INTERNATIONAL MONETARY FUND

IMF Country Report No. 19/160

CZECH REPUBLIC

2019 ARTICLE IV CONSULTATION—PRESS RELEASE AND STAFF REPORT

June 2019

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 2019 Article IV consultation with the 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 lapse of time basis, following discussions that ended on May 14, 2019 with the officials of the Czech Republic on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on May 28, 2019.
- An **Informational Annex** prepared by the IMF staff.

The documents listed below have been or will be separately released.

Selected Issues

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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June 13, 2019

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IMF Executive Board Concludes Article IV Consultation with Czech Republic

On June 12, 2019, the Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation[1] with the Czech Republic and considered and endorsed the staff appraisal without a meeting.[2]

The economy is doing well, but supply constraints are biting. Growth has slowed as the economy has reached capacity limits, with very low unemployment even as participation has increased. Recent wage increases have been very strong, ahead of productivity. So far, inflation remains contained. The economy continues to run a current account surplus, even though domestic absorption has picked up. But the housing market is pressured, especially in metropolitan areas.

Growth is forecast to moderate. In the near term, domestic demand is expected to remain strong but slow down; external demand is expected to slow in the first half of the year and recover in the second, causing growth to moderate to 2.5 percent for 2019 and continue around that rate over the medium term. Risks to this outlook are mainly external and to the downside, such as from a disorderly Brexit or further weakness in Germany. The outlook for inflation—and hence the monetary stance—is uncertain, as the outcome will depend on which of domestic inflationary and imported disinflationary pressures will dominate.

Executive Board Assessment

In concluding the 2019 Article IV Consultation with the Czech Republic, Executive Directors endorsed staff’s appraisal as follows:

The economy is doing well but is up against capacity constraints. There are no major imbalances, but growth is expected to slow as supply pressures bite.

The real exchange rate is moderately undervalued, and likely to appreciate over the medium term. The REER has appreciated steadily since 2016, but the external position in 2018 was nonetheless moderately stronger than the level consistent with fundamentals and medium-term policies. The current account balance is expected to converge to a small deficit over the medium term, supported by household income growth and small fiscal deficits.

The current policy mix is appropriate. Staff favors holding policy conditions as present, with a bias to raising policy interest rates rather than tightening the fiscal stance if inflation pressures were to continue,

[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] The Executive Board takes decisions under its lapse-of-time procedure when the Board agrees that a proposal can be considered without convening formal discussions.

which would be more consistent with gradual exchange rate appreciation. Macroprudential measures can help insure that households do not take on too much debt. But they should be complemented with measures to enhance housing supply. If external conditions were to be substantially worse than expected, the first response would be to ease policy rates and allow automatic fiscal stabilizers to work; if shocks are persistent, there is ample space for discretionary fiscal easing.

Over the longer term, a durable and coordinated policy agenda that facilitates higher productivity is crucial for staying on a path of increasing living standards. Coordination across government—among ministries, and across the layers of central, regional, and municipal bodies—needs improvement, so that plans are implemented effectively and bottlenecks in labor supply, housing, and infrastructure are addressed.

The focus for fiscal policy should be on spending and revenue choices that are as friendly as possible to raising growth. The obvious—albeit constrained by the fiscal rules—would be investment in public goods that boosts productive potential, especially given that public debt, already low, will decrease further over the next few years and the costs of funding such investment are still low. This investment includes not just major physical structures—roads, for example—but resources such as child care and "intangibles" such as education and digital access. Hard choices will also need to be made over social spending ahead of further population aging; otherwise, policy should seek efficiency gains. Targeting extra taxes at particular sectors risks distorting economic incentives for potentially little return in revenues.

The banking system is stable, well capitalized, and well placed to direct credit toward investment. Recent cases of money laundering (ML) in several EU countries, however, have revealed weaknesses in AML/CFT regimes across Europe, heightening concerns about cross-border flows. The authorities should continue their AML/CFT efforts, monitoring financial flows coming into and going out of the Czech Republic, especially those associated with non-resident accounts, and identifying sources of foreign funds. The authorities should also continue to monitor ML risks associated with the real estate sector, including by enhancing data collection on non-residents and beneficial owners.

Czech Republic: Selected Economic Indicators, 2014–24

(Annual percent change, unless otherwise indicated)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
						Staff projections					
NATIONAL ACCOUNTS											
Real GDP (expenditure)	2.7	5.3	2.5	4.4	2.9	2.5	2.6	2.6	2.5	2.5	2.5
Domestic demand	3.4	5.9	1.1	3.5	3.9	3.1	3.2	3.0	2.9	2.9	2.9
Consumption	1.6	3.2	3.4	3.4	3.3	2.7	2.7	2.6	2.4	2.4	2.4
Public	1.1	1.9	2.7	1.3	3.7	2.4	2.5	1.8	1.7	1.7	1.7
Private	1.8	3.7	3.6	4.3	3.2	2.8	2.8	2.9	2.8	2.8	2.8
Investment	8.6	13.0	-4.3	4.0	5.5	4.2	4.3	4.0	3.9	3.9	3.9
Exports	8.7	6.0	4.3	6.7	4.5	4.0	4.1	4.2	4.2	4.2	4.2
Imports	10.1	6.8	2.8	5.9	6.0	5.0	4.9	4.7	4.7	4.7	4.7
Contribution to GDP											
Domestic demand	3.1	5.5	1.1	3.3	3.7	3.0	3.0	2.8	2.7	2.7	2.8
Net exports	-0.4	-0.2	1.4	1.0	-0.8	-0.5	-0.4	-0.2	-0.2	-0.2	-0.2
Investment (percent of GDP)	25.1	26.5	24.9	24.8	26.2	26.4	26.6	26.8	26.9	27.0	27.1
Gross domestic investments (percent of GDP)	25.9	28.0	26.0	25.9	26.2	26.3	26.6	26.7	26.8	27.0	27.1
Gross national savings (percent of GDP)	26.1	28.2	27.5	27.5	26.5	26.4	26.4	26.5	26.5	26.6	26.6
LABOR MARKET											
Employment	0.7	1.4	1.9	1.6	1.4	0.0	0.0	0.0	0.0	-0.2	-0.2
Total labor compensation	3.5	5.0	5.9	8.3	9.5	7.2	5.1	4.7	4.6	4.5	4.5
Unemployment rate (in percent)	6.1	5.0	3.9	2.9	2.2	2.2	2.3	2.5	2.8	3.0	3.2
PRICES											
Consumer prices (average)	0.4	0.3	0.7	2.5	2.2	2.5	2.3	2.0	2.0	2.0	2.0
Consumer prices (end-of-period)	0.1	0.0	2.0	2.4	2.0	2.3	2.0	2.0	2.0	2.0	2.0
Producer price index (average)	-0.8	-3.2	-3.2	1.8	2.0	...	...	...	...	...	...
GDP deflator (average)	2.5	1.2	1.3	1.4	2.1	2.8	2.4	2.0	2.0	1.9	1.9
MACRO-FINANCIAL											
Money and credit (end of year, percent change)											
Broad money (M3)	5.9	8.0	6.5	10.4	6.3	...	...	...	...	...	...
Private sector credit	3.6	6.5	7.8	5.9	6.9	...	...	...	...	...	...
Interest rates (in percent, year average)											
Three-month interbank rate	0.4	0.3	0.3	0.4	1.3	...	...	...	...	...	...
Ten-year government bond	1.6	0.6	0.4	1.0	2.0	...	...	...	...	...	...
Exchange rate											
Nominal effective exchange rate (index, 2005=100)	111.5	110.1	112.9	117.1	122.4	...	...	...	...	...	...
Real effective exchange rate (index, CPI-based; 2005=100)	110.2	108.2	110.7	115.3	121.1	...	...	...	...	...	...
PUBLIC FINANCE (percent of GDP)											
General government revenue	40.3	41.1	40.2	40.5	41.7	41.8	41.6	41.5	41.4	41.3	41.2
General government expenditure	42.4	41.7	39.5	38.9	40.8	41.6	41.7	41.7	41.8	41.7	41.6
Net lending / Overall balance	-2.1	-0.6	0.7	1.6	0.9	0.2	-0.1	-0.2	-0.4	-0.4	-0.4
Primary balance	-1.0	0.3	1.5	2.2	1.5	0.8	0.4	0.3	0.1	0.1	0.1
Structural balance (percent of potential GDP)	-1.5	-0.8	0.7	1.2	0.5	0.2	-0.1	-0.2	-0.4	-0.4	-0.4
General government debt	42.2	40.0	36.8	34.7	32.7	31.7	30.6	29.8	29.1	28.2	27.4
BALANCE OF PAYMENTS (percent of GDP)											
Trade balance (goods and services)	6.4	5.8	7.4	7.7	6.4	5.9	5.4	5.1	4.9	4.7	4.5
Current account balance	0.2	0.2	1.6	1.7	0.3	0.1	-0.2	-0.2	-0.3	-0.4	-0.4
Gross international reserves (billions of euros)	44.9	59.2	81.3	123.4	124.5	126.8	129.2	132.1	135.4	139.2	143.3
(in months of imports of goods and services)	4.1	5.6	7.7	10.7	10.0	9.7	9.5	9.2	8.9	8.7	8.4
(in percent of short term debt, remaining maturity)	88.0	105.6	121.2	121.7	122.7	124.4	126.4	128.6	131.3	134.3	137.5
MEMORANDUM ITEMS											
Nominal GDP (USD billions)	207.8	186.8	195.1	215.9	244.1	248.4	263.7	277.7	292.4	306.8	322.8
Population (millions)	10.5	10.5	10.6	10.6	10.6	10.6	10.6	10.6	10.7	10.7	10.7
GDP per capita (USD)	19,769	17,729	18,485	20,410	23,007	23,382	24,794	26,082	27,432	28,762	30,245
Real GDP per capita	2.8	5.1	2.3	4.1	2.6	2.3	2.5	2.5	2.5	2.5	2.5
Output gap (percent of potential output)	-3.0	-0.1	-0.3	1.1	0.7	0.1	0.1	0.0	0.0	0.0	0.0

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

INTERNATIONAL MONETARY FUND

CZECH REPUBLIC

STAFF REPORT FOR THE 2019 ARTICLE IV CONSULTATION

May 28, 2019

KEY ISSUES

The economy is doing well, but supply constraints are biting. Growth has slowed as the economy has reached capacity limits, with very low unemployment even as participation has increased. Recent wage increases have been very strong, ahead of productivity. So far, inflation remains contained. The economy continues to run a current account surplus, even though domestic absorption has picked up. But the housing market is pressured, especially in metropolitan areas.

Policies should balance risks of overheating against a faster-than-expected slowdown and aim to boost potential growth.

- Given the uncertainty about the external environment and inflation outlook, the mission team endorses pausing increases in policy rates.

- The central bank has implemented caps on debt-to-income, debt-service-to-income and loan-to-value ratios. These should be given some time to have effect, but might yet need to be tightened further.

- The banking system is stable, well capitalized, and well placed to direct credit toward investment. Recent cases of money laundering (ML) in several EU countries, however, have heightened concerns about potentially illicit cross-border flows. The authorities should continue their AML/CFT efforts, especially on monitoring non-resident accounts, identifying sources of foreign funds, and enhancing data collection on real estate.

- A neutral fiscal stance is appropriate for the near term. The focus should be on spending and revenue choices that are as friendly as possible to raising growth. Hard choices will also need to be made over social spending, such on pensions and healthcare; otherwise, policy should seek efficiency gains.

- Maintaining convergence over the medium term will require high employment and productivity growth as the population ages and the workforce shrinks. Bottlenecks in the labor force, infrastructure, and housing are holding the economy back and need attention.

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

Discussions took place in Prague during April 29–May 14, 2019. The staff team comprised Messrs. Scott (head), Tudyka, and Harrison (EUR), and Ms. Kamali (FIN). Ms. Fernando (LEG) and Mr. Stradal (OED) attended some meetings. Messrs. Park and Smith (both EUR) assisted in the preparation of the staff report. The staff team met with Czech National Bank Governor Rusnok, CNB Vice Governor Mora, CNB Board members Holub, Dědek, and Michl, Deputy Ministers Kouba, Landa, and Koppitz, State Secretary Hrdinková, 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). Data provision is adequate for surveillance (Informational Annex: Statistical Issues).

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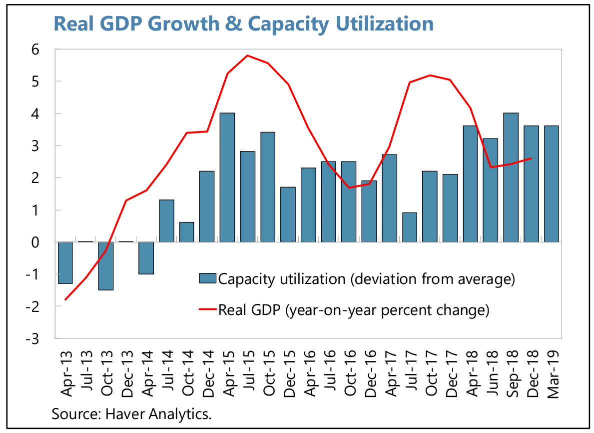
TABLES

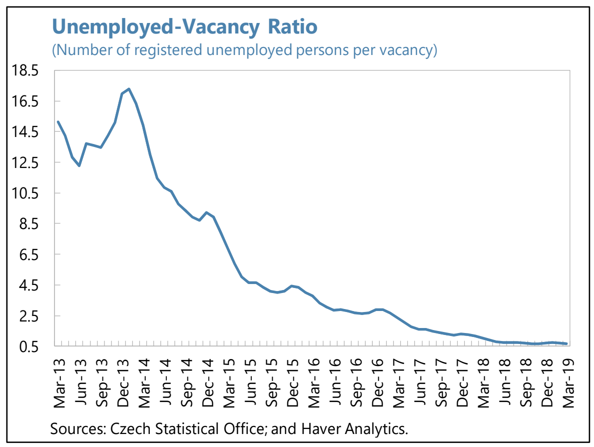
ANNEXES

RECENT DEVELOPMENTS

1. The economy is doing well but has been running against supply limits.



- Output decelerated in 2018, with GDP growth at 2.9 percent. Private consumption growth was strong, supported by real incomes and employment security, though it cooled somewhat in the last two quarters.[1] Investment growth was also strong: year-on-year growth in gross fixed capital formation reached 8.9 percent and 18 percent for the year for the private and public sectors, respectively, the latter reflecting faster absorption of EU funds (Figure 1). Survey measures show capacity utilization well above historical averages (Figure 2).



- The labor market tightened considerably in 2018—the number of vacancies for each unemployed worker increased by 50 percent, despite increased participation across age cohorts and across most regions; the number of underemployed workers declined further, while hours worked by part-time workers increased; and the number and share of long-term unemployed continued to decline. The participation rate increased further to 77 percent by the end of the year; notwithstanding the increase in available labor, the unemployment rate declined even further to a new record low of 2 percent in November 2018.

These developments raise the question of whether the economy risks overheating, in terms of price pressures in labor and goods markets; in terms of external balances, through increased absorption of imports; and/or in asset markets (such as real estate).

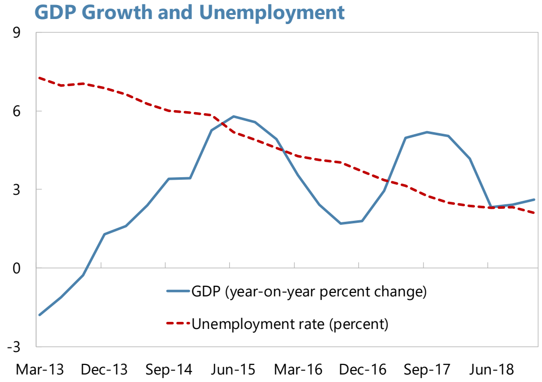
2. Wage increases have been strong, and ahead of productivity gains. Wage increases have been substantial and broad based across sectors. Across the economy, average gross wages increased by 8 percent in 2018, with some settlements much higher. Public sector wages were increased substantially, in some cases by as much as 10 percent. However, growth in output per

[1] The decline in durable goods consumption growth is associated with new EU tests for vehicle emissions—the World Harmonized Light Vehicle Test Procedure (WLTP) and Real Driving Emissions (RDE)—that became mandatory for all new cars at the beginning of September 2018.

Figure 1. Czech Republic: Recent Growth

Growth is strong, and the labor market remains tight.

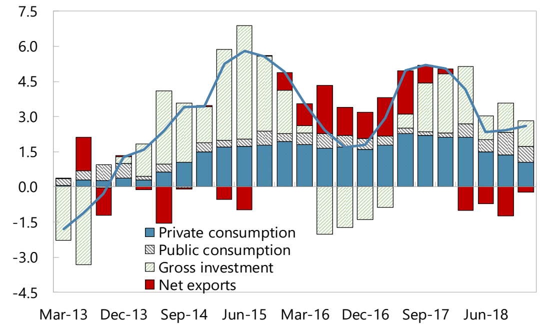
GDP Growth and Unemployment



Source: Haver Analytics.

Reduced consumption growth and declining net exports were partially offset by increased investment.

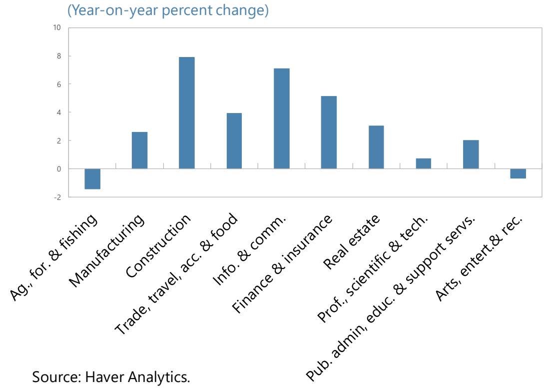
Contribution to Real Expenditure GDP
(Seasonally adjusted, year-on-year percent change)



Source: Haver Analytics.

Most sectors recorded growth in value added...

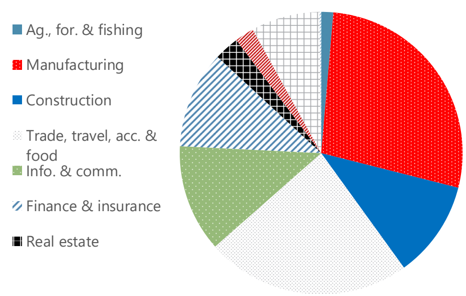
Gross Value Added, 2018
(Year-on-year percent change)



Source: Haver Analytics.

... led by manufacturing, trade, construction, and information and communication.

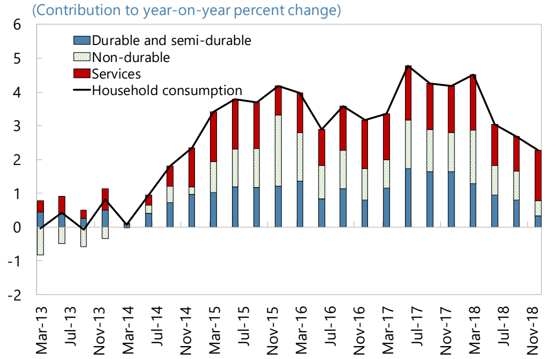
Contribution to GVA Growth by Sector, 2018



Source: Haver Analytics.

Durable consumption growth slowed...

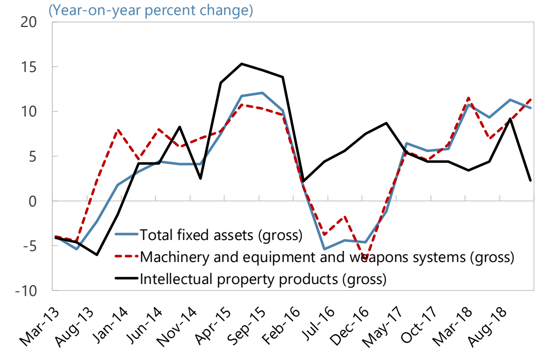
Contribution to Household Consumption Growth
(Contribution to year-on-year percent change)



Source: Eurostat.

... while investment increased.

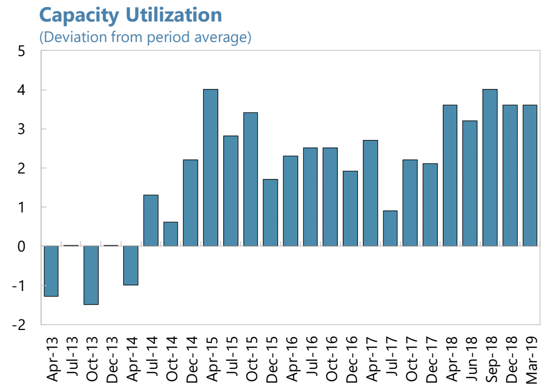
Gross Fixed Capital Formation by Asset Type
(Year-on-year percent change)



Source: Eurostat.

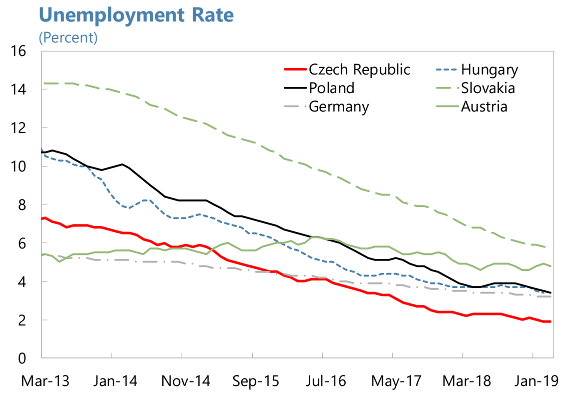
Figure 2. Czech Republic: Capacity Constraints

Capacity utilization increased further…



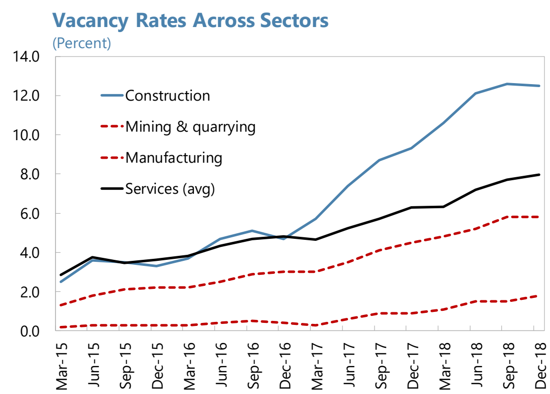
Source: Haver Analytics.

… and the unemployment rate reached record lows.



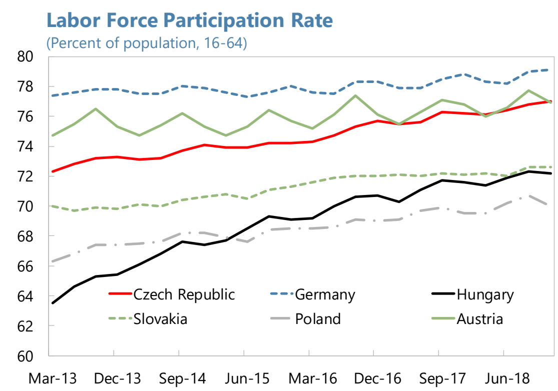
Source: Haver Analytics.

