider it essential that credit institutions continue to be well equipped to cover expected and unexpected credit losses through adequate provisioning and capital. The authorities noted cross-cutting improvements in the field of AML/CFT. While important amendments were made to the respective strategic and legislative framework, the authorities demonstrated also practical efforts in the area of regulation and supervision. In particular, they presented their enhanced risk-based approach to supervision in the field of AML/CFT, highly driven by data gathering and analysis, including ongoing efforts to enhance monitoring of cross border flows, including by using SWIFT data. They have also supported the private sector in a bank-issued ID project, which increases the quality of CDD data and security of remote on-boarding. Furthermore, a registration regime for real-estate agents was put in place.

## E. Structural Policies

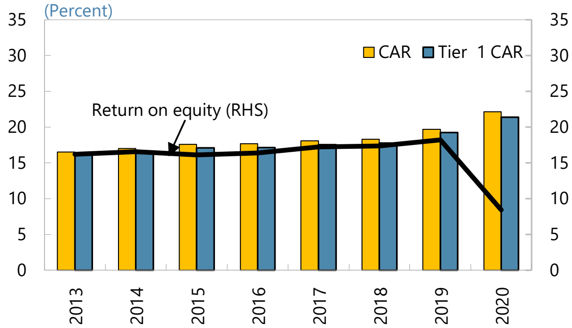
***Labor Market***

**36. Commensurate with the recovery, policies should continue shifting to targeted support and facilitating reallocation.** As the crisis hit, the "Antivirus" package successfully supported labor markets through job retention schemes, together with other policies such as payments to self-employed, income support for parents, tax deferrals, and loans and guarantees to firms (Annex VII). The program was phased out by end-May 2021 but targeted support to only those affected by mandatory quarantine was kept. Going forward, continuing job-retention schemes should increase financial contributions from employers to improve incentives for self-selection. Spending on Active Labor Market Policies (ALMP) should be increased to improve job matching and boost effective labor supply and participation by enhancing training and reskilling, including for the employed. Efforts to have vocational and educational programs guided by current and future labor market demand, trends, and skill needs are welcome and should continue (Annex III).

## Figure 17. Czech Republic: Financial Sector Developments

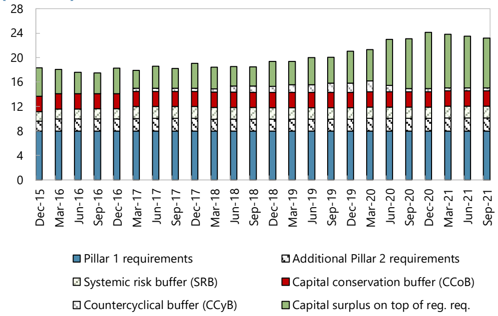
*Capital adequacy ratios have increased…*

**Capital Adequacy Ratios**
(Percent)



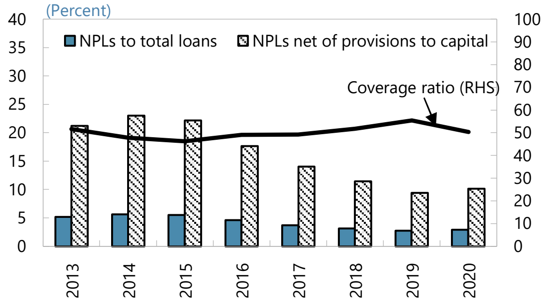

*… as have capital surpluses, strengthening capitalization.*

**Capital Requirements (Percent)**



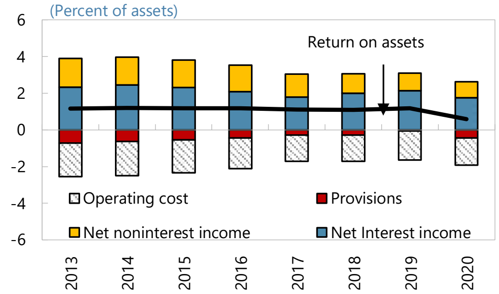

*Non-performing loans increased slightly while the coverage ratio dipped.*

**Nonperforming Loans**
(Percent)



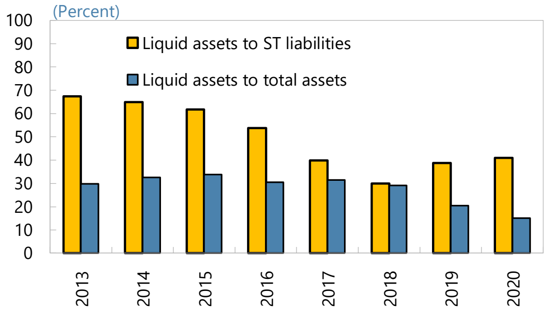

*Banks' profitability halved in 2020 from the year before.*

**Decomposition of Income**
(Percent of assets)



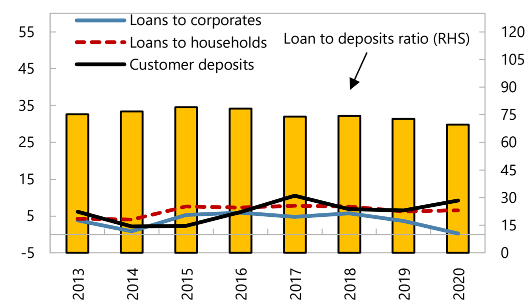

*System liquidity has declined, but short-term liability coverage has improved…*

**Liquid Assets Indicators[1]**
(Percent)




*Loan-to-deposit ratios have remained broadly stable.*

**Loans and Deposits Growth**
(Annual percentage change and percent)



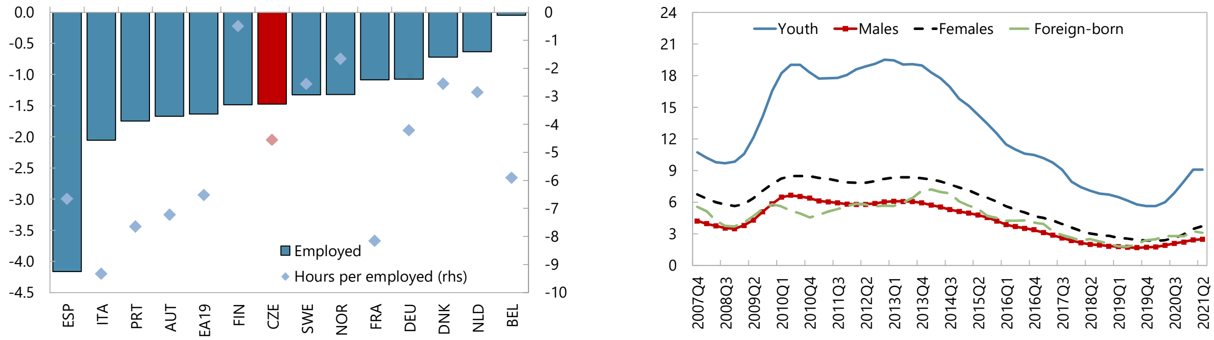

Sources: IMF, FSI database; and Czech National Bank.

[1] Czech banks increasingly preserve additional liquidity in the form of 2-week securities repurchase agreements (repo) with the Czech National Bank. These repo loans, although highly liquid, are not included in the definition of liquid assets used above, which explains the fall in the ratio in 2017 and 2018.

## Figure 18. Czech Republic: Labor Markets Developments

**Employed and Hours per Employed**
(Percent; growth 2020 over 2019)

**Unemployment Rates by Different Groups**
(Percent of each group's labor force; 4-quarter moving average)




Sources: Eurostat; and IMF staff calculations.

Sources: Eurostat and IMF staff calculations.

**37. Enhancing employment prospects for disadvantaged groups remains a priority.** Significant employment gaps remain for low skill, foreign, young and old workers and mothers with young children (Figure 18). Policy should improve education in technical and digital skills, as automation advances.[14] Vocational training should be better adapted to the needs of full-time employed by developing short and flexible courses. Staff welcomes the development of the registry of professional qualifications, including the recognition of non-formal education and informal learning to encourage learning and facilitate job mobility (National Reform Program). To support employment of mothers with young children, the expansion of childcare services—childcare provision and early childhood education—should continue, combined with flexibility on the use of parental allowances and enhanced opportunities for job sharing. This could be partly funded by reorienting some spending away from cash benefits for parental leave, which are relatively high by international standards—with benefits provided for up to three years (Figure 20).

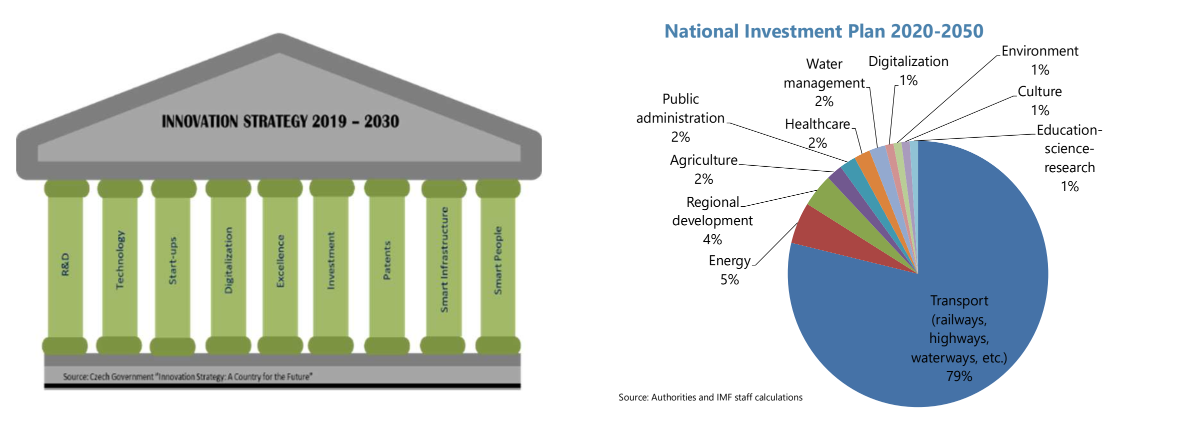
**38. Increasing labor supply is critical for long-term growth.** A mechanism linking retirement age to life expectancy, withdrawn in 2017, should be reinstated to address the challenges of an aging population (Section B and Figure 21). Additionally, policies to attract foreign workers can reduce labor markets tightness. Staff welcomes the reintroduction of the Qualified Workers Program, which provides visas for seasonal workers. Streamlining the administrative process to obtain employment and residency permits—including through a multicriteria points-based system—would help attract skilled foreign labor in high-demand or strategically-important sectors.

[14] Close to half of current jobs would face a high risk of automation as rising automation will increase demand for skills complementary to technology (OECD Employment Outlook).

### *Investment and Productivity*

**39. The recovery offers an opportunity to address pre-COVID legacies and build forward better by boosting productivity growth and investment, including in green and ICT sectors.** The government should build on the [Innovation Strategy] and the [National Investment Plan] to expedite investments in the transport and energy sectors, education, and digitalization (Figure 19).

**Figure 19. Czech Republic: Reform and Investment Priorities**




**40. Further measures can be taken to incentivize investment and raise productivity.**

- **Ensure an adequate supply of human capital in high productivity sectors,** including Knowledge-Intensive-Sectors (KIS), by enabling the provision of technical and digital skills.

- **Capitalize on SMEs' potential.** Well-targeted R&D grants, tax incentives and better access to equity finance are critical. Staff recommends developing standards for information disclosure, reviewing regulation for pension funds and providing incentives for institutional investors to ensure that adequate resources are available for investment vehicles targeting SMEs.

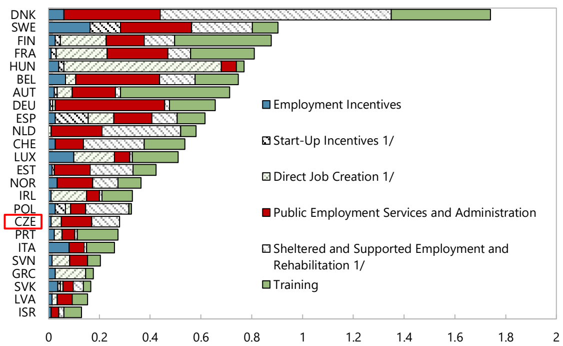
- **Simplify the business regulatory framework.** Obstacles to starting a business, resolving commercial disputes, and obtaining construction permits should be addressed.[15] Staff welcomes progress on the planned overhaul of construction permit legislation.

- **Improve insolvency procedures** to minimize barriers to corporate restructuring, speed up the asset recovery process and spur capital reallocation especially since insolvency cases will likely rise in the wake of the crisis.

[15] OECD Economic Surveys: Czech Republic 2020.

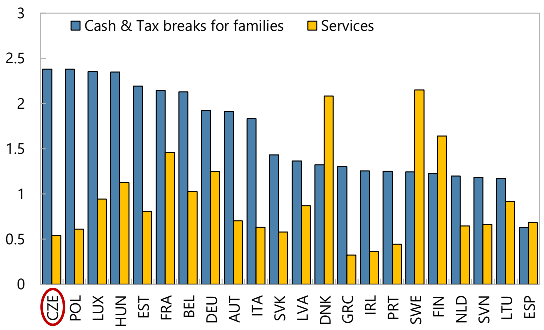
## Figure 20. Czech Republic: Employment Gaps for Disadvantaged Groups and Spending on ALMP

### Public Spending on Active Labor Market Policies, 2018
(Percent of GDP)



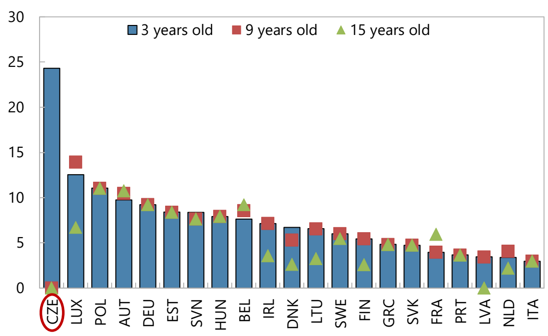

Source: OECD; and IMF staff calculations.
1/ Data as of 2017.

### Public Spending on Family Benefits by Type of Expenditure
(Percent of GDP, 2017 and latest available)



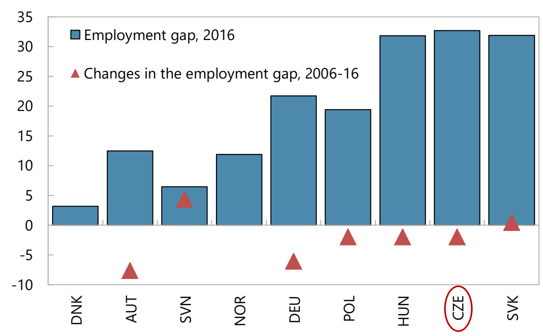

Source: OECD Social Expenditure Database

### Value of Family Benefits by Age of Youngest Child
(Percent of average full-time earnings (AW), 2018)



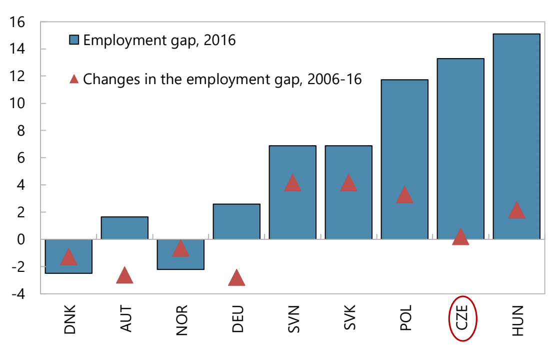

Source: OECD estimates based on the OECD Tax-Benefit Models

### Employment Gaps for Women with Children wrt Prime-Age Men
(Percent)



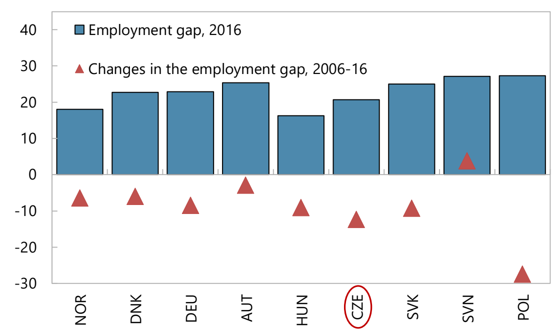

Source: OECD

### Employment Gaps for Youth (19-25) wrt Prime-Age Men
(Percent)




Source: OECD

### Employment Gaps for Non-Natives wrt Prime-Age Men
(Percent)

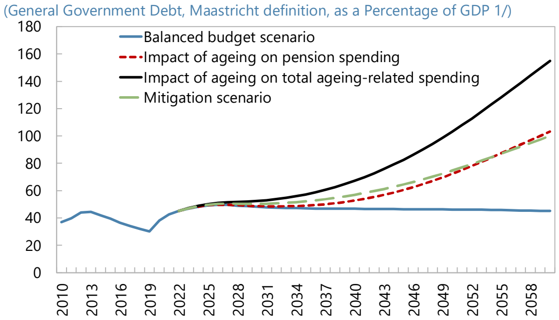



Source: OECD

**Figure 21. Czech Republic: Population Ageing Poses Significant Challenges to Growth and Fiscal Sustainability**

**Ageing-Related Expenditures put Strong Pressures on Fiscal Sustainability**

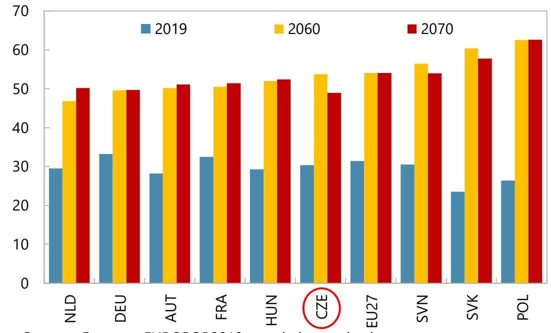
(General Government Debt, Maastricht definition, as a Percentage of GDP 1/)




Sources: Calculations based on the 2018 Ageing Report of the European Commission, the OECD Long-term model and OECD Economic Outlook database.

**The Old-Age Dependency Ratio is Set to Rise Significantly 2/)**

(In percentage)




Sources: Eurostat; EUROPOP2019 population projections.

1/ Scenarios consist of projections for the Economic Outlook until 2021, after which the economy is assumed to grow as projected in the OECD Long-term model. In the Balanced budget scenario, the primary balance is assumed to reach a balance in 2028 and remain at zero thereafter. The "impact of ageing on pension spending" scenario assumes that increases in pension spending are financed through deficits. The "impact of ageing on total ageing-related spending" scenario adds together the impact of ageing on pensions, health and long-term care. These scenarios are based on the 2018 Ageing Report by the European Commission combined with the economic developments in the OECD Long-term model. The "mitigation" scenario assumes that half of the ageing-related spending is financed by increasing revenues and limiting spending increases.

2/ This indicator is the ratio between the projected number of persons aged 65 and over (age when they are generally economically inactive) and the projected number of persons aged between 15 and 64. The value is expressed per 100 persons of working age (15–64).

- **Strengthen governance and address corruption** notably by implementing the anti-corruption strategy, and systematically monitoring asset declarations, to improve government spending efficiency, boost growth, and enhance attractiveness for FDI. Measures should be taken to ensure transparency and accountability of COVID-19 related spending, including the publication of the beneficial owners of awarded procurement contracts. The Foreign Direct Investments Screening Act—implemented on May 1, 2021—provides structure for cooperation and information sharing with other EU countries. Staff recommends that FDI restrictions on the basis of national security be used sparingly and judiciously.

### *Governance—Efforts to Combat the Supply-Side and Facilitation of Transnational Corruption*

**41. The Czech Republic has taken steps to strengthen the framework for detection of foreign bribery, but further efforts must be made to improve enforcement.** Staff's assessment is based on a summary of the OECD Working Group on Bribery in International Business Transaction (WGB) Phase 4 Report of Czech Republic, June 2017 and Summary and Conclusions on the Written Follow-Up Report of Czech Republic, June 2019.[16] The Phase 4 Report recommended prioritizing enforcement, noting the lack of efforts to efficiently investigate and prosecute foreign bribery

[16] The information contained herein does not prejudice the Working Group's monitoring of the implementation of the OECD Anti-Bribery Convention.

offences despite the export-oriented nature of the economy, including in sectors and destinations at high-risk for corruption. Measures were taken to enhance use of the AML/CFT system for detection, by issuing and providing guidance to detect suspicions of foreign bribery by the financial, real estate, and gambling sectors and identify politically-exposed-persons. Guidance was also issued on the criminal liability of legal entities, to clarify the exemption from liability for "justly required efforts". Efforts were made to raise awareness among prosecutors and judges regarding the use of sanctions. The WGB noted a key area of concern was the lack of measures for ensuring independence of prosecutors, and that further steps should be taken for protection of whistleblowers. To mitigate laundering of foreign proceeds of corruption, the authorities should enhance further the use of AML/CFT measures and increase resources for complex money laundering prosecutions as recommended by the 2018 MONEYVAL AML/CFT assessment and related follow-up reports.

***Green Transformation***

**42. A significant economic transformation is envisaged to achieve a net greenhouse gas emissions (GHG) reduction of likely 55 percent by 2030.** While total GHG emissions dropped by about 30 percent since 1990, the country remains among the top European polluters and highly dependent on coal. Compliance with the climate targets currently under discussion in the EU will require a reduction of coal consumption, an acceleration of clean energy sources, and higher efficiency in heating systems (Annex II).

**43. A comprehensive strategy should be adopted to support the green transition.** This would involve a higher carbon pricing score, reinforced by broader incentives—to avoid excessive carbon prices—including feebates, rebates and R&D incentives and the recycling of revenues to support the economy in a balanced manner (Annex II).

**44. Important trade-offs need to be weighed in the transition from coal to clean energy.** The share of fossil fuels in electricity production is planned to decline from 50 percent in 2016 to 11–21 percent in 2040, while that of nuclear energy to increase from 29 to 46–58 percent. During the transition, alternative technologies are feasible—like renewables and perhaps fossil generation with carbon capture and storage. However, the associated trade-offs, including possible higher costs, unstable supply and geopolitical considerations should be considered. Nuclear expansion should be accompanied by strong regulation to minimize risks, including accidents, radioactive waste leakage, etc.

**45. Investment needs for the green transition will be significant.** Estimated investment of CZK 500 billion (10 percent GDP) over the next decade (McKinsey, 2020) are needed to meet the 2030 targets. Staff analysis shows that investment needs are also likely significant. While the RRF and other structural EU funds are expected to contribute significantly to the country's green transition (see Section B), broader incentives to attract complementary private investment should be designed. A prompt definition of the tax framework for green investment, including the level and base of carbon taxation, would provide clarity for private investment.

***Authorities' Views***

**46. The authorities agreed that high productivity and investment are crucial for sustained income growth.** A comprehensive strategy for SMEs' competitiveness has been approved, and plans to enhance ALMPs are ongoing with specific focus on disadvantaged groups. *Children groups* (childcare) are being expanded along with increased flexibility on the use of parental leave. The authorities noted ongoing work on a multicriteria point system for immigration. Supported by EU structural and RRF funds, plans are in place to advance the green and digital transition.

# STAFF APPRAISAL

**47. Following a strong policy response to the virus, the outlook is for a rebound in activity.** But uncertainty remains elevated with risks tilted to the downside, in particular on account of the pandemic. Staff assesses the external position in 2021 to be broadly in line with fundamentals and desirable policy settings.

**48. Staff supports the monetary policy stance.** The overall policy mix should continue to be well coordinated. The CNB's stance of raising the policy rate is appropriate to counteract inflation pressures and prevent inflation expectations from becoming untethered. Given the uncertain outlook, further policy action should be taken primarily to movements in core inflation due to domestic pressures and inflation expectations, while carefully weighing risks from raising rates too quickly against those from overshooting inflation. Simultaneous fiscal consolidation and tightening of macroprudential regulation should continue to be factored into the overall policy mix.

**49. Fiscal policy should aim at unwinding untargeted policy support to replenish policy buffers and support the transformation to the post-pandemic economy.** The reversal of the relaxation in the personal income tax regime alongside the reintroduction of the real estate transfer tax should be a top priority. In the long run, debt sustainability pressures arising from demographic shifts require re-linking the retirement age to life expectancy and further increases in net revenue, which should be derived from less-distortionary taxes such as consumption and real-estate taxes.

**50. Macroprudential tools should continue to be fine tuned to address household vulnerabilities.** Record growth in property prices, amid loosening credit standards and macroprudential policy during the pandemic, resulted in households taking larger and riskier mortgages. Housing market developments should be monitored closely, to assess the need for further tightening down the road. Real estate property taxation should be based on current market valuations, while the construction code and the cumbersome permitting process should be further simplified.

**51. The banking system has weathered the shock well but vulnerabilities remain.** The banking system is comfortably capitalized, liquid and still profitable but has continued to become more concentrated in residential mortgages amid declining risk weights. A fully risk-based prudential framework should be enhanced to ensure that adequate provisioning and capital buffers remain consistent with higher risks in overheating-prone sectors.

**52. The recovery offers an opportunity to build forward better by increasing productivity growth, labor participation and investment.** To capitalize on SMEs' potential, well-targeted R&D grants, tax incentives and better access to equity finance are critical. Active Labor Market Policies should be stepped up to better support the unemployed with job matching, while enhancing training and reskilling programs on technical and digital skills, including for the employed. Policies to bring mothers with young children back into the labor force should continue. A strategy based on enhanced carbon pricing, reinforced by broader incentives across sectors, is envisaged to meet the country's ambitious climate goals.

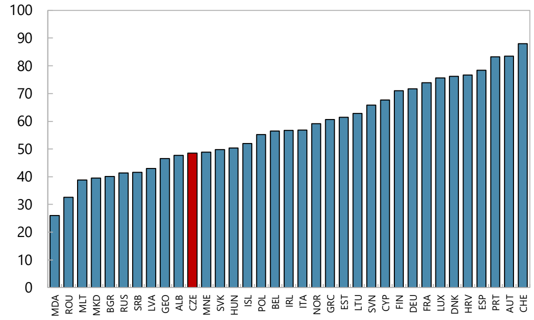
**53. It is recommended that the next Article IV consultation be held on the standard 12-month cycle.**

## Figure 22. Czech Republic: Structural Issues

*The quality of public infrastructure can be improved.*

**GCI - Quality of Roads, 2019**

(Score 100 = best)

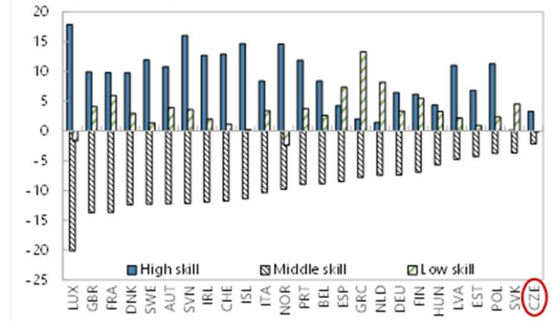



Source: World Economic Forum

*The labor market is moving to high-skilled workers.*

**Share of Total Employment by Skill, 1997-2017**

(Percentage point change)

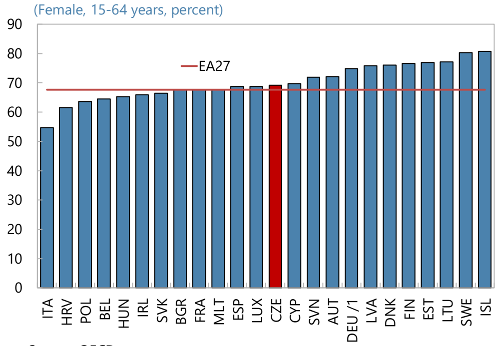



Source: OECD

*Female labor force participation is at the EU average…*

**Labor Force Participation Rate, 2020**

(Female, 15-64 years, percent)

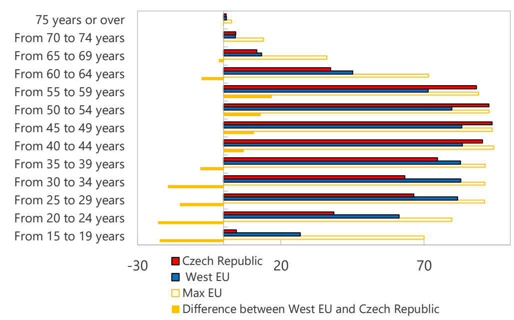



Source: OECD

*… but could be improved, particularly for younger and older women.*

**Labor Force Participation Rate by Age Group, 2020**

(Female, Percent)

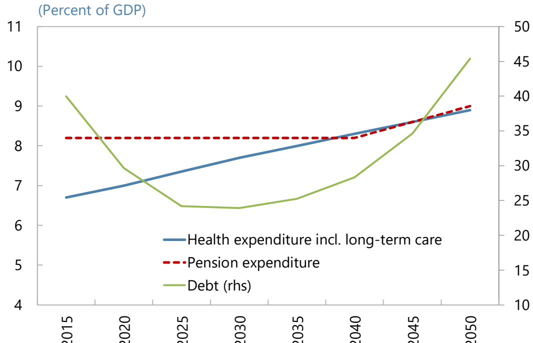



Source: Eurostat

*Demographic shifts will impose spending pressures…*

**Age-Related Expenditures and Debt**

(Percent of GDP)

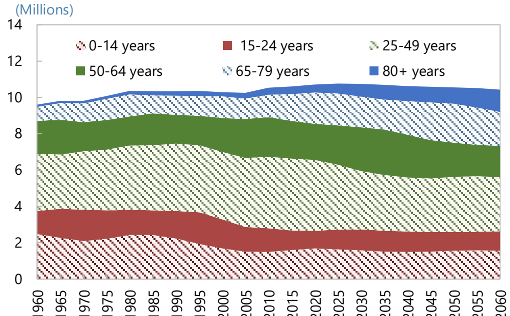



Source: IMF staff projections.

*… while the population is aging rapidly.*

**Population by Age Group**

(Millions)




Sources: OECD Economic Surveys, United Nations (2019), World Population Prospects : The 2019 Revision, Online Edition; OECD Economics Department Long-term Model.

Note: Data as of 2019

## Table 2. Czech Republic: Selected Economic Indicators, 2018–26
(Annual percent change, unless otherwise indicated)

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Staff projections | | | | | |
| **NATIONAL ACCOUNTS** | | | | | | | | | |
| Real GDP (expenditure) | 3.2 | 3.0 | -5.8 | 2.9 | 3.6 | 4.4 | 3.5 | 3.1 | 2.5 |
| Domestic demand | 4.8 | 3.2 | -5.8 | 6.7 | -0.3 | 4.0 | 3.6 | 3.2 | 2.6 |
| Consumption | 3.6 | 2.6 | -4.0 | 4.4 | 3.6 | 2.8 | 2.6 | 2.6 | 2.2 |
| Public | 3.8 | 2.5 | 3.4 | 3.2 | 2.7 | 2.2 | 2.2 | 2.2 | 2.0 |
| Private | 3.5 | 2.7 | -6.8 | 4.9 | 4.0 | 3.1 | 2.8 | 2.8 | 2.3 |
| Investment | 7.7 | 4.5 | -10.2 | 12.6 | -9.4 | 7.0 | 6.0 | 4.5 | 3.5 |
| Exports | 3.7 | 1.5 | -6.9 | 5.2 | 9.3 | 3.2 | 2.6 | 2.6 | 2.5 |
| Imports | 5.8 | 1.5 | -6.9 | 10.3 | 4.4 | 2.6 | 2.6 | 2.6 | 2.6 |
| Contribution to GDP | | | | | | | | | |
| Domestic demand | 4.5 | 3.0 | -5.3 | 6.4 | -0.6 | 3.7 | 3.3 | 2.9 | 2.4 |
| Net exports | -1.3 | 0.0 | -0.5 | -3.5 | 4.2 | 0.7 | 0.2 | 0.2 | 0.1 |
| Investment (percent of GDP) | 26.3 | 27.1 | 26.2 | 28.9 | 25.3 | 25.8 | 26.2 | 26.5 | 26.7 |
| Gross domestic investments (percent of GDP) | 27.2 | 27.6 | 25.9 | 28.6 | 25.0 | 25.6 | 26.0 | 26.3 | 26.5 |
| Gross national savings (percent of GDP) | 27.6 | 27.9 | 29.5 | 28.4 | 25.9 | 26.4 | 26.8 | 27.1 | 27.2 |
| Output gap (percent of potential output) | 2.0 | 2.8 | -0.9 | 0.0 | 0.3 | 0.2 | 0.1 | 0.0 | 0.0 |
| Potential growth | 3.1 | 2.2 | (2.3) | 1.9 | 3.3 | 4.6 | 3.6 | 3.3 | 2.5 |
| **LABOR MARKET** | | | | | | | | | |
| Employment | 1.4 | 0.2 | -1.3 | 0.0 | 0.5 | 0.3 | 0.0 | 0.0 | 0.0 |
| Total labor compensation | 9.8 | 7.8 | 1.4 | 5.6 | 9.7 | 7.0 | 5.5 | 5.1 | 4.5 |
| Unemployment rate (average, in percent) | 2.2 | 2.0 | 2.5 | 2.9 | 2.5 | 2.3 | 2.3 | 2.3 | 2.3 |
| **PRICES** | | | | | | | | | |
| Consumer prices (average) | 2.1 | 2.8 | 3.2 | 3.6 | 5.6 | 2.3 | 2.0 | 2.0 | 2.0 |
| Consumer prices (end-of-period) | 2.0 | 3.2 | 2.3 | 5.3 | 4.1 | 2.0 | 2.0 | 2.0 | 2.0 |
| Producer price index (average) | 2.0 | 2.6 | 0.1 | ... | ... | ... | ... | ... | ... |
| GDP deflator (average) | 2.6 | 3.9 | 4.4 | 3.4 | 4.1 | 1.7 | 1.7 | 1.9 | 2.0 |
| **MACRO-FINANCIAL** | | | | | | | | | |
| Money and credit (end of year, percent change) | | | | | | | | | |
| Broad money (M3) | 6.3 | 6.4 | 10.0 | ... | ... | ... | ... | ... | ... |
| Private sector credit | 6.9 | 4.9 | 3.6 | ... | ... | ... | ... | ... | ... |
| Interest rates (in percent, year average) | | | | | | | | | |
| Three-month interbank rate | 1.3 | 2.1 | 0.9 | ... | ... | ... | ... | ... | ... |
| Ten-year government bond | 2.0 | 1.5 | 1.1 | ... | ... | ... | ... | ... | ... |
| Exchange rate | | | | | | | | | |
| Nominal effective exchange rate (index, 2005=100) | 101.5 | 100.9 | 99.7 | ... | ... | ... | ... | ... | ... |
| Real effective exchange rate (index, CPI-based; 2005=100) | 99.1 | 99.4 | 100.0 | ... | ... | ... | ... | ... | ... |
| **PUBLIC FINANCE (percent of GDP)** | | | | | | | | | |
| General government revenue | 41.5 | 41.4 | 41.6 | 40.2 | 40.3 | 40.3 | 39.8 | 39.5 | 39.4 |
| General government expenditure | 40.6 | 41.1 | 47.2 | 47.4 | 44.6 | 44.3 | 43.3 | 42.5 | 41.9 |
| Net lending / Overall balance | 0.9 | 0.3 | -5.6 | -7.2 | -4.4 | -3.9 | -3.5 | -3.0 | -2.5 |
| Primary balance | 1.5 | 0.8 | -5.0 | -6.5 | -3.6 | -3.2 | -2.7 | -2.2 | -1.8 |
| Structural balance (percent of potential GDP) | 0.2 | -0.8 | -5.2 | -7.2 | -4.5 | -4.0 | -3.5 | -3.0 | -2.5 |
| General government debt | 32.1 | 30.0 | 37.7 | 43.5 | 45.0 | 46.6 | 48.0 | 48.6 | 49.1 |
| **BALANCE OF PAYMENTS (percent of GDP)** | | | | | | | | | |
| Trade balance (goods and services) | 5.9 | 6.0 | 6.8 | 3.1 | 5.7 | 5.8 | 5.8 | 5.8 | 5.8 |
| Current account balance | 0.4 | 0.3 | 3.6 | -0.2 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| Gross international reserves (billions of euros) | 124.5 | 133.4 | 135.4 | 142.9 | 154.9 | 163.9 | 172.9 | 181.9 | 190.9 |
| (in months of imports of goods and services) | 10.0 | 10.5 | 11.8 | 10.3 | 10.3 | 10.5 | 10.7 | 10.7 | 10.9 |
| (in percent of short term debt, remaining maturity) | 118.9 | 129.9 | 141.1 | 140.9 | 144.6 | 150.2 | 154.0 | 156.8 | 158.4 |
| **MEMORANDUM ITEMS** | | | | | | | | | |
| Nominal GDP (USD billions) | 249.0 | 252.5 | 245.3 | 281.9 | 310.0 | 334.2 | 356.0 | 378.3 | 398.5 |
| Population (millions) | 10.6 | 10.6 | 10.7 | 10.7 | 10.8 | 10.8 | 10.8 | 10.8 | 10.8 |
| Real GDP per capita | 2.9 | 2.6 | -6.2 | 2.5 | 3.3 | 4.3 | 3.4 | 3.1 | 2.5 |
| GDP per capita (USD) | 23,464 | 23,709 | 22,943 | 26,271 | 28,817 | 31,006 | 33,001 | 35,063 | 36,932 |

Sources: Czech National Bank; Czech Statistical Office; Ministry of Finance; Haver Analytics, and IMF staff estimates and projections.
Structural balances are net of temporary fluctuations in some revenues and one-offs. COVID-related one-offs are however included.

## Table 3. Czech Republic: Balance of Payments, 2018–26

(Percent of GDP)

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Staff Projections | | | | | |
| Current account balance | 0.4 | 0.3 | 3.6 | -0.2 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| Trade balance | 3.7 | 4.1 | 5.0 | 1.2 | 3.3 | 3.8 | 3.8 | 3.8 | 3.8 |
| Exports | 64.7 | 61.8 | 60.3 | 63.1 | 65.0 | 64.2 | 63.6 | 63.0 | 62.6 |
| Imports | 60.9 | 57.7 | 55.3 | 62.0 | 61.8 | 60.4 | 59.8 | 59.2 | 58.8 |
| Nonfactor services | 2.2 | 1.8 | 1.8 | 2.0 | 2.4 | 2.0 | 2.0 | 2.0 | 1.9 |
| Receipts | 12.3 | 12.1 | 10.6 | 10.6 | 10.7 | 9.9 | 9.8 | 9.7 | 9.6 |
| Payments | 10.1 | 10.2 | 8.8 | 8.6 | 8.3 | 7.9 | 7.8 | 7.8 | 7.7 |
| Factor income (net) | -4.8 | -5.0 | -2.8 | -2.8 | -4.3 | -4.5 | -4.5 | -4.5 | -4.5 |
| Transfers | -0.7 | -0.6 | -0.5 | -0.6 | -0.5 | -0.5 | -0.5 | -0.5 | -0.5 |
| Capital account | 0.2 | 0.4 | 1.3 | -0.1 | 0.7 | 1.8 | 1.3 | 0.9 | 0.4 |
| Errors and omissions | 0.4 | -0.6 | -0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Financial account (change in stocks, + = increase ) | 1.1 | 0.1 | 4.3 | -0.3 | 1.5 | 2.7 | 2.1 | 1.6 | 1.2 |
| Direct investment, net | -0.9 | -2.4 | -1.3 | -1.2 | -1.1 | -1.3 | -1.0 | -1.0 | -1.1 |
| Portfolio investment, net | 0.6 | -1.8 | -2.4 | -1.4 | -1.8 | -1.6 | -1.2 | -1.4 | -1.3 |
| Other investment and derivatives, net | 0.9 | 2.4 | 6.9 | -0.9 | -0.2 | 2.2 | 1.2 | 1.1 | 0.7 |
| Reserve assets | 0.9 | 1.9 | 0.8 | 3.2 | 4.7 | 3.3 | 3.1 | 3.0 | 2.8 |
| *Memorandum items* | | | | | | | | | |
| Gross official reserves (billions of euros) | 124.5 | 133.4 | 135.4 | 142.9 | 154.9 | 163.9 | 172.9 | 181.9 | 190.9 |
| in months of the current year's imports | 10.0 | 10.5 | 11.8 | 10.3 | 10.3 | 10.5 | 10.7 | 10.8 | 10.9 |
| as a ratio to the short-term debt | 118.9 | 129.9 | 141.1 | 140.8 | 144.4 | 150.0 | 153.8 | 156.6 | 158.2 |
| External debt, percent of GDP | 81.4 | 76.5 | 76.2 | 73.6 | 71.5 | 68.6 | 67.2 | 66.1 | 65.8 |

Sources: Czech National Bank; Czech Statistical Office; and IMF staff estimates and projections.