Vacancy rates have increased broadly across sectors…



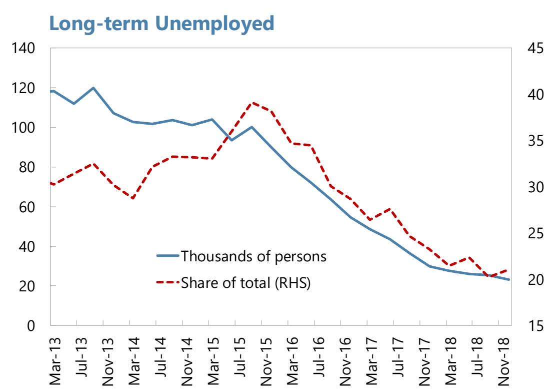
Source: Haver Analytics.

… despite increasing labor force participation…



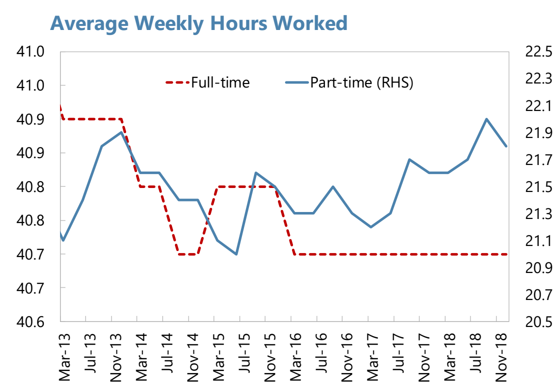
Source: Haver Analytics.

… declining long-term unemployment…



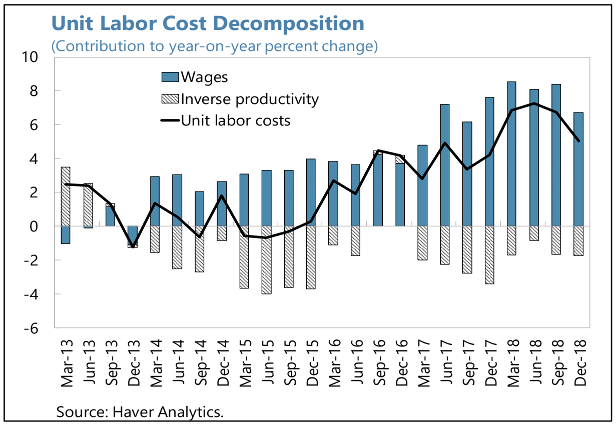
Source: Haver Analytics.

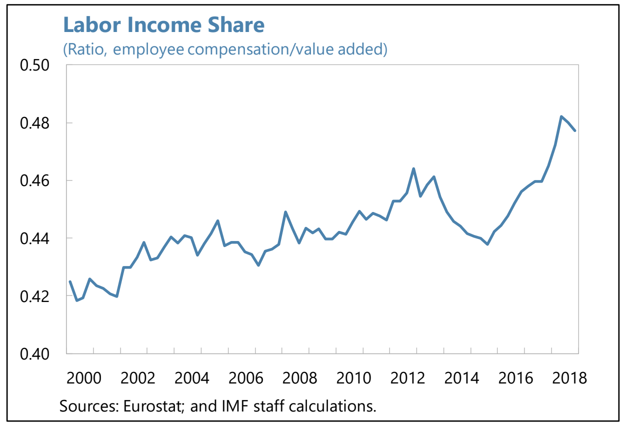
… and increasing labor utilization of part-time workers.



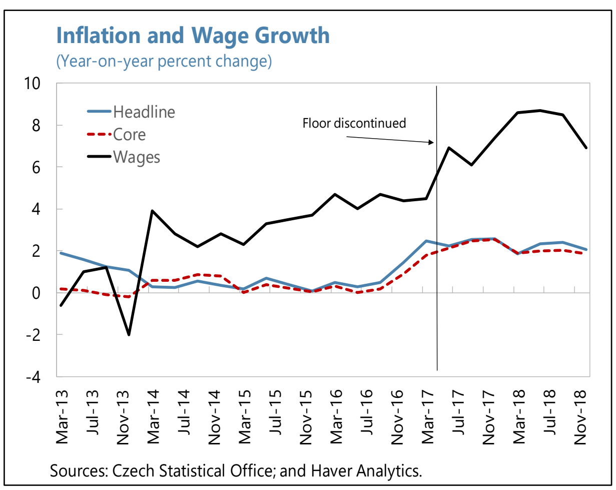
Sources: Statistical Office of the European Communities; and Haver Analytics.

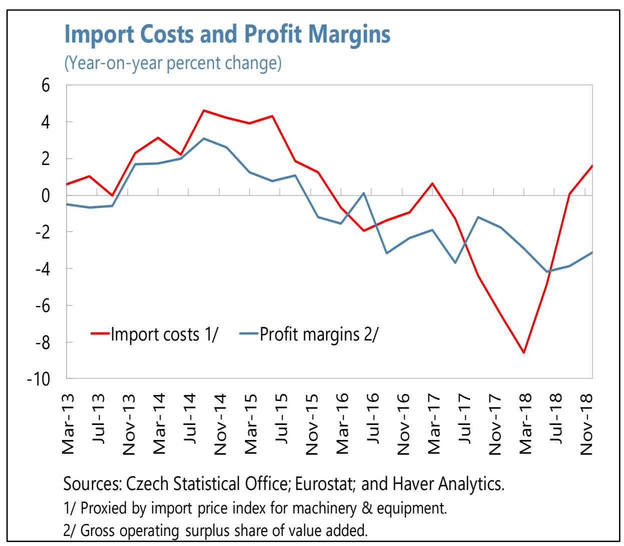
hour worked fell to 0 percent by end-2018, while growth in output per employee slowed to 1.5 percent in 2018 (from 2.9 percent in 2017). Consequently, unit labor costs increased by 6.5 percent in 2018. The result has been a steep increase in the labor share of income, which had fallen in recent years.





3. But despite wage increases, headline inflation remains contained (Figure 3). Inflation has been in the range of around 2 to 2½ percent since 2017, though it climbed to 2.8 percent in April 2019. Core inflation is just over the 2 percent target.[2] Estimated Philips curve models show procyclical contributions to inflation from labor costs—but also a significant role for inflation expectations, which are well-anchored at the 2 percent target (Annex II: Reconciling Wage and Price Inflation). Increases in labor costs have been accommodated by decreasing margins, which remain higher than in neighboring economies.



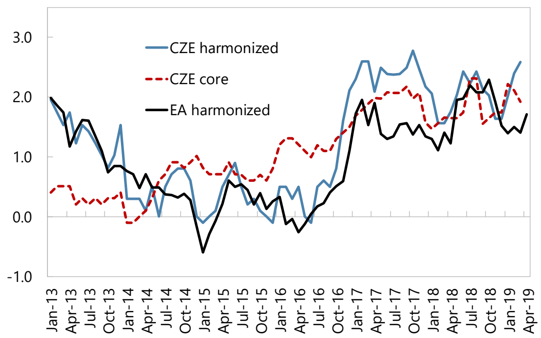


[2] The difference is due mostly to food and regulated price inflation, as fuel price inflation was zero.

Figure 3. Czech Republic: Inflation

Inflation picked up during 2018, slowed at the end of the year, and increased in 2019: Q1…

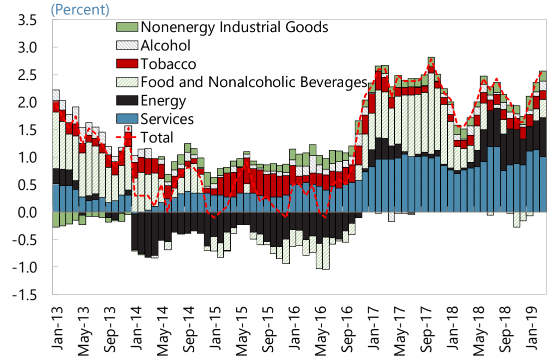
Consumer Price Index
(Year-on-year percent change)



Source: Haver Analytics.

… pushed up by prices for food and non-alcoholic beverages and an increase in services price inflation.

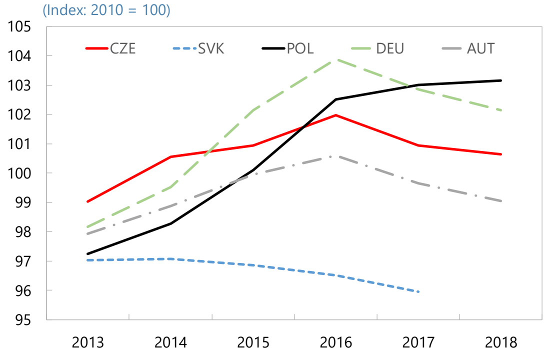
Contribution to Inflation
(Percent)



Source: Eurostat.

The terms of trade have declined…

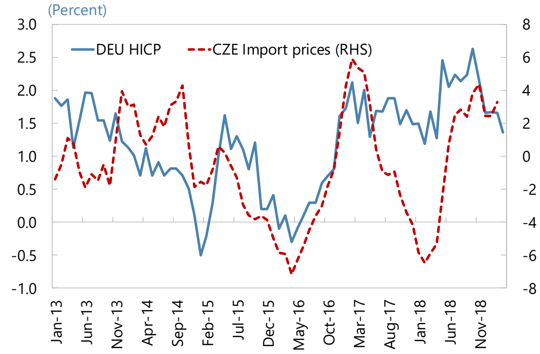
Terms of Trade
(Index: 2010 = 100)



Source: OECD.

… as import prices have rebounded.

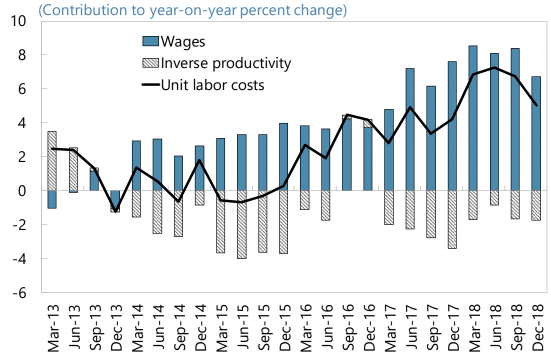
Import Prices
(Percent)



Source: Haver Analytics.

Wage inflation and a decline in labor productivity growth have pushed up labor costs…

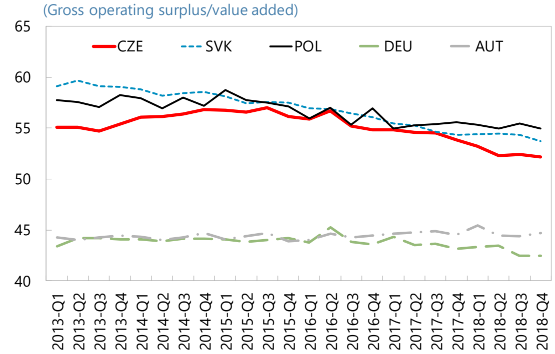
Unit Labor Cost Decomposition
(Contribution to year-on-year percent change)



Source: Haver Analytics.

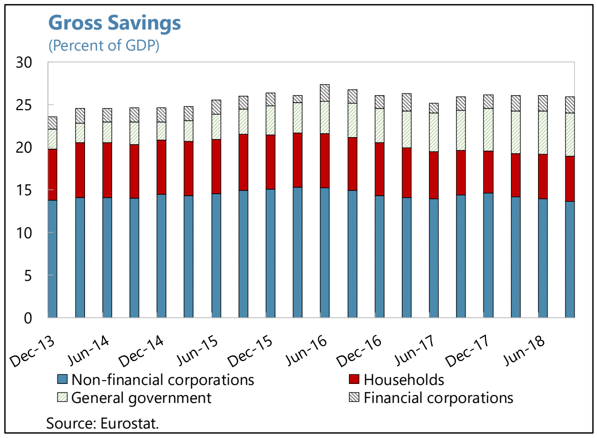
… which have been partially absorbed by profit margins.

Profit Share
(Gross operating surplus/value added)



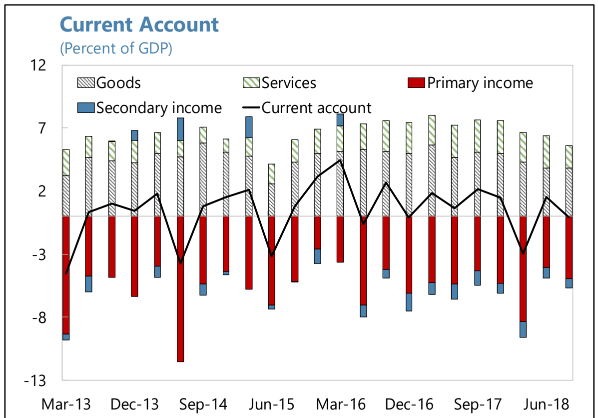
Sources: Eurostat.

4. Saving rates have been fairly stable over the cycle. In 2018, gross disposable income and household saving rates increased slightly. Aggregate household net financial worth grew by 4½ percent; household debt as a share of disposable income declined slightly, to 64½ percent in 2018, and remains relatively low compared to the euro area ratio of 106 percent. Meanwhile, the fiscal position is comfortable—after a headline surplus of 0.9 percent of GDP in 2018, staff projects a surplus of 0.2 percent of GDP and debt of 31.7 percent of GDP in 2019.



Source: Eurostat.

5. The external position remains solid, despite strong domestic demand and especially considering weakness in some major trading partners (Figure 4). The current account surplus moderated to 0.3 percent of GDP in 2018, from 1.0 percent of GDP in 2017, as both goods and services trade balances declined. This was not the result of export weakness, which might have been expected given weaknesses in foreign demand. Instead, it resulted mainly from increased absorption of imports, consistent with strong private demand.



Source: Haver Analytics.

- Demand from trading partners softened—euro area growth slowed to 0.2 percent (quarter-on-quarter) in the last two quarters of 2018, from 0.4 percent in the first two quarters. Nevertheless, export growth was solid through the year, with export growth particularly strong in the fourth quarter.

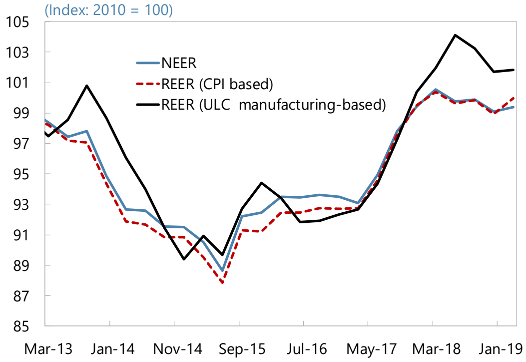
- Gross FDI debt and equity inflows have remained steady over the years but declined in 2018 to 3.5 percent of GDP, from 4.3 percent in 2017. There were gross portfolio debt outflows due to government bond repayments and lower borrowing by financial firms. Other investment liability flows turned negative in 2018 after FX-floor related increases in previous years. In sum, net capital inflows were 0.4 percent of GDP by the end of 2018.

- The net international investment position improved 4.5 percentage points to -22 percent of GDP in 2018. External liabilities comprise mostly FDI (52 percent) while official reserves account for 48 percent of external assets. Gross external debt was stable nominally, and declined as a share of GDP.

Figure 4. Czech Republic: External Position and Competitiveness

The NEER and REER depreciated slightly in 2018 after appreciating rapidly in the aftermath of the FX floor exit…

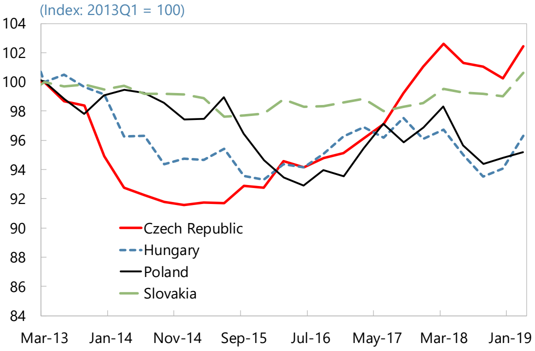
Real Exchange Rate
(Index: 2010 = 100)



Source: Haver Analytics.

REER appreciation resumed in 2019 in line with competitors.

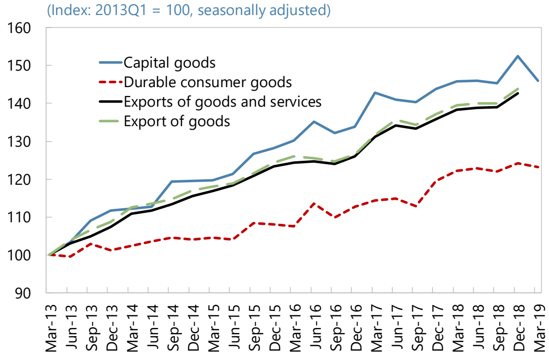
Real Effective Exchange Rate: CPI Based
(Index: 2013Q1 = 100)



Sources: Haver Analytics; and IMF staff calculations.

Exports growth has remained strong…

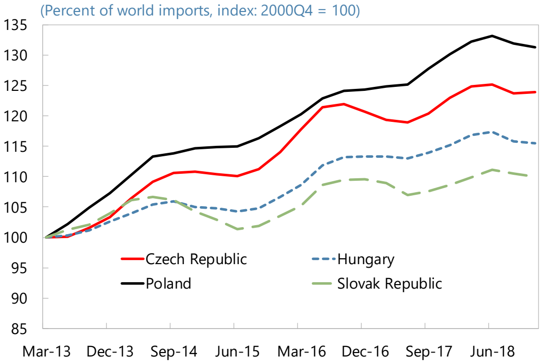
Industrial Production and Real Exports
(Index: 2013Q1 = 100, seasonally adjusted)



Source: Haver Analytics.

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

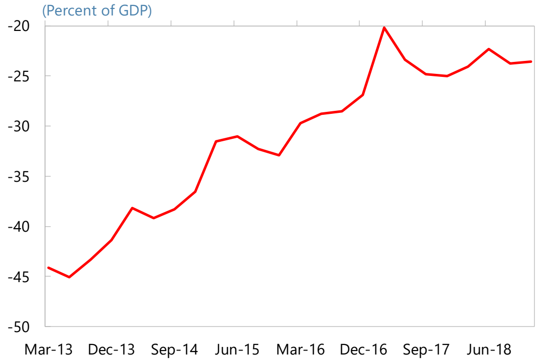
Share of World Imports
(Percent of world imports, index: 2000Q4 = 100)



Source: Direction of Trade Statistics.

The NIIP is at a comfortable level…

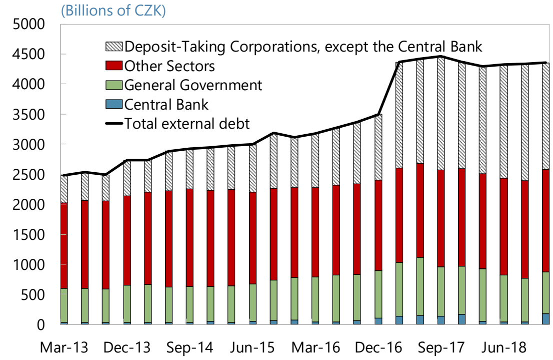
Net International Investment Position
(Percent of GDP)



Source: Haver Analytics.

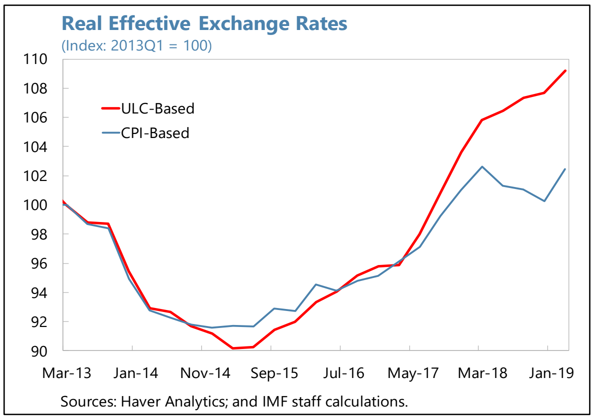
… and external debt remained stable nominally.

External Debt Composition by Sector
(Billions of CZK)

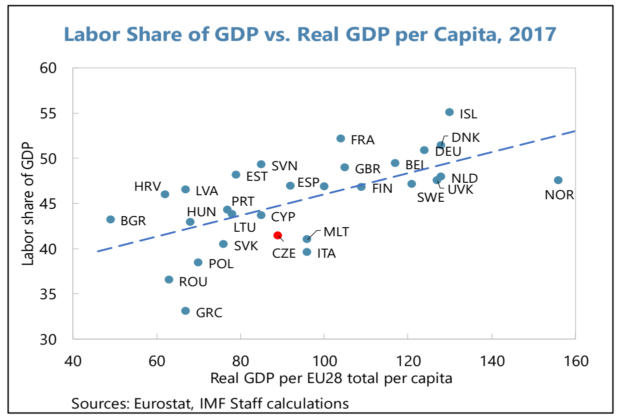


Source: Czech National Bank.

6. **Further increases in the real exchange rate are to be expected.** Increasing labor costs caused the ULC-based REER to appreciate by 2½ percent in 2018. Going forward, a key issue is whether strong real wage growth, along with a potentially weaker external environment, will cause net trade to worsen substantially (Outlook and Risks, ¶9-11). So far, the increase in the wage share, although steep over the past year, is consistent with convergence to levels of euro area economies. Continued capital investment, including through FDI, indicates that returns to capital remain attractive. Going forward, continued income convergence would imply ongoing real exchange rate appreciation.[3]



Real Effective Exchange Rates
(Index: 2013Q1 = 100)
Sources: Haver Analytics; and IMF staff calculations.

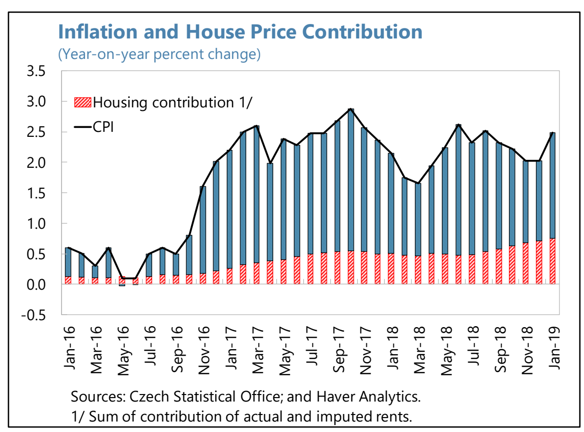


Labor Share of GDP vs. Real GDP per Capita, 2017
Sources: Eurostat, IMF Staff calculations

7. **Staff assesses the external position in 2018 to have been moderately stronger than the level consistent with medium-term fundamentals and desirable policies.** The EBA current account model estimates that the current account in 2018 was above the "norm" for what would be expected given desirable policies and abstracting from the cycle (Annex I: External Sector Assessment). Much of the current account gap is driven by a stronger fiscal position relative to desired medium-term levels and compared to the rest of the world, plus a large residual component. The current account gap implies appreciation of the real exchange rate to ease the surplus—in the terms of the standardized EBA ranges, the real exchange rate is moderately undervalued, by about 2–4 percent. Staff finds these estimates more plausible than those from the EBA real exchange rate models, which indicate significant overvaluation.