## Table 4. Czech Republic: General Government Operations, 2018–26

(Percent of GDP)

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Staff Projections | | | |
| **Revenue** | **41.5** | **41.4** | **41.6** | **40.2** | **40.3** | **40.3** | **39.8** | **39.5** | **39.4** |
| Taxes | 20.4 | 20.4 | 20.0 | 18.1 | 18.1 | 18.2 | 18.0 | 17.9 | 17.9 |
| Personal income tax | 4.8 | 5.0 | 5.2 | 3.5 | 3.2 | 3.3 | 3.3 | 3.3 | 3.3 |
| Corporate income tax | 3.5 | 3.3 | 3.1 | 3.0 | 3.1 | 3.3 | 3.3 | 3.3 | 3.3 |
| VAT | 7.6 | 7.5 | 7.4 | 7.4 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 |
| Excise | 3.4 | 3.2 | 3.1 | 3.1 | 3.0 | 2.9 | 2.7 | 2.7 | 2.6 |
| Other taxes | 1.2 | 1.3 | 1.1 | 1.2 | 1.1 | 1.2 | 1.2 | 1.2 | 1.2 |
| Social contributions | 15.4 | 15.5 | 16.0 | 16.4 | 15.8 | 15.7 | 15.7 | 15.7 | 15.7 |
| Capital and other current transfers and subsidies | 1.8 | 1.8 | 1.8 | 1.9 | 2.5 | 2.6 | 2.2 | 2.0 | 1.9 |
| Other revenue | 3.9 | 3.8 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 |
| Property income | 0.6 | 0.6 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| Sales of goods and services | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 |
| Other revenue | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Expenditure** | **40.6** | **41.1** | **47.2** | **47.4** | **44.6** | **44.3** | **43.3** | **42.5** | **41.9** |
| **Expense** | **36.5** | **36.7** | **42.4** | **42.4** | **39.6** | **38.9** | **38.8** | **38.6** | **38.0** |
| Compensation of employees | 9.6 | 9.9 | 11.1 | 10.9 | 10.4 | 10.2 | 10.2 | 10.1 | 9.9 |
| Use of goods and services | 6.0 | 5.9 | 6.1 | 6.1 | 5.9 | 5.9 | 5.9 | 5.9 | 5.9 |
| Interest | 0.7 | 0.7 | 0.8 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| Subsidies | 2.2 | 2.2 | 3.0 | 3.2 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 |
| Grants | 0.4 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| Social benefits | 15.1 | 15.3 | 17.9 | 17.9 | 17.5 | 17.2 | 17.2 | 17.0 | 16.7 |
| Other expenses | 2.3 | 2.4 | 3.1 | 3.0 | 2.5 | 2.4 | 2.4 | 2.4 | 2.4 |
| **Net acquisition of nonfinancial assets** | **4.1** | **4.4** | **4.9** | **5.0** | **5.1** | **5.4** | **4.5** | **3.9** | **3.9** |
| **Gross Operating Balance** | **5.1** | **4.7** | **-0.7** | **-2.2** | **0.7** | **1.5** | **1.0** | **0.9** | **1.4** |
| **Net lending/borrowing (overall balance)** | **0.9** | **0.3** | **-5.6** | **-7.2** | **-4.4** | **-3.9** | **-3.5** | **-3.0** | **-2.5** |
| **Net financial transactions** | **0.9** | **0.3** | **-5.6** | **-7.2** | **-4.4** | **-3.9** | **-3.5** | **-3.0** | **-2.5** |
| **Net acquisition of financial assets** | **0.0** | **0.0** | **0.0** | **0.0** | **0.0** | **0.0** | **0.0** | **0.0** | **0.0** |
| **Net incurrence of liabilities** | **-0.9** | **-0.3** | **5.6** | **7.2** | **4.4** | **3.9** | **3.5** | **3.0** | **2.5** |
| *Adjustment and statistical discrepancies 1/* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* |
| | | | | | | | | | |
| **Memorandum item:** | | | | | | | | | |
| General government debt | 32.1 | 30.0 | 37.7 | 43.5 | 45.0 | 46.6 | 48.0 | 48.6 | 49.1 |
| Primary balance | 1.5 | 0.8 | -5.0 | -6.5 | -3.6 | -3.2 | -2.7 | -2.2 | -1.8 |
| Structural balance 2/ 3/ | 0.2 | -0.8 | -5.2 | -7.2 | -4.5 | -4.0 | -3.5 | -3.0 | -2.5 |
| Cyclically adjusted primary balance | 0.7 | -0.2 | -4.6 | -6.5 | -3.7 | -3.3 | -2.8 | -2.2 | -1.8 |
| Change in cyclically adjusted primary balance | -0.7 | -1.0 | -4.4 | -1.8 | 2.7 | 0.5 | 0.5 | 0.6 | 0.5 |
| Output gap | 2.0 | 2.8 | -0.9 | 0.0 | 0.3 | 0.2 | 0.1 | 0.0 | 0.0 |
| Nominal GDP (billions of Koruny) | 5,410 | 5,790 | 5,695 | 6,059 | 6,534 | 6,942 | 7,306 | 7,680 | 8,026 |

Sources: Ministry of Finance and IMF staff estimates and projections.

1/ Adjustments for cash-accrual differences, valuation changes and other discrepancies.

2/ In percent of potential GDP.

3/ Structural balances are net of temporary fluctuations in some revenues and one-offs. COVID-related one-offs are however included.

## Table 5. Czech Republic: Macroeconomic Framework, 2018–26
(Annual percent change, unless otherwise indicated)

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Staff Projections | | | | | |
| **Real sector** | | | | | | | | | |
| Real GDP | 3.2 | 3.0 | -5.8 | 2.9 | 3.6 | 4.4 | 3.5 | 3.1 | 2.5 |
| Private consumption | 3.5 | 2.7 | -6.8 | 4.9 | 4.0 | 3.1 | 2.8 | 2.8 | 2.3 |
| Public consumption | 3.8 | 2.5 | 3.4 | 3.2 | 2.7 | 2.2 | 2.2 | 2.2 | 2.0 |
| Investment | 7.7 | 4.5 | -10.2 | 12.6 | -9.4 | 7.0 | 6.0 | 4.5 | 3.5 |
| Fixed investment | 10.0 | 5.9 | -7.2 | 1.6 | 5.8 | 5.9 | 5.6 | 4.2 | 3.3 |
| Exports, goods and services | 3.7 | 1.5 | -6.9 | 5.2 | 9.3 | 3.2 | 2.6 | 2.6 | 2.5 |
| Imports, goods and services | 5.8 | 1.5 | -6.9 | 10.3 | 4.4 | 2.6 | 2.6 | 2.6 | 2.6 |
| contribution of net exports (percent) | -1.3 | 0.0 | -0.5 | -3.5 | 4.2 | 0.7 | 0.2 | 0.2 | 0.1 |
| Inflation (CPI, percent) | 2.1 | 2.8 | 3.2 | 3.6 | 5.6 | 2.3 | 2.0 | 2.0 | 2.0 |
| Unemployment (percent of labor force) | 2.2 | 2.0 | 2.5 | 2.9 | 2.5 | 2.3 | 2.3 | 2.3 | 2.3 |
| Output gap 1/ | 2.0 | 2.8 | -1.0 | 0.0 | 0.3 | 0.2 | 0.1 | 0.0 | 0.0 |
| Gross domestic savings (in percent of GDP) | 27.6 | 27.9 | 29.5 | 28.4 | 25.8 | 26.4 | 26.8 | 27.1 | 27.2 |
| Public | 15.1 | 14.8 | 12.1 | 9.6 | 12.1 | 12.6 | 12.5 | 13.9 | 13.9 |
| Private | 12.5 | 13.1 | 17.5 | 18.7 | 13.7 | 13.8 | 14.3 | 13.1 | 13.3 |
| Gross capital formation (in percent of GDP) | 27.2 | 27.6 | 25.9 | 28.6 | 25.0 | 25.6 | 26.0 | 26.3 | 26.4 |
| **Balance of payments** | | | | | | | | | |
| Current account balance | 0.4 | 0.3 | 3.6 | -0.2 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| Trade balance | 3.7 | 4.1 | 5.0 | 1.2 | 3.3 | 3.8 | 3.8 | 3.8 | 3.8 |
| Services balance | 2.2 | 1.8 | 1.8 | 2.0 | 2.4 | 2.0 | 2.0 | 2.0 | 1.9 |
| Net factor income | -4.8 | -5.0 | -2.8 | -2.8 | -4.3 | -4.5 | -4.5 | -4.5 | -4.5 |
| Current transfers | -0.7 | -0.6 | -0.5 | -0.6 | -0.5 | -0.5 | -0.5 | -0.5 | -0.5 |
| Capital account balance | 0.2 | 0.4 | 1.3 | -0.1 | 0.7 | 1.8 | 1.3 | 0.9 | 0.4 |
| Errors and omissions, net | 0.4 | -0.6 | -0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Financial account balance (change in stocks, + = increase) | 1.1 | 0.1 | 4.3 | -0.3 | 1.5 | 2.7 | 2.1 | 1.6 | 1.2 |
| Direct investment, net | -0.9 | -2.4 | -1.3 | -1.2 | -1.1 | -1.3 | -1.0 | -1.0 | -1.1 |
| Portfolio investment, net | 0.6 | -1.8 | -2.4 | -1.4 | -1.8 | -1.6 | -1.2 | -1.4 | -1.3 |
| Other investment and derivatives, net | 0.9 | 2.4 | 6.9 | -0.9 | -0.2 | 2.2 | 1.2 | 1.1 | 0.7 |
| Reserve assets | 0.9 | 1.9 | 0.8 | 3.2 | 4.7 | 3.3 | 3.1 | 3.0 | 2.8 |

Sources: Czech National Bank, Czech Statistical Office, Ministry of Finance, and IMF staff estimates and projections.
1/ In percent of potential GDP.

## Table 6. Czech Republic: Financial Soundness Indicators, 2015–21
(In percent, unless otherwise indicated)

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021-Q2 |
|---|---|---|---|---|---|---|---|
| | | | | (In percent) | | | |
| **Core FSIs** | | | | | | | |
| Regulatory capital to risk weighted assets | 17.6 | 17.7 | 18.1 | 18.3 | 19.7 | 22.1 | 22.5 |
| Regulatory Tier 1 capital to risk-weighted assets | 17.1 | 17.1 | 17.5 | 17.8 | 19.2 | 21.4 | 21.8 |
| Non-performing loans net of provisions to capital | 22.2 | 17.7 | 14.1 | 11.4 | 9.4 | 10.2 | 10.1 |
| Non-performing loans to total gross loans | 5.5 | 4.6 | 3.7 | 3.1 | 2.7 | 3.0 | 2.9 |
| Return on assets | 1.2 | 1.2 | 1.1 | 1.1 | 1.2 | 0.6 | 0.8 |
| Return on equity | 16.1 | 16.4 | 17.2 | 17.3 | 18.2 | 8.4 | 10.9 |
| Interest margin to gross income | 60.8 | 59.0 | 59.2 | 64.8 | 69.0 | 66.7 | 63.2 |
| Non-interest expenses to gross income | 47.5 | 46.9 | 47.1 | 47.1 | 51.1 | 55.8 | 59.1 |
| Liquid assets to total assets | 31.5 | 29.1 | 20.4 | 15.2 | 26.4 | 28.2 | 29.5 |
| Liquid assets to short-term liabilities | 61.7 | 53.8 | 39.8 | 30.0 | 38.7 | 40.9 | 49.5 |
| Net open position in FX to capital | -0.3 | 0.4 | 0.7 | 1.0 | 0.0 | 0.0 | 0.0 |
| **Sectoral distribution of loans** | | | | | | | |
| Domestic residents | 85.6 | 87.8 | 90.3 | 90.5 | 100.0 | 100.0 | 100.0 |
| Deposit takers | 1.6 | 1.2 | 1.1 | 1.1 | 3.0 | 2.2 | 3.0 |
| Central bank | 22.0 | 28.3 | 40.3 | 38.9 | 37.9 | 34.2 | 37.5 |
| Other financial corporations | 4.0 | 4.2 | 3.4 | 3.5 | 3.0 | 3.7 | 3.6 |
| General government | 1.5 | 1.1 | 0.8 | 0.8 | 1.0 | 1.2 | 1.6 |
| Nonfinancial corporations | 23.2 | 21.6 | 18.0 | 18.3 | 25.3 | 25.0 | 23.2 |
| Households | 33.3 | 31.4 | 26.9 | 27.9 | 29.8 | 33.6 | 31.2 |
| Nonresidents | 14.4 | 12.2 | 9.7 | 9.5 | 0.0 | 0.0 | 0.0 |
| **Additional FSIs** | | | | | | | |
| Capital to assets (leverage ratio) | 7.5 | 7.3 | 6.5 | 6.5 | 6.8 | 7.4 | 6.9 |
| Large exposures to capital | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Gross assets position in derivatives to capital | 27.2 | 25.3 | 19.4 | 19.7 | 22.4 | 24.6 | 19.9 |
| Gross liabilities position in derivatives to capital | 24.7 | 22.6 | 19.6 | 19.2 | 23.4 | 24.9 | 20.6 |
| Trading income to total income | 9.9 | 11.3 | 12.7 | 6.8 | 3.5 | 5.1 | 7.0 |
| Personnel expenses to total income | 40.9 | 42.5 | 43.4 | 44.5 | 41.3 | 40.5 | 39.3 |
| Customer deposits to total non-interbank loans | 120.9 | 121.9 | 128.3 | 128.2 | 118.4 | 128.9 | 144.8 |
| FX loans to total loans | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| FX liabilities to total liabilities | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Source: IMF Financial Soundness Indicators.

# Annex I. External Sector Assessment

***Overall Assessment:*** *The external position in 2021 was broadly in line with fundamentals and desirable policy settings. The assessment accounts for certain transitory factors owing to the COVID-19 pandemic's impact on global trade and financial flows. The estimated CA gap is -0.3 percent of GDP, with a range of -1.3 to 0.7 percent of GDP, reflecting uncertainty around any point estimate. The REER gap is estimated to be 0.7 (±2) percent implying that the exchange rate is broadly in line with fundamentals and desirable policy settings. However, this assessment is subject to important uncertainties, including due to a lack of full-year data for 2021, and to uncertainties associated with the ongoing COVID-19 pandemic and recovery, both domestically and abroad. The current account is projected to be -0.2 percent of GDP in 2021 reflecting a decline in the trade balance and recovery in the primary income balance towards pre-pandemic levels.*

***Potential Policy Responses:*** *The external position in 2021 was broadly in line with fundamentals and desirable policy settings. The external sector assessment identifies a small contribution from policies. If the CA gap becomes positive in the future, then the authorities could consider implementing structural policies aimed at raising investment to help reduce the surplus.*

## Foreign Assets and Liabilities: Position and Trajectory

**Background.** The net international investment position (NIIP) increased to –10.5 percent of GDP in 2021. Gross assets and liabilities reached 135 and 145 percent of GDP, respectively. Gross external debt (28 percent of GDP) remains relatively modest. The NIIP is projected to become less negative in the medium term. This follows pre-pandemic trends in the strengthening of the Czech NIIP driven by a faster accumulation of assets relative to liabilities.

**Assessment.** The current NIIP and its projected path do not imply risks to external sustainability.

| | | | | | |
|---|---|---|---|---|---|
| 2021 (% GDP) | NIIP: -10.5 | Gross Assets: 135 | Res. Assets: 63 | Gross Liab.: 145 | Debt Liab.: 28 |

## Current Account

**Background.** The current account (CA) has registered small surpluses since 2014, owing to a trade surplus that offsets a large primary income deficit. The Czech Republic's surplus rose from 0.3 percent of GDP in 2019 to 3.6 percent of GDP in 2020 reflecting a modest increase in the trade balance, due to improved terms of trade, as well as a sharp decline in the primary income deficit. In 2021, the CA balance is expected to fall to -0.2 percent of GDP due to a declining trade balance and increasing primary income deficit. In the medium term, as the Czech Republic recovers from the pandemic, the CA is expected to return to a small surplus as trade normalizes and profits recover leading to resumed payments of dividends.

**Assessment.** For 2021, the EBA CA model estimates a norm of -0.4 percent of GDP against a cyclically adjusted CA of 0.5 percent of GDP. The resulting EBA gap of 0.9 percent of GDP includes identified policy gaps of -0.6 percent of GDP and an unexplained residual of 1.5 percent of GDP. However, in view of the pandemic-related shocks, judged to be transitory, staff suggests four further adjustments. First, an adjustment of –2.04 percent of GDP to the cyclically adjusted CA balance has been made to account for a decline in the primary income balance to -3.1 percent of GDP, compared to a 10-year pre-pandemic average of -5.3 percent of GDP. Second, an adjustment of +0.24 percent of GDP has been made to reflect the contraction in tourism net exports. Third, an adjustment of +0.04 percent of GDP to account for a pandemic-related change in the composition of consumption. Fourth, an adjustment of +0.52 percent of GDP to account the increase in imports of medical equipment. In summary, the total adjustment of –1.24 percent of GDP would result in an adjusted CA gap of -0.3 percent of GDP.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2021 (% GDP) | Proj. CA: -0.2 | Cycl. Adj. CA: 0.5 | EBA CA Norm: -0.4 | EBA CA Gap: 0.9 | COVID-19 Adj.: -1.2 | Other Adj.: 0.0 | Staff CA Gap: -0.3 |

## Real Exchange Rate

**Background.** The real effective exchange rate (REER) has steadily appreciated since 2016, supported by the exit from the koruna floor in April 2017. In 2020, the koruna depreciated relative to the euro by 3 percent relative to the 2019 average and has since recovered and remained stable at near pre-pandemic rates.

**Assessment.** Under the CA gap model, staff assesses the REER gap to be 0.7 percent, broadly in line with fundamentals and desirable policy settings. However, REER models and competitiveness indicators suggest different exchange rate assessments, pointing to difficulties associated to arriving at an overall external assessment. The REER index model suggests a gap of 21.3 percent and the REER level model suggests a gap of 24.6 percent.

## Capital and Financial Accounts: Flows and Policy Measures

**Background.** The capital account increased to 1.3 percent of GDP in 2020 up from 0.4 percent of GDP in 2019. The financial account increased to 4.3 percent of GDP in 2020 up from 0.1 percent of GDP in 2019. The increase in the financial account was driven by a sharp decline in FDI liabilities, specifically equity and investment funds. Net investments in the Czech Republic declined in 2020 due a decline in profitability and remained low in 2021.

**Assessment.** Risks related to capital flows are assessed to be small.

## FX Intervention and Reserves Level

**Background.** Gross international reserves increased to 149 billion US dollars (68 percent of GDP) in 2020. The allocation of 2.09 billion SDRs—1.1 percent of GDP or 0.2 months of imports—in August 2021 will be held as foreign reserves. The Czech koruna has floated freely and there have been no FX interventions since the koruna floor exit in April 2017, including in 2021.

**Assessment.** Reserves are over 10 months of imported goods and services and are assessed to be sufficient to insulate against external shocks and disorderly market conditions.

# Annex II. Climate Mitigation in the Czech Republic

### *Stock Taking of Emissions Trends*

1. **Despite significant progress since 1990, the Czech Republic has high CO2 emissions per capita compared to other EU countries and low energy efficiency.** Total greenhouse gas (GHG) emissions since 1990 dropped by about one third, more than the EU average. However, the country remains a top polluter, with about 10 tons of CO2 per capita compared to the EU average around 8.5 in 2018 (Figure 1 and 2). Energy generation accounted for 76 percent of total GHG emissions in 2018. Another 13 percent of GHGs comes from industrial processes, 7 percent from agricultural sources, and 4 percent from waste. By sector, power generation accounted for 51 percent of CO2 emissions in 2018, industry and construction 22 percent, transportation 19 percent, and (residential) buildings 8 percent. The emission intensity of output gradually declined, and in 2018 was broadly in line with CESEE peers.[1] However, the gap with the EU continues to be significant, primarily on account of lower efficiency in the power sector, a large share of industry in GDP and the higher emission intensity in the transport sector (EC 2020a, IEA 2020).

2. **Dependency on coal for energy generation remains significant.** With 46 million tonnes of coal produced annually, the Czech Republic is the third largest coal producer in Europe. Coal accounts for about one third of the country's total energy supply—down from more than 60 percent in 1990—and for 64 percent of fossil fuel emissions in 2018. Besides coal, the second most important energy source in 2019 was oil (22 percent), then nuclear (18 percent), natural gas (16 percent), biofuel and waste (10 percent), while the rest came from renewables. The trend decline in coal consumption was compensated by an increased use of biofuels, nuclear and gas, while there has been little progress in the expansion of energy production from wind and solar power since 2014. The share of renewables in energy consumption has remained broadly flat and is particularly low in the electricity sector—about 20 pps below the EU average—and in transport.

3. **Staff projections suggest that under a business as usual (BAU) scenario, fossil fuel CO2 emissions will increase about 11 percent between 2018 and 2030.**[2] In per-capita levels of CO2 emissions, this would keep the Czech Republic among the top emitters in the region.

### *Strong Policy Initiative and a Multi-Pronged Strategy Will be Key to Meet Climate Goals*

4. **A significant economic transformation is envisaged to achieve the country's emission targets.** These imply a reduction of net greenhouse gas emissions by likely 55 percent by 2030.[3] The

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[1] Energy intensity in 2017 was twice as high in the Czech Republic as in Germany, while energy consumption stood at 4.1 tonnes of oil equivalent per person, compared to an EU average of 3.3.

[2] IMF staff has developed a spreadsheet tool to project emissions on a country-by-country basis and the emissions, fiscal, and economic impacts of carbon pricing and other mitigation instruments (IMF 2019a, Parry et al 2020).

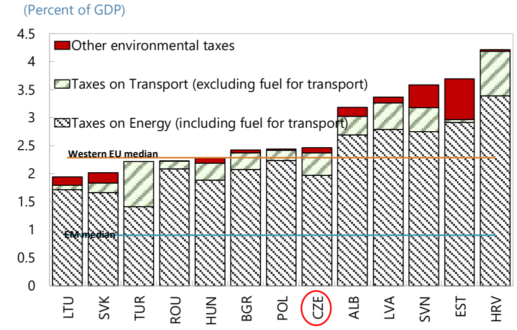
[3] As part of the European Green Deal, with the European Climate Law, the EU has set itself a binding target of achieving climate neutrality by 2050. This requires current GHG emission levels to drop substantially in the next decades. As an intermediate step towards climate neutrality, the EU has raised its 2030 climate ambition, committing to cutting emissions by at least 55 percent by 2030, compared to 1990 levels.

share of coal and other fossil fuels in gross electricity production is planned to decline from 50 percent in 2016 to 11–21 percent in 2040.[4] Old, lignite-fueled power plants should be retired, including by converting co-generation plants to gas, biomass or waste, and coal-fired plants for heat generation decommissioned. Conversely, the share of nuclear energy is projected to increase from 29 percent to 46–58 percent in the same period. During the transition phase, alternative technologies are feasible—like renewables and perhaps fossil generation with carbon capture and storage. However, trade-offs related to higher costs, possible unstable supply from renewables and geopolitical considerations will also need to be considered. On the other hand, nuclear expansion should be accompanied by strong regulation to minimize the risks of accidents, radioactive waste leakage, etc.