8. **The housing market remains pressured.**

- Despite a recent deceleration, house price growth was still among the 5 highest in the EU in 2018, outpacing wage and income growth (Figure 7). In Prague, where most property transactions take place, offered prices for apartments have increased by 44 percent in the

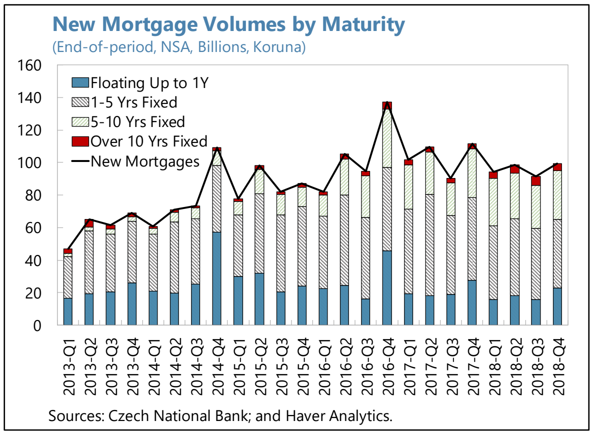


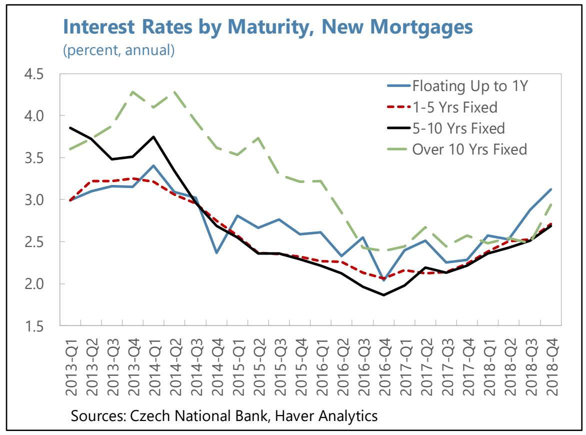
Inflation and House Price Contribution
(Year-on-year percent change)
Sources: Czech Statistical Office; and Haver Analytics.
1/ Sum of contribution of actual and imputed rents.

[3] The real exchange rate can be expected to appreciate further owing to Balassa-Samuelson and income elasticity effects. See Annex I of the 2017 Article IV staff report.

three years from 2016 to 2018. The price-to-income ratio has increased by a cumulative 12.6 percent between 2015: Q4 and 2018: Q4, after having been stable over the preceding 5 years. House price increases have also made a substantial contribution to the measure of CPI targeted by the CNB.

- Private nonfinancial sector credit accelerated from the previous year, growing ahead of nominal incomes. This was driven primarily by mortgage credit, which continues to grow at a high rate (Figure 6). But new mortgage volumes are decreasing amid increasing lending rates and tighter macroprudential borrower recommendations. Nonfinancial corporate lending growth also increased in 2018.



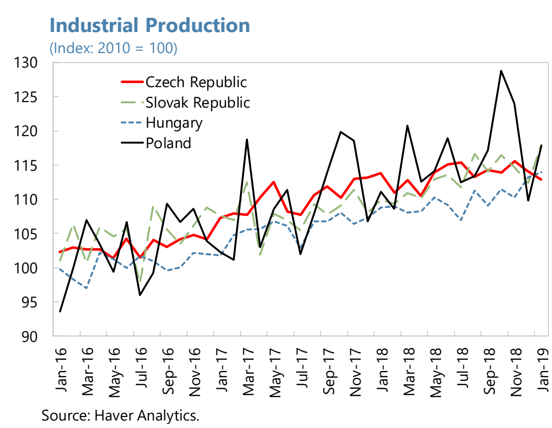


OUTLOOK AND RISKS

9. **Near-term growth momentum has slowed.** Consumer sentiment declined in the second half of 2018 and manufacturing PMIs have been weak. High-frequency indicators for key trading partners such as Germany and most euro area countries have also deteriorated.

Figure 5. Czech Republic: Near-Term Growth Momentum

Industrial production increased through 2018....



... though PMIs point to declining momentum.

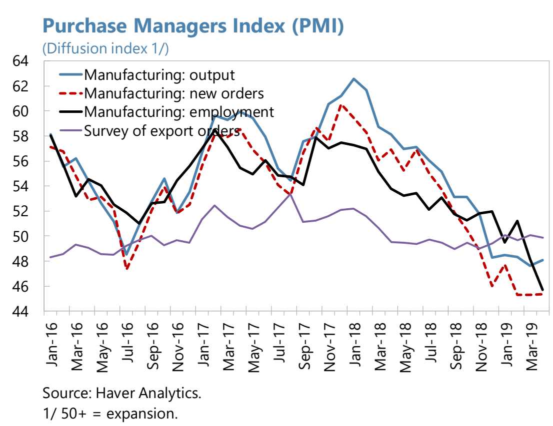
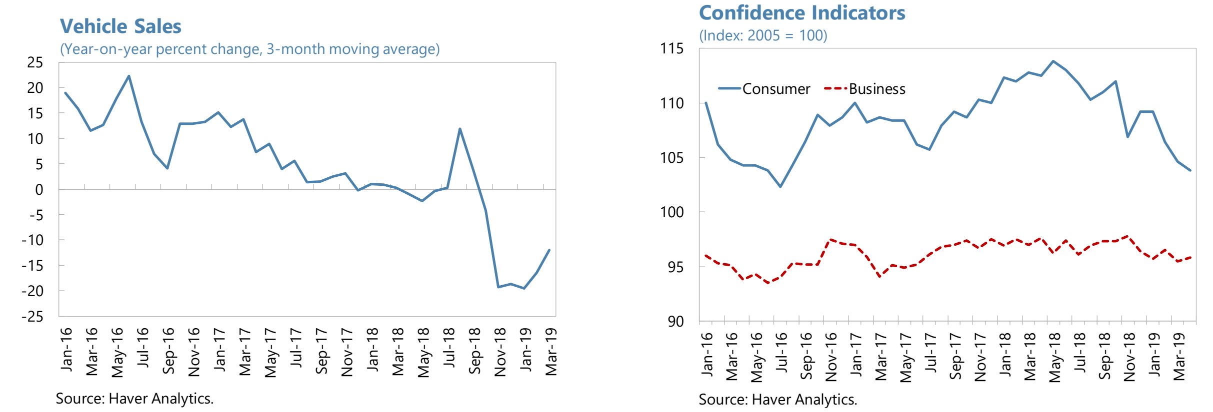


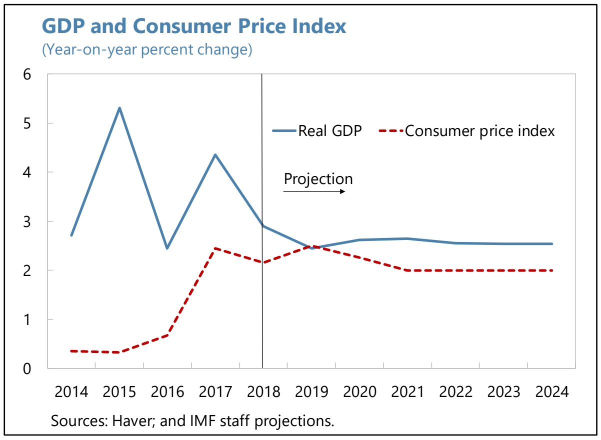
Figure 5. Czech Republic: Near-Term Growth Momentum (Concluded)

Retail sales growth slowed after a pre-emission standard change rush…

… and consumer sentiment declined in the second half of 2018, albeit from elevated levels.



10. Growth is forecast to moderate.[4] In the near term, domestic demand is expected to remain strong but slow down. Although the labor market is expected to remain tight, employment and wage growth are expected to moderate slightly after the substantial increases in 2018. External demand is expected to slow in the first half of the year and recover in the second, causing growth to moderate to 2.5 percent for 2019 and increase slightly to 2.6 percent in 2020. Over the medium term, income convergence is expected to continue, with a potential growth rate of 2½ percent through the medium term. Inflation is projected above target at 2½ percent in 2019 and to moderate to target by 2021, on the assumption of moderating increases in labor costs (partly in response to gradual policy rate increases) that can be absorbed by firms' profit margins and low external inflation.



11. Risks to this outlook are mainly external and to the downside. The Czech economy is very open—gross exports are 80 percent of GDP, of which about two thirds is domestic value added—tightly integrated into supply chains, and highly concentrated in the auto sector (Box 1. The Importance of the Auto Sector). This makes the Czech economy highly exposed to foreign shocks (Selected Issues Paper: Sources of External Demand Spillovers).[5] Such shocks could arise from a disorderly Brexit (to which the Czech Republic is more exposed than the average EU economy), especially if accompanied by significant "confidence" shocks, and further weakness in Germany.

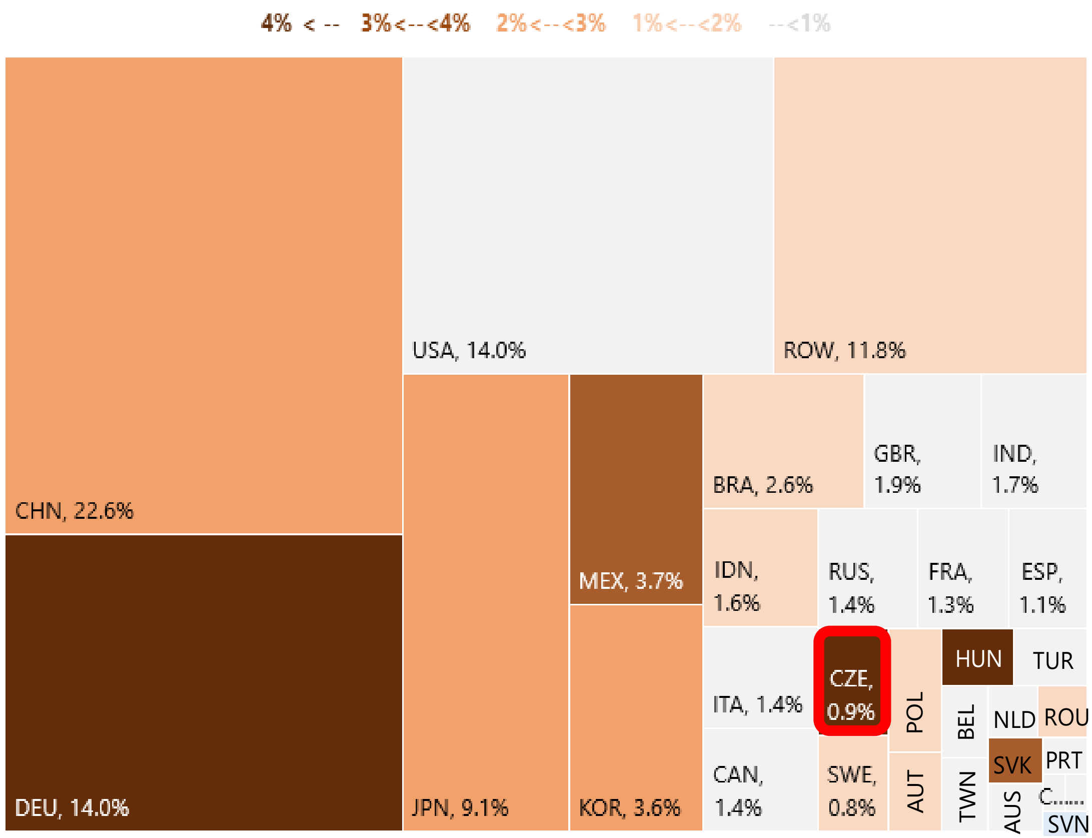
[4] The projection assumes gradual monetary policy tightening, temporary external weakness, a slight improvement in the terms of trade (including from lower energy prices), and nominal currency appreciation due to positive interest rate differentials.

[5] The level of domestic value added is below EU averages. However, exposure to foreign shocks is better measured by the sum of "forward" and "backward" linkages, which is well above the EU average.

Another concern is pressure in the housing market—house price growth remains robust despite increasing lending rates and tighter macroprudential policy. The outlook for inflation—and hence the monetary stance—is uncertain, as the outcome will depend on which of domestic inflationary and imported disinflationary pressures will dominate.

Box 1. The Importance of the Auto Sector

Unlike many advanced economies, manufacturing remains a highly significant part of the economy, averaging around one quarter of value added for the past 25 years. Of this, the auto industry—both final production and parts manufacturing—represents nearly a fifth.



In terms of world production, the Czech auto industry is naturally not one of the largest producers in absolute terms, producing slightly less than 1 percent of global value added. However, at 4.9 percent of gross value added, the auto industry plays the most important role for the Czech Republic among all countries. The next most significant auto industries in domestic terms are those of other central European economies: Hungary, Germany, and the Slovak Republic.

Authorities' Views

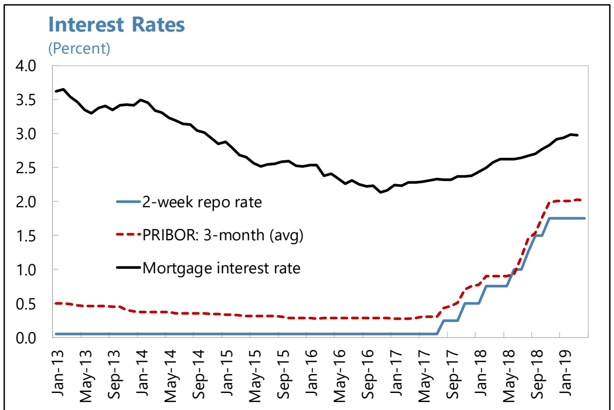
12. The authorities agreed broadly on the outlook and the balance of risks. The authorities expect growth to be close to 2½ percent this year, supported by strong domestic demand. Views on the outlook for 2020 differed, as the authorities are more optimistic on potential growth than staff. The CNB expects inflation to be above target this year but to converge to the inflation target, and the koruna to appreciate further. External conditions—such as economic weakness in the euro area, a disorderly Brexit, increased protectionism, and the path of the exchange rate—were viewed as the main uncertainties, tilting the balance of risks for output to the downside. In the context of their modeling framework, which differs from EBA, the CNB assesses the REER as currently being close to fairly-valued and broadly consistent with fundamentals, but agrees with staff that the real exchange rate will likely appreciate over time.

POLICY DISCUSSIONS

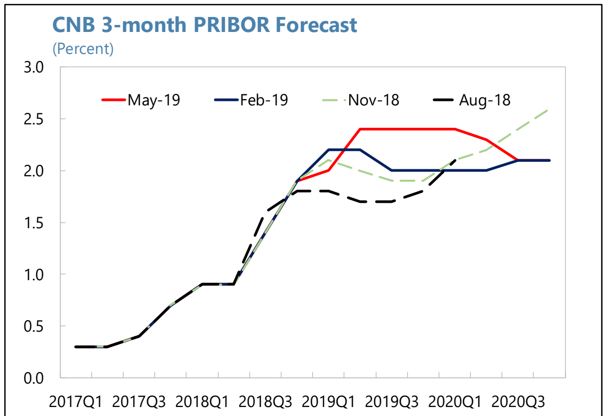
13. **Discussions focused on policies to facilitate the best adjustment to supply pressures and to insure against downside risks.** So far, labor market pressure has not resulted in high inflation or substantial deterioration of external balances, but those risks are live, and metropolitan real estate markets remain pressured. On the other hand, external demand has fallen, and domestic confidence indicators are ebbing. Hence, there are two main sets of policy issues: (i) the right mix of policies that balances risks of overheating against a faster-than-expected slowdown; and (ii) policies to boost potential growth.

A. Monetary Policy

14. **Domestic monetary conditions have tightened while the pace of global macro policy tightening slowed.** The Czech National Bank (CNB) increased the policy rate to 2.0 percent in May 2019, following five 25 basis points increases in 2018. The CNB has shed its tightening bias and signaled no further policy rate increases into 2020.



Sources: Czech National Bank; and Haver Analytics.



Source: Czech National Bank.

15. **A cautious approach to raising interest rates is appropriate.** The inflation outlook depends on whether domestic pressures have larger effects than external dampening effects. The combination of increasing wage costs and declining labor productivity growth could put further upward pressure on prices, warranting earlier interest rate increases than currently projected. On the other hand, weaker external demand and lower energy prices could mean lower-than-expected import prices. Currently, core inflation (Eurostat) is only just above the CPI target, and expectations remain well anchored. Staff projects inflation to converge to 2 percent over the medium term,

assuming rates are held constant in the near term and move to about 3 percent over the medium term. Given also the uncertainty about inflation and the external environment, a pause in policy rate changes is justified.

Authorities' Views

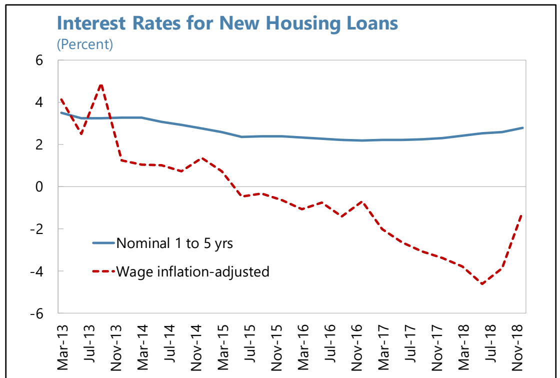
16. The CNB favors a pause in interest rate hikes, given its assessment of broadly balanced risks to the inflation forecast, reflecting uncertainties about external demand and the passthrough and persistence of domestic pressures on inflation.

B. Credit, Real Estate, and Macroprudential Policy

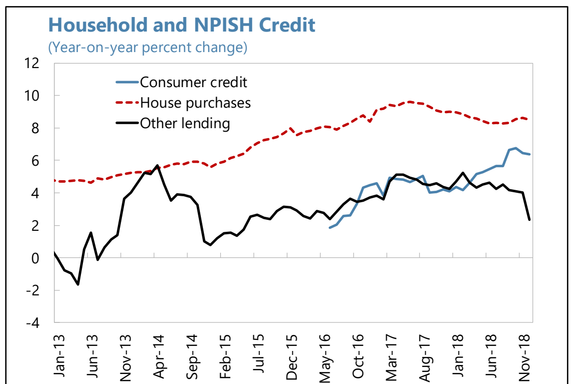
17. Private sector credit, particularly for real estate purchases, continues to grow strongly despite tightening lending standards (Figure 6).

- Banks tightened lending standards to the highest levels in recent years, and nominal lending rates[6] increased from a historical low of 2.1 percent at end-2016 to about 2.9 percent at end-2018. However, the perceived price of new loans (the wage interest rate—interest rates deflated by realized wage inflation) is negative and has fallen further.

- Overall non-financial sector credit growth was nearly 7 percent in 2018, with household and private non-financial corporation credit growing by 7½ and 5½ percent, respectively. The growth of lending for house purchases has decelerated, but only modestly, to 8½ percent. Consumer credit growth accelerated from just over 4 percent in 2017 to 6½ percent in 2018.



Source: Haver Analytics.



Source: ARAD database.

18. Pressures in the housing market are still apparent (Figure 7). Property price growth has moderated, but is still strong, particularly in Prague. Price-to-income and price-to-rent ratios have continued to increase, while models of affordability indicate that valuations are high.[7]

[6] For the most popular (over 1 and up to 5- year fixed) mortgages.

[7] See Andrle, Michal, and Miroslav Plašil (2019), "Assessing House Prices with Prudential and Valuation Measures", IMF Working Paper WP/19/59.

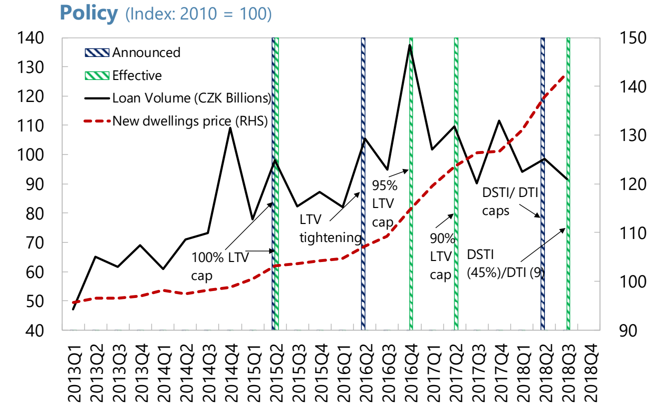
19. Further macroprudential recommendations have been announced that appropriately target household leverage. Although household debt overall is relatively low, some households are highly levered—in recent years, over one third of loans have been issued at 6 times income or higher, although this share has remained stable over the past year.[8] Leverage is particularly high for borrowers in major metropolitan regions such as Prague.[9]

- The CNB had previously recommended that banks cap LTVs on individual loans at 90 percent and issue no more than 15 percent of new loans with LTV ratios between 80 and 90 percent. By end-2018: Q2, the share of new loans with LTV ratios between 80 and 90 percent was 11 percent, down from 31 percent by end-2017: Q2, while the share of new loans with LTV ratios above 90 percent decreased slightly to 3 percent. The CNB has also restricted loan maturities.

- Two new recommendations aimed at limiting banks' exposure to the housing market and ensuring borrowers' creditworthiness were announced in June 2018 and became effective as of October 2018: limits for the debt-to-income multiple of 9 and the debt-service-to-income ratio of 45 percent.

20. Macroprudential limits should be given some time to have effect but might yet need to be tightened. There are some signs that these measures are having effects, but the market remains pressured. The *number* of new mortgages has decreased, but house prices continue to increase, suggesting that leverage might still be elevated for some borrowers. Hence, more tightening might yet be required. Since the underlying concern is household leverage, attention should be focused on the debt-based measures.[10] Note that the CNB still can only make macroprudential *recommendations*—the CNB should be granted legal powers of *direction* to facilitate fulfilment of its financial stability mandate.

New Mortgages, Housing Prices, and Macroprudential Policy (Index: 2010 = 100)



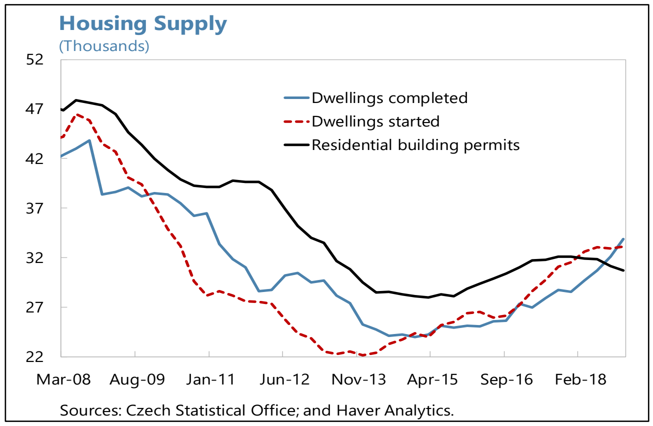
Sources: Czech Statistical Office; and Czech National Bank.

21. Other policies should support macroprudential measures. Efforts are especially needed to increase housing supply. Supply of new dwellings has been slow to pick up since the financial

[8] For some country comparison, loan-to-income ratios on new loans in 2017 averaged 4.2 and 3.0 in the UK and Ireland, respectively.

[9] Loan-to-value ratios are on average *lower* in Prague than in other regions.

[10] Only a few countries have implemented debt-based limits, and policy design differences make cross-country comparisons difficult. Subjectively, the CNB's debt limits seem in line with other countries. For example, there are DSTI limits of 40 and 50 percent of net income in Lithuania and Estonia respectively, with some allowance for breaches. See European Systemic Risk Board (2018), "A Review of Macroprudential Policy in the EU in 2017."



crisis, owing in part to problems with the permit process and municipal planning. Complicated regulations govern the building permit process and impose supply-side constraints. In the Czech Republic, 21 procedures need to be undertaken to receive a building permit, compared to 12.5 across OECD countries (World Bank Doing Business Indicators). Owing to their nature, these constraints may put sustained upward pressure on property prices. Property tax revenue is very low (2017 Article IV Staff Report); most of the revenue comes from transaction taxes and few from value taxes, which reduces the incentives to move out of housing and reinforces the problems with housing supply.

22. Authorities should monitor risks associated with the real estate sector. The authorities' national risk assessment and the AML/CFT assessment of the Czech Republic by MONEYVAL[11] identifies the real estate sector as one of the sectors most vulnerable to misuse for money laundering activities, including for laundering of foreign proceeds. Real estate agents were identified as having a limited understanding of money laundering/terrorist financing (ML/TF) risks; the Financial Intelligence Unit (known as the Financial Analytical Unit, FAU, in the Czech Republic) has received only a few suspicious transaction reports from real estate professionals in recent years. The FAU should continue to raise awareness of ML/TF risks among real estate professionals. Staff considers that adopting a licensing regime for real estate agents and collecting better data, including on non-resident and beneficial owners of real estate assets, would help monitoring of this sector.

Authorities' Views

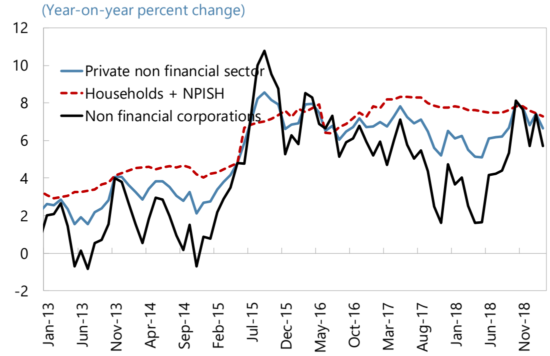
23. The CNB continues to assess credit market developments. They consider a potential buildup of household credit imbalances and property market overheating as risks to financial stability. The recent slowdown in volumes of new mortgages could reflect "frontloading" before the DTI and DSTI recommendations came into effect in October 2018. That said, more time is needed to assess the effectiveness of the debt-based limits. The relevant authorities are aware of the vulnerabilities of the real estate sector and noted that they have stepped up AML/CFT training and awareness-raising efforts. In addition, there are ongoing discussions to adopt a licensing regime for real estate agents.

[11] The recent comprehensive assessment of the anti-money laundering/combating the financing of terrorism (AML/CFT) regime in Czech Republic by MONEYVAL was published in February 2019.

Figure 6. Czech Republic: Credit Developments

Credit growth is still strong…

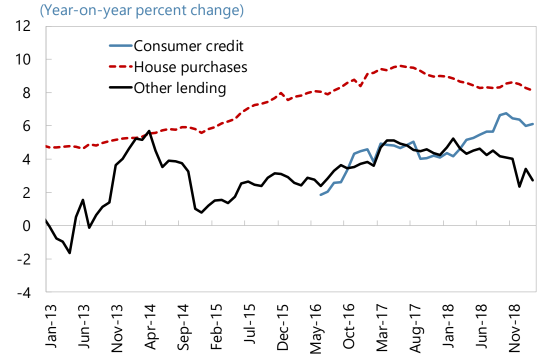
Private Sector Credit
(Year-on-year percent change)



Source: ARAD database.

… driven by lending for housing purchases.

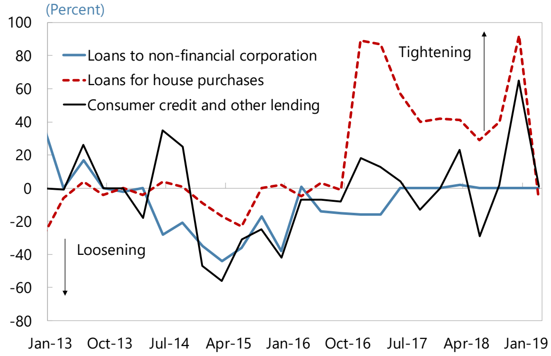
Household and NPISH Credit
(Year-on-year percent change)



Source: ARAD database.

Credit standards tightened in 2018 but were neutral in 2019: Q1 …

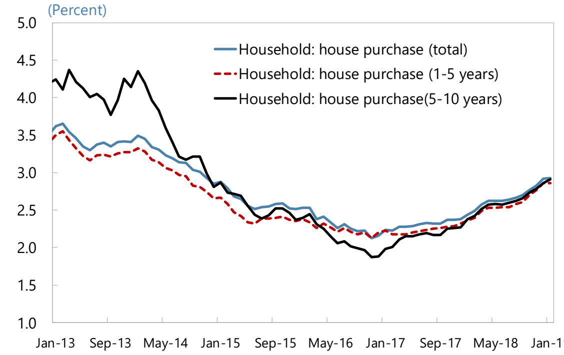
Credit Standards
(Percent)



Source: Czech National Bank lending survey.

… and mortgage lending rates have been rising.

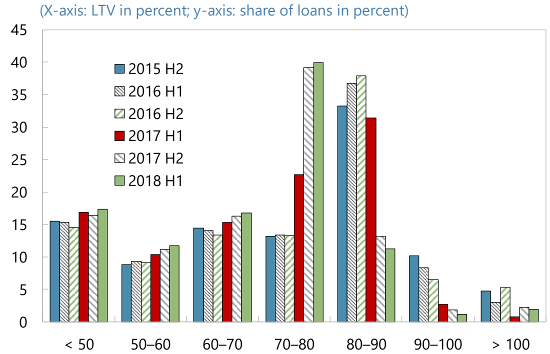
Lending Rates
(Percent)



Source: Haver Analytics.

CNB's prudential recommendations are reflected in a strong decrease of the share of new loans with loan-to-value ratios above 80 percent…

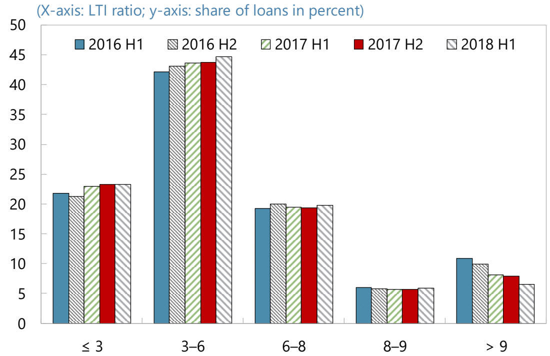
LTV Distribution of New Loans
(X-axis: LTV in percent; y-axis: share of loans in percent)



Source: Czech National Bank.

… while loan-to-income multiples of new loans have not decreased by much.

LTI Distribution of New Loans
(X-axis: LTI ratio; y-axis: share of loans in percent)

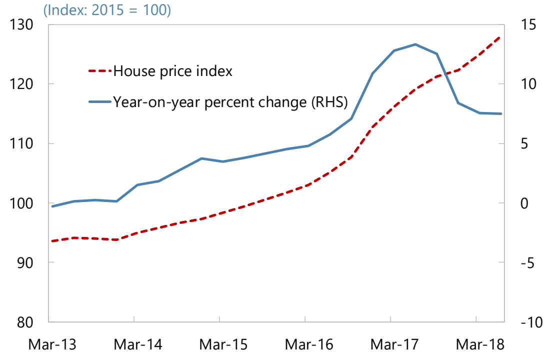


Source: Czech National Bank.

Figure 7. Czech Republic: Housing Sector

Property price growth has moderated but is still strong…

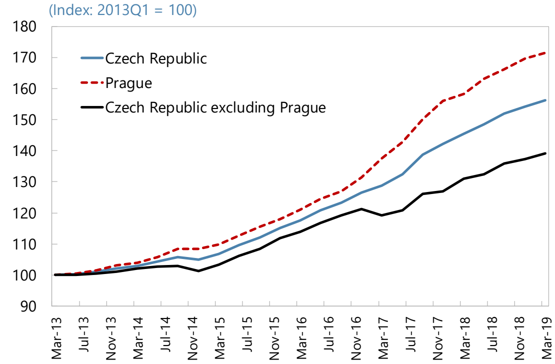
Residential Property Transaction Prices
(Index: 2015 = 100)



Source: Czech National Bank.

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

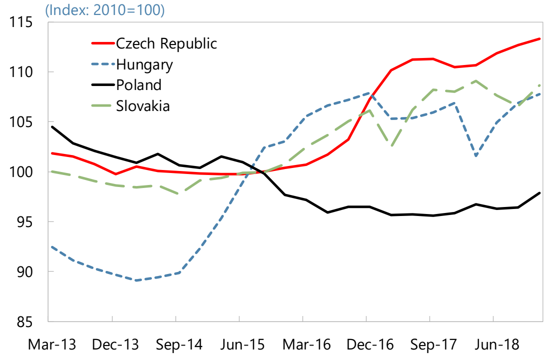
Apartment Price Index, Offer Price
(Index: 2013Q1 = 100)



Source: Haver Analytics.

Housing prices have risen faster than incomes…

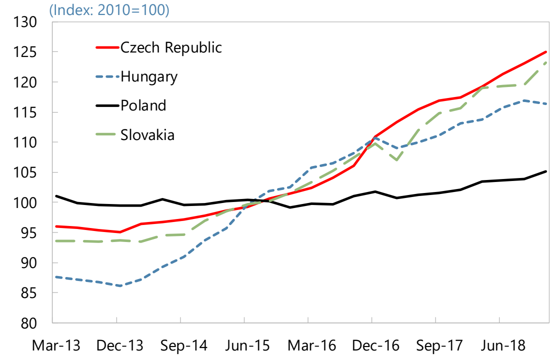
Price to Income Ratio
(Index: 2010=100)



Source: OECD.

… and faster than rental prices.

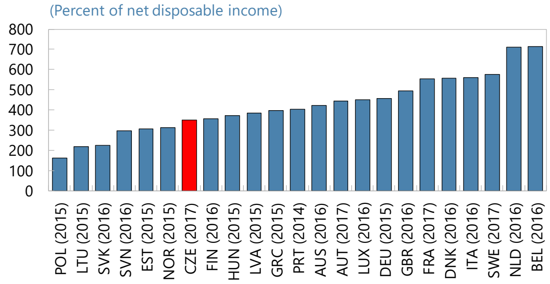
Price to Rent Ratio
(Index: 2010=100)



Source: OECD.

Household net worth has increased in recent years but remains relatively low…

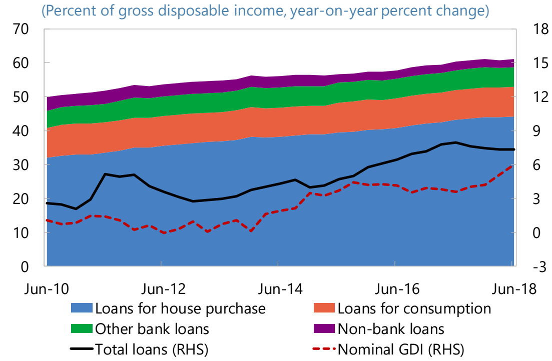
Household Net Worth 1/
(Percent of net disposable income)



Source: OECD.
1/ Household total net worth is the value of total assets (the total amount of financial assets plus the total amount of non-financial assets; the latter only takes into account the value of dwellings from non-financial assets) minus the total value of outstanding liabilities.

… while 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.

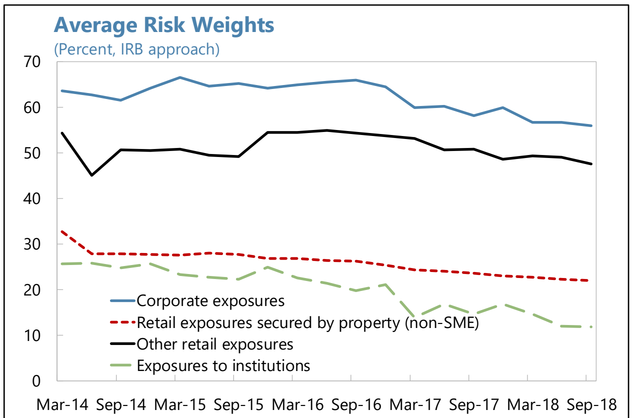
C. Financial Sector Policies

24. Banks are well capitalized and profitable. Banks hold over three quarters of financial sector assets, with the rest mostly held by insurance, pension, and funds companies. There are seven Other Significant Institutions in the banking sector, and five that are assessed to be systemically important. The three largest lenders are subsidiaries of EU banks. Across the system, banks are funded mostly by deposits; bank assets are mostly in loans, of which about half is directed to households.

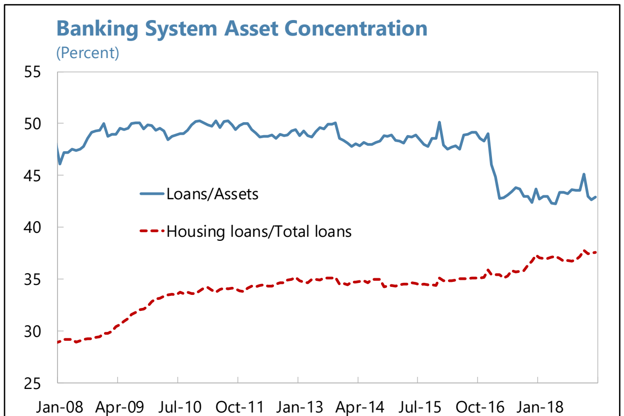
- Capital ratios are well above regulatory minima: the overall capital ratio increased by about 0.2 percentage points in 2018 to 18.3 percent, comfortably above the minimum level of regulatory capital of 15.4 percent for the system as a whole,[12] while the Tier 1 capital ratio increased by 0.3 percentage points to 17.8 percent. The leverage ratio has also increased, and at 6.5 percent remains at a comparatively high level.

- Banks are highly profitable, owing to high net interest margins and low impairments. Non-performing loans declined further to 3.1 percent of total gross loans in 2018.

25. Nonetheless, the continuing decline in risk weights could be increasing financial sector vulnerability. Because of favorable economic conditions and low impairments, banks' internal risk-based models are leading to decreasing risk weights across categories. Risk weights for housing loans have fallen by one third over the past three years, to 21.9 percent—not yet low by international comparison, but nonetheless making issuing housing loans relatively "cheap" for banks in terms of required capital. That said, bank asset concentration in mortgages has remained broadly stable through the housing cycle and does not appear to be excessive.



Source: Czech National Bank.

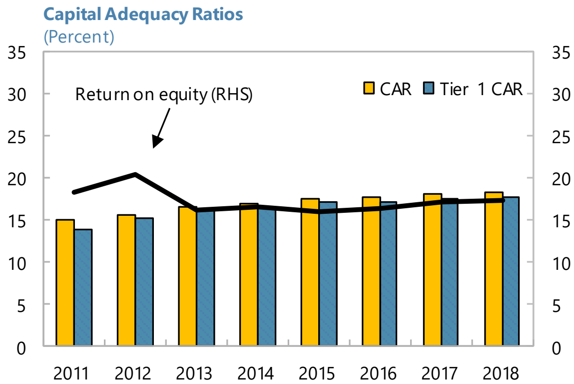


Source: Czech National Bank.

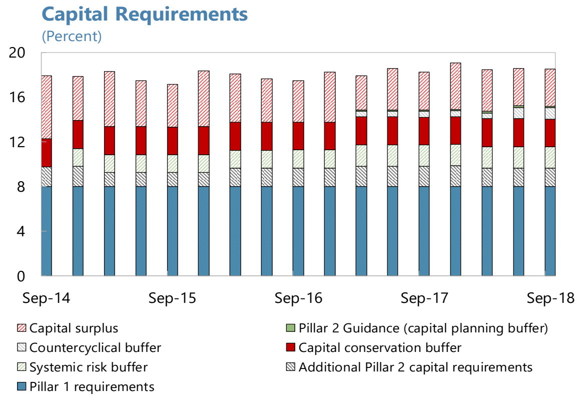
[12] This comprises 8 percent Pillar 1, an aggregate average of 1.8 percent additional Pillar 2, and capital buffers (capital conservation, countercyclical, and systemic risk) of 5.6 percent.

Figure 8. Czech Republic: Financial Sector Developments

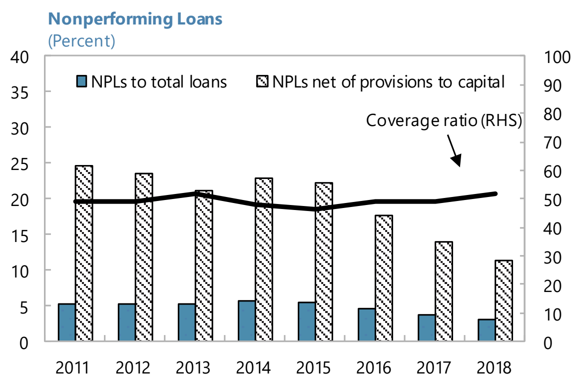
Capital adequacy ratios have declined somewhat…



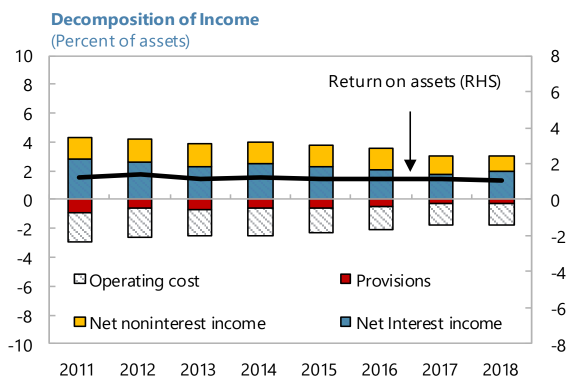
… but capitalization is adequate as aggregate capital surpluses remained broadly constant.



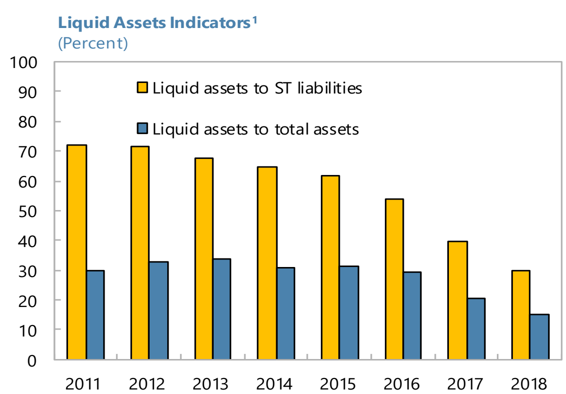
Non-performing loans decreased while the coverage ratio improved.



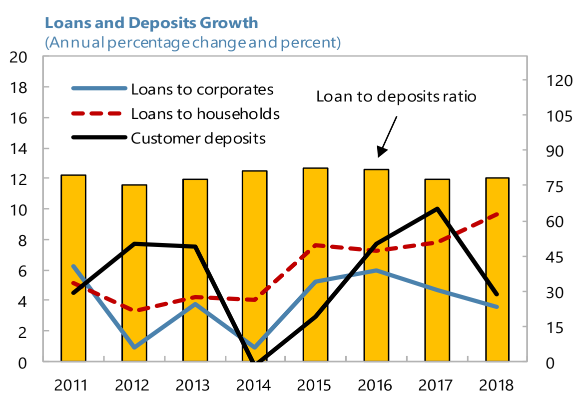
Banks' profitability has remained stable.



Reported liquidity ratios have declined though system liquidity remains stable.



Loan-to-deposit ratios have declined.



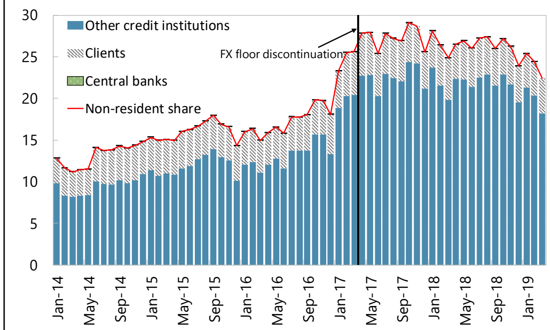
Sources: IMF, FSI database; and Czech National Bank.

[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.

26. The authorities have appropriately responded with increasing capital requirements. The counter-cyclical capital buffer, currently at 1.25 percent, will increase to 1.5 percent in July 2019 and to 1.75 percent in January 2020. (The systemic risk buffers applying to the five domestic systemically-important banks remain unchanged.)

27. The high level of foreign deposits has remained since the release of the koruna floor in April 2017, mostly because of deposits from other credit institutions (rather than direct "client" deposits). A benign explanation is that Czech yields have remained attractive as domestic interest rates have increased and those in e.g. the euro area have not. Recent cases of money laundering across Europe, however, have revealed weaknesses in AML/CFT regimes, and raise concerns about cross-border flows.

Foreign Deposit Share of Bank Liabilities
(Percent)



Source: Haver Analytics.

28. Authorities should closely monitor foreign financial flows. Authorities should actively seek information on the sources of foreign funds, including country of origin and other movements of funds associated with non-resident accounts. This is in line with the recent comprehensive AML/CFT assessment for the Czech Republic, which recommends that authorities focus on risks associated with foreign flows to prevent financial institutions and others, such as real estate professionals and lawyers, from acting as intermediaries for the integration of foreign criminal assets into the Czech financial system.

29. Staff recommends that authorities continue to focus AML/CFT supervisory efforts on non-resident clients. AML/CFT supervision for banks is undertaken by both the CNB and FAU. AML/CFT supervisors should ensure that banks have an appropriate understanding of their customers, including of their non-resident clients (which should be subject to customer due diligence measures even when introduced by a foreign parent bank). The AML/CFT supervisors' effectiveness at mitigating risks could be further enhanced by mobilizing existing CNB information on cross-border financial flows to complement off-site supervisory tools, and by ensuring that banks report aggregate data related to foreign customers, which should also take into account foreign beneficial owners. Authorities should apply proportionate and dissuasive sanctions for breaches in AML/CFT compliance. In view of the ongoing relevance of these issues, authorities should consider increasing resources for AML/CFT supervision.

Authorities' Views

30. The authorities see the financial system as stable. Risks from residential property lending are still present, albeit somewhat lower than in 2018. The CNB is seeking legal powers to set the LTV, DTI and DSTI limits, to ensure that conditions are the same across all lenders. Authorities have been focusing on AML/CFT supervision of banks, including on non-resident accounts. Authorities emphasize the need for banks to conduct customer due diligence on all their clients, including those that have been introduced by other banks. However, they noted that the vast majority of non-resident funds in the Czech banks are deposits of their foreign holding company banks in the context of their global liquidity management. In this case, responsibility for AML/CFT procedures, including identification of the source of funds, lies with the parent bank. Authorities will continue to monitor foreign flows associated with non-resident accounts.

D. Macro- and Structural-Fiscal Policy

31. The 2018 fiscal outturn was positive, but weaker than projected. The general government balance was 0.9 percent of GDP in 2018 (0.5 percent in structural terms), 0.7 percentage points lower than projected in the November 2018 Fiscal Outlook and driven mainly by higher spending, including on investment (up by 28 percent), the government wage bill (13 percent), and intermediate consumption (10 percent). Personal income taxes and social security contributions increased by 14 and 10 percent, respectively. General government gross debt declined to 32.7 percent of GDP by the end of the year.