**5. A comprehensive strategy should be adopted to achieve the emission targets.** This would involve enhanced carbon pricing, reinforced by broader incentives—to avoid excessive carbon prices—including feebates, rebates and R&D incentives and the use of revenues from carbon pricing to support the economy in a balanced manner.

**6. The level of carbon pricing is still relatively low.** Currently, the Czech Republic does not have an explicit carbon tax but levies fuel excise taxes and road taxes worth approximately 2 percent of GDP, in line with the EU average. In 2018, only 30 percent of all emissions were priced at a level that equals or exceeds EUR 60 per tonne of CO2.[5]

**Environmental Taxes, 2019**
(Percent of GDP)

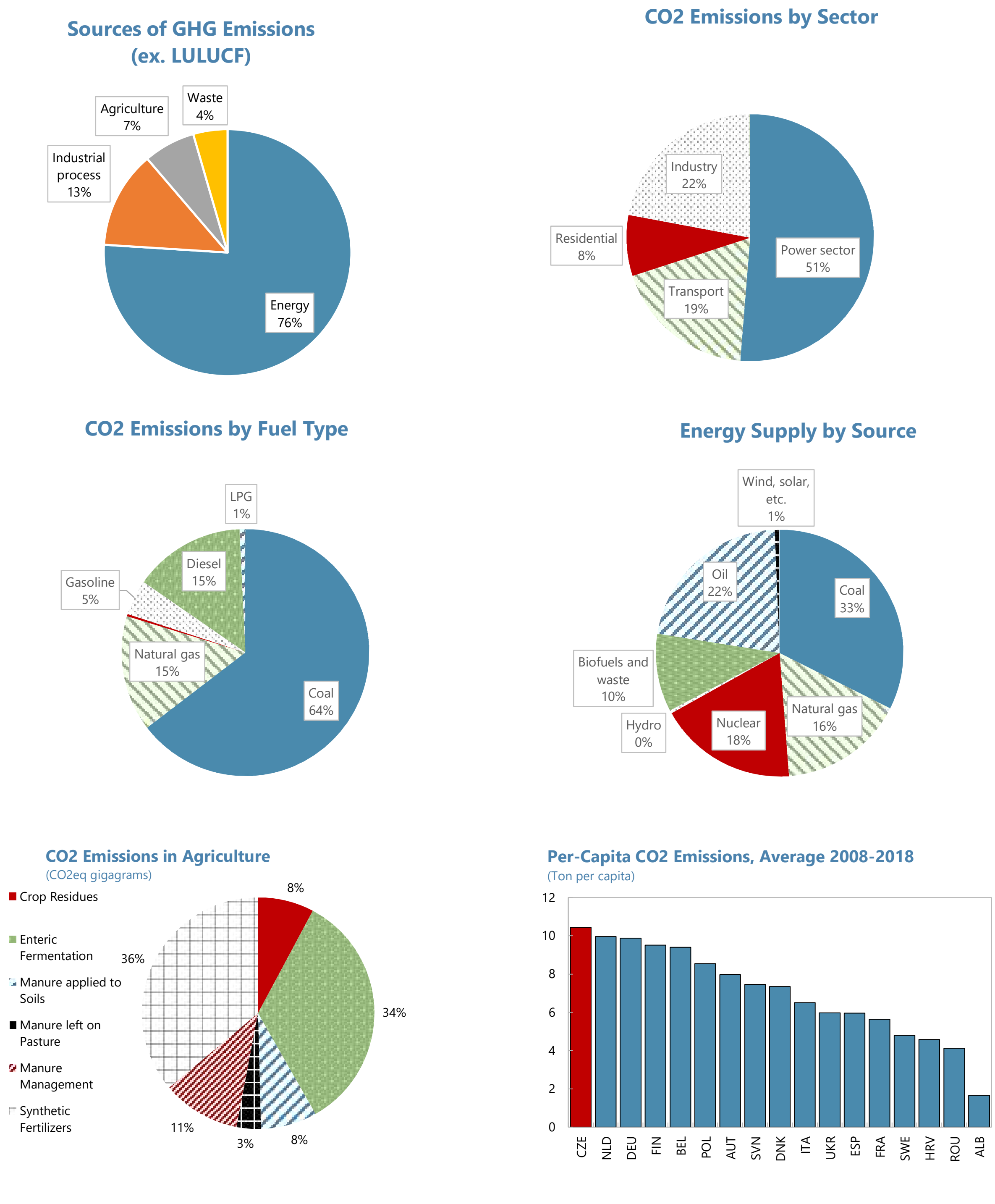



Source: OECD

[4] Projections in the National Energy and Climate Plan. Construction of two new nuclear units is part of the Czech National Investment Plan 2020–2050.

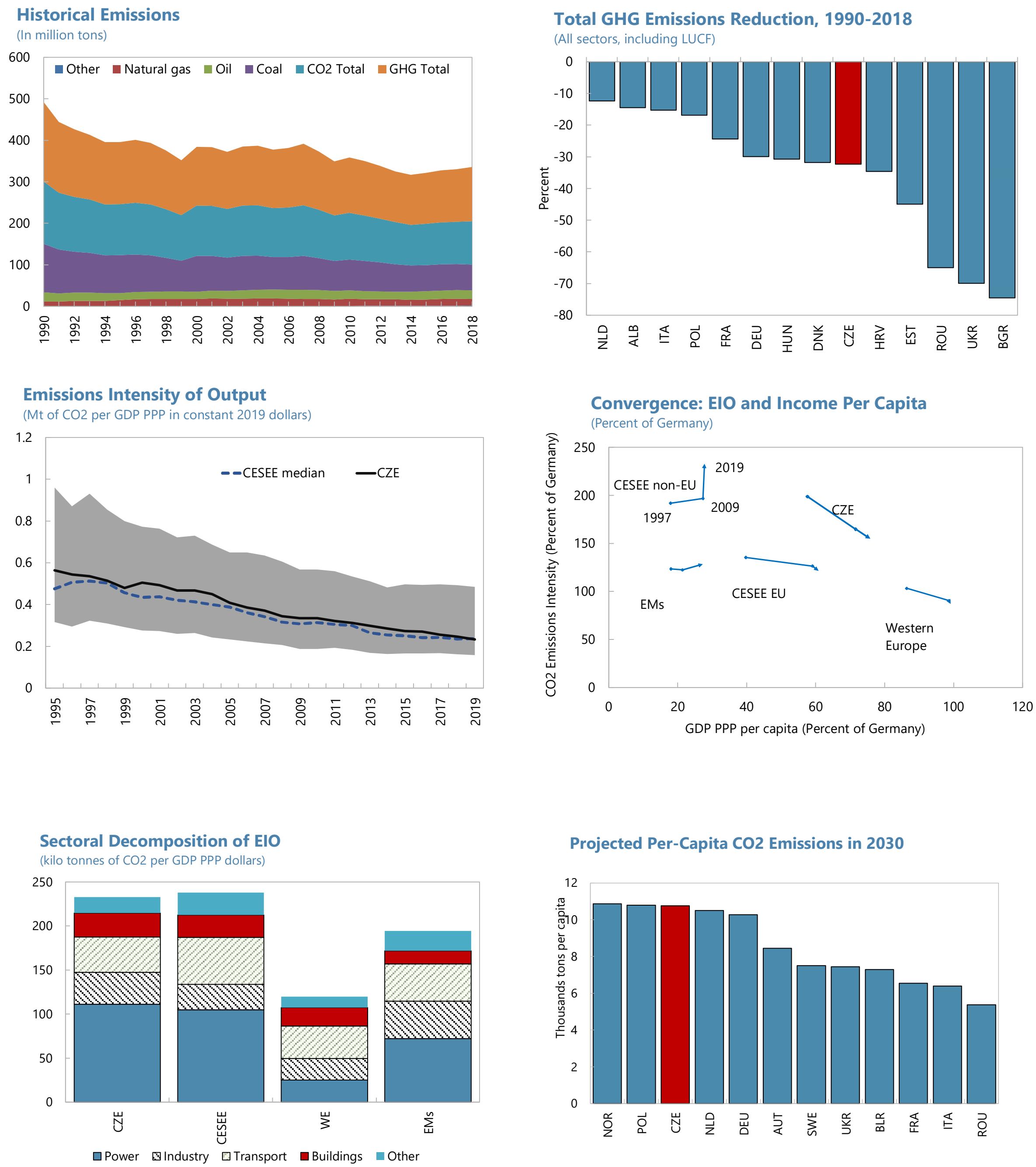
[5] This is a mid-range benchmark of carbon costs in 2020, and low-end benchmark for carbon costs in 2030. Emissions priced at this level originated primarily from the road transport sector. The majority of unpriced emissions were from the residential and commercial sector and the industry sector. 60 EUR/ton of CO2 is a mid-range benchmark of carbon costs in 2020, and low-end benchmark for carbon costs in 2030 (OECD 2019 and OECD 2021).

## Figure 1. Czech Republic: GHG Emissions and Energy Sources




Sources: CPAT, IEA, World in Data, FAO, and IMF staff calculations.
Notes: all data refer to 2018 except energy supply data which are from 2019.

## Figure 2. Czech Republic: Historical Emissions and Emission Intensity of Output (EIO)




Sources: Emission Database for Global Atmospheric Research (EDGAR), WEO, CPAT, and IMF staff calculations.
Notes: In the bottom-right panel chart, EIO are expressed in kg CO2 per dollar on the y-axis, the width of each rectangle is a country's GDP, and the quantum of CO2 emissions are obtained by multiplying the latter by the EIO score. All data as of 2019.

**Energy Price Changes for $75/tCO2 in 2030**
(Weighted by Consumption)

| Fuel | Unit | Baseline | Carbon tax | % change |
|---|---|---|---|---|
| **Gasoline** | US$ per liter | 1.48 | 1.67 | 12.90% |
| **Diesel** | US$ per liter | 1.47 | 1.68 | 14.80% |
| **LPG** | US$ per liter | 0.34 | 0.78 | 131.00% |
| **Kerosene** | US$ per liter | 0.85 | 1.07 | 26.00% |
| **Oil** | US$ per barrel | 70.65 | 104.31 | 47.60% |
| **Coal** | US$ per gigajoule (GJ) | 2.4 | 9.59 | 299.50% |
| **Natural gas** | US$ per gigajoule (GJ) | 14.98 | 18.99 | 26.80% |
| **Electricity** | US$ per kwh | 0.11 | 0.16 | 40.40% |

Source: IMF Carbon Pricing Assessment Tool

7. **However, important trade-offs need to be weighed to avoid public backlash to higher prices.** According to IMF staff model projections, a carbon price of USD 75 per ton would cut emissions 26 percent below baseline levels in 2030. This is 32 ppts short of the pledged emissions reduction in the Nationally Determined Contribution (NDC). To meet this target, a carbon price higher than USD 200 would be necessary. Yet, this would most likely be politically unfeasible and could cause public backlash. For example, price increases for a variety of fuel types would be non-negligible for intermediate levels of carbon prices (text table).

8. **Feebate schemes, an expanded emission trading system (ETS) and well-targeted subsidies can be useful reinforcing instruments.** Feebates—*fees* on products with high emissions combined with *rebates* on products with low emissions—are recommended for sectors with high emissions, such as transportation and agriculture. The EU ETS covers about 60 percent of Czechia's total GHG emissions, from 350 installations—principally power generators and large industrial firms (e.g., iron and steel, petrochemicals, cement, oil refineries, nonferrous metals, machinery, mining).[6] Tighter carbon caps and an extension to cover economic sectors so far exempted from the system are among the options under consideration by the European Commission. Well-targeted subsidies can support the uptake of renewable energy sources (RES) while controlling costs to the budget. More generally, policy tools such as R&D investments and transparent regulations will likely play a crucial role to reward innovators, tackle monopolies, and support efficient and well-interconnected energy networks. [7]

9. **Sectoral policies for climate transition should be stepped up.** Under existing legislation, the Czech Republic is required to reduce emissions in the non-ETS sectors by 14 percent by 2030

[6] Emission trading is a market-based mechanism for efficient reduction of GHG emissions. Participating companies receive free allocations or buy allowances on the market and if they reduce emissions, they can keep the spare allowances for their future needs or sell them to other companies that are short of allowances. The EU ETS was launched in 2005 and is the largest trading scheme of GHG emissions in the world.

[7] The country is below the EU average on eco-innovation. Activities related to R&D in the area of energy are very low, representing only around 0.1 percent of GDP (European Commission 2020a).

relative to 2005. The main policy tools to attain this target include environmental taxes and subsidies, standards and regulations, and direct government investment.

- **Electrification of transport is very low.** Petrol is the most widely used fuel (64 percent of passenger cars), while the share of electric vehicles is below 1 percent. Authorities' plans envisage a gradual increase in the share of alternative propulsion and fuels in road transport—including development of the needed infrastructure for charging and filling stations—and further electrification of railways, and a gradual shift of freight transportation from road to rail or water transport.

- **District heating is the most common solution in Czech's houses.** About 60 percent of households are connected to district-wide heating systems. The National Action Plan for Energy Efficiency (NAPEE) defines measures aimed at increasing energy efficiency and savings, e.g. improving insulation and installing heat control systems.

- **The bark beetle outbreak reduced the potential for Czech's forests to be a carbon sink.** Managing the outbreak, promoting a rebound in the total volume of forests' living biomass, and swift reforestation will be critical to restore forests' emissions balance capacity.

- **Progress in waste management should continue.** Methane capture has ramped up in the last ten years, with biogas stations located in approximately 33 percent of landfills, capturing up to 15 percent of the generated methane. This led to a stabilization of GHG emissions generated by the waste sector. Policies and measures aim at reducing the amount of produced waste, minimizing the delivery of biodegradable waste in landfills, and expanding separate collection systems.

### *Climate Action Will Carry Equity and Competitiveness Implications and Require Sizable Investments*

**10. Poorer households should be protected from the negative redistributive consequences of climate transition.** On average, a carbon tax around USD 44 per ton of CO2 is estimated to impose a burden of about 3 percent of consumption on the average household in 2025.[8] However, revenues from carbon taxation would also be higher, by up to 2 percent of GDP than under the baseline in 2030. Revenue recycling—i.e., when carbon tax revenues are put back into the economy—can protect the most vulnerable via targeted compensation packages and offset the regressive effect of the carbon tax on low-income households (IMF 2021a, 2020, 2019a, 2019b).[9] Dedicated policies should be envisaged for coal mining regions, and for those employed in the coal-fired energy sector (estimated at over 21,000 workers), which will need a socially fair transition.

[8] This estimate incorporates both direct effects and the indirect effects from price changes in goods and services and assumes no behavioral or other structural changes that could reduce the negative effects of higher prices.

[9] To maximize economic efficiency, revenues should be used to decrease distortionary taxes, e.g. on labor.

**11. Consideration should also be given to competitiveness and leakage concerns.** Pressure will mount to preserve the competitiveness of domestic companies—especially those in energy-intensive, trade-exposed (EITE) industries[10]. And to pre-empt carbon leakage risks.[11] In the EU, the European Commission is developing options for border carbon adjustment (BCA) mechanisms, i.e. a charge on embodied carbon in imported products, particularly in sectors deemed most at risk of carbon leakage. While the efficient design of BCA or similar solutions remains highly uncertain, country authorities should stand ready to engage in international fora, and be wary of risks of disputes or retaliations (IMF 2021b).

**12. NextGenEU funds will contribute significantly to the green transition, but sizable public and private investments will be needed.** Estimated investment of CZK 500 billion (10 percent GDP) over the next decade (McKinsey, 2020) are needed to meet the 2030 targets. With about EUR 3 billion to support green projects, the Recovery and Resilience Plan (RRP) is expected to contribute significantly to the country's green transition, together with other structural EU funds. These should be complemented by broader incentives to attract private investments.

[10] Firms having to comply with stricter emission standards will incur a direct transfer as a result of higher taxes, or allowance purchase requirement for ongoing emissions. And, to the extent they cut emissions, they will face abatement costs to transition to cleaner (but costlier) technologies.

[11] In this case reductions in domestic emissions are partially offset by higher emissions from increased production abroad.

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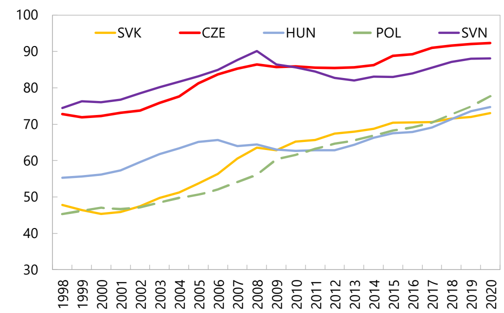
# Annex III. The Czech Transition to a New Growth Paradigm

***Czechia's Economic Performance has been Strong so far, but High Labor Utilization and Slowing Productivity can Undermine Sustained Economic Growth***

**1. The Czech labor market has been historically strong, characterized by low unemployment, high turnover and employment.**[1] Government incentives, wage competitiveness, geographical proximity, and the EU accession supported foreign direct investments (FDI) in manufacturing since the Velvet Revolution. In turn, per capita income levels rose significantly, driving the catch-up with the EU. However, labor productivity growth has slowed in recent years, calling into question the continued rise in living standards. As the economy recovers, productivity growth should be supported by policies that address existing structural bottlenecks and facilitate resource reallocation.

**GDP per Capita PPP, Constant 2017 International $**
(Percent, EU = 100)

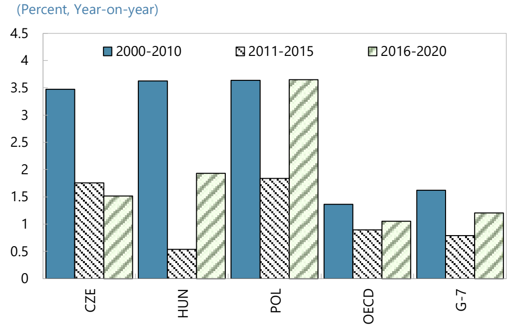



Sources: World Bank, *WDI database*; and IMF staff calculations.

**2. As the crisis hit, emergency measures shielded labor markets.** Commensurate with the recovery, policies should continue shifting to targeted support and facilitating reallocation. The "Antivirus" package successfully supported labor markets through job retention schemes, payments to self-employed, income support for parents, tax deferrals, and loans and guarantees to firms (Annex VII). The program was phased out by end-May 2021 but targeted support to only those affected by mandatory quarantine was kept. Any continuing job-retention schemes should increase financial contributions from employers to improve incentives for self-selection of participating companies.

**3. Going forward, policies should address existing structural bottlenecks to support further growth in employment and productivity.** Assuming benchmark activity levels of Sweden—one of the most active labor markets in Europe—McKinsey (2018) estimates that the Czech Republic has around 0.7 m people in untapped labor reserves. The highest gap can be observed among young (41 percent) and elderly (38 percent) people.

**Labor Productivity Growth**
(Percent, Year-on-year)




Sources: OECD & IMF Staff calculations

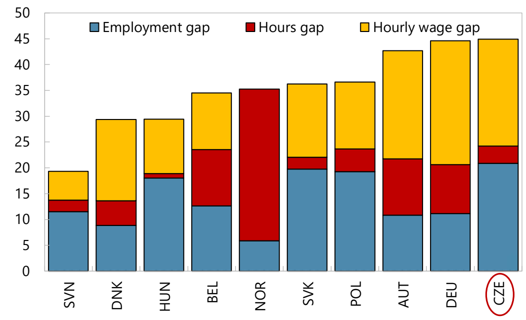
**4. Adult training should be better targeted to low-skilled and older workers.** The Czech Republic has high enterprise participation and high employee coverage rates in vocational training

[1] At end-2019, the employment rate of those aged between 20 and 64 reached 80 percent, 6 pps above the EU average. The activity rate stood at 82 percent, also above the EU average of 79 percent. The unemployment rate dropped to 2 percent before the COVID crisis, the lowest in the EU. Part-time and temporary employment were low, as was the share of discouraged workers.

programs. However, older and low-skilled workers, and the unemployed remain at the margins. Policies should be directed to these categories with the aim to bring them back into the labor force, especially in sectors with the largest needs for reskilling and upskilling.

**5. The provision of childcare and early childhood education should be expanded to bring mothers back into the labor force.** The employment rate of mothers with young children is 30 percent below that of men, and the gender gap in labor income remains high. Generous parental leave rules and child cash benefits contribute to gender differences in the labor market, as they discourage Czech women from resuming work after childbirth.[2] The choice of mothers to resume work is also limited by the scarce supply of childcare.[3]

**The Gender Gap in Labour Income, 2013–15**
(Percent)




Source: OECD Employment Outlook 2018

**6. The education system should become more inclusive, promote technical skills, and expand the number of graduate students.** The mismatch between workers' fields of study and occupations is relatively high in the Czech Republic, where 38 percent of workers are in occupations that differ from their studies (Montt, 2015).[4] Also, jobs in high demand are hard to fill. In 2019, almost 80 percent of firms looking to hire specialists in the ICT field reported major difficulties with recruitment. McKinskey (2018) estimates that demand for technological capabilities could grow by around 50 percent, and by around 20 percent for social and emotional skills, based on Western European benchmarks. However, only around 4 percent of students are graduating in ICT subjects, below the EU average.[5] Funding for education is among the lowest in the OECD, the attractiveness of the teaching profession is low due to low salaries and limited career progression, and teachers' shortages are reported in English, physics, and ICT.