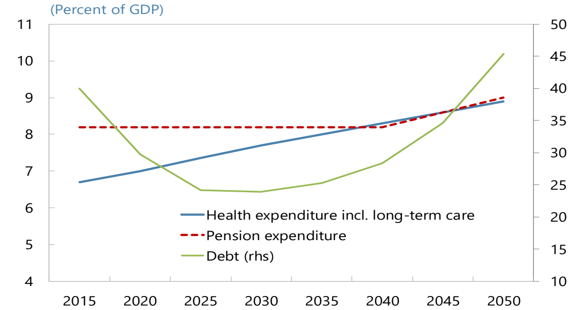
32. A moderate surplus is expected in 2019. Buoyant revenues, in particular personal income taxes and social contributions are expected to partly offset discretionary expenditure measures, including increases in pensions and salaries of government employees. The headline balance is projected to be 0.2 percent of GDP in 2019; the same as the structural balance and well within the 1-percent-of-GDP deficit limit from fiscal rules. This implies a moderate fiscal impulse of around 0.4 percent of GDP during 2019, driven by discretionary measures, but also productivity-enhancing investment spending related to EU structural funds absorption.

Text Table 1. Czech Republic: Fiscal Stance
(In percent of GDP)

	2018	2019	2020	2021	2022	2023	2024
				Proj.			
Net lending/borrowing (overall balance)	0.9	0.2	-0.1	-0.2	-0.4	-0.4	-0.4
Primary balance	1.5	0.8	0.4	0.3	0.1	0.0	0.0
Structural balance [1]	0.5	0.2	-0.1	-0.2	-0.4	-0.4	-0.4
Change in cyclically adjusted primary balance	-0.6	-0.5	-0.3	-0.2	-0.2	0.0	0.0
Structural balance excl revenues from EU [2]	-0.4	-0.9	-1.2	-1.0	-1.2	-1.2	-1.1
Public debt	32.7	31.7	30.6	29.8	29.1	28.2	27.4

Source: Czech Ministry of Finance, Czech National Bank, and Fund staff projections.
[1] In percent of potential GDP.
[2] Item is net of receipts of EU Structural and Cohesion Funds; In percent of potential GDP

Age-Related Expenditures and Debt
(Percent of GDP)

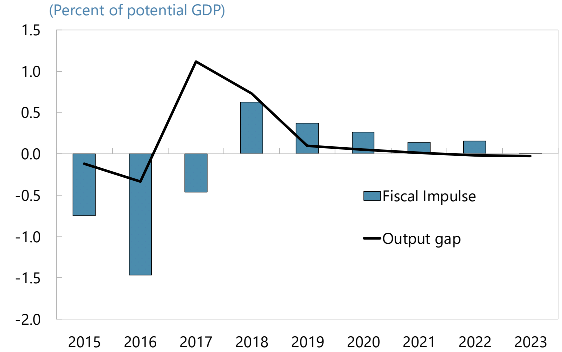


Source: IMF staff projections.

33. The April 2019 convergence program projects a small nominal deficit in 2020, but ongoing discussions may result in a different final budget. A softening macroeconomic environment and several proposed discretionary expenditure measures will contribute to a moderately deteriorating fiscal balance. Proposed measures include an increase in the parental allowance, costing about 0.2 percent of GDP, and an increase in pensions costing about 0.1 percent of GDP.

34. The Czech Republic currently has substantial fiscal space, as debt is sustainable and financing risks are low. General government gross debt is projected to decline over the medium term under the baseline and stress scenarios (Annex V—Public Debt Sustainability Analysis). But it will pick up in the longer term owing to increases in age-related expenditures.[13]

Fiscal Impulse and the Business Cycle
(Percent of potential GDP)



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

35. In the short run, a broadly neutral fiscal stance is appropriate. Given existing pressures on demand, no further macroeconomic stimulus is warranted. However, given uncertainties around the estimates of the output gap and downside risks associated with a cooling of the external environment, a substantial tightening would be risky, and would not be helpful over the longer term if it implied sacrifices in public investment in infrastructure and skills.

36. Introducing sectoral taxes could create distortions for little in the way of revenue. Applied extensively, they could damage the attractiveness of the Czech economy as a place for foreign firms to invest.

- Plans are underway for an extra "digital tax" to be levied on companies with annual revenues over €750 million. The proposed rate of 7 percent is notably higher than those announced by some other European countries. Staff estimates this would yield about 0.1 percent of GDP in extra revenue.[14] Staff supports internationally-coordinated reform to corporate income taxes to address tax avoidance by multinational enterprises, including digital companies. But unilateral actions by countries might only succeed in harming the economy: such taxes can lead to "double taxation" and distort incentives.

- Various proposals are currently mooted for extra taxes on bank assets or incomes. Staff sees a potential role for bank taxes for prudential reasons,[15] but the proposals are for raising general revenue, and banks in the EU already make contributions to a resolution fund intended to insure against costs to the taxpayer of bank failures. Taxing bank assets in effect penalizes banks for holding capital, and the costs might be passed on to consumers.

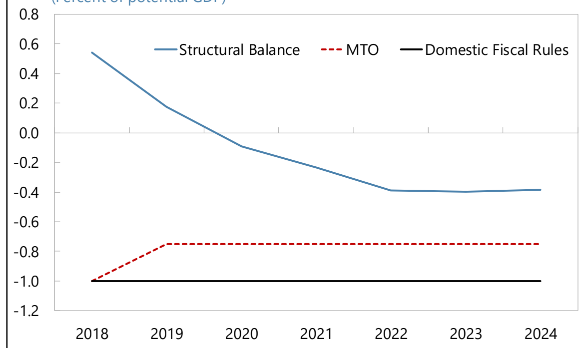
[13] The debt path depicted in the chart incorporates estimates of the population aging impact on the labor force and on labor productivity, assuming a steady decline in GDP growth to 1 percent in 2040, from 2 percent in 2023. The scenario assumes the nominal interest rate is equal to the 2023 forward rate on 10-year CZE bonds and that inflation is at the 2 percent target.

[14] This is not included in the projected headline deficit of 0.2 percent of GDP.

[15] See Claessens, Stijn, Michael Keen, and Ceyla Pazarbasioglu, 2010, Financial Sector Taxation: The IMF's Report to the G-20 and Background Material.

37. Over the medium term, low public debt and funding costs offer an opportunity to raise productive capacity, albeit constrained by fiscal rules. Gross financing needs and borrowing costs are low with a maximum spread over German 10-year Bunds of 200 basis points over the past 5 years (Annex V—Public Debt Sustainability Analysis). The structural balance is projected to remain above the medium-term budgetary objective of -0.75 percent of GDP allowed under the rules of the Stability and Growth Pact and the -1 percent of GDP under domestic fiscal rules. Using all available fiscal space allowed under the fiscal rules could help finance measures to increase potential growth (and therefore ease later debt pressures), before long-term spending pressures from healthcare and pensions set in.

Structural Balance and Fiscal Rules
(Percent of potential GDP)



Source: IMF staff projections.

38. Fiscal and macro-structural policies should aim to boost productivity and labor supply.

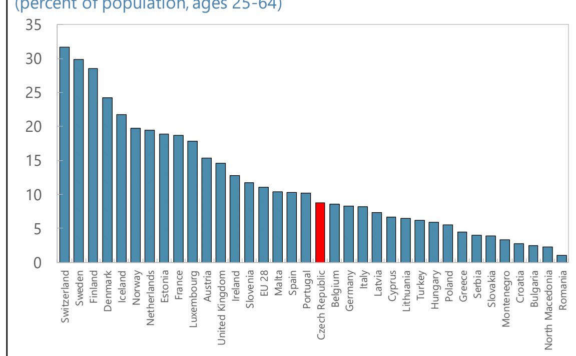
Boosting productivity

- Public investment has been above the EU average over the past 20 years. Nevertheless, firms cite problems with public infrastructure, such as roads, railways and ports. Investment in R&D is below Euro Area and EU averages. The government has published an *Innovation Strategy for the Czech Republic 2019-2030*, which recognizes many of these issues. Focus should now lie on its swift and efficient implementation.

- Coordination and collaboration across ministries and the layers of central, regional, and municipal bodies should be improved to increase the efficiency of public services and shorten approval times for construction permits, thus easing housing supply pressures.[16]

- Upskilling of existing labor would provide workers with improved skillsets to meet future demand for higher-skilled employment. At a time when unemployment is so low, funds for direct job subsidies (unless for disadvantaged groups such as the disabled) would be better directed toward training the workforce—lifelong learning programs and vocational training to adapt and improve worker skills can increase productivity and innovation and help alleviate labor market pressures.[17]

Participation in Adult Learning, 2018
(percent of population, ages 25-64)



Source: Eurostat

[16] A new Act that is being prepared that aims to simplify the construction code.

[17] The government has started to address these issues—see the *Strategy and Action Plans Work/Education 4.0*.

Boosting labor

- A long-term immigration strategy—currently under discussion—that also addresses bottlenecks in processing applications would make it easier for firms to fill vacancies.

- Participation rates have reached historical highs (Annex III), but some groups are underrepresented, in particular women. Higher female labor force participation could be achieved by increasing the number of childcare facilities.[18]

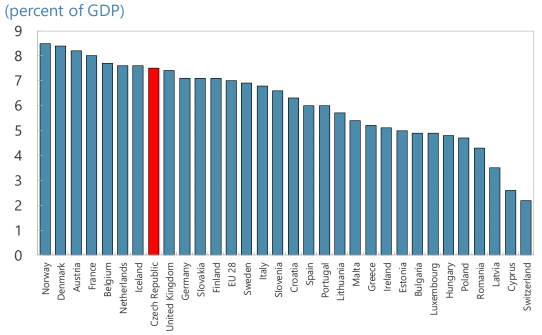
- Currently, labor laws allow overtime work only "due to serious operational reasons". Relaxing regulations that do not allow overtime work to be used in the regular planning process of employers could ease labor market pressures.[19]

- Personal indebtedness can be a significant impediment to employment, disincentivizing both workers to join to the formal labor market to avoid salary seizures and employers to hire workers to avoid having to deal with the administrative burden of complying with creditors' request. The number of people affected by enforcement orders is significant, particularly in rural regions and for low-skilled persons. A "discharge amendment" to the Insolvency Act, which takes effect in June 2019, aims to make insolvency relief easier—this is a welcome step; its effectiveness should be reviewed to see if there has been progress in reducing the numbers of those in debt traps.

39. While exploiting opportunities to boost growth, long-term fiscal spending pressures from an aging society should also be addressed early.

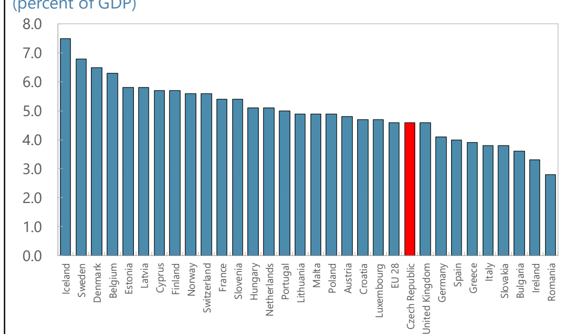
- Recent pension changes[20] improve replacement rates but worsen the long-term sustainability of the pension system. The increase in the retirement age will be capped at 65 in 2030. It should be

Public Expenditure on Health, 2017
(percent of GDP)



Source: Eurostat

Public Expenditure on Education, 2017
(percent of GDP)



Source: Eurostat

[18] See "Labor Supply in the Czech Republic: Stocktaking and Policies," *Czech Republic: Selected Issues*, International Monetary Fund, 2018.

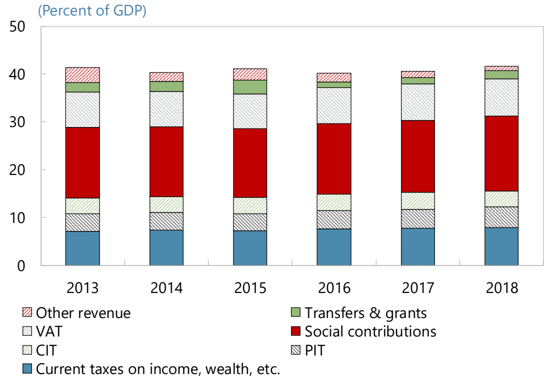
[19] The labor code restricts overtime to be used only exceptionally, in case of "serious operational reasons".

[20] The government made the pension indexation formula more generous in 2018 by taking into account one half (rather than previously one third) of real wage growth. Starting in 2019 the fixed component was further increased from 9% to 10% of the average wage and additionally by CZK 1,000 for all pensioners over the age of 85.

Figure 9. Czech Republic: Fiscal Sector

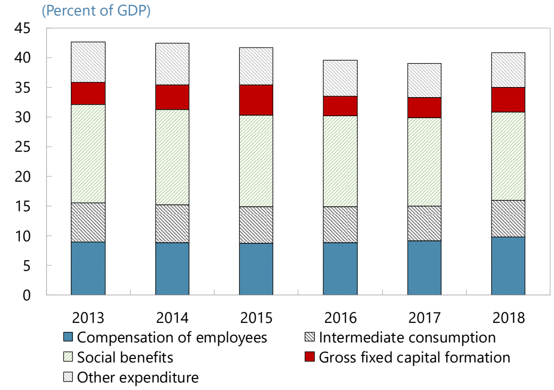
Strong economic growth has buoyed revenue collection…

General Government Revenue
(Percent of GDP)



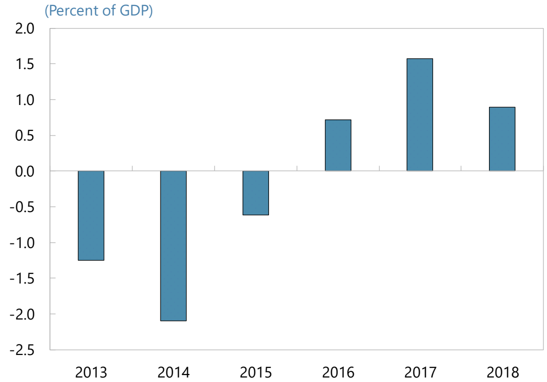
… while spending has remained contained…

General Government Expenditure
(Percent of GDP)



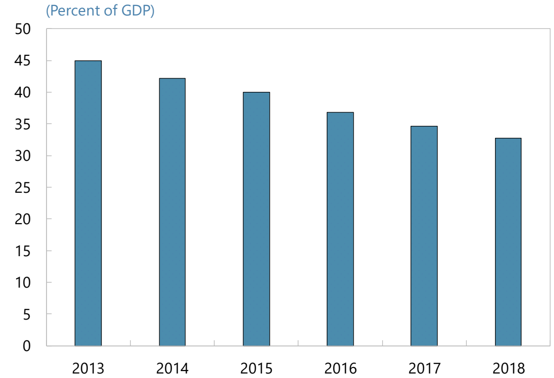
… turning the fiscal deficit into a surplus…

General Government Balance
(Percent of GDP)



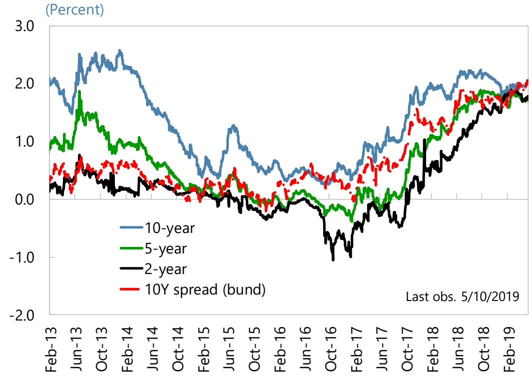
… and helping reduce debt.

Public Debt
(Percent of GDP)



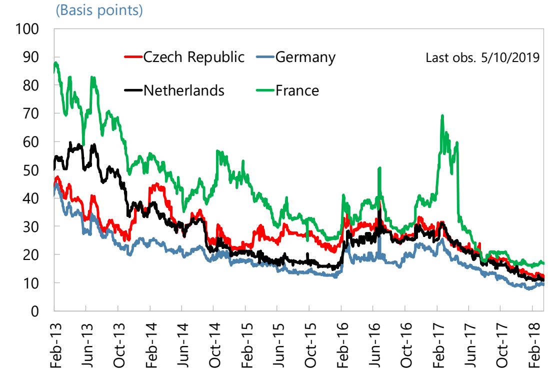
Bond yield have increased from historic lows…

Sovereign Bond Yields
(Percent)



… while CDS spreads continue to be very low.

Sovereign 5-year EUR CDS Spreads
(Basis points)

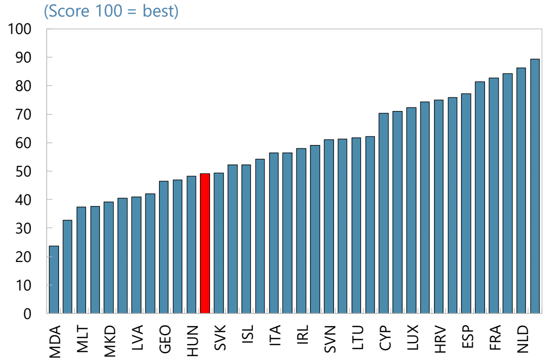


Sources: Czech Republic Ministry of Finance; Bloomberg; and IMF staff calculations.

Figure 10. Czech Republic: Structural Issues

The quality of public infrastructure can be improved.

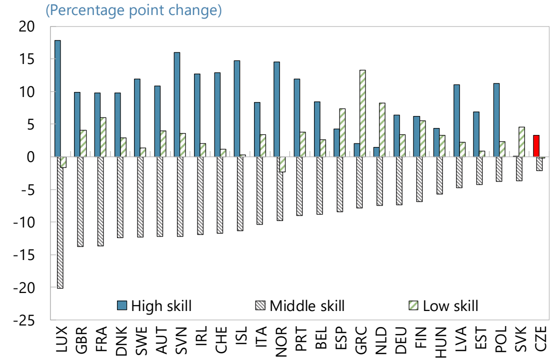
Global Competitiveness Indicators: Quality of Roads
(Score 100 = best)



Source: World Economic Forum.

The labor market is projected to shift toward higher-skilled workers.

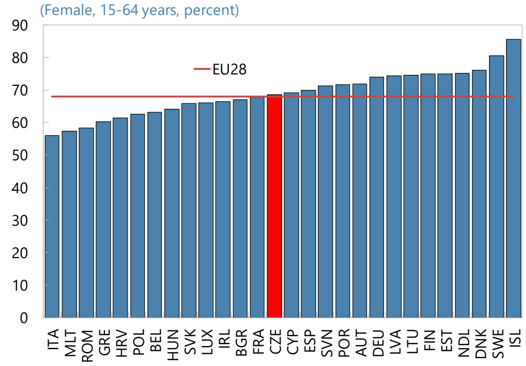
Share of Total Employment by Skill, 1997-2017
(Percentage point change)



Source: OECD.

Female labor force participation is at the EU average…

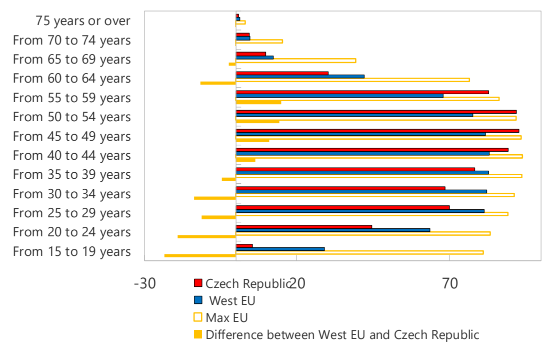
Labor Force Participation Rate, 2017
(Female, 15-64 years, percent)



Source: OECD.

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

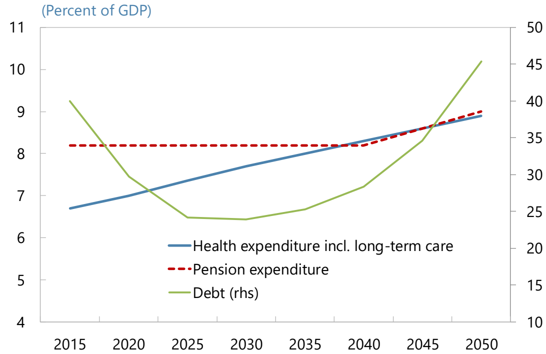
Labor Force Participation Rate by Age Group, 2017
(Female, percent)



Sources: Eurostat

Demographic shifts will impose spending pressures…

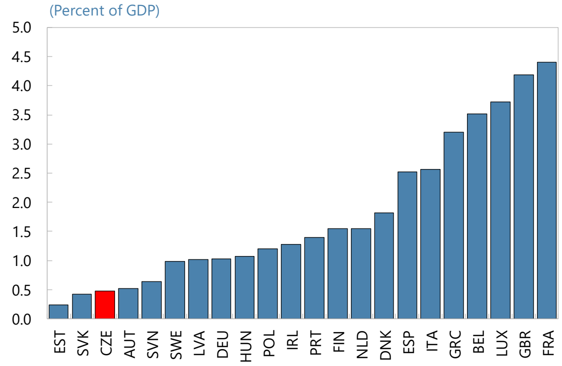
Age-Related Expenditures and Debt
(Percent of GDP)



Source: IMF Staff Projections

… which could partly be financed by a stronger reliance on property taxes.

Property Income Tax, 2017
(Percent of GDP)



Source: OECD.

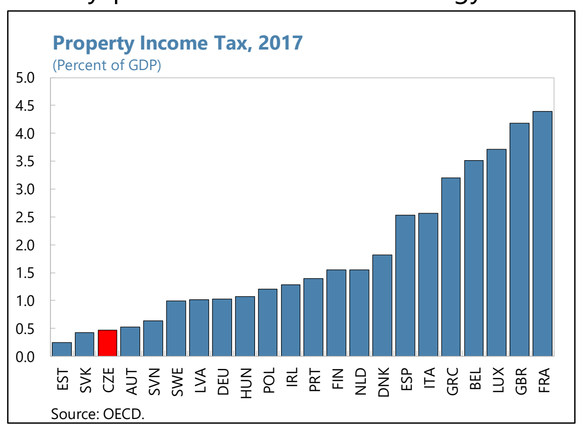
linked to life expectancy instead of the current periodic review of the retirement age. The government is expected to issue a report on the pension system in 2019.

- Increasing health spending efficiency could free up resources for higher spending on education, upskilling and reskilling of the labor force, and innovation.[21]

- Revenues from property taxes are noticeably low in comparison to other countries. Taxation should be focused more on value-based property taxes. The additional revenue could be used for growth and productivity-enhancing programs.

Authorities' Views

40. The authorities reiterated their commitment to fiscal discipline, citing long-term debt sustainability problems. They agreed that the fiscal stance will be procyclical in 2020, but pointed to the softening macroeconomic environment, while arguing that supply constraints and fiscal rules impose limits on further spending. They acknowledged the need for coordination across government bodies and strategic plans and cited the recently-published Innovation Strategy as an important step toward boosting the supply side of the economy. They recognized the need for boosting workforce participation and skills, pointing to efforts to improve certification of qualifications in support of life-long learning and significant improvements in the provision of childcare facilities, albeit limited by a lack of qualified personnel. They expressed concerns that valuation-based property taxation could potentially penalize low income households with limited ability to pay.



E. Governance

41. The Czech Republic has demonstrated its commitment to improve and put in place measures and good practices which could help combat foreign bribery. Staff's assessment is based on a summary of the OECD Working Group on Bribery in International Business Transaction (WGB) Phase 4 Report on the Czech Republic in June 2017.[22] The Report noted that the authorities have put in place a number of useful measures and good practices that could help facilitate enforcement actions, including effective use of mutual legal assistance requests to detect foreign bribery cases; successful use of non-financial evidence to obtain convictions; establishment of joint investigation teams to pursue transnational investigations; and the recent establishment of

[21] See IMF Country Report No. 18/187.

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

centralized registries for bank accounts, beneficial ownership information of legal persons and arrangements, and contracts.

42. The WGB recommended that authorities strengthen their efforts to detect, investigate and prosecute foreign bribery. It emphasized that authorities should prioritize efforts to pursue foreign bribery cases, taking into account the export-oriented nature of the Czech economy, which includes high-risk sectors for bribery such as machinery and defense materials and destination of exports to high-risk countries for corruption, and noting the lack of convictions in such cases. The WGB noted that the authorities should ensure the availability of adequate analytical resources to investigate foreign bribery and strengthen the independence of the prosecution and enhance whistleblower protections. Further guidance (e.g., jurisprudence, additional practical information) on the exemption related to "justly required efforts" under the Act on Criminal Liability of Legal Entities should be provided. Authorities should also make better use of AML/CFT framework to detect incidences of foreign bribery, including by encouraging designated non-financial businesses and professions (DNFBPs)—e.g. real estate agents, gambling companies, tax advisors and legal professionals—to submit suspicious transaction reports. Staff agrees with these recommendations and urges the authorities to move forward to implement them.

43. Strengthening the AML/CFT framework can help address laundering of proceeds of foreign acts of corruption. The AML/CFT assessment report by MONEYVAL and the 2016 National Risk Assessment identified corruption as one the main proceed-generating crimes, including concerns that the Czech Republic has been used to launder foreign proceeds of corruption. In line with the risks identified, it recommended that further analysis be undertaken in relation to the laundering of foreign proceeds, including through fictitious entrepreneurships and real estate business. It recognized that authorities have achieved a considerable number of ML convictions; however, there is a need to devote greater resources to large-scale and complex ML prosecutions; these should be more closely aligned with key ML risks. The report recognized the establishment of a Register of Beneficial Owners and recommended that measures be put in place to ensure that basic and beneficial ownership information is adequate, accurate and current. Authorities should continue to strengthen the supervisory framework for financial institutions and DNFBPs, including applying dissuasive and proportional sanctions for AML/CFT breaches. Finally, it recognized that authorities have pro-actively engaged in relation to foreign requests for international cooperation.

Authorities' Views

44. The authorities are working to implement the recommendations of the WGB report and AML/CFT assessment report. Authorities acknowledged the IMF's initiative to address supply side issues of corruption and noted that they had volunteered to be part of this assessment. The Czech Republic will be presenting its Phase 4 two-year written follow-up report on progress implementing the WGB's recommendation at the WGB Plenary in June 2019, following which the report will be published. Authorities are working to implement the EU's 5th AML Directive, which will include strengthening the Register of Beneficial Ownership (e.g. introduce sanctions for lack of compliance).

STAFF APPRAISAL

45. The economy is doing well but is up against capacity constraints. There are no major imbalances, but growth is expected to slow as supply pressures bite.

46. The real exchange rate is moderately undervalued, and likely to appreciate over the medium term. The REER has appreciated steadily since 2016, but the external position in 2018 was nonetheless moderately stronger than the level consistent with fundamentals and medium-term policies. The current account balance is expected to converge to a small deficit over the medium term, supported by household income growth and small fiscal deficits.

47. The current policy mix is appropriate. Staff favors holding policy conditions as present, with a bias to raising policy interest rates rather than tightening the fiscal stance if inflation pressures were to continue, which would be more consistent with gradual exchange rate appreciation. Macroprudential measures can help insure that households do not take on too much debt. But they should be complemented with measures to enhance housing supply. If external conditions were to be substantially worse than expected, the first response would be to ease policy rates and allow automatic fiscal stabilizers to work; if shocks are persistent, there is ample space for discretionary fiscal easing.

48. Over the longer term, a durable and coordinated policy agenda that facilitates higher productivity is crucial for staying on a path of increasing living standards. Coordination across government—among ministries, and across the layers of central, regional, and municipal bodies—needs improvement, so that plans are implemented effectively and bottlenecks in labor supply, housing, and infrastructure are addressed.

49. The focus for fiscal policy should be on spending and revenue choices that are as friendly as possible to raising growth. The obvious—albeit constrained by the fiscal rules—would be investment in public goods that boosts productive potential, especially given that public debt, already low, will decrease further over the next few years and the costs of funding such investment are still low. This investment includes not just major physical structures—roads, for example—but resources such as child care and "intangibles" such as education and digital access. Hard choices will also need to be made over social spending ahead of further population aging; otherwise, policy should seek efficiency gains. Targeting extra taxes at particular sectors risks distorting economic incentives for potentially little return in revenues.

50. The banking system is stable, well capitalized, and well placed to direct credit toward investment. Recent cases of money laundering (ML) in several EU countries, however, have revealed weaknesses in AML/CFT regimes across Europe, heightening concerns about cross-border flows. The authorities should continue their AML/CFT efforts, monitoring financial flows coming into and going out of the Czech Republic, especially those associated with non-resident accounts, and identifying sources of foreign funds. The authorities should also continue to monitor ML risks associated with the real estate sector, including by enhancing data collection on non-residents and beneficial owners.

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

Table 1. Czech Republic: Selected Economic Indicators, 2014–24

(Annual percent change, unless otherwise indicated)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
						Staff projections					
NATIONAL ACCOUNTS											
Real GDP (expenditure)	2.7	5.3	2.5	4.4	2.9	2.5	2.6	2.6	2.5	2.5	2.5
Domestic demand	3.4	5.9	1.1	3.5	3.9	3.1	3.2	3.0	2.9	2.9	2.9
Consumption	1.6	3.2	3.4	3.4	3.3	2.7	2.7	2.6	2.4	2.4	2.4
Public	1.1	1.9	2.7	1.3	3.7	2.4	2.5	1.8	1.7	1.7	1.7
Private	1.8	3.7	3.6	4.3	3.2	2.8	2.8	2.9	2.8	2.8	2.8
Investment	8.6	13.0	-4.3	4.0	5.5	4.2	4.3	4.0	3.9	3.9	3.9
Exports	8.7	6.0	4.3	6.7	4.5	4.0	4.1	4.2	4.2	4.2	4.2
Imports	10.1	6.8	2.8	5.9	6.0	5.0	4.9	4.7	4.7	4.7	4.7
Contribution to GDP											
Domestic demand	3.1	5.5	1.1	3.3	3.7	3.0	3.0	2.8	2.7	2.7	2.8
Net exports	-0.4	-0.2	1.4	1.0	-0.8	-0.5	-0.4	-0.2	-0.2	-0.2	-0.2
Investment (percent of GDP)	25.1	26.5	24.9	24.8	26.2	26.4	26.6	26.8	26.9	27.0	27.1
Gross domestic investments (percent of GDP)	25.9	28.0	26.0	25.9	26.2	26.3	26.6	26.7	26.8	27.0	27.1
Gross national savings (percent of GDP)	26.1	28.2	27.5	27.5	26.5	26.4	26.4	26.5	26.5	26.6	26.6
LABOR MARKET											
Employment	0.7	1.4	1.9	1.6	1.4	0.0	0.0	0.0	0.0	-0.2	-0.2
Total labor compensation	3.5	5.0	5.9	8.3	9.5	7.2	5.1	4.7	4.6	4.5	4.5
Unemployment rate (in percent)	6.1	5.0	3.9	2.9	2.2	2.2	2.3	2.5	2.8	3.0	3.2
PRICES											
Consumer prices (average)	0.4	0.3	0.7	2.5	2.2	2.5	2.3	2.0	2.0	2.0	2.0
Consumer prices (end-of-period)	0.1	0.0	2.0	2.4	2.0	2.3	2.0	2.0	2.0	2.0	2.0
Producer price index (average)	-0.8	-3.2	-3.2	1.8	2.0	…	…	…	…	…	…
GDP deflator (average)	2.5	1.2	1.3	1.4	2.1	2.8	2.4	2.0	2.0	1.9	1.9
MACRO-FINANCIAL											
Money and credit (end of year, percent change)											
Broad money (M3)	5.9	8.0	6.5	10.4	6.3	…	…	…	…	…	…
Private sector credit	3.6	6.5	7.8	5.9	6.9	…	…	…	…	…	…
Interest rates (in percent, year average)											
Three-month interbank rate	0.4	0.3	0.3	0.4	1.3	…	…	…	…	…	…
Ten-year government bond	1.6	0.6	0.4	1.0	2.0	…	…	…	…	…	…
Exchange rate											
Nominal effective exchange rate (index, 2005=100)	111.5	110.1	112.9	117.1	122.4	…	…	…	…	…	…
Real effective exchange rate (index, CPI-based; 2005=100)	110.2	108.2	110.7	115.3	121.1	…	…	…	…	…	…
PUBLIC FINANCE (percent of GDP)											
General government revenue	40.3	41.1	40.2	40.5	41.7	41.8	41.6	41.5	41.4	41.3	41.2
General government expenditure	42.4	41.7	39.5	38.9	40.8	41.6	41.7	41.7	41.8	41.7	41.6
Net lending / Overall balance	-2.1	-0.6	0.7	1.6	0.9	0.2	-0.1	-0.2	-0.4	-0.4	-0.4
Primary balance	-1.0	0.3	1.5	2.2	1.5	0.8	0.4	0.3	0.1	0.1	0.1
Structural balance (percent of potential GDP)	-1.5	-0.8	0.7	1.2	0.5	0.2	-0.1	-0.2	-0.4	-0.4	-0.4
General government debt	42.2	40.0	36.8	34.7	32.7	31.7	30.6	29.8	29.1	28.2	27.4
BALANCE OF PAYMENTS (percent of GDP)											
Trade balance (goods and services)	6.4	5.8	7.4	7.7	6.4	5.9	5.4	5.1	4.9	4.7	4.5
Current account balance	0.2	0.2	1.6	1.7	0.3	0.1	-0.2	-0.2	-0.3	-0.4	-0.4
Gross international reserves (billions of euros)	44.9	59.2	81.3	123.4	124.5	126.8	129.2	132.1	135.4	139.2	143.3
(in months of imports of goods and services)	4.1	5.6	7.7	10.7	10.0	9.7	9.5	9.2	8.9	8.7	8.4
(in percent of short term debt, remaining maturity)	88.0	105.6	121.2	121.7	122.7	124.4	126.4	128.6	131.3	134.3	137.5
MEMORANDUM ITEMS											
Nominal GDP (USD billions)	207.8	186.8	195.1	215.9	244.1	248.4	263.7	277.7	292.4	306.8	322.8
Population (millions)	10.5	10.5	10.6	10.6	10.6	10.6	10.6	10.6	10.7	10.7	10.7
GDP per capita (USD)	19,769	17,729	18,485	20,410	23,007	23,382	24,794	26,082	27,432	28,762	30,245
Real GDP per capita	2.8	5.1	2.3	4.1	2.6	2.3	2.5	2.5	2.5	2.5	2.5
Output gap (percent of potential output)	-3.0	-0.1	-0.3	1.1	0.7	0.1	0.1	0.0	0.0	0.0	0.0

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

Table 2. Czech Republic: Balance of Payments, 2014–24
(Percent of GDP)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
						Staff Projections					
Current account balance	0.2	0.2	1.6	1.7	0.3	0.1	-0.2	-0.2	-0.3	-0.4	-0.4
Trade balance	5.1	4.1	5.2	5.1	4.1	3.7	3.3	3.1	2.9	2.6	2.4
Exports	70.5	68.6	66.9	67.4	66.3	65.5	65.0	65.2	65.6	66.0	66.7
Imports	65.4	64.5	61.8	62.3	62.2	61.8	61.7	62.1	62.7	63.4	64.2
Nonfactor services	1.3	1.7	2.3	2.5	2.3	2.2	2.1	2.1	2.1	2.0	2.0
Receipts	12.1	12.2	12.4	12.6	12.5	12.3	12.2	12.3	12.3	12.4	12.5
Payments	10.8	10.5	10.2	10.1	10.2	10.1	10.1	10.2	10.3	10.4	10.5
Factor income (net)	-6.0	-5.5	-5.3	-5.1	-5.3	-5.1	-4.9	-4.7	-4.6	-4.4	-4.3
Transfers	-0.2	0.0	-0.6	-1.0	-0.8	-0.8	-0.7	-0.7	-0.7	-0.6	-0.6
Capital account	0.7	2.2	1.1	0.8	0.3	0.1	0.4	0.6	0.9	1.1	1.2
Errors and omissions	0.5	1.4	-0.2	-0.1	-0.3	0.0	0.0	0.0	0.0	0.0	0.0
Financial account (change in stocks, + = increase)	1.5	3.8	2.5	2.4	0.2	0.2	0.2	0.4	0.6	0.7	0.8
Direct investment, net	-1.9	1.1	-3.9	-0.9	-1.7	-2.2	-2.1	-2.1	-2.1	-2.1	-2.1
Portfolio investment, net	2.1	-3.6	-3.6	-5.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5
Other investment and derivatives, net	-0.5	-1.3	-2.1	-15.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Reserve assets	1.7	7.6	11.8	24.7	0.9	1.1	1.1	1.2	1.3	1.4	1.5
Memorandum items											
Gross official reserves (billions of euros)	44.9	59.2	81.3	123.4	124.5	126.8	129.2	132.1	135.4	139.2	143.3
in months of the current year's imports	4.1	5.6	7.7	10.7	10.0	9.7	9.5	9.2	8.9	8.7	8.4
as a ratio to the short-term debt	88.0	105.6	121.2	121.7	122.7	124.4	126.4	128.6	131.3	134.3	137.5
External debt, percent of GDP	68.0	68.5	73.4	89.5	83.0	79.3	75.8	72.7	69.8	67.2	64.6

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

Table 3. Czech Republic: General Government Operations, 2014–24

(Percent of GDP)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
						Staff Projections					
Revenue	**40.3**	**41.1**	**40.2**	**40.5**	**41.7**	**41.8**	**41.6**	**41.5**	**41.4**	**41.3**	**41.2**
Taxes	19.1	19.5	19.9	20.2	20.3	20.2	20.0	19.9	19.8	19.7	19.6
Personal income tax	3.7	3.6	3.8	4.0	4.3	4.5	4.6	4.6	4.6	4.6	4.6
Corporate income tax	3.3	3.4	3.5	3.5	3.3	3.2	3.2	3.2	3.2	3.2	3.2
VAT	7.4	7.3	7.4	7.7	7.7	7.7	7.6	7.7	7.7	7.8	7.8
Excise	3.5	4.0	3.8	3.7	3.5	3.4	3.2	3.1	3.0	2.9	2.7
Other taxes	1.2	1.2	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Social contributions	14.6	14.4	14.7	15.0	15.7	16.0	16.0	16.0	16.0	16.0	16.0
Capital and other current transfers and subsidies	2.2	3.0	1.5	1.5	1.8	1.7	1.8	1.8	1.8	1.8	1.8
Other revenue	4.4	4.2	4.1	3.8	3.9	3.9	3.9	3.9	3.9	3.9	3.8
Property income	0.9	0.8	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Sales of goods and services	3.5	3.4	3.3	3.2	3.3	3.2	3.2	3.2	3.2	3.2	3.2
Other revenue	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Expenditure	**42.4**	**41.7**	**39.5**	**38.9**	**40.8**	**41.6**	**41.7**	**41.7**	**41.8**	**41.7**	**41.6**
Expense	**38.3**	**36.6**	**36.2**	**35.6**	**36.7**	**37.4**	**37.5**	**37.4**	**37.3**	**37.2**	**37.1**
Compensation of employees	8.8	8.7	8.8	9.1	9.8	10.4	10.3	10.4	10.4	10.4	10.4
Use of goods and services	6.4	6.2	6.1	5.9	6.1	6.0	5.9	5.8	5.8	5.7	5.6
Interest	1.3	1.1	0.9	0.7	0.8	0.7	0.7	0.6	0.6	0.6	0.6
Subsidies	2.3	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Grants	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Social benefits	16.1	15.4	15.3	14.9	14.9	15.2	15.5	15.5	15.5	15.5	15.5
Other expenses	3.0	2.6	2.6	2.5	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Net acquisition of nonfinancial assets	**4.1**	**5.1**	**3.3**	**3.4**	**4.1**	**4.2**	**4.2**	**4.3**	**4.5**	**4.5**	**4.5**
Gross Operating Balance	**2.0**	**4.5**	**0.7**	**5.0**	**5.0**	**4.4**	**4.1**	**4.1**	**4.1**	**4.1**	**4.1**
Net lending/borrowing (overall balance)	**-2.1**	**-0.6**	**0.7**	**1.6**	**0.9**	**0.2**	**-0.1**	**-0.2**	**-0.4**	**-0.4**	**-0.4**
Net financial transactions	**-2.1**	**-0.6**	**0.7**	**1.6**	**0.9**	**0.2**	**-0.1**	**-0.2**	**-0.4**	**-0.4**	**-0.4**
Net acquisition of financial assets	**-2.4**	**0.3**	**-1.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Net incurrence of liabilities	**-0.4**	**0.9**	**-1.9**	**-1.6**	**-0.9**	**-0.2**	**0.1**	**0.2**	**0.4**	**0.4**	**0.4**
Adjustment and statistical discrepancies 1/	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Memorandum item:											
General government debt	42.2	40.0	36.8	34.7	32.7	31.7	30.6	29.8	29.1	28.2	27.4
Primary balance	-1.0	0.3	1.5	2.2	1.5	0.8	0.4	0.3	0.1	0.1	0.1
Structural balance 2/	-1.5	-0.8	0.7	1.2	0.5	0.2	-0.1	-0.2	-0.4	-0.4	-0.4
Cyclically adjusted primary balance	0.1	0.3	1.6	1.8	1.2	0.7	0.4	0.3	0.1	0.1	0.1
Change in cyclically adjusted primary balance	-1.4	0.3	1.3	0.2	-0.6	-0.5	-0.3	-0.2	-0.2	0.0	0.0
Output gap	-3.0	-0.1	-0.3	1.1	0.7	0.1	0.1	0.0	0.0	0.0	0.0
Nominal GDP (billions of Koruny)	4,314	4,596	4,768	5,047	5,304	5,587	5,870	6,147	6,430	6,719	7,024

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.

Table 4. Czech Republic: Macroeconomic Framework, 2014–24
(Annual percent change, unless otherwise indicated)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
						Staff projections					
Real sector											
	(Annual growth rates, percent, unless otherwise noted)										
Real GDP	2.7	5.3	2.5	4.4	2.9	2.5	2.6	2.6	2.5	2.5	2.5
Private consumption	1.8	3.7	3.6	4.3	3.2	2.8	2.8	2.9	2.8	2.8	2.8
Public consumption	1.1	1.9	2.7	1.3	3.7	2.4	2.5	1.8	1.7	1.7	1.7
Investment	8.6	13.0	-4.3	4.0	5.5	4.2	4.3	4.0	3.9	3.9	3.9
Fixed investment	3.9	10.2	-3.1	3.7	10.5	4.2	4.3	4.0	3.9	3.9	3.9
Exports, goods and services	8.7	6.0	4.3	6.7	4.5	4.0	4.1	4.2	4.2	4.2	4.2
Imports, goods and services	10.1	6.8	2.8	5.9	6.0	5.0	4.9	4.7	4.7	4.7	4.7
contribution of net exports (percent)	-0.4	-0.2	1.4	1.0	-0.8	-0.5	-0.4	-0.2	-0.2	-0.2	-0.2
Inflation (CPI, percent)	0.4	0.3	0.7	2.5	2.2	2.5	2.3	2.0	2.0	2.0	2.0
Unemployment (percent of labor force)	6.1	5.0	3.9	2.9	2.2	2.2	2.3	2.5	2.8	3.0	3.2
Output gap 1/	-3.0	-0.1	-0.3	1.1	0.7	0.1	0.1	0.0	0.0	0.0	0.0
Gross domestic savings (in percent of GDP)	26.1	28.2	27.5	27.5	26.5	26.4	26.4	26.5	26.5	26.6	26.6
Public	12.3	13.2	13.8	14.5	14.7	14.4	14.2	14.1	14.0	14.0	14.0
Private	13.8	15.0	13.7	13.0	11.8	12.0	12.2	12.3	12.5	12.6	12.6
Gross capital formation (in percent of GDP)	25.9	28.0	26.0	25.9	26.2	26.3	26.6	26.7	26.8	27.0	27.1
Balance of payments											
Current account balance	0.2	0.2	1.6	1.7	0.3	0.1	-0.2	-0.2	-0.3	-0.4	-0.4
Trade balance	5.1	4.1	5.2	5.1	4.1	3.7	3.3	3.1	2.9	2.6	2.4
Services balance	1.3	1.7	2.3	2.5	2.3	2.2	2.1	2.1	2.1	2.0	2.0
Net factor income	-6.0	-5.5	-5.3	-5.1	-5.3	-5.1	-4.9	-4.7	-4.6	-4.4	-4.3
Current transfers	-0.2	0.0	-0.6	-1.0	-0.8	-0.8	-0.7	-0.7	-0.7	-0.6	-0.6
Capital account balance	0.7	2.2	1.1	0.8	0.3	0.1	0.4	0.6	0.9	1.1	1.2
Errors and omissions, net	0.5	1.4	-0.2	-0.1	-0.3	0.0	0.0	0.0	0.0	0.0	0.0
Financial account balance (change in stocks, + = increase)	1.5	3.8	2.5	2.4	0.2	0.2	0.2	0.4	0.6	0.7	0.8
Direct investment, net	-1.9	1.1	-3.9	-0.9	-1.7	-2.2	-2.1	-2.1	-2.1	-2.1	-2.1
Portfolio investment, net	2.1	-3.6	-3.6	-5.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5
Other investment and derivatives, net	-0.5	-1.3	-2.1	-15.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Reserve assets	1.7	7.6	11.8	24.7	0.9	1.1	1.1	1.2	1.3	1.4	1.5

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

Table 5. Czech Republic: Financial Soundness Indicators, 2012–18

(In percent, unless otherwise indicated)

	2012	2013	2014	2015	2016	2017	2018
Capital							
Regulatory capital to risk-weighted assets	15.6	16.5	17.0	17.6	17.7	18.1	18.3
Regulatory Tier 1 capital to risk-weighted assets	15.2	16.2	16.5	17.1	17.1	17.5	17.8
Capital to assets (leverage ratio)	6.9	7.2	7.3	7.5	7.3	6.5	6.5
Profitability							
Return on assets	1.4	1.2	1.2	1.2	1.2	1.1	1.1
Return on equity	20.4	16.2	16.5	16.1	16.4	17.2	17.3
Interest margin to gross income	60.7	59.9	61.8	60.8	59.0	59.2	64.8
Non-interest expenses to gross income	46.9	46.8	47.2	47.5	46.9	47.1	47.1
Trading income to total income	8.9	8.7	6.3	9.9	11.3	12.7	6.8
Personnel expenses to total income	41.2	41.4	40.1	40.9	42.5	43.4	44.5
Liquidity							
Liquid assets to total assets[1]	32.6	33.8	30.5	31.5	29.1	20.4	15.2
Liquid assets to short-term liabilities[1]	71.4	67.4	64.9	61.7	53.8	39.8	30.0
Customer deposits to total non-interbank loans	133.1	128.3	123.2	120.9	121.9	128.3	128.2
FX loans to total loans	20.9	29.1	...	...	...	...	...
FX liabilities to total liabilities	14.1	21.5	...	...	...	...	...
Sensitivity to market risk							
Net open position in FX to capital	5.1	1.2	1.2	-0.3	0.4	0.7	1.0
Gross assets position in derivatives to capital	46.5	29.5	37.5	27.2	25.3	19.4	19.7
Gross liabilities position in derivatives to capital	40.5	29.7	34.3	24.7	22.6	19.6	19.2
Net open position in equities to capital	7.8	6.2	...	...	...	...	...
Sectoral distribution of loans							
Domestic residents	84.5	84.2	84.2	85.6	87.8	90.3	90.5
Deposit takers	6.2	6.0	3.9	1.6	1.2	1.1	1.1
Central bank	11.8	17.9	18.4	22.0	28.3	40.3	38.9
Other financial corporations	3.6	3.2	4.0	4.0	4.2	3.4	3.5
General government	1.9	1.6	1.6	1.5	1.1	0.8	0.8
Nonfinancial corporations	25.9	23.5	23.4	23.2	21.6	18.0	18.3
Households	35.1	32.1	32.9	33.3	31.4	26.9	27.9
Nonresidents	15.5	15.8	15.8	14.4	12.2	9.7	9.5
Memo items							
Non-performing loans net of provisions to capital	23.6	21.2	23.0	22.2	17.7	14.1	11.4
Non-performing loans to total gross loans	5.2	5.2	5.6	5.5	4.6	3.7	3.1

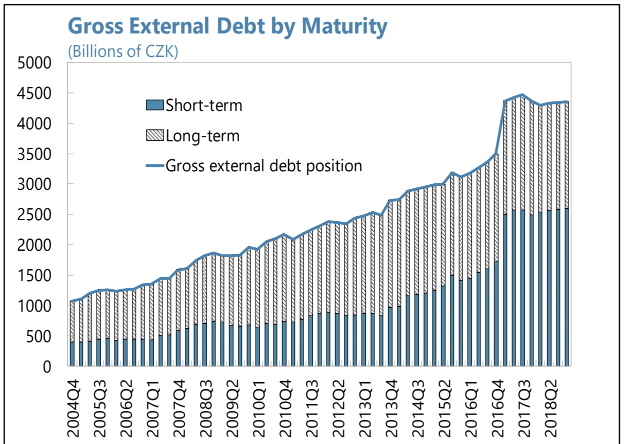
Sources: IMF Financial Soundness Indicators.