**7. Spending on active labor market policies (ALMP) should be increased and focused on reskilling programs to facilitate employment in growing sectors.** High-quality information on current and future labor market demand, trends and earning potential can help make better funding and educational choices, and keep up to speed with shifts in skill demand.

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[2] One parent—which is almost exclusively the mother—can stay at home while receiving a parental allowance until the child reaches three years of age without losing reintegration rights at their employer. In 2018, paternity leave was introduced to encourage fathers to engage in childcare from an early stage.

[3] In 2017/2018 there was an estimated unmet demand for childcare of 14,000 children below 3 years of age and more than 33,000 applications for admission to nursery schools were rejected, close to one-fifth of all applications.

[4] This is higher than in Austria (28 percent) and Germany (26 percent), although comparable to Poland (41 percent) and Slovak Republic (38 percent).

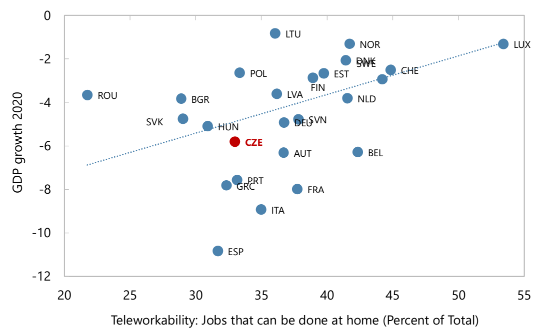
[5] The gender gap is also large. The number of female ICT specialists is among the lowest in Europe. For example, in 2017 about 10 percent of 16–24 years-old software programmers are women, compared to about 40 percent in France.

### *The Advent of Digitalization, Automation, and Artificial Intelligence (AI) Can Open New Growth Opportunities, but Also Spur Profound Changes and Carry Risks.*

8. **We are in the early stage of a digital-industrial revolution.** New digital technologies are transforming industries, new production techniques are revolutionizing the way products are designed and built, and the widespread use of sensors and big data is transforming how work is carried out on factory floors. Advances in robotics and artificial intelligence will further propel this transformation.

9. **This can help reignite productivity growth.** Having close to full employment, above-average hours worked, and high capital intensity, the Czech Republic will be relying on productivity as the key driver of future GDP growth. In this sense, digitalization could be a significant productivity contributor.[6] For example, digitalization allows employees to focus on more value-adding activities, while reducing time spent on administrative tasks. For industries with the highest job vacancy rates, automation can mitigate the problem of inadequate labor supply.[7] In general, technology allows companies to improve operating efficiency, and boost revenues through digital channels. Second-round effects would materialize from investments in assets-heavy sectors—such as manufacturing and retail trade—and the public sector where the potential for digitalization is high.

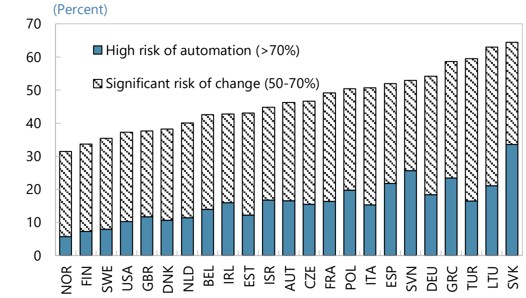
**Teleworkability and GDP Growth 2020**




Sources: Haver Analytics; Dingel and Neiman (2020); and IMF staff calculations

**Jobs at Risk of Automation**

(Percent)




Sources: OECD calculations based on the Survey of Adult Skills (PIAAC) (2012); and Nedelkoska, L. and G. Quintini (2018), "Automation, skills use and training", OECD Social, Employment and Migration Working Papers.

10. **However, the diffusion of automation carries risks, especially for low-skilled workers.** Various estimates point to a large share of jobs having the potential to be automatable, with between 40 percent and 70 percent of the current jobs in the country at risk of being fully or partly automated in the next decades.[8] The large share of manufacturing and automotive in the economy weighs negatively on the risks, as these jobs have on average a higher automation potential, as is the case for production workers or machine operators.

[6] The OECD estimates that labor productivity in information industries was about twice as high as in other industries excluding agriculture in 2016 (OECD, 2019).

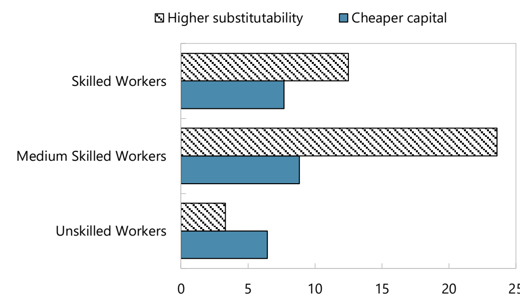
[7] Sectors such as accommodation, manufacturing, transportation, agriculture, and construction are characterized by high potential for automation and in recent years have been experiencing the biggest labor shortages.

[8] The automation potential of jobs is defined by the work activities that can be automated and performed by machines, by adapting currently available technologies. See McKinsey (2018), Nedelkoska and Quintini (2018), and Lordan (2018) for estimates of automation potential in the Czech Republic.

**11. Existing projections point to a non-negligible impact of automation on employment trends.** A 2018 study by the Czech government estimates that the current AI technologies could substitute 50 percent of the skills demand in 11 percent of professions. Over 30 years, automation could replace more than 50 percent of skills in most current professions, totaling around 3.4 million employees. McKinskey (2018) estimates that the equivalent of 1.1 million jobs will be automated by 2030 in a middle technology adoption scenario. The highest negative impact of automation on employment would materialize in the Ústecký and Karlovarský regions, while the largest benefits would likely take place around Prague and Brno, which are already clusters for digitalization and innovation enterprises.

**12. Model simulation suggests that the redistributive effects of automation could be non-negligible in Czechia.** Automation and the falling prices of capital goods are two key factors that drive technological advances, productivity growth, and can influence the labor share. In fact, higher automation or cheaper capital goods can encourage substitution away from labor, putting more at risks those employed in routine tasks. These dynamics are investigated through a heterogenous agent general equilibrium model calibrated to fit the Czech economy (see Lizarazo et al. 2017).

**Estimated Impact of Technological Innovation**
(Real income change from baseline)




Sources: Lizarazo, Peralta-Alva and Puy, (2017) and IMF Staff calculations

- Assuming a 20 percent drop in the relative price of capital goods (machinery and equipment), GDP rises by 6½ percent over the long term compared to the baseline.[9]

- The distribution of income changes across different levels of skills—low-, medium-, and high-skilled labor is considered in the model—is broadly similar. The income of unskilled workers increases by 6½ percent, about 2 ppt less than for the other two categories. This result captures well the trend observed in the country during the last decades, when a declining cost of capital investments supported the liftoff of manufacturing, and broad-based income convergence.

- To assess the impact of automation—that is robots replacing human jobs—the model also simulates a 10 percent increase in the elasticity of substitution between capital and labor. This produces a larger GDP impulse (18 percent higher compared to baseline). However, in this case the benefit for low-skilled workers is materially smaller compared to the medium- and high-skilled workers.

[9] A 20 percent decline is broadly consistent with the trend observed in EM economies since the 1990s (IMF, 2019).

### *Structural Reforms and Investments can Further Support Productivity Growth*

**13. The recovery offers an opportunity to build forward better by boosting productivity growth and investments, including in green and ICT.** The government should build on the Innovation Strategy and the National Investment Plan to expedite investments in the transport and energy sectors, education, and digitalization. Investments in the green transition are also expected to be large. Estimated investment of CZK 500 billion (10 percent GDP) over the next decade (McKinsey, 2020) are needed to meet the 2030 targets. With 42 percent of the EUR 7 billion total allocation destined to support green projects, the RRF is expected to contribute significantly to the country's green transition, in addition to other EU structural funds. These should be complemented by broader incentives to attract private investment. A prompt definition of the tax framework for green investment, including the level and base of carbon taxation would provide further clarity for private investments.

**14. Further measures can be taken to incentivize investments and raise productivity.**

- **Nurture high productivity sectors,** including Knowledge-Intensive-Sectors (KIS) that exhibit high productivity growth. Thus, ensuring an adequate supply of human capital by enabling the provision of technical and digital skills would support the expansion of these sectors.

- **Improve access to equity finance for domestic start-ups and SMEs.** These firms often push the economy towards the technological frontier. Czech startup firms lack sufficient access to funding suited to their needs because capital markets are underdeveloped, and venture capital is scarce.

- **Simplify the business regulatory framework.** Weaknesses in starting a business, resolving commercial disputes, and obtaining construction permits should be addressed.

- **Improve insolvency procedures.** Effective insolvency procedures help minimize barriers to corporate restructuring and spur capital reallocation. As insolvency cases will likely rise in the wake of the crisis speeding up the asset recovery process will help improve recovery rates and reduce costs.

- **Support research and development,** especially for domestic SMEs, including through well-target R&D deductions and tax incentives. While R&D expenditure is in line with the EU average, it remains concentrated in a few large firms.

- **Strengthen governance and address corruption.** Improving governance and fighting corruption can improve government spending efficiency, boost growth, and improve attractiveness for FDI.

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# Annex IV. Risk Assessment Matrix[1]

| **Source of Risks and Relative Likelihood** (High, medium, or low) | **Impact if Risk is Realized** (High, medium, or low) | **Policy Response** |
|---|---|---|
| **Medium**<br>**Global resurgence of the COVID-19 pandemic.** Local outbreaks lead to a global resurgence of the pandemic (possibly due to vaccine-resistant variants), which requires costly containment efforts and prompts persistent behavioral changes rendering many activities unviable. | **High**<br>Growth deterioration in main export destinations, protracted containment measures, and a slower reactivation of the tourism sector would delay the recovery and produce greater scarring effects. | Adjust composition of fiscal spending to better target policies to support health care, the most vulnerable, and the economy. Adopt a credible fiscal consolidation plan. Closely monitor and manage fiscal and financial sector risks. |
| **Medium**<br>**De-anchoring of inflation expectations in the U.S. leads to rising core yields and risk premia.** A fast recovery in demand (supported by excess private savings and stimulus policies), combined with COVID-19-related supply constraints, leads to sustained above-target inflation readings and a de-anchoring of expectations. The Fed reacts by signaling a need to tighten earlier than expected. The resulting repositioning by market participants leads to a front-loaded tightening of financial conditions and higher risk premia, including for credit, equities, and emerging and frontier market currencies. | **Medium/Low**<br>The Czech Republic would be relatively insulated given the public and private sector's high reliance on domestic financing. However, tighter financial conditions could weigh on households and undermine consumption with adverse spillovers to other (viable) sectors. | Reduce vulnerabilities of household and financial sectors by expanding macroprudential toolkit, with particular attention to lower-income groups. Closely monitor and manage financial sector risks. Adjust fiscal spending to better target support. |
| **Medium**<br>**Disorderly transformations.** COVID-19 triggers structural transformations, but the reallocation of resources is impeded by labor market rigidities, debt overhangs, and inadequate bankruptcy resolution frameworks. This, coupled with a withdrawal of COVID-19-related policy support, undermines growth prospects and increases unemployment, with adverse social/political consequences. Adjustments in global value chains and reshoring shift production activities across countries. | **Medium**<br>The labor market and corporates have thus far been relatively resilient to the pandemic shock. However, the long-term impact of the crisis on the economy is uncertain, and the country's potential growth would be adversely affected. | Pursue structural reforms, particularly in education, labor market, business climate, infrastructure, and insolvency framework, while safeguarding long-term fiscal sustainability and improving the quality of public finances. |
| **Medium**<br>**Sharp correction in housing prices.** A sharp decline in housing prices could affect financial stability with adverse effects on lending and growth. | **High/Medium**<br>Bank and household balance sheets will weaken, leading to widespread distress through an adverse feedback loop of decreased lending and investment affecting financial stability and growth. | Continue vigilant financial surveillance and make use of available tools to discourage further build-up of housing debt. Tighten macroprudential measures. |
| **Low**<br>**Continued domestic inflationary pressures un-anchoring inflation expectations.** | **Medium**<br>The CNB would have to undertake abrupt and front-loaded tightening of monetary policy with potentially adverse effects on the nascent recovery. | Tighten monetary stance in a forward-looking, data-dependent manner. |

[1] The Risk Assessment Matrix (RAM) shows events that could materially alter the baseline path. The relative likelihood is the staff's subjective assessment of the risks surrounding the baseline ("low" is meant to indicate a probability below 10 percent, "medium" a probability between 10 and 30 percent, and "high" a probability between 30 and 50 percent). The RAM reflects staff views on the source of risks and overall level of concern as of the time of discussions with the authorities. Non-mutually exclusive risks may interact and materialize jointly. The conjunctural shocks and scenario highlight risks that may materialize over a shorter horizon (between 12 to 18 months) given the current baseline. Structural risks are those that are likely to remain salient over a longer horizon.

# Annex V. Public Debt Sustainability Analysis

*Public debt increased to 37¾ percent of GDP in 2020 and further to about 41½ percent of GDP in 2021:Q2 on the back of a strong fiscal response to mitigate the impact of the pandemic and the weak cyclical position induced by it. Public debt is projected to rise to 49 percent of GDP over the medium term, assuming an improvement of the structural balance of ½ percent of GDP per year as outlined in the authorities' Fiscal Outlook and a continued improving economic environment. A negative shock to real GDP growth is the main risk to the projections. The debt-to-GDP ratio does not stabilize by 2026 under the baseline.*

## Baseline and Realism of Projections

1. **The baseline scenario assumes sustained deficits and growth converging to potential over the medium term.** The fiscal stance loosens by about 2 percentage points to a structural balance of -7.2 percent of GDP in 2021 with a strong reversal in 2022 as pandemic support measures are set to expire. Over the medium term it improves by ½ percent of GDP per year in line with the projections of the November 2021 Fiscal Outlook to reach -2½ percent with an equal headline deficit by 2026. Healthy domestic demand is projected to drive sustained real GDP growth, projected at 2.9 percent in 2021. The inflation rate is projected to increase from 3.2 percent in 2020 to 3.6 percent in 2021 and to converge to the 2 percent target by 2023.

2. **Debt and funding needs will continue to increase into the medium term in the baseline scenario.** Staff projects a steady increase in the debt-to-GDP ratio from 37¾ percent in 2020 to 49 percent in 2026 as the primary deficit exceeds the debt-stabilizing primary balance of - 1.1 percent over the entire projection horizon. Gross financing needs are projected to be 9½ percent of GDP at the end of the projection period.

## Shock and Stress Tests

3. **A negative shock to real GDP growth would accelerate the increase in debt.** In this scenario, a 1 standard deviation shock to real GDP growth (3.3 percentage point decline) hits in 2022 and 2023, with its attendant impact on the primary balance, inflation, and the real interest rate, and causes public debt to rise by almost 12 percentage points to 56 percent of GDP and gross financing needs to increase to 15.2 percent of GDP by 2023.[1] Afterward, public debt would continue on a trajectory parallel to the baseline reaching 58 percent of GDP in 2026 when gross financing needs would be higher by 1½ percent of GDP than under the baseline.

4. **Despite the recent significant increases in public debt, its trajectory is still relatively unsensitive to an interest rate shock.** For instance, an interest rate shock, in which the nominal rate increases by 385 basis points (the difference between the maximum real interest rate over the last 10 years and the average real interest rate over the projection period), accelerates the increase in debt only moderately to 52 percent of GDP by 2026.

[1] The shock is calibrated using historical real GDP growth data from 2011–20. Every percentage point decline in real GDP growth is assumed to reduce inflation by 0.25 percentage points while non-interest revenues and non-interest expenditures are assumed constant.

# Figure 1. Czech Republic: Sector Debt Sustainability Analysis (DSA)-Baseline Scenario

(in percent of GDP unless otherwise indicated)

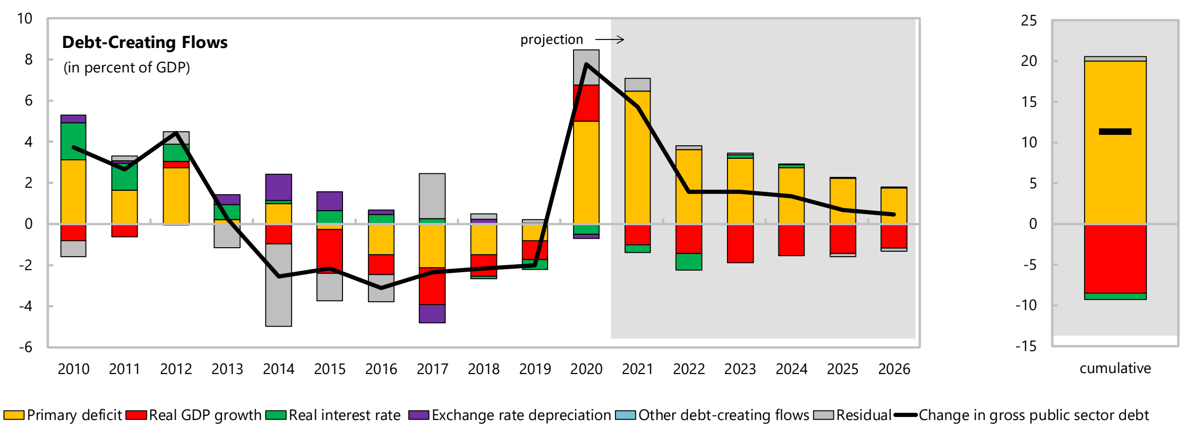
### Debt, Economic and Market Indicators [1/]

| | Actual | | | Projections | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2010-2018 [2/] | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
| Nominal gross public debt | 38.9 | 30.0 | 37.8 | 43.5 | 45.0 | 46.6 | 48.0 | 48.6 | 49.1 |
| Public gross financing needs | 7.1 | 4.7 | 9.8 | 10.6 | 7.1 | 10.9 | 9.1 | 11.4 | 9.5 |
| Real GDP growth (in percent) | 2.4 | 3.0 | -5.8 | 2.9 | 3.6 | 4.4 | 3.5 | 3.1 | 2.5 |
| Inflation (GDP deflator, in percent) | 1.1 | 3.9 | 4.4 | 3.4 | 4.1 | 1.7 | 1.7 | 1.9 | 2.0 |
| Nominal GDP growth (in percent) | 3.6 | 7.0 | -1.7 | 6.4 | 7.8 | 6.2 | 5.2 | 5.1 | 4.5 |
| Effective interest rate (in percent) [4/] | 3.0 | 2.3 | 2.5 | 2.5 | 2.3 | 2.2 | 2.1 | 2.1 | 2.1 |

| As of November 30, 2021 | | |
|---|---|---|
| Sovereign Spreads | | |
| Bunds (bp) 3/ | | 278 |
| 5Y CDS (bp) | | 35 |
| Ratings | Foreign | Local |
| Moody's | Aa3 | Aa3 |
| S&Ps | AA- | AA |
| Fitch | AA- | AA- |

### Contribution to Changes in Public Debt

| | Actual | | | Projections | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2010-2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | cumulative | debt-stabilizing |
| Change in gross public sector debt | -0.1 | -2.0 | 7.8 | 5.7 | 1.6 | 1.6 | 1.4 | 0.7 | 0.5 | 11.3 | primary |
| Identified debt-creating flows | 0.5 | -2.2 | 6.0 | 5.1 | 1.4 | 1.5 | 1.3 | 0.8 | 0.6 | 10.7 | balance [9/] |
| Primary deficit | 0.4 | -0.8 | 5.0 | 6.5 | 3.6 | 3.2 | 2.7 | 2.2 | 1.8 | 20.0 | -1.1 |
| Primary (noninterest) revenue and grants | 40.5 | 41.2 | 41.5 | 40.1 | 40.1 | 40.1 | 39.7 | 39.3 | 39.2 | 238.5 | |
| Primary (noninterest) expenditure | 40.9 | 40.4 | 46.5 | 46.5 | 43.7 | 43.3 | 42.4 | 41.5 | 41.0 | 258.5 | |
| Automatic debt dynamics [5/] | 0.1 | -1.4 | 1.1 | -1.4 | -2.2 | -1.7 | -1.4 | -1.4 | -1.1 | -9.3 | |
| Interest rate/growth differential [6/] | -0.2 | -1.4 | 1.3 | -1.4 | -2.2 | -1.7 | -1.4 | -1.4 | -1.1 | -9.3 | |
| Of which: real interest rate | 0.7 | -0.5 | -0.5 | -0.4 | -0.8 | 0.2 | 0.2 | 0.0 | 0.0 | -0.8 | |
| Of which: real GDP growth | -0.9 | -0.9 | 1.8 | -1.0 | -1.4 | -1.9 | -1.6 | -1.4 | -1.2 | -8.5 | |
| Exchange rate depreciation [7/] | 0.3 | 0.0 | -0.2 | … | … | … | … | … | … | … | |
| Other identified debt-creating flows | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| General government net privatization proceeds (negative) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Contingent liabilities | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Please specify (2) (e.g., ESM and Euroarea loans) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Residual, including asset changes [8/] | -0.6 | 0.2 | 1.7 | 0.6 | 0.2 | 0.1 | 0.0 | -0.2 | -0.2 | 0.6 | |




Source: IMF staff.

1/ Public sector is defined as general government.

2/ Based on available data.

3/ Long-term bond spread over German bonds.

4/ Defined as interest payments divided by debt stock (excluding guarantees) at the end of previous year.

5/ Derived as [(r - π(1+g) - g + ae(1+r)]/(1+g+π+gπ)) times previous period debt ratio, with r = interest rate; π = growth rate of GDP deflator; g = real GDP growth rate; a = share of foreign-currency denominated debt; and e = nominal exchange rate depreciation (measured by increase in local currency value of U.S. dollar).

6/ The real interest rate contribution is derived from the numerator in footnote 5 as r - π (1+g) and the real growth contribution as -g.

7/ The exchange rate contribution is derived from the numerator in footnote 5 as ae(1+r).

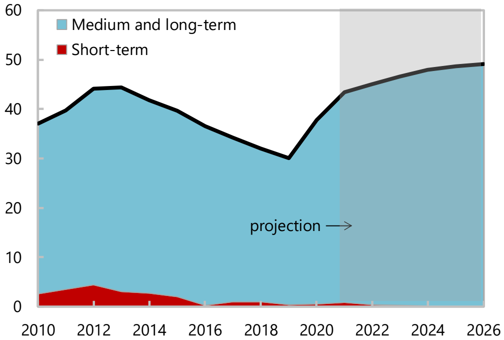
8/ Includes asset changes and interest revenues (if any). For projections, includes exchange rate changes during the projection period.

9/ Assumes that key variables (real GDP growth, real interest rate, and other identified debt-creating flows) remain at the level of the last projection year.

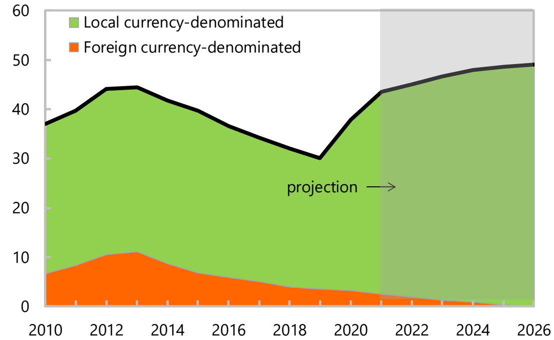
# Figure 2. Czech Republic: Public DSA—Composition of Public Debt and Alternative Scenarios

## Composition of Public Debt

**By Maturity**
(in percent of GDP)

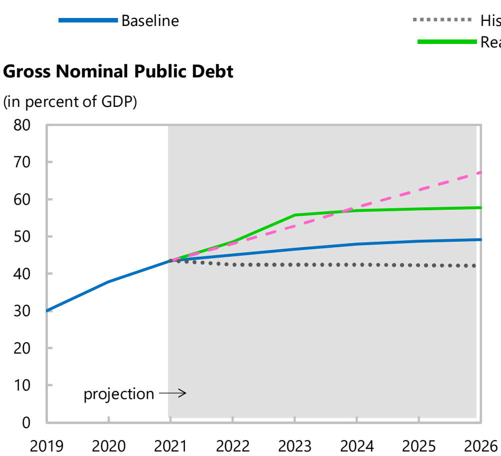



**By Currency**
(in percent of GDP)

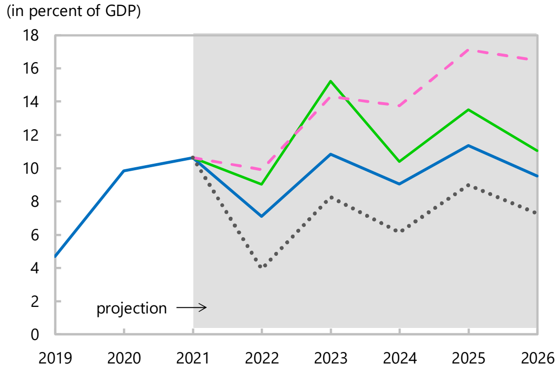



## Alternative Scenarios

**Gross Nominal Public Debt**
(in percent of GDP)




**Public Gross Financing Needs**
(in percent of GDP)




## Underlying Assumptions
(in percent)

| Baseline Scenario | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|---|
| Real GDP growth | 2.9 | 3.6 | 4.4 | 3.5 | 3.1 | 2.5 |
| Inflation | 3.4 | 4.1 | 1.7 | 1.7 | 1.9 | 2.0 |
| Primary Balance | -6.5 | -3.6 | -3.2 | -2.7 | -2.2 | -1.8 |
| Effective interest rate | 2.5 | 2.3 | 2.2 | 2.1 | 2.1 | 2.1 |
| **Constant Primary Balance Scenario** | | | | | | |
| Real GDP growth | 2.9 | 3.6 | 4.4 | 3.5 | 3.1 | 2.5 |
| Inflation | 3.4 | 4.1 | 1.7 | 1.7 | 1.9 | 2.0 |
| Primary Balance | -6.5 | -6.5 | -6.5 | -6.5 | -6.5 | -6.5 |
| Effective interest rate | 2.5 | 2.3 | 2.1 | 2.1 | 2.1 | 2.0 |
| **Real GDP growth** | | | | | | |
| Real GDP growth | 2.9 | 0.3 | 1.2 | 3.5 | 3.1 | 2.5 |
| Inflation | 3.4 | 3.3 | 0.9 | 1.7 | 1.9 | 2.0 |
| Primary Balance | -6.5 | -5.4 | -6.8 | -2.7 | -2.2 | -1.8 |
| Effective interest rate | 2.5 | 2.3 | 2.2 | 2.4 | 2.3 | 2.3 |

| Historical Scenario | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|---|
| Real GDP growth | 2.9 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 |
| Inflation | 3.4 | 4.1 | 1.7 | 1.7 | 1.9 | 2.0 |
| Primary Balance | -6.5 | -0.4 | -0.4 | -0.4 | -0.4 | -0.4 |
| Effective interest rate | 2.5 | 2.3 | 2.3 | 2.5 | 2.6 | 2.7 |

Source: IMF staff.

## Table 1: Czech Republic: External Debt Sustainability Framework 2016–2026

| | Actual | | | | | | | Projections | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2016 | 2017 | 2018 | 2019 | 2020 | | | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | | Debt-stabilizing non-interest current account 6/ |
| 1 **Baseline: External debt** | 68.1 | 73.0 | 88.4 | 81.4 | 76.5 | | | **73.6** | **71.5** | **68.6** | **67.2** | **66.1** | **65.8** | | **-4.4** |
| 2 Change in external debt | 0.6 | 4.9 | 15.4 | -7.0 | -4.9 | | | -2.9 | -2.1 | -2.9 | -1.5 | -1.0 | -0.3 | 0.0 | |
| 3 Identified external debt-creating flows (4+8+9) | 8.2 | -8.7 | -10.3 | -12.2 | -3.8 | | | 1.1 | -4.4 | -5.1 | -4.2 | -3.9 | -3.5 | 0.0 | |
| 4 Current account deficit, excluding interest payments | -0.4 | -1.8 | -1.5 | -0.4 | -0.3 | | | 0.2 | -0.8 | -0.8 | -0.8 | -0.8 | -0.8 | 4.4 | |
| 5 Deficit in balance of goods and services | -5.9 | -7.6 | -7.5 | -5.9 | -6.0 | | | -3.2 | -5.7 | -5.8 | -5.8 | -5.8 | -5.8 | | |
| 6 Exports | 80.5 | 79.1 | 79.0 | 77.0 | 73.9 | | | 73.7 | 75.8 | 74.1 | 73.4 | 72.7 | 72.3 | | |
| 7 Imports | 74.6 | 71.5 | 71.5 | 71.0 | 67.9 | | | 70.5 | 70.1 | 68.3 | 67.6 | 67.0 | 66.5 | | |
| 8 Net non-debt creating capital inflows (negative) | 1.0 | -4.1 | -1.3 | -1.0 | -2.3 | | | -1.2 | -1.1 | -1.3 | -1.1 | -1.1 | -1.1 | -1.1 | |
| 9 Automatic debt dynamics 1/ | 7.7 | -2.9 | -7.5 | -10.8 | -1.1 | | | 2.1 | -2.5 | -2.9 | -2.3 | -2.0 | -1.6 | -3.3 | |
| 10 Contribution from nominal interest rate | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| 11 Contribution from real GDP growth | -4.0 | -1.7 | -3.4 | -2.5 | -2.4 | | | 2.1 | -2.5 | -2.9 | -2.3 | -2.0 | -1.6 | -1.6 | |
| 12 Contribution from price and exchange rate changes 2/ | 11.7 | -1.2 | -4.1 | -8.3 | 1.3 | | | ... | ... | ... | ... | ... | ... | -1.8 | |
| 13 Residual, incl. change in gross foreign assets (2-3) 3/ | -7.5 | 13.6 | 25.7 | 5.2 | -1.1 | | | -4.0 | 2.4 | 2.2 | 2.7 | 2.8 | 3.1 | 0.0 | |
| External debt-to-exports ratio (in percent) | 84.6 | 92.3 | 111.9 | 105.8 | 103.6 | | | 99.8 | 94.4 | 92.5 | 91.5 | 90.9 | 91.0 | | |
| **Gross external financing need (in billions of US dollars) 4/** | 57.0 | 54.7 | 66.8 | 109.3 | 118.8 | | | 111.5 | 113.8 | 119.1 | 123.3 | 128.5 | 134.1 | | |
| in percent of GDP | 30.3 | 27.9 | 30.6 | 43.9 | 47.0 | 10-Year | 10-Year | 37.5 | 35.5 | 34.4 | 33.5 | 32.9 | 32.6 | | |
| **Scenario with key variables at their historical averages 5/** | | | | | | | | **73.6** | **76.1** | **78.2** | **80.4** | **83.0** | **86.0** | | **-3.5** |
| **Key Macroeconomic Assumptions Underlying Baseline** | | | | | | Historical Average | Standard Deviation | | | | | | | For debt stabilization | |
| Real GDP growth (in percent) | 5.4 | 2.5 | 5.2 | 3.2 | 3.0 | 2.5 | 1.9 | 2.9 | 3.6 | 4.4 | 3.5 | 3.1 | 2.5 | 2.5 | |
| GDP deflator in US dollars (change in percent) | -14.8 | 1.8 | 5.9 | 10.3 | -1.6 | -0.2 | 7.5 | 14.6 | 4.0 | 3.4 | 2.8 | 2.9 | 2.8 | 2.8 | |
| Nominal external interest rate (in percent) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Growth of exports (US dollar terms, in percent) | -11.7 | 2.5 | 11.3 | 10.9 | -2.6 | 4.8 | 9.1 | 18.7 | 10.8 | 5.6 | 5.3 | 5.2 | 4.7 | | |
| Growth of imports (US dollar terms, in percent) | -11.3 | 0.0 | 11.4 | 13.1 | -3.0 | 4.7 | 9.6 | 25.7 | 7.1 | 5.2 | 5.2 | 5.1 | 4.6 | | |
| Current account balance, excluding interest payments | 0.4 | 1.8 | 1.5 | 0.4 | 0.3 | -0.3 | 1.7 | -0.2 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | | |
| Net non-debt creating capital inflows | -1.0 | 4.1 | 1.3 | 1.0 | 2.3 | 1.6 | 1.5 | 1.2 | 1.1 | 1.3 | 1.1 | 1.1 | 1.1 | | |

1/ Derived as [r - g - r(1+g) + ea(1+r)]/(1+g+r+gr) times previous period debt stock, with r = nominal effective interest rate on external debt; r = change in domestic GDP deflator in US dollar terms, g = real GDP growth rate, e = nominal appreciation (increase in dollar value of domestic currency), and a = share of domestic-currency denominated debt in total external debt.

2/ The contribution from price and exchange rate changes is defined as [-r(1+g) + ea(1+r)]/(1+g+r+gr) times previous period debt stock. r increases with an appreciating domestic currency (e > 0) and rising inflation (based on GDP deflator).

3/ For projection, line includes the impact of price and exchange rate changes.

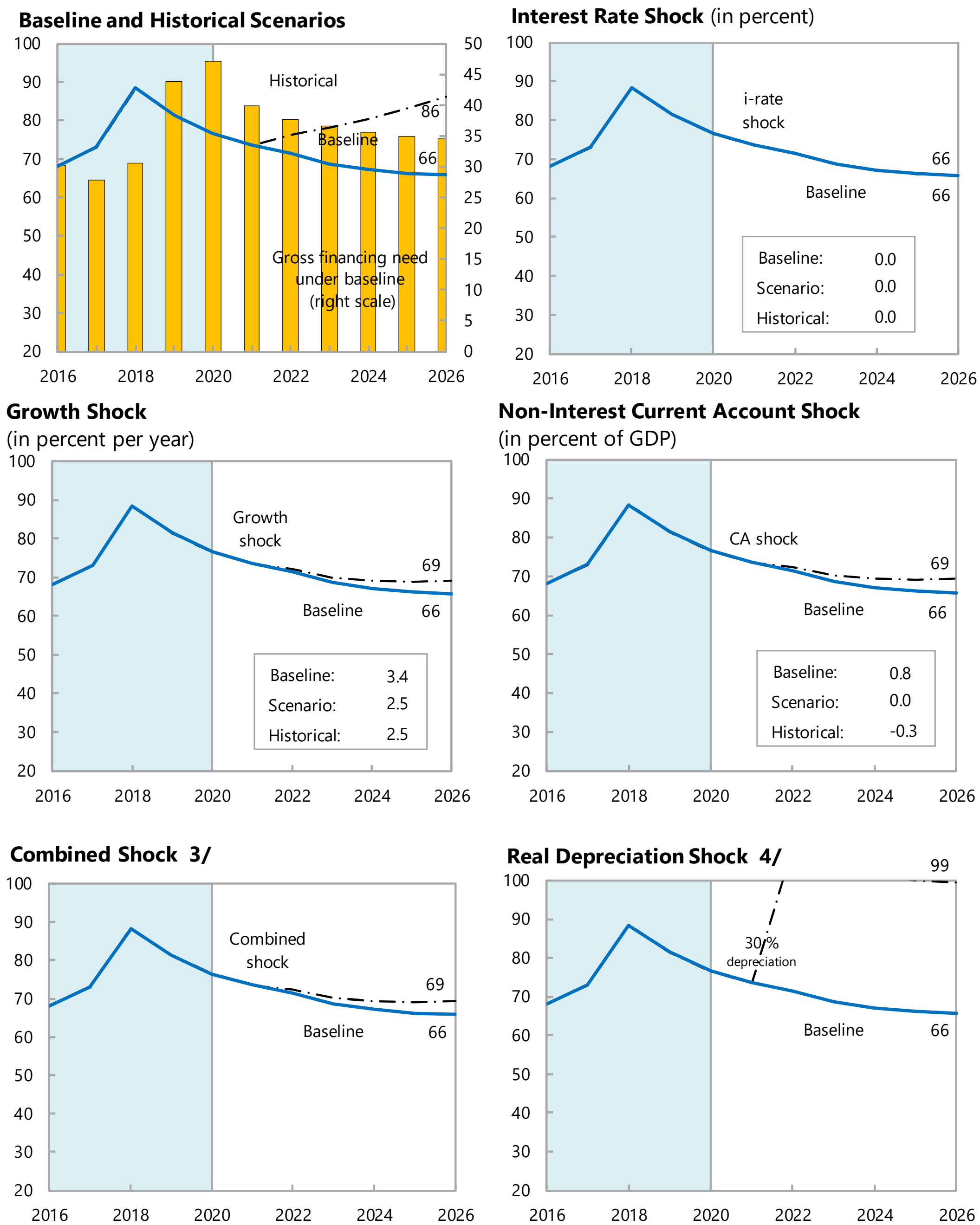
4/ Defined as current account deficit, plus amortization on medium- and long-term debt, plus short-term debt at end of previous period.

5/ The key variables include real GDP growth; nominal interest rate; dollar deflator growth; and both non-interest current account and non-debt inflows in percent of GDP.

6/ Long-run, constant balance that stabilizes the debt ratio assuming that key variables (real GDP growth, nominal interest rate, dollar deflator growth, and non-debt inflows in percent of GDP) remain at their levels of the last projection year.

## Figure 3. Czech Republic: External Debt Sustainability: Bound Tests 1/ 2/

(External Debt in percent of GDP)




Sources: International Monetary Fund, Country desk data, and staff estimates.
1/ Shaded areas represent actual data. Individual shocks are permanent one-half standard deviation shocks. Figures in the boxes represent average projections for the respective variables in the baseline and scenario being presented. Ten-year historical average for the variable is also shown.
2/ For historical scenarios, the historical averages are calculated over the ten-year period, and the information is used to project debt dynamics five years ahead.
3/ Permanent 1/4 standard deviation shocks applied to real interest rate, growth rate, and current account balance.
4/ One-time real depreciation of 30 percent occurs in 2021.

# Annex VI. Authorities' Response to Past IMF Policy Recommendations

| | Key Recommendations | Actions |
|---|---|---|
| **Monetary** | Given the uncertainty about inflation and the external environment, a cautious approach to raising interest rates was justified. | The CNB undertook a last increase of 25 bp in February 2020 before swiftly reducing the policy rate by a cumulative 125 bps in March 2020 and a further 75 bps in May 2020 in response to the pandemic. |
| **Macroprudential** | Make LTV, DTI, and DSTI restrictions binding. | Legislation providing powers over the LTV, DTI and DSTI limits were made legally binding in July 2021. |
| | Macroprudential limits should be given some time to have effect but might need to be tightened further. | The CNB temporarily decreased the CCyB rate and cancelled previously planned increases in the wake of the pandemic. It further temporarily abolished the LTV, DTI, and DSTI limits. |
| **Fiscal** | Maintain a broadly neutral fiscal stance in the short run. | The fiscal stance was slightly expansionary before pandemic policy measures were implemented. |
| **Structural** | While exploiting opportunities to boost growth, long-term fiscal spending pressures from an aging society should also be addressed early. | Efforts to improve the structural positioning of the economy had to be paused to address the pandemic. |

## Annex VII. Main Policy Responses to COVID-19 by Sector

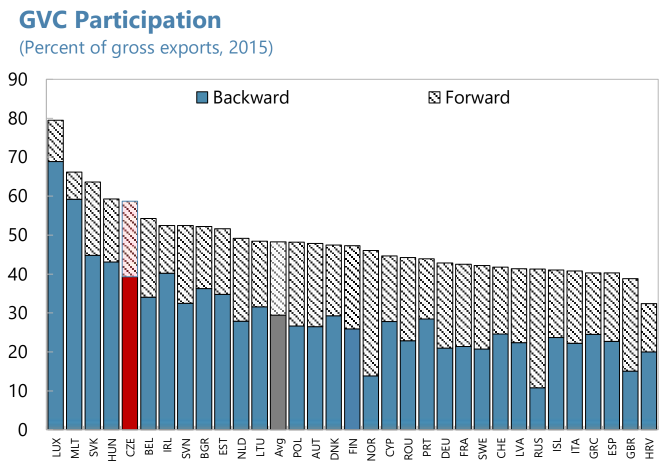
<table>
<tr><th>Policy Type</th><th>Description</th></tr>
<tr><td>Measures to support the healthcare and social sectors</td><td>Increase in wages of workers in the healthcare system.<br>Increase in wages and operating costs in social services.<br>Purchase of protective equipment, vaccine, tests and other supplies.<br>Increase in payments for state-insured persons.<br>Program on the technological results combating COVID-19.<br>Debt relief of hospitals.<br>“Smart Quarantine” program and other expenditures.</td></tr>
<tr><td>Measures to support households</td><td>Abolition of the Real Property Acquisition Tax<br>Care Allowance for employees<br>Adjustment of conditions for the Extraordinary immediate assistance realization<br>One-off lump sum to pensioners</td></tr>
<tr><td>Measures to support companies and self-employed persons</td><td>“Antivirus” wage-compensation program.<br>Table: Overview of Antivirus Wage-Compensation Program
<table>
<tr><th></th><th>Employee</th><th>Employer</th></tr>
<tr><td>Government-Related Emergency Measures</td><td></td><td></td></tr>
<tr><td>Quarantine</td><td>80 percent average salary</td><td>80 percent average salary up to CZK 39,000</td></tr>
<tr><td>Business Closure</td><td>100 percent average salary</td><td>100 percent average salary, up to CZK 50,000</td></tr>
<tr><td>Pandemic-Related Reduced Operations</td><td></td><td></td></tr>
<tr><td>Limited Childcare</td><td>100 percent average salary</td><td>60 percent average salary, up to CZK 29,000</td></tr>
<tr><td>Limited Supply of Inputs</td><td>80 percent average salary</td><td>60 percent average salary, up to CZK 29,000</td></tr>
<tr><td>Limited Demand</td><td>60 percent average salary</td><td>60 percent average salary, up to CZK 29,000</td></tr>
</table>
Compensatory transfer payments to small businesses and the self-employed, including CZK 500 per day of work affected by government restrictions for the self-employed<br>Remission of June and Q4 income tax advance and road tax advance</td></tr>
</table>

| Policy Type | Description |
|---|---|
| | Remission of minimum social insurance advances for self-employed persons (March–August)<br>Remission of minimum health insurance advances for self-employed persons (March–August)<br>Remission of social security contribution payments paid by certain employers<br>Loss carryback<br>Care Allowance for self-employed persons<br>“COVID-rent” program<br>“Credit COVID” program<br>Introduction of extraordinary accelerated depreciation on assets<br>Various support programs for specific sectors |

# Annex VIII. Exposure to Global Value Chain (GVC) Disruptions

**1. The Czech economy is relatively more exposed to GVC disruptions than its peers.** The Czech Republic is a small open economy that experienced export-driven growth prior to the pandemic. Relative to other European economies, the Czech economy faces relatively high forward and backward participation in the GVCs (Figure 1). Consequently, ongoing distributions to GVCs have led to delays in domestic firms receiving key intermediate inputs leading to plant shutdowns and a sharp drop in industrial production after an initial recovery in 2021 Q2.