[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.

Annex I. External Sector Assessment

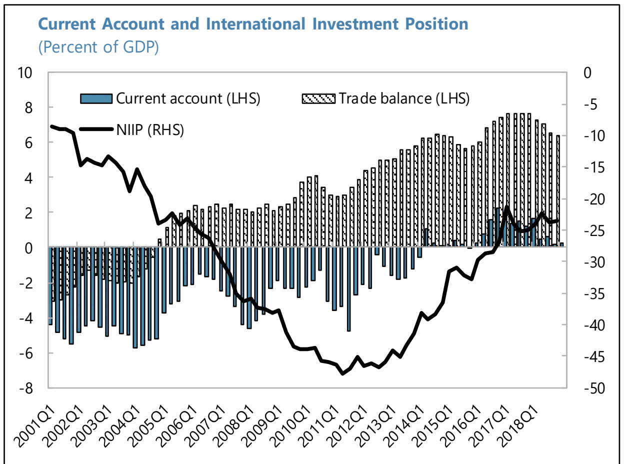
The external position in 2018 was moderately stronger than the level consistent with medium-term fundamentals and desirable policies. Staff evaluates the real exchange rate to have been moderately undervalued, and likely to appreciate over the medium term.

1. The net international investment position (NIIP) stood at -25 percent of GDP in 2018, having markedly increased from -47 percent of GDP in 2011. Gross external liabilities declined slightly to 144 percent of GDP after a marked-increase in 2017 due to inflows related to the FX-floor commitment by the CNB. The decline in gross liabilities was driven primarily by government debt amortization. Other investment liabilities also declined in 2018, following a 12.2 percent of GDP increase in 2017 when commercial bank deposits increased markedly. Gross assets also declined slightly in 2018, mostly due to lower portfolio debt investment and official reserve assets. External liabilities comprise mostly FDI (52.1 percent) while official reserves account for 48 percent of external assets. Gross external debt remained stable nominally, declining as a share of GDP to 79.5 percent of GDP. The maturity structure of external debt changed with the inflow of deposits in the run-up to the koruna floor exit and the share of short-term external debt now stands at 60 percent, up from 45 percent in 2015 and 35 percent in 2013. The size and maturity composition of external debt does not present a vulnerability because rollover risk is mitigated by ample banking sector liquidity, and the surge in deposits was accompanied by a surge in reserve assets during the FX-floor commitment.



Source: Czech National Bank.

2. The current account (CA) has registered small surpluses since 2014, owing to a growing trade surplus that offsets a large primary income deficit. The CA balance moderated to 0.3 percent of GDP in 2018, down from 1.0 percent of GDP in 2017. Both the goods and services trade balances declined somewhat, while the primary income deficit was unchanged (-5.2 percent of GDP). The decline in the trade balance owed more to strong import growth in accordance with strong consumption demand growth which was supported by real wage increases. Private and public investment also grew strongly, by 8.9 and 18 percent year-on-year respectively, the latter fueled by faster absorption of EU funds. Goods export growth remained strong, moderating somewhat to 4.6 percent year-on-

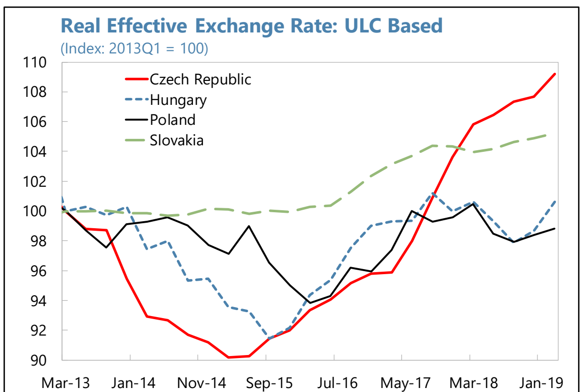


Sources: Haver analytics; and IMF staff calculations.

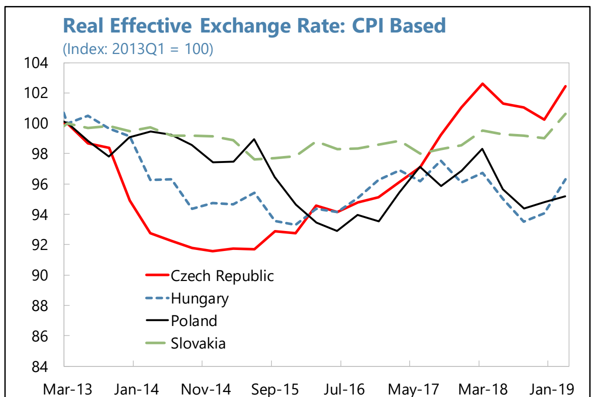
year in 2018, down from 7.2 percent in 2017. EU funds' absorption was robust, reflected in the reduced secondary income account deficit despite the nominal increase in secondary income account outflows.

3. **The cyclically-adjusted CA stood at a surplus of 0.6 percent of GDP in 2018, compared with an estimated CA norm from the EBA CA model of -1.2 percent of GDP.** This implies a CA gap of 1.7 percent of GDP, accounted for by domestic and external policy gaps of 0.8 percentage points and an estimation residual of 0.9 percentage points.[1] The policy gap was driven mostly by the contribution of the fiscal position (0.9 percentage points), which was strong relative to desired medium-term levels and compared to the rest of the world.[2] Household precautionary savings, proxied in the model by the ratio of public expenditure on health to GDP, also contributed (0.2 percentage points) to the CA gap. Staff thus assesses that the CA was moderately stronger than the level consistent with fundamentals and medium-term policies in 2018. The CA balance is expected to converge to a small deficit over the medium term, supported by household income growth and small fiscal deficits.

4. **The real effective exchange rate (REER) has appreciated steadily since 2016 and at a faster pace since the exit from the koruna floor in April 2017.** The annual average ULC-based and CPI-based REER appreciated by 7.1 percent and 3.7 percent respectively, the latter of which reflected average annual nominal exchange rate appreciation (3.7 percent). (The nominal exchange rate depreciated at the end of the year, meaning that the end-of-period CPI-based REER depreciated, while the end-of-period ULC-based real exchange rate (REER) appreciated.)



Sources: Haver Analytics, IMF staff calculations.



Sources: Haver Analytics; and IMF staff calculations.

5. **Staff estimates that the exchange rate is moderately undervalued:** The EBA REER models indicate overvaluation of 14.8 percent (the "index" model) and 19.1 percent (the "level"

[1] The EBA current account model estimation standard error for the 2018 current account is 0.7 percent of GDP.

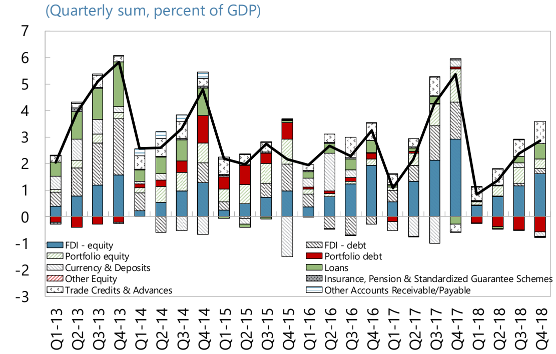
[2] The overall fiscal gap of 0.9 percentage points comprises a domestic component (0.3 percentage points) which reflects the strong fiscal position relative to desired levels and an external component (-0.6 percentage points) which reflects a fiscal deficit in EBA sample countries relative to their desired levels. The health spending and credit gaps contributed 0.2 and -0.3 percentage points respectively; both the reserves and capital controls gaps contributed 0.0 percentage points.

model), both due to unexplained residuals. The policy gap contributions in these models sum to -1 percent and -2.7 percent respectively and, consistent with results from the CA model, are driven by the relative fiscal position. On the other hand, the EBA current account gap implies a REER undervaluation of 3.9 percent, using an elasticity of 0.44.[3] Given the large residuals of the REER models and the inconsistency of the overvaluation with strong export performance, staff assesses the REER to have been moderately undervalued relative to the level consistent with medium-term fundamentals and desirable policy settings. Staff projects the real exchange rate to appreciate further over the medium term due to Balassa-Samuelson and income-elasticity effects if Czech national income converges to the European mean (see Annex I of the 2017 Article IV Staff Report).

6. FDI debt and equity inflows have remained steady over the years but declined in 2018 to 3.5 percent of GDP, from 4.3 percent in 2017. For 2018, there were gross portfolio debt outflows mostly due to government bond repayments and lower borrowing by financial firms. Other investment liabilities flows turned negative in 2018 after FX-floor related increases in previous years. In sum, net capital inflows were 0.4 percent of GDP in 2018.

Financial Account Outflows

(Quarterly sum, percent of GDP)

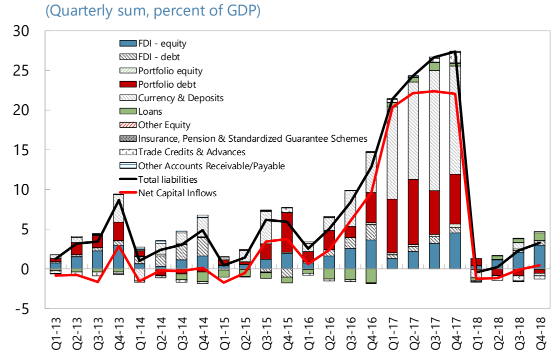


Sources: Haver Analytics; and IMF staff estimates.

7. Reserves are large. Gross international reserves remained high at $142.5 billion dollars in 2018 (60 percent of GDP) having increased substantially from $41.6 billion a decade ago. The Czech koruna has floated freely and there have been no FX interventions since the koruna floor exit in April 2017.

Financial Account Inflows

(Quarterly sum, percent of GDP)



Sources: Haver Analytics; and IMF Staff estimates.

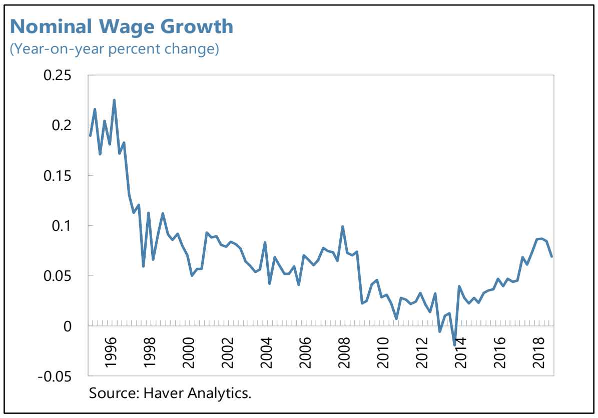
Overall Assessment and Policy Implications

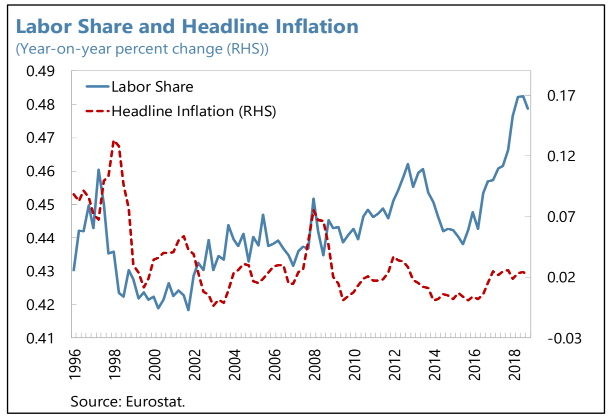
8. The external position in 2018 was moderately stronger than the level consistent with medium-term fundamentals and desirable policy settings, reflected in an estimated CA gap centered on 1.7 percent of GDP, in the range of 0.7 to 2.7 percent of GDP, reflecting uncertainty around any point estimate. The exchange rate is estimated to be moderately undervalued by about 4 (± 2) percent. Should growth continue as in the baseline projection, a policy mix that relies on monetary (rather than fiscal) policy tightening should help alleviate the undervaluation over time.

[3] Staff does not view external sustainability (ES) as a concern for the Czech Republic. Nevertheless, the EBA ES approach suggests a small undervaluation of 2 percent.

Annex II. Reconciling Wage and Price Inflation

1. Wage growth has been considerably higher than CPI inflation, raising the question of how the two can be reconciled. Nominal wage growth decreased until 2014 and has been on an upward path since then. Over this same period, consumer price index (CPI) inflation has had a downward trend. One might wonder why such a sizable increase in the wage costs has not been accompanied by an increase in inflationary pressures. In this Annex, we investigate whether the labor income share can help account for headline inflation dynamics.





2. A useful tool for thinking about the link between inflationary pressures and the wage costs is the New Keynesian Phillips curve (NKPC), a key building block in the canonical New Keynesian business cycle model. In this Annex, we follow Gali and Gertler (1999) and Batini et al. (2005).[1,2] This setup allows us to study the effects of lagged inflation, inflation expectations, the labor income share, and import prices on headline consumer price inflation.

3. We conclude that the contribution of the labor share and the import prices to inflation is procyclical and the recent increases in headline inflation are partially driven by the upward pressure from increases in the labor share. Although inflation expectations are the main contributor to headline inflation over the past two decades, most of the periods with high headline inflation have been accompanied by upward pressure from the real marginal cost and vice versa.

4. Our results illustrate that inflation expectations have played a significant role in explaining headline inflation, consistent with what would be expected from the theory. The high contribution of inflation expectations in explaining headline inflation indicates that inflation expectations in the Czech Republic are well anchored. Lagged inflation, the labor share, and import prices have positive and non-negligible coefficients, also consistent with theory, but are not

[1] Gali, Jordi, and Mark Gertler. 1999. "Inflation Dynamics: A Structural Econometric Analysis." J. Monetary Econ. 44 (October): 195–222.

[2] Batini, Nicoletta, Brian Jackson, and Stephen Nickell. 2005. "An Open-Economy New Keynesian Phillips Curve for the U.K." Journal of Monetary Economics 52 (6): 1061-7.

econometrically significant, indicating that the relationship between wage costs and CPI inflation is more complex than in the simple model assessed here.

The Model

5. **The empirical specification for the relationship between inflation and wage costs is derived from the profit-maximizing behavior of monopolistically competitive firms.** The firms are assumed to produce differentiated varieties following a Cobb-Douglas technology and utilizing intermediate inputs. Firms purchase *M* units of intermediate goods such that

$$M_t(j) = m(Y_t(j))Y_t(j) \tag{1}$$

Thus, to produce $Y_t(j)$ units of output, firm j needs to hire labor, capital, and intermediate inputs. Given the production technology and equation (1), total cost and marginal cost are[3]

$$C_t(j) = w_t(j)L_t(j) + cK(j) + P_{mt}(j)m(Y_t(j))Y_t(j)$$

$$MC_t(j) = \frac{w_t(j)L_t(j)}{\alpha Y_t(j)} + P_{mt}(j)m\big(Y_t(j)\big) + P_{mt}(j)m\big(Y_t(j)\big)\varepsilon_{mt}(j) \tag{2}$$

where $\varepsilon_{mt}(j) = m'\big(Y_t(j)\big)Y_t(j)/m\big(Y_t(j)\big)$ is the elasticity of unit intermediate inputs with respect to gross output. Given the relationship between gross output and value-added, the marginal cost in units of value-added is

$$\frac{MC_{VAt}(j)}{P_{VAt}(j)} = \frac{S_{Lt}(j)}{\alpha} + \frac{P_{mt}(j)}{P_{VAt}(j)}m\big(Y_t(j)\big)\varepsilon_{mt}(j) \tag{3}$$

6. **To allow for persistence of inflation, we utilize a hybrid NKPC model.** Following the standard Calvo-type assumption, in each period *t*, firms can reset prices with a probability of $(1-\theta)$. Such a specification leads to persistence in prices but not inflation. To allow for the observed inertia in inflation, we assume, following Gali and Gertler (1999), that a fraction (1-ω) of the subset of firms that reset prices set the price optimally and the rest choose the price following the backward-looking rule of thumb that is based on the behavior of aggregate prices in the past period. Combining the above assumptions gives us the hybrid Phillips curve

$$\pi_t = \gamma_b \pi_{t-1} + \gamma_f E_t \pi_{t+1} + \lambda \widehat{mc}_t \tag{4}$$

where

$$\gamma_b = \frac{\omega}{\theta + \omega(1 - \theta(1-\beta))} \tag{5}$$

[3] We assume that capital cost is predetermined and fixed in the short run.

$$\gamma_f = \frac{\beta\theta}{\theta + \omega\big(1 - \theta(1-\beta)\big)} \tag{6}$$

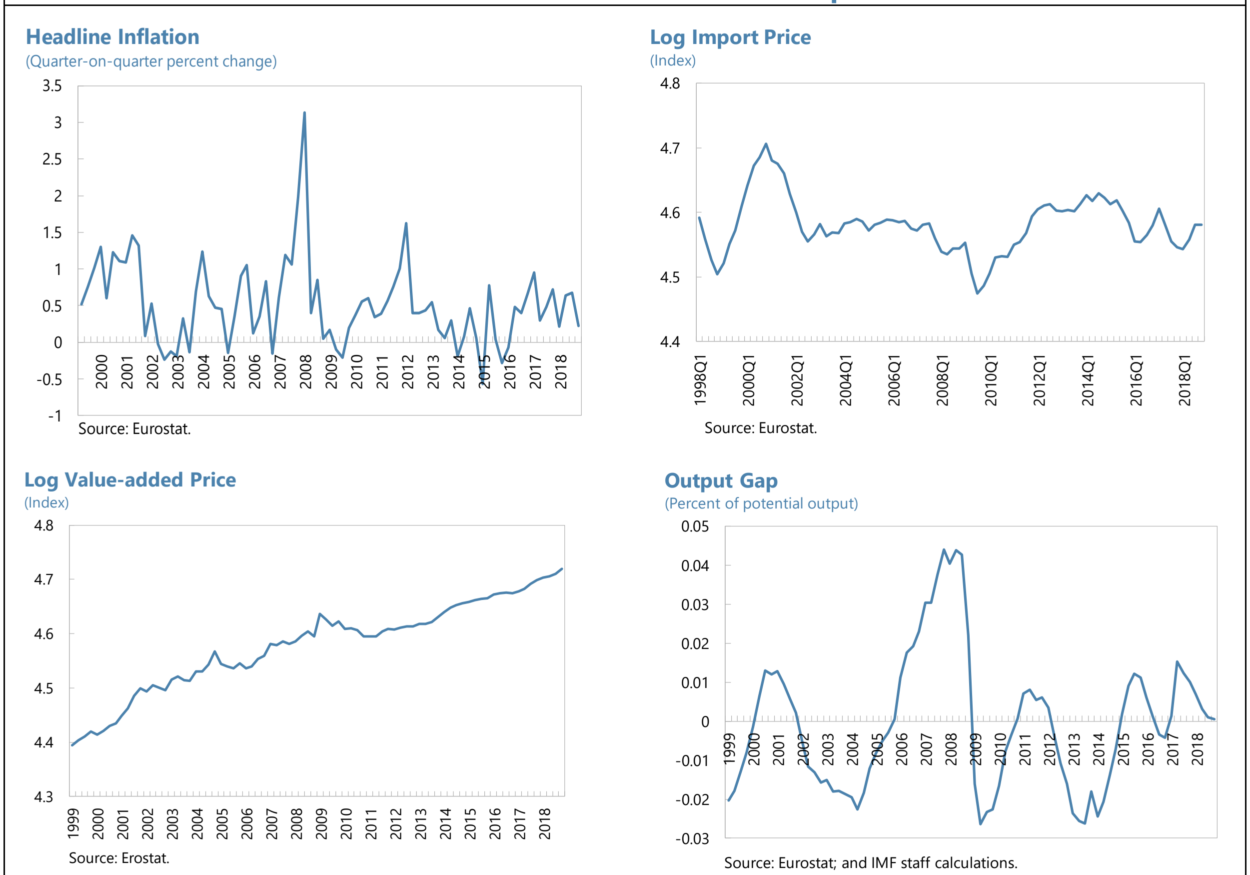
$$\lambda = \frac{(1-\omega)(1-\theta)(1-\beta\theta)}{\theta + \omega(1-\theta(1-\beta))} \tag{7}$$

and *mc* contains the two costs, the labor share and imported prices. Note that since ω, θ, and β do not have values larger than one, λ, γ_f, and γ_b are all positive. When ω=0, all the firms are forward-looking, and the model collapses to the baseline NKPC model. Moreover, when β, the discount factor of the firms, equals 1, $\gamma_b + \gamma_f = 1$. When $\beta < 1$, $\gamma_b + \gamma_f < 1$. Hence, with typical assumptions for these underlying parameters, we expect a positive relationship between current and lagged inflation, expected inflation, and firms' costs.

Data

7. **The model is estimated using data from 1999: Q1 to 2018: Q4.** The variables are taken from the Czech Statistical Office, the Czech Central Bank, and Eurostat. Some of the variables are displayed in the figure below. The value-added price index and the import price index are in logs. Following Equation (3), we normalize the import price index by the value-added price index. All series are seasonally adjusted.