**Figure 1. Czech Republic: Comparison of GVC Participation by Country**




Source: OECD TiVA.

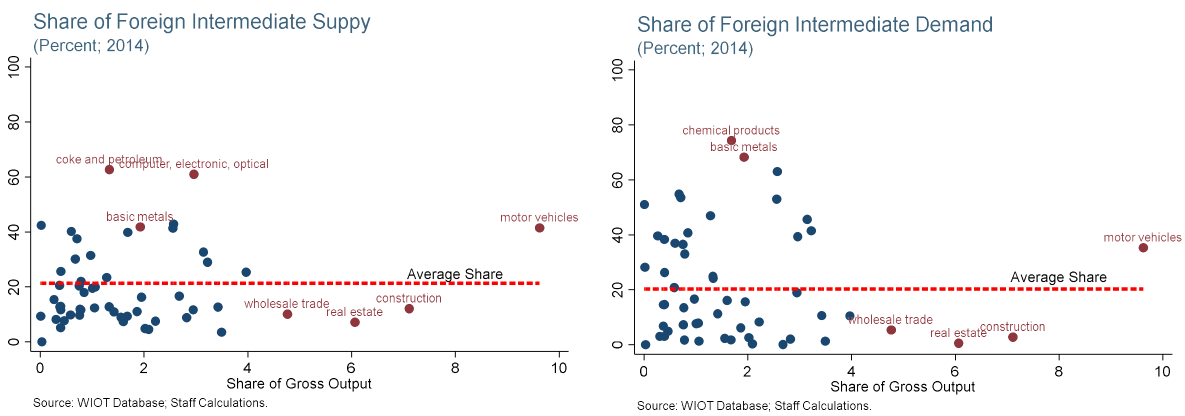
Notes: Lines are stacked such that Czech forward participation is 19.4 percent and backward participation is 39.3 percent. GVC forward participation measures the domestic value added in inputs sent to foreign economies as a share of total domestic gross exports. GVC backward participation measures the foreign value added content of domestic exports as a share of total domestic gross exports.

**2. The automotive sector faces especially high exposure to the supply and demand of intermediate goods.** The automotive sector is currently experiencing the consequences of GVC disruptions due to microchip shortages delaying the completion of motor vehicles. In recent months, this has led Skoda to shut down production facilities for several weeks and production to fall by around 40 percent. Figure 2 reports that the automotive sector is highly exposed to foreign supply and demand of intermediate inputs. The automotive sector sells around 40 percent of its gross output as intermediate inputs to foreign production and purchases intermediate inputs valued at around 40 percent of gross output—both measures are around double the economy average.[1] The problems in the automotive sector have been compounded by the specialization and long

[1] Figures 1 and 2 provide different measures based on value added and gross output. The differences indicate the Czech exports tends to have higher foreign value added and lower domestic value added compared with the domestic value added of gross output.

production horizon of microchip production[2]. While this implies a slow recovery for the auto sector, other sectors are less likely to experience similarly strong production bottlenecks.

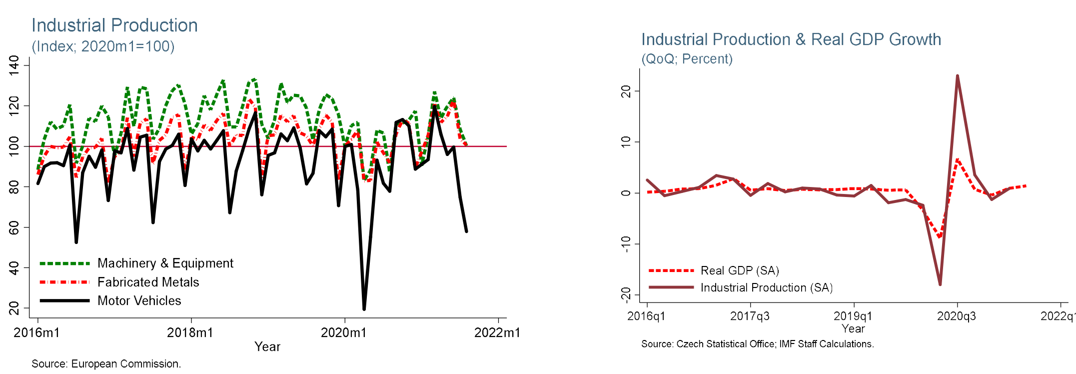
### Figure 2. Czech Republic: Foreign Intermediate Input and Output Share of Gross Output




Notes: Define sales to sector $j$ in the Czech Republic from sector $i$ for all other countries as $M^*_{i,j}$ and gross output in sector $i$ as $GO_i$. Then output exposure is defined as $\sum_j M^*_{i,j} \,/\, GO_i$ and input exposure is defined as $\sum_j M^*_{j,i} \,/\, GO_i$.

**3. GVC disruptions have led to a stalling of industrial production growth in mid-2021.** The Czech economy relies more on manufacturing than its peers, with industrial production accounting for 30–35 percent of total GDP. Consequently, output growth and industrial production growth tend to be highly correlated (Figure 3). Industrial production rose above pre-pandemic values in early 2021 but has since stalled (Figure 4) as GVC-related disruption in the automotive sector have led to a sharp decline in automotive industrial production (Figure 3).

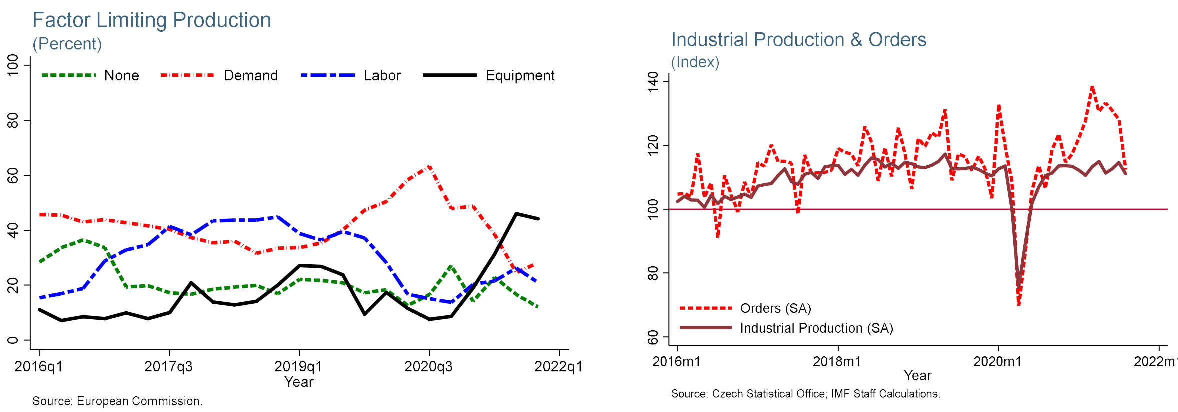
### Figure 3. Czech Republic: Comparison of Growth in Real GDP and Industrial Production




[2] Microchip production has been further delayed by an abnormally cold winter season in Texas and fires in South-East Asian causing additional shutdowns of factories.

**4. GVC disruptions have hit the automotive sector especially hard and has erased the gains made in other major manufacturing sectors** (Figure 3). Disruptions have been reflected in equipment shortages overtaking lack of demand, which peaked at the height of the pandemic lockdown measures, as the main reported factor limiting production. The rebound in demand is reflected in the sharp relative rise in industrial goods orders over the first half of 2021, which increased by 20 percent more than industrial production (Figure 4).

**Figure 4. Czech Republic: Factors Limiting Industrial Production**

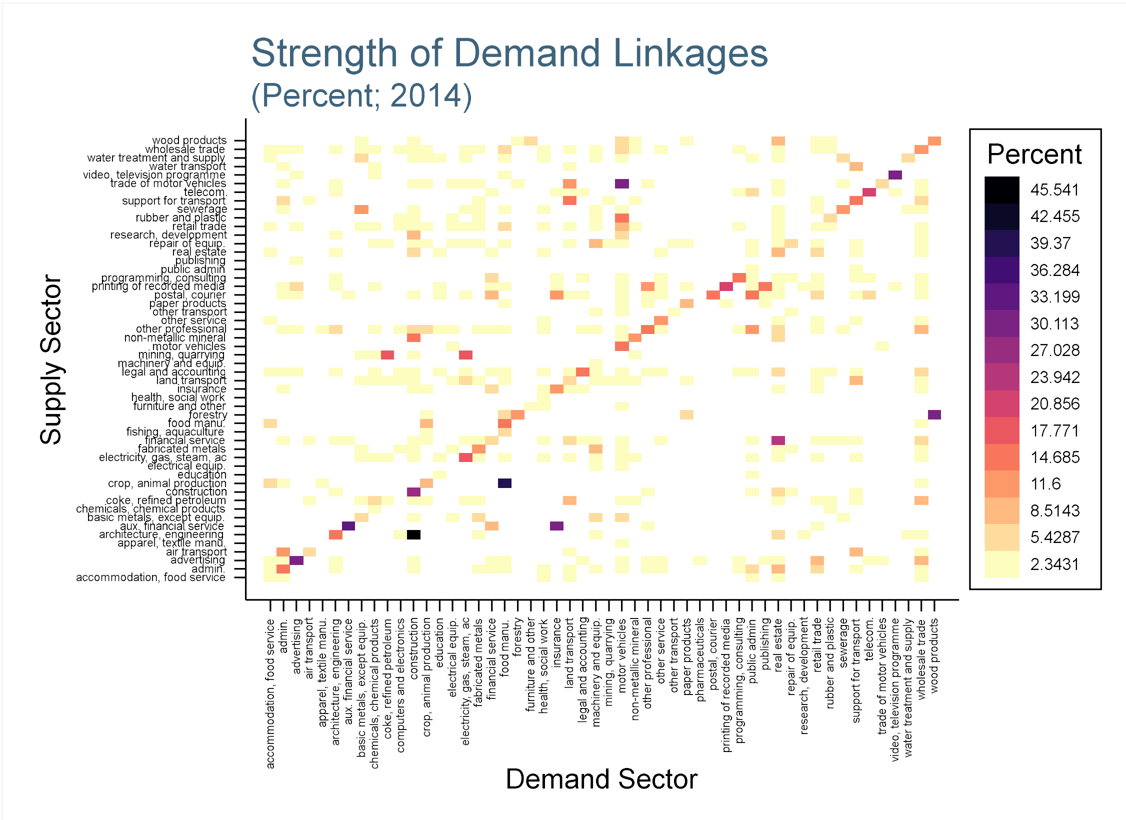



Notes: The left panel displays the balance equals percent of respondents reporting an increase minus the percent of respondents reporting a decrease. Source: European Commission business and economic surveys. The right panel displays industrial production and orders of industrial products.

**5. The Czech economy faces considerable risks to further GVC disruptions and spillovers to other areas of industrial production.** The automotive sector experienced a sharp decline in production due to issues obtaining the microchips necessary to complete vehicles. However, other sectors have fared relatively well and have not dipped below pre-pandemic production levels. This could change if other sectors experience similar disruptions to GVCs as in the automotive sector.

**6. The automotive sector is a key consumer of intermediate goods produced in other domestic sectors.** Figure 5 shows that the automotive sector is a key buyer from many other sectors within the economy. Recent closures and slowdowns in automotive production resulted in lower input purchases from other sectors. In the short term, this will limit the extent that non-automotive industrial production can recover to pre-pandemic levels. Additionally, the economy faces downside risks if further disruptions to automotive GVCs lead to closures of, otherwise viable, supplying firms due to increased financial instability.

**Figure 5. Czech Republic: Input-Output Demand Linkages**

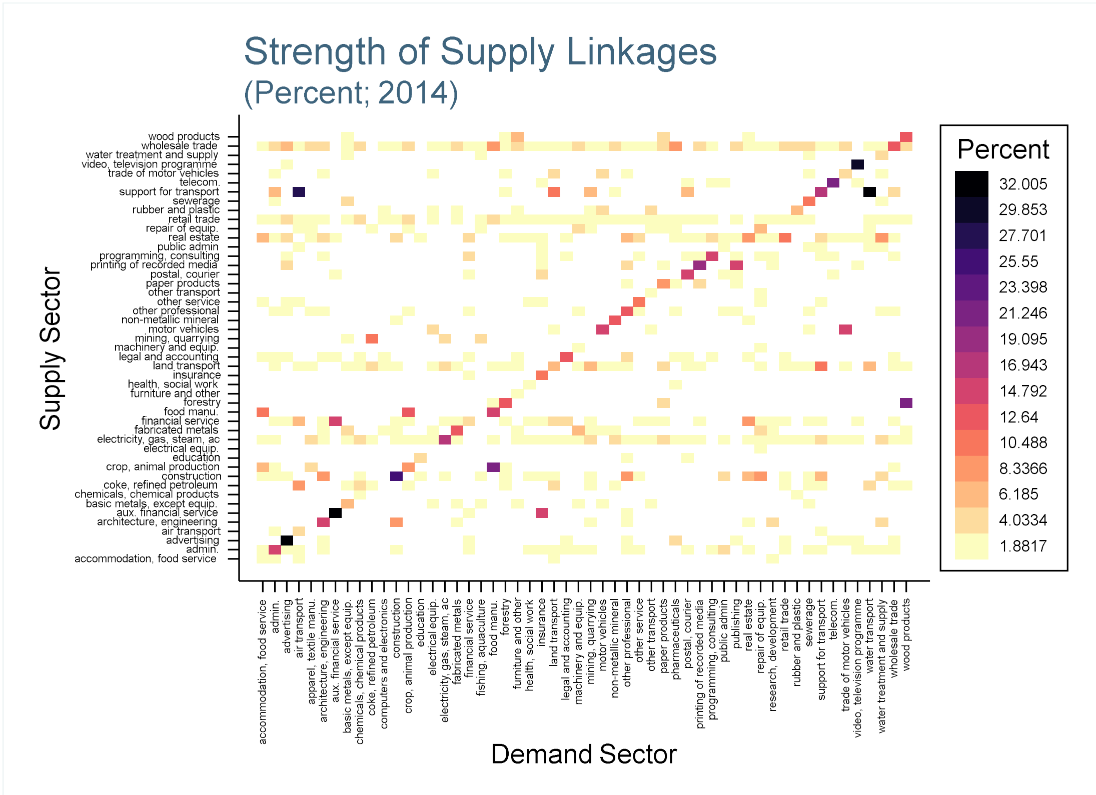



Sources: WIOT Database; Staff Calculations.

Notes: The weight of each element is calculated as sales from the suppy sector to the demand sector divided by gross output of the supply sector.

7. **The automotive industry is not an important supplier to other sectors in the Czech economy.** Figure 6 shows that while the automotive industry is important to overall economic activity, it does not represent a large share of inputs for other sectors in the domestic economy, aside from retail and wholesale trade of motor vehicles. This limits the extent that current disruptions to the completion of motor vehicles will cause bottlenecks in other sectors.

**Figure 6. Czech Republic: Input-Output Supply Linkages**




Sources: WIOT Database; Staff Calculations.

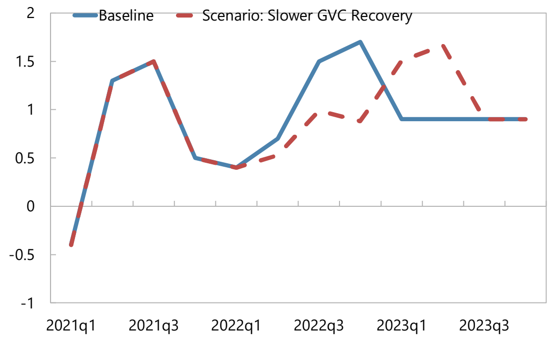
Notes: The weight of each element is calculated as sales from the suppy sector to the demand sector divided by gross output of the demand sector.

8. **The strength of the recovery depends on the resolution of GVC disruptions.** The baseline scenario envisages a recovery in the GVCs by mid-2022. However, the economy faces risks that the GVC disruptions take longer-than-expected or that other sectors experience similar disruptions, either due to spillovers from automotive or new disruptions. Longer-than-expected GVC disruptions would delay the recovery until early-to-mid 2023 due to a prolonged depression in automotive output. This scenario envisages lower output growth of 0.6 percent in 2022 and a higher output growth of 0.3 percent in 2023 relative to the baseline scenario. GVC disruptions in other sectors would lead to a much stronger drop in output in end-2021 and early 2022 with a comparatively stronger recovery in 2023. This scenario envisages lower output growth of 0.6 percent in 2021 and 0.2 percent in 2022 followed by higher output growth of 1.0 percent in 2023 relative to the baseline (Figure 7).[3]

[3] The alternative paths assume that industrial production accounts for around one-third of total output and recovers to the pre-pandemic level by the end of the shock. The slower recovery scenario assumes that GVC disruptions ease by Q3 2023 rather than Q4 2022 in the baseline. The broader disruption scenario assumes that non-automotive industrial production is hit by a similarly sized shock, adjusted for relative variation in industrial production, as the automotive sector in Q4 2021 and then recovers linearly by Q4 2022.

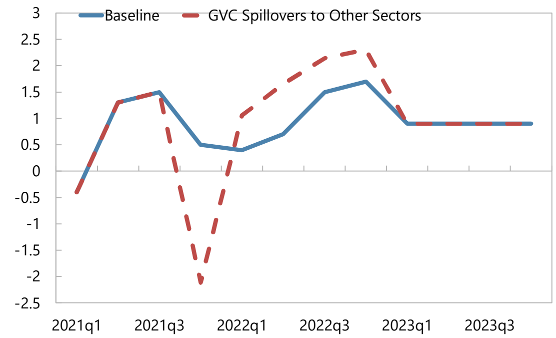
## Figure 7. Czech Republic: Alternative GVC Recovery Paths

**Output Growth**
(Percent; QoQ)




Sources: Haver; Staff Calculations

**Output Growth**
Percent; QoQ




Sources: Haver; Staff Calculations

INTERNATIONAL MONETARY FUND

# CZECH REPUBLIC

## STAFF REPORT FOR THE 2021 ARTICLE IV CONSULTATION—INFORMATIONAL ANNEX

December 16, 2021

Prepared By

European Department
(in consultation with other departments)

## CONTENTS

# FUND RELATIONS

(As of September 30, 2021)

### Membership Status

Joined 01/01/1993; Article VIII.

### General Resources Account

| | SDR Million | Percent Quota |
|---|---|---|
| Quota | 2,180.20 | 100.00 |
| Fund Holdings of Currency | 1,637.20 | 75.09 |
| Reserve Position | 543.00 | 24.91 |

### SDR Department

| | SDR Million | Percent Allocation |
|---|---|---|
| Net cumulative allocation | 2,869.82 | 100.00 |
| Holdings | 2,547.21 | 88.76 |

### Outstanding Purchases and Loans

None.

### Latest Financial Arrangements

| Type | Approval Date | Expiration Date | Amount Approved (SDR Million) | Amount Drawn (SDR Million) |
|---|---|---|---|---|
| Stand-By | Mar 17, 1993 | Mar 16, 1994 | 177.00 | 70.00 |

**Projected Payments to the Fund**

| | Forthcoming (SDR Million) | | | | |
|---|---|---|---|---|---|
| | 2021 | 2022 | 2023 | 2024 | 2025 |
| Principal | | | | | |
| Charges / Interest | 0.04 | 0.28 | 0.30 | 0.30 | 0.30 |
| Total | 0.04 | 0.28 | 0.30 | 0.30 | 0.30 |

**Implementation of HIPC Initiative**

Not applicable.

**Implementation of Multilateral Debt Relief Initiative (MDRI)**

Not applicable.

**Implementation of Post-Catastrophic Debt Relief (PCDR)**

Not applicable.

**Safeguards Assessment**

Not applicable.

**Exchange Arrangement**

The currency of the Czech Republic is the Czech koruna, created on February 8, 1993 upon the dissolution of the currency union with the Slovak Republic, which had used the Czechoslovak koruna as its currency. The de jure and de facto exchange rate arrangements are free floating. The external value of the koruna is solely determined by supply and demand in the interbank foreign exchange market, in which the Czech National Bank (CNB) might participate.

The Czech Republic has accepted the obligations of Article VIII and maintains an exchange system that is free of multiple currency practices and restrictions on the making of payments and transfers for current international transactions. The Czech Republic maintains exchange restrictions for security reasons, based on UN Security Council Resolutions and Council of the European Union Regulations that have been notified to the Fund for approval under the procedures set forth in Executive Board Decision No. 144-(52/51).

**Last Article IV Consultation**

Concluded on June 13, 2019 (IMF Country Report No. 19/160).