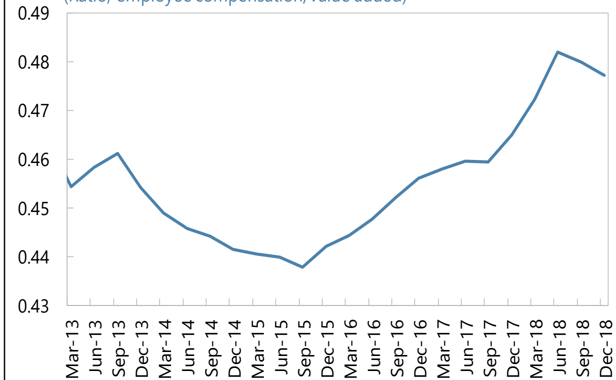
Selected Time Series for the Czech Republic



8. We adjust the labor income share by excluding the public sector from our measurement and removing indirect taxes from value-added. Following Batini et al. (2005), we adjust the labor share. First, the labor income share must be total compensation of employees divided by total gross value-added that is net of indirect taxes. Second, the contribution of the public sector should be eliminated from the labor income share, since the theory describes behavior in the market sector. The figure on the right-hand side depicts the adjusted labor income share versus the unadjusted measure. The adjusted labor income share is smaller, mainly because labor compensation of employees in the public sector is relatively high. Batini et al. (2005) also suggest either deducting the contribution of the self-employed from value-added or adding the compensation of self-employed to total labor compensation. However, due to lack of data, we cannot adjust the labor income share in this way.

Labor Income Share

(Ratio, employee compensation/value added)



Sources: Eurostat; and IMF staff calculations.

Reduced-Form Estimates

9. We estimate the reduced-form Equation (4) using the lead of CPI inflation for the expectations series.

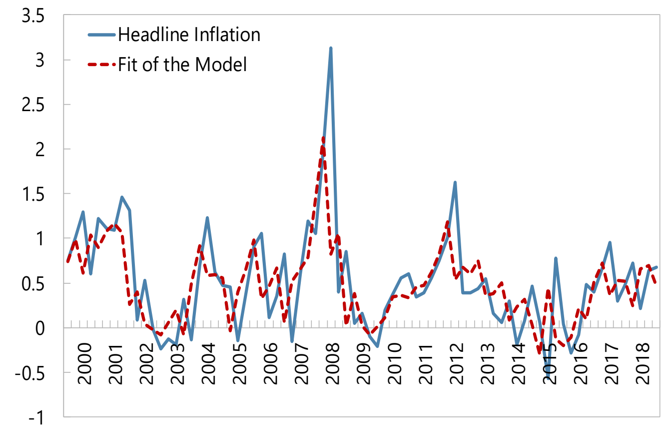
- Assuming rational expectations, the error in forecasting π_{t+1} would be uncorrelated with variables in period t and earlier. Thus, using the orthogonality condition of the instruments and independent variables, we can estimate the model using GMM and inflation expectations can be replaced by the lead of headline inflation.

- We could also estimate the model by OLS using data for inflation expectations of non-financial corporations and firms (collected by the Czech National Bank). Doing this addresses the endogeneity problem of using the lead of inflation. However, this series is for 1 year ahead inflation expectations, whereas the inflation expectations concept in our model is 1 quarter ahead. Thus, we estimate the model by GMM, using the lead of headline inflation. The set of instruments includes four lags of headline inflation, the labor share, the input price index, and a measure of the output gap. We measure the labor share and import price index (normalized by the value-added price index) deviations based on their deviations from their Hodrick-Prescott filtered trends.

10. The estimation results suggest that all coefficients are positive, as expected, but only the coefficient of inflation expectations is significant. Table 1 summarizes the result of estimating the reduced form model specified in Equation (4). Inflation expectations play a significant role in explaining the realized headline inflation. The lag of headline inflation, the labor income share, and import prices have positive and non-negligible coefficients, but their coefficients are not econometrically significant.[4] Figure above depicts headline CPI inflation versus the fit of the model.

Headline Inflation Versus the Fit of the Model

(Quarter-on-quarter percent change)



Source: IMF staff calculations.

Table 1. Explaining Czech Republic Inflation Based on Equation (4) using GMM

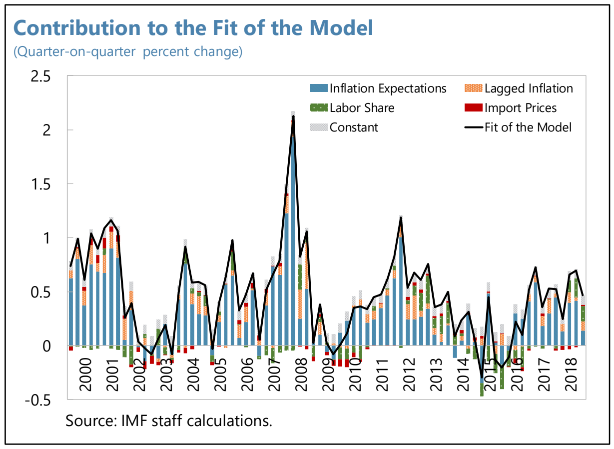
	Coefficient	Standard Error	z	P>|z|	95% Confidence Interval	
Inflation Expectations	.6174	.1606	3.84	0. 000	. 3025	.9322
Lagged Inflation	.1363	.1231	1.11	0.268	-.1050	.3775
Labor Share	.0669	.0526	1.27	0.203	-.0361	.1700
Import Prices	.01207	.0210	0.57	0.566	-.0291	.0532
Constant	.0009	.0009	0.91	0.364	-.0010	.0027

11. The labor share and import prices have procyclical contributions to headline inflation. Figure below illustrates the contribution of the independent variables to the fit of the model. Inflation expectations have the largest contribution; our estimate is in line with those in the literature.[5] Throughout the past two decades, periods of low headline inflation have been accompanied with downward pressure from the labor share and the import price index and vice versa.

[4] Compared to the GMM results in Table 1, the OLS estimation results in smaller coefficients for the inflation expectations and lagged inflation and similar coefficients for the labor share and the import prices.

[5] Gali and Gertler (1999) find the coefficient of forward-looking term varies between 0.59 and 0.68.

12. During the past few quarters, the contribution of the labor share has intensified the rise of the headline inflation. Headline inflation has increased since 2016, mainly due to the rise in inflation expectations. However, this upward trend has been strengthened by the positive contribution of lagged inflation and the jump in the labor income share.



13. The implied values for θ and ω are in line with the estimates in the literature, while β is smaller. Using the estimated coefficients and the relationships specified in equations (5-7), we solve for β, θ, and ω. Since the labor share and lagged inflation do not have significant coefficients, we solve for a potential range for each parameter using one standard deviation above and below the coefficients reported in Table 1.

$$\beta = [0.63, 0.80]$$
$$\theta = [0.69, 0.95]$$
$$\omega = [0.02, 0.23]$$

The estimated range for β is lower than would have been expected from the theory.[6] It suggests that firms heavily discount the future and do not put high weights on inflation expectations. (When β is low, firms are relatively more responsive to deviations of marginal cost from trend when setting prices, all else equal.) The lower bound estimated for θ is smaller than the estimates presented in Gali and Gertler (1999), who find that θ varies between 0.81 and 0.88. Our results suggest that, on average, firms reset their prices every three periods. The upper bound of θ does not seem plausible since it implies, on average, firms reset prices every twenty quarters. Gali and Gertler (1999) estimate ω (the share of backward-looking firms) to range between 0.26 and 0.49, higher than our estimates.[7]

Conclusion

14. We find a positive relationship between wage costs and inflation, but also a very important role for inflation expectations. The labor income share has increased noticeably in the past two decades in the Czech Republic. However, this increase has not been accompanied by an increase in headline inflation. We utilize a hybrid NKPC model to study the implications of the change in the real marginal cost for headline inflation. Our estimation results indicate that the

[6] Note that β is the discount factor in a setting that periods are one quarter long.

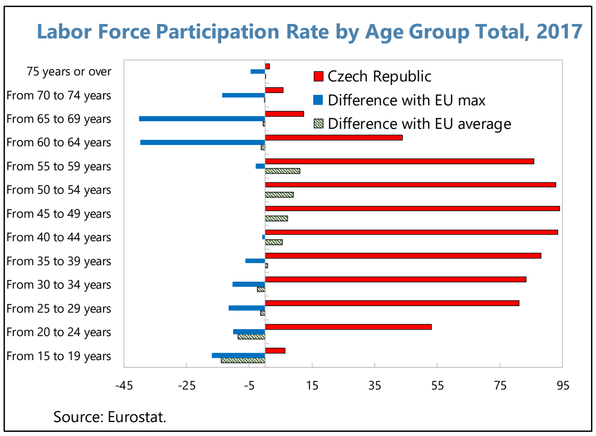
[7] The lower bound of the range estimated for θ and the upper bounds of the range estimated for β and ω are the solutions of equations (7-9) when we use one standard deviation above the coefficient observed in Table 1.

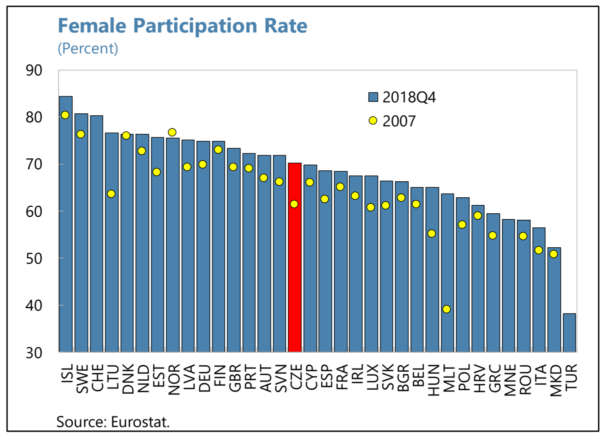
coefficient of inflation expectations, lagged inflation, the labor share, and import prices are non-negligible and positive as expected, but only the coefficient of inflation expectations is statistically significant. Moreover, this series has the largest contribution in explaining the headline inflation, which suggests that inflation expectations are well anchored. Finally, we observe that the contribution of the labor income share and import prices to the headline inflation is procyclical.

Annex III. Assessing Labor Market Capacity

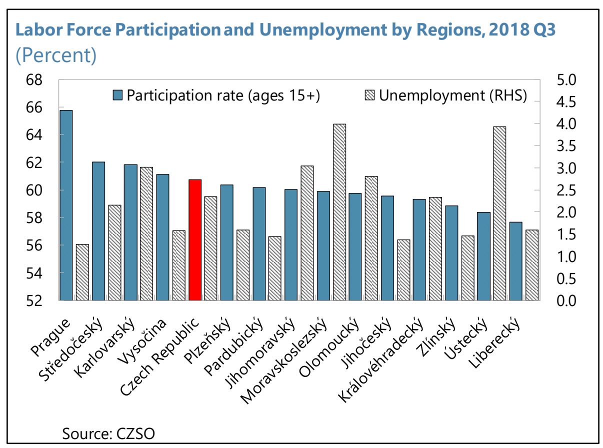
1. **The Czech labor market has performed very well during the current sustained economic expansion.** Labor force participation (LFP) and unemployment reached historical highs and lows respectively (Figure 2). As labor is becoming increasingly scarce, the question arises to which degree labor can continue to support growth going forward. This box examines the labor market along several dimensions such as age, sex, education and spatial considerations to better understand whether untapped pockets of labor remain in the economy.

2. **Prime-age workers have seen a particularly pronounced increase in LFP**, surpassing average EU levels, while younger and older workers are lagging behind. Similarly, female LFP has increased significantly over the past decade, matching average EU levels in 2018. Consequently, further increases will be more difficult to achieve, but are possible as many Western European and particularly Nordic countries' experiences have shown.



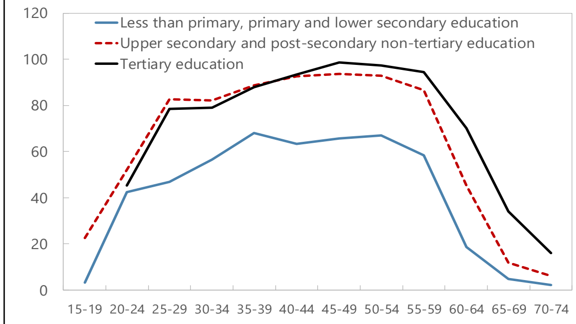


3. **From a spatial perspective, LFP in the 13 regions excluding Prague differs by about 4 percentage points while unemployment rates differ by about 2.5 percentage points.** Closing the gap to better-performing regions may therefore only yield limited additional labor, as absolute levels are already benign and differences to the best performers are small. Moreover, industrial activity is concentrated in certain parts of the country and labor mobility is limited.



4. Employment of lower-skilled workers is consistently below that of higher-skilled workers across all age cohorts. Further focusing on lifelong learning and provision of training opportunities could raise the number of employable workers in this group, although measures will likely take time to become effective.

Employment by age and education level, 2018 Q3
(percent of population)



Source: Eurostat

5. The Czech labor market is freely accessible to workers from the EU, while third country immigration is regulated. Currently about 590,000 foreign workers are employed in the Czech Republic, of which about 60 percent come from within the EU. The extension of employee cards to workers from other countries, which allow employment for up to 2 years, is currently limited to about 19,000 per year.

6. Labor shortages are becoming increasingly binding and further mobilization of labor more difficult, as most easy-to-tap cohorts have already been brought into the labor force. Lifting LFP across all groups and further increasing participation of underrepresented groups can still help alleviate the labor market tightness. For example, a previous analysis[1] has shown that removing the non-working spouse tax credit could increase female labor force participation by up to 6 percentage points.

[1] See also "Labor Supply in the Czech Republic: Stocktaking and Policies," *Czech Republic: Selected Issues*, International Monetary Fund, 2018.

Annex IV. Risk Assessment Matrix[1]

Source	Likelihood of Risk	Time Horizon	Expected Impact	Policy Response
External Risks				
Rising protectionism and retreat from multilateralism. In the near term, escalating and sustained trade actions threaten the global trade system, regional integration, and global and regional collaboration. Additional barriers and the threat of new actions reduce growth both directly and through adverse confidence effects (increasing financial market volatility). In the medium term, geopolitical competition and fraying consensus about the benefits of globalization lead to economic fragmentation and undermine the global rules-based order, with adverse effects on growth and stability.	**High**	**Short to medium term**	**Medium** Restrictions on the free movement of goods, services and labor weigh on trade, and damage global supply chains. The direct exposure of the Czech economy to the US, UK and Chinese economies is small—the net impact would depend on the effects on the German economy.	A temporary easing bias of monetary policy would be appropriate, with automatic stabilizers allowed to work.
Sharp tightening of global financial conditions. This causes higher debt service and refinancing risks; stress on leveraged firms, households, and vulnerable sovereigns; capital account pressures; and a broad-based downturn. The tightening could be a result of: - **Market expectation of tighter U.S. monetary policy** triggered by strong wage growth and higher-than-expected inflation. - **Sustained rise in risk premium** in reaction to concerns about debt levels in some euro area countries; a disorderly Brexit; or idiosyncratic policy missteps in large emerging markets.	 **Low** **Medium**	 **Short term** **Short term**	**Low** The banking system is well capitalized, with stable funding mainly from domestic deposits.	Loosen monetary conditions first, with automatic stabilizers allowed to work; in extremis, discretionary fiscal loosening could be considered.
Weaker-than-expected global growth: - **U.S.:** Confidence wanes against a backdrop of a long expansion with stretched asset valuations, rising leverage, and unwinding of the fiscal stimulus, leading to abrupt closure of the output gap rather than a smooth landing. - **Europe:** In the near term, weak foreign demand makes euro area businesses delay investment, while faltering confidence reduces private consumption. Adverse financial market reaction to debt sustainability concerns further dampens growth. A disorderly Brexit could cause market disruption with negative spillovers. In the medium term, disregard for the common fiscal rules and rising sovereign yields for high-debt countries test the euro area policy framework, with adverse impact on confidence and growth. - **China:** In the short term, intensification of trade tensions and/or a housing market downturn prompt a slowdown, which is not fully offset by policy easing. Deleveraging is delayed and financial stresses, including capital outflow and exchange rate pressures, emerge. In the medium term, insufficient progress in deleveraging and rebalancing reduces growth and raises the probability of a larger disruptive adjustment. There would be negative spillovers on the global economy through trade volumes, commodity prices, and financial markets	 **Medium** **High** **Medium**	 **Short to medium term** **Short to medium term** **Short to medium term**	The Czech economy is highly dependent on export growth, mainly to the EU. Impact is therefore **low** for US- and China-centered shocks, *if* there are no substantial spillovers to the EU; **high** for weaker-than-expected growth in Europe.	Loosen monetary conditions first, with automatic stabilizers allowed to work; in extremis, discretionary fiscal loosening could be considered.
Intensification of security risks in parts of Africa, Asia, Europe, Latin America, and/or the Middle East cause regional socio-economic and political disruptions, with potential global spillovers.	**High**	**Short to medium term**	**Low** Widespread disruptions could stifle private demand and growth.	Maintain sound macroeconomic policies.

[1] The Risk Assessment Matrix (RAM) shows events that could materially alter the baseline path (the scenario most likely to materialize in the view of IMF staff). 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. "Short term (ST)" and "medium term (MT)" are meant to indicate that the risk could materialize within 1 year and 3 years, respectively.

Large swings in energy prices. Risks to prices are broadly balanced, reflecting offsetting—but large and uncertain—supply and demand shocks. In the near term, uncertainty surrounding the shocks translates to elevated price volatility, complicating economic management and adversely affecting investment in the energy sector. As shocks materialize, they may cause large and persistent price swings. While, on aggregate, higher oil prices would harm global growth, they would benefit oil exporters.	**Medium**	**Short to medium term**	**Medium** Uncertainties regarding household real incomes and production costs could impact growth. Fluctuating import prices would make anchoring inflation at the target more difficult.	Consistent monetary framework emphasizing the priority of the inflation objective.
Cyber-attacks on critical global financial, transport or communication infrastructure and broader private and public institutions trigger systemic financial instability or widespread disruptions in socio-economic activities.	**Medium**	**Short to medium term**	**Medium** Widespread disruptions could stifle private demand and growth. The banking system is well capitalized.	Maintain sound macroeconomic policies.
Domestic Risks				
Financial stability risks arising from continued rapid growth in lending, especially to real estate	**Medium**	**Short to medium term**	**Medium** Some households appear overextended and vulnerable to house price, interest rate, or income shocks.	Further tightening of macroprudential measures. Structural and fiscal policies would help to ease supply constraints.
Inflationary pressures different than expected	**Medium**	**Short term**	**Medium** The inflation outlook is particularly uncertain, as the outcome will depend on which of domestic inflationary and imported disinflationary pressures dominate.	Altered monetary stance.

[1/] The Risk Assessment Matrix (RAM) shows events that could materially alter the baseline path (the scenario most likely to materialize in the view of IMF staff). 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. "Short term (ST)" and "medium term (MT)" are meant to indicate that the risk could materialize within 1 year and 3 years, respectively.

Annex V. Public Debt Sustainability Analysis

Public debt declined to 32.7 percent of GDP in 2018, due to an improvement in the headline balance driven by a strong cyclical position, favorable financing conditions, and improvements in revenue collection. Public debt is projected to decline to 27½ percent of GDP over the medium term, assuming the fiscal targets outlined in the convergence program are met and the economic recovery continues. Public debt and gross financing needs are relatively immune to interest and exchange rate shocks; a negative shock to real GDP growth is the main risk to the projections.

Baseline and Realism of Projections

1. The baseline scenario assumes small surpluses and steady growth. The fiscal stance loosens moderately from a structural surplus of 0.5 percent in 2018 to 0.2 percent in 2019 and a deficit of 0.1 percent in 2020. A headline deficit of 0.4 percent of GDP on average is projected over the medium term. Healthy domestic demand is projected to drive sustained real GDP growth, projected at 2.5 percent in 2019. The inflation rate is projected to increase slightly to 2.5 percent in 2019 but to converge to the 2 percent target by 2020.

2. The outlook for debt and funding needs is benign in this scenario. Staff projects a steady decline in the debt-to-GDP ratio from 32.7 percent in 2018 to 27.4 percent in 2024. The ratio is projected to decline in 2019, as the contributions of nominal GDP growth and the primary surplus are projected to exceed the contribution of interest payments to the debt burden. Gross financing needs are projected to be 4.3 percent of GDP at the end of the projection period.

Shock and Stress Tests

3. A negative shock to real GDP growth would slow the fall in debt. In this scenario, a 1 standard deviation shock to real GDP growth (2.9 percentage point decline) hits in 2020 and 2021, with its attendant impact on the primary balance, inflation, and the real interest rate, and causes public debt to rise 4½ percentage points to 37 percent of GDP and gross financing needs to increase to 8.0 percent of GDP by 2021.[1] Afterward, public debt would decline to 34½ percent of GDP and gross financing needs would fall to 5½ percent of GDP by 2024.

4. Other shocks are not as important. For instance, an interest rate shock, in which the nominal rate increases by 540 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), slows the fall in debt to 29½ percent of GDP by 2024. Debt remains below 33 percent of GDP throughout the projection period in this scenario.

[1] The shock is calibrated using historical real GDP growth data from 2009–18. 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)

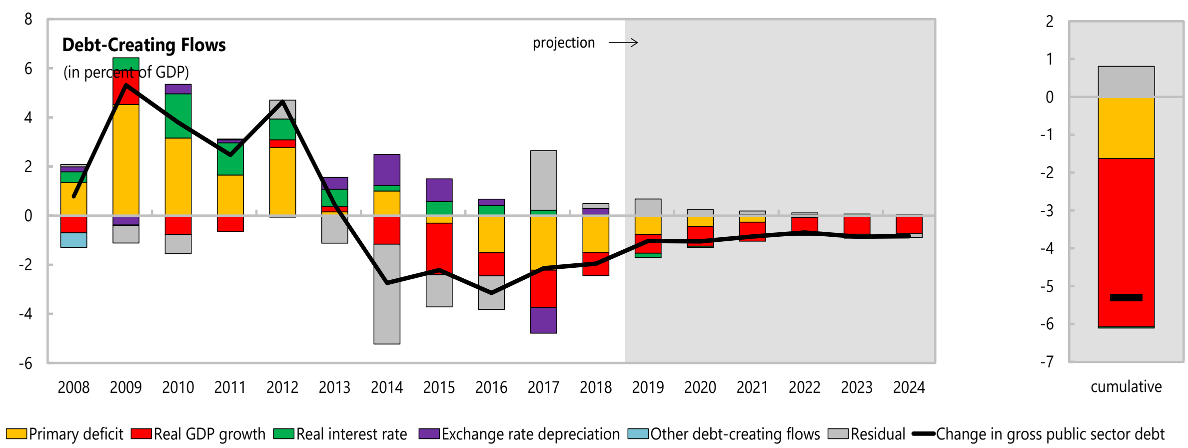
Debt, Economic and Market Indicators [1]

	Actual			Projections					
	2008-2016 [2]	2017	2018	2019	2020	2021	2022	2023	2024
Nominal gross public debt	38.6	34.7	32.7	31.7	30.6	29.8	29.1	28.2	27.4
Public gross financing needs	8.1	3.1	4.9	4.0	4.1	4.4	4.8	4.7	4.3
Real GDP growth (in percent)	1.2	4.4	2.9	2.5	2.6	2.6	2.5	2.5	2.5
Inflation (GDP deflator, in percent)	1.2	1.4	2.1	2.8	2.4	2.0	2.0	1.9	1.9
Nominal GDP growth (in percent)	2.5	5.9	5.1	5.3	5.1	4.7	4.6	4.5	4.5
Effective interest rate (in percent) [4]	3.4	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.2

As of May 01, 2019		
Sovereign Spreads		
Bunds (bp) 3/		199
5Y CDS (bp)		45
Ratings	Foreign	Local
Moody's	A1	A1
S&Ps	AA-	AA
Fitch	AA-	AA-

Contribution to Changes in Public Debt

	Actual