## FSAP Participation

An FSAP was carried out in late 2000/ early 2001. The Financial System Stability Assessment was considered by the Executive Board on July 16, 2001, concurrently with the staff report for the 2001 Article IV Consultation. An FSAP update was carried out in 2011. ROSCs on: banking supervision; data dissemination; fiscal transparency; securities market; and transparency of monetary and financial policies were published on the Fund's external website on July 1, 2000.

## Technical Assistance (last mission)

| Department | Timing | Purpose |
|---|---|---|
| FAD | June/July 1999 | Medium-term fiscal framework |
| MCM | February/June 1999 | Integrated financial sector supervision (with WB) |
| RES | June/August 2000 | Inflation targeting (financed by MFD) |
| STA | November 2006 | GFSM 2001 implementation |

# STATISTICAL ISSUES

## I. Assessment of Data Adequacy for Surveillance

**General**

Data provision is adequate for surveillance.

**National Accounts**

The Czech Statistical Office (CSO) compiles and disseminates annual and quarterly national accounts on ESA2010 basis. The CSO compiles annual Supply-Use Tables (SUT) by 88 types of economic activities and 88 products, but there is room for improvements. For example, discrepancies between GDP estimates based on the production method and the expenditure method are subsumed under changes in inventories, which sometimes significantly changes the first estimates of inventories obtained directly from the surveys.

**Price Statistics**

The CSO compiles and disseminates a monthly consumer price index (CPI) using a weighting structure based on expenditure data from 2016. A monthly Harmonized Index of Consumer Prices (HICP) is disseminated according to European regulations. The producer price index is released monthly with coverage including manufacturing, construction, agriculture, and select business services (business to business only). The CSO also compiles and releases monthly import and export price indexes based on data collected directly from establishments engaged in export and/or import activities.

**External Sector Statistics**

The CNB compiles and disseminates balance of payments and international investment position statistics in line with the sixth edition of the Balance of Payments and International Investment Position Manual (BPM6) and in accordance with legal requirements of the ECB and Eurostat. CNB generally derives balance of payments financial account transactions from changes in position data adjusted by exchange rate, price, and other changes. The CNB monthly disseminates the data template on International Reserves and Foreign Currency Liquidity. Czech Republic also participates in the Coordinated Direct Investment Survey (CDIS) and the Coordinated Portfolio Investment Survey (CPIS) and reports quarterly external debt statistics to the World Bank's Quarterly External Debt Statistics (QEDS) database.

### Government Finance Statistics

Fiscal data in the GFSM 2014 framework is reported through the Eurostat convergence project with the IMF. Annual and quarterly fiscal data are compiled on ESA2010 basis by the Czech Statistical Office, including non-financial accounts, financial accounts, and financial balance sheets. The Ministry of Finance uses the ESA methodology for the Convergence Program targets. The ESA 2010 methodology includes a wider coverage of the general government sector, different classification of some government transactions, and impacts the calculation of GDP. Government transactions are recorded on an accrual basis.

### Monetary and Financial Statistics

Monthly MFS data is sent to STA by ECB and is based on standardized report forms (SRFs). Monetary survey data is also provided to the European Department for policy purposes. MFS data covers the central bank (CNB) and the other depository corporations which comprises other monetary financial institutions which are defined under the European Union law to include deposittaking corporations, electronic money institutions and other issuers of deposits and close substitutes of deposits. Data from the other financial corporations are currently not compiled. The Czech Republic reports data on some basic series and indicators of the Financial Access Survey (FAS), including the two indicators adopted by the UN to monitor Target 8.10.1 of the Sustainable Development Goals (SDGs).

## II. Data Standards and Quality

The Czech Republic adheres to the SDDS Plus since April 2016.
Data ROSC was published on July 1, 2000.

**Table of Common Indicators Required for Surveillance**

(As of October 21, 2021)

| | Date of latest observation | Date received | Frequency of data [7] | Frequency of reporting [7] | Frequency of publication [7] |
|---|---|---|---|---|---|
| Exchange rates | Current | Current | D | D | D |
| International reserve assets and reserve liabilities of the monetary authorities [1] | September 2021 | September 2021 | D | M | M |
| Reserve/base money | September 2021 | September 2021 | M | M | M |
| Broad money | September 2021 | September 2021 | M | M | M |
| Central bank balance sheet | September 2021 | September 2021 | M | M | M |
| Consolidated balance sheet of the banking system | September 2021 | September 2021 | M | M | M |
| Interest rates [2] | October 2021 | October 2021 | D | D | D |
| Consumer price index | September 2021 | September 2021 | M | M | M |
| Revenue, expenditure, balance and composition of financing [3] – general government [4] | June 2021 | June 2021 | Q | Q | Q |
| Revenue, expenditure, balance and composition of financing – central government | September 2021 | September 2021 | M | M | M |
| Stocks of central government and central government-guaranteed debt [5] | June 2021 | June 2021 | Q | Q | Q |
| External current account balance | September 2021 | September 2021 | M | M | M |
| Exports and imports of goods and services | September 2021 | September 2021 | M | M | M |
| GDP/GNP | June 2021 | June 2021 | Q | Q | Q |
| Gross external debt | June 2021 | June 2021 | Q | Q | Q |
| International investment position [6] | June 2021 | June 2021 | Q | Q | Q |

[1] Includes reserve assets pledged or otherwise encumbered as well as net derivative positions.

[2] Both market-based and officially-determined, including discount rates, money market rates, rates on treasury bills, notes and bonds.

[3] Foreign, domestic bank, and domestic non-bank financing

[4] The general government consists of the central government (budgetary funds, extra budgetary funds, and social security funds) and state and local governments. Data for the state budget are available with monthly frequency and timeliness, while data on extra budgetary funds are available only on an annual basis.

[5] Including currency and maturity composition.

[6] Includes external gross financial asset and liability positions vis-à-vis nonresidents.

[7] Daily (D), Weekly (W), Monthly (M), Quarterly (Q), Semi-annually (SA), Annually (A), Irregular (I), or Not Available (NA).

INTERNATIONAL MONETARY FUND

# CZECH REPUBLIC

January 14, 2022

## STAFF REPORT FOR THE 2021 ARTICLE IV CONSULTATION—SUPPLEMENTARY INFORMATION

Prepared By | European Department

*This supplement provides information that became available after the staff report was issued to the Executive Board on December 17, 2021. This supplementary information does not alter the thrust of the staff appraisal.*

**The new government was confirmed on January 12, 2022.**

1. **COVID infections have begun to slow down after peaking in late December 2021.** New infections peaked at over 20,000 average daily cases in early December and remained elevated throughout the holiday period. However, cases declined to about 6000 average daily cases by January 10, 2022. While the level of recent infections dwarfs the previous maximum peak of around 12,000 average daily cases in Spring 2021, resurgent cases are accompanied by a much lower death rate, peaking at just over 100 average daily deaths, compared to previous infection waves, peaking at over 200 average daily deaths in Spring 2021.

2. **Amid the high uncertainty brought by the Omicron variant, recent developments and data releases are in line with staff expectations regarding the outlook and balance of risks.** New data confirm a continued rebound in economic activity amid sustained inflation pressures. 2021:Q3 GDP growth was revised up slightly to 1.57 percent from 1.50 percent. Headline and core inflation increased further to 6.6 percent and 8.6 percent respectively in December 2021. Average headline and core inflation rates for 2021 were to 3.8 and 4.4 respectively and were driven mainly by rising imputed rents, service and energy prices. The general government fiscal deficit continued to decline and reached about 0.7 percent of GDP in 2021:Q3. While staff expects that stringent lock down measures that could impact the recovery will not be taken, a larger scale outbreak of infections due to the new Omicron variant continues to present risks to the downside.

3. **On the back of persistently high inflation, the CNB undertook another sizeable increase in the policy rate.** The CNB increased the policy rate in December by 100 basis points to 3.75 percent and continued signaling further increases as needed.

**Statement by Mr. Daniel Palotai, Executive Director for Czech Republic and Mr. Lukas Marek, Senior Advisor to the Executive Director January 24, 2022**

On behalf of the Czech authorities, we would like to thank the mission team led by Miguel Segoviano for the very constructive policy dialog during the virtual staff visit and hybrid Article IV mission, as well as for the insightful staff report. The Czech authorities broadly share staff's assessment of the current economic challenges and note staff's policy recommendations. A number of them are in line with the policy priorities of the new government, which took office in December 2021 after the October 2021 elections. The authorities' specific comments on the key policy areas are presented below.

***Covid-19 policy response and latest economic developments***

**The Czech Republic entered the pandemic with strong fiscal, monetary, and macroprudential policy buffers, which were instrumental in weathering the Covid-19 pandemic.** On the back of the ample policy space built prior to the Covid-19 pandemic, the authorities deployed substantial direct and indirect fiscal support both to households and firms. The Czech National Bank (CNB) took steps to ease financing conditions through decreasing the two-week repo rate and increasing the frequency of repo operations. The CNB's countercyclical capital buffer (CCyB) was released in line with its counter-cyclical objective, and borrower-based macroprudential tools, i.e., the Loan-To-Value (LTV), Debt-To-Income (DTI) and Debt Service-To-Income ratios (DSTI) were relaxed or discontinued to remove constraints to credit growth amid the rapid decline in economic activity.

**The economic outlook for the Czech Republic envisages a gradual pick-up in growth, and a return of inflation to the target in the medium term.** Growth is driven mainly by domestic demand, while contribution from net exports is substantially negative. The authorities expect that supply chains-related disruptions will continue to weigh on economic growth in 2022, as will the expected withdrawal of the government's fiscal support. The CNB's autumn growth projections of 1.9 percent in 2021 and 3.5 percent in 2022 were slightly less optimistic than those of staff. Headline inflation will be driven by rising growth in imputed rents, which will significantly contribute to an increase in core inflation, coupled with rising energy and food prices. While headline inflation was projected to reach 7 percent at the beginning of 2022, a gradual return to the inflation target of 2 percent was expected in 2023, in line with staff's projections.

**While the general government sector's performance in 2021 was substantially impacted by the coronavirus pandemic, a turnaround in the fiscal trajectory is expected in 2022.** Expansionary fiscal policy is expected to lead to a deficit of 7.2 percent of GDP and a rise in debt to 43.3 percent of GDP in 2021, broadly in line with staff's projections. In 2022 the general government balance should no longer be affected by the adopted pandemic-related measures, and fiscal consolidation should start by the same time. Against this backdrop, the authorities estimate that the overall deficit will reach 4.4 percent of GDP, with debt rising to 46.2 percent of GDP in 2022.

**The labor market has coped relatively well with the effects of the pandemic owing to significant fiscal support and is getting increasingly overheated again.** Wage growth will rise in early 2022 amid a further recovery in the demand for labor, supported by a further increase in minimum wage and the inflation pass-through to wages. The decline in total employment has halted and the authorities project unemployment at 3 percent in 2021 and 2.7 in 2022 on the back of a stronger recovery, broadly in line with staff's estimates.

***Monetary policy***

**The CNB's monetary policy response to the economic fallout of the pandemic and subsequent inflationary pressures was timely.** While in 2020 the CNB reduced the interest rate three times in response to the pandemic-induced shock, five interest hikes followed in 2021 in the context of inflation rising above the CNB's 2 percent target, with the last increase taken in December after the staff report cut-off date. The monetary policy pass-through to loans and deposits is working well, but inflation pressures continue to build up, as inflation further accelerated to 6.6 percent in December 2021.

**The authorities will stay vigilant of price developments, while they are expecting an inflation reversal later this year.** The current inflation trend is in particular driven by extraordinary acceleration of imputed rents, stronger than expected domestic demand and higher growth of foreign prices. Against this backdrop, while the inflation turnaround is projected to occur in the course of 2022, the CNB envisages additional monetary policy tightening going forward. Foreign producer price inflation is expected to ease substantially as the disruptions to global supply chains dissipate. High growth in fuel prices will also fade as global oil prices stabilize. Appreciation of the koruna against the euro will also put downward pressure on domestic prices. In this context, inflation is expected to fall close to the 2 percent target in early 2023, i.e. over the monetary policy horizon.

***Fiscal policies***

**While the authorities' fiscal response to the pandemic was sizable and swift, the incoming government is committed to returning to a balanced fiscal stance.** The authorities responded to the economic and health fallout of the pandemic with revenue and expenditure side measures as well as guarantee programs. The authorities agree with staff that fiscal consolidation should proceed in a well-communicated manner, as the recovery is firmly entrenched. 2022 is expected to be the first year when public finance consolidation will be carried out since the onset of the pandemic. The structural balance is projected to improve by 0.5 pp to 4.8 percent of GDP, compared to 5.3 percent of GDP in 2021.

**To support the consolidation objectives, the authorities' priority is to scale down public expenditures.** The authorities stand ready to consider more efficient options to reduce staffing and enhance organizational simplification in the public (service) sector. However, political economy considerations will likely weigh on staff's recommendation to increase the personal income tax, while the suggestion to reintroduce the real estate transfer tax would be lengthy and time-inconsistent, as staff recommended to discontinue this tax in the 2018 Article IV report. Against this backdrop, the authorities will rather analyze the option of discontinuing non-systemic tax exemptions to support general government revenues.

**The fiscal framework will be enhanced to reinforce the credibility of fiscal rules, as well as to support prudent fiscal management in the medium term.** The authorities underscore that despite the pandemic-induced fiscal expansion, the debt-to-GDP ratio is among the lowest in the European Union (EU), estimated at 43.3 percent of GDP in 2021. In addition, in the Policy Statement of January 2022, the incoming government confirmed their commitment to meet the Maastricht criteria and other EU budgetary rules, to put public finance firmly on sound footing. They also pledged to anchor the Act on Fiscal Responsibility Rules provisions into the Czech Republic's constitutional framework, to boost its legislative power and credibility. In January 2022, the Ministry of Finance published a preliminary Funding and Debt Management Strategy for 2022, covering the period of the provisional budget.

**A pension system reform is critical in the context of population ageing.** The latest Eurostat population projection (2019) expects a decline in the population of the Czech Republic by almost 4.5 percent in the long term. Parametric reforms, broadly in line with staff's recommendations, will therefore need to be carefully considered to ensure the pension system's long-term sustainability, such as linking the retirement age to life expectancy, adjusting pension indexation to inflation, or increasing contributions to the funded pillar. The government is committed to put forward a thorough pension system reform by end-2023 based on the principles of fairness and sustainability, while maintaining and supporting private pension savings.

***Financial sector policies***

**The CNB has responded to financial and business cycle-related risks in the banking sector by changing the CCyB rate in 2020 and 2021.** At the onset of the pandemic, the CNB decided to gradually lower the CCyB rate from 1.75 percent to 0.5 percent in 2020. Following a rapid change in the financial cycle, including in the real estate sector, and in view of potential risks to the banking sector's resilience, the CNB increased the CCyB rate three times over the course of 2021. In November 2021, the CNB adopted a decision to increase the CCyB to 2 percent, taking effect in January 2023. Given the current strong capitalization of the domestic banking sector, increasing the CCyB rate is not expected to have a negative effect on lending to the real economy. Banks' capital position was also supported by improved bank profitability in 2021, in contrast to staff's expectations of profitability pressures going forward.

**Borrower-based macroprudential tools were tightened in November 2021 to contain rising real estate market overheating**. In the context of rising prices in the real estate sector, and expansion in household credit growth, the CNB decided to tighten the macroprudential policy, as soon as the newly adopted changes in the legislative framework empowered the CNB to set legally binding LTV, DTI and DSTI limits. Unlike in the staff report, the authorities' view is that residential mortgage expansion and related house price growth are not solely associated with risk-taking, as this can also be interpreted as the households' strategy to protect their income from rising inflation. The authorities underscore that additional underlying factors explaining residential property price growth in the Czech Republic need to be factored in, as is the case in the real estate sector of other EU countries.

**The CNB continuously monitors the evolution of risk weights and provisioning.** The decline in the banking sector risk weights, as referred to in the staff report, was also partly attributable to regulatory changes related to the EU-produced CRR II legislation, including through the newly introduced SME supporting factor, which leads to a reduction of capital requirements for exposures to SMEs. The CNB regularly verifies the appropriateness of banks' model approaches and assumptions related to risk weights. The authorities also note that the deterioration of credit portfolio quality after the loan moratorium expired was rather marginal, which led to a partial release of provisions in 2021. The CNB proactively communicates its expectations regarding provisioning both to banks and to their external auditors.

**The authorities consider interlinkages and contagion risks in the banking sector limited.** The banking sector is isolated from spill-over risks, as domestic banks use local funding for local lending and financing of domestic sovereign entities. The fact that local subsidiaries of foreign-owned banks have large FX holdings is the side effect of monetary policy and cannot be interpreted as such that local banks in the Czech Republic benefit from parent banks' funding for local credit supply. In addition, the CNB conducts supervision on individual and sub-consolidated bases, and capital is held on these bases, not on a consolidated basis. Recently, the CNB also eased the conditions for dividend payouts in the banking sector and announced that profit distribution proposals will be assessed in the standard supervisory process.

**Drawing on the past Article IV Consultation recommendations, the authorities made substantial progress in enhancing the AML/CFT framework for the financial sector, which continues to be their priority.** Both legislative amendments and practical developments, in particular in financial sector supervision, resulted in cross-cutting improvements in the fight against ML and FT. On the regulatory side, the framework in place is in line with the 5th EU AML Directive and the Financial Action Task Force Standards. In practice, AML/CFT supervision follows a risk-based approach, is primarily driven by data gathering and analysis which makes a significant impact on the overall compliance of the private sector. The CNB, in cooperation with the Financial Analytical Office, continued to beef up processes for monitoring cross-border financial flows, including by using SWIFT data. The authorities also supported the private sector in implementing a banking-issued ID project, which increases the quality of customer due diligence data and security of remote customer onboarding.

**The regulation and implementation of the AML/CFT-related measures aimed at politically exposed persons (PEP) is in line with the international and European standards.** From the CNB's supervisory experience, the private sector applies the PEP-related measures thoroughly. While the authorities note the crucial importance of measures to support publishing information on assets of local PEPs to enhance transparency, such as in dedicated registers, they underscore that these measures generally do not fall under AML/CFT standards and are not considered as such. Hence, the implementation of these measures, where staff suggested further improvements, does not impact the quality of the already adopted AML/CFT-related measures in financial market regulation and supervision. Against this backdrop, the authorities' preference was to move staff's recommendation regarding AML/CFT measures related to PEP from para 34 in the staff report, which mostly deals with AML/CFT risks and improvements in the financial sector, to para 41, where it would have more usefully complemented governance and corruption-related challenges. This would have also helped to avoid any potential incorrect inference, that the AML/CFT measures related to PEP in the financial sector are inadequate.

***Structural reform agenda***

**The authorities concur that labor market reforms are critical to increase the employment rate and respond to new demands for labor qualification**. Increasing labor market participation for the elderly, disabled and foreign workers, as well as families with young children, while ensuring adequate work-life balance, is among the priorities of the new government. The authorities are committed to enhancing life-long learning, through a cooperation between the state, employer associations and trade unions, as well as by reviewing the current system to better integrate disabled people into the society and the labor market. While foreign workers constitute around 12 percent of the total workforce in the Czech Republic, the authorities intend to further ease the conditions for foreign workers to acquire a work permit, such as through developing a Multicriterial Points-Based System and digitalization of the work permit application procedure.

**Well-targeted investments and productivity-increasing reforms are instrumental in increasing potential output.** The authorities are committed to implementing the priorities outlined in the Innovation Strategy and the National Investment Plan. They are already taking steps to utilize funds available from the EU-supported Recovery and Resilience Facility (RRF) which should complement other EU structural funds and national budgetary resources for project financing in areas such as transportation, digitalization and research and development (R&D). The incoming government's priority is to stimulate private investment in R&D, such as by incentivizing private companies to reinvest their profits in R&D as well as to support academic research centers in commercializing a greater share of their R&D outcomes through collaboration with SMEs. In this context, the authorities will draw on the existing Strategy to Support SMEs in the Czech Republic, developed for the period 2021–2027.

**Improving governance and anti-corruption frameworks are high on the authorities' agenda, as several acts were postponed owing to the elections.** In April 2018, the Czech Republic along with other countries, volunteered to have its legal and institutional frameworks assessed in the context of Article IV consultations for the purpose of determining their effectiveness in addressing supply-side corruption. The authorities took additional steps to detect and prosecute new cases of foreign bribery by high-risk sectors, such as the financial, gambling and real estate sectors. The new government also pledged to finalize the review of the Act on Public Prosecutor's Office, which will set rules for prosecutors' transparent appointment and dismissal. In addition, the authorities committed to adopt the delayed legislative acts strengthening the protection of whistleblowers, which will be accompanied by a public awareness campaign in the media. The registry of beneficial owners was established through the transposition of the 4$^{th}$ and 5$^{th}$ EU AML Directive; it is partly public, free of charge and covers more than 90 percent of legal entities.

**While a green transition is constrained by the structure of the economy, expected high costs and redistributive consequences, the new government pledged to move ahead.** The authorities note staff's analysis and recommendations to address the estimated large financing needs associated with meeting the EU climate goals, including through the RRF funds. The new government pledged to introduce a new Climate Protection Policy in the Czech Republic (CPP), which will reflect on the EU's new ambitious 2030 goals, and to draft guidelines for achieving climate neutrality by 2050 at the latest. As the Czech Republic's high emissions are in particular located in the power generation sector, the authorities intend to draft the new CPP in parallel with the updated State Energy Policy, so that the government will discuss both documents in 2023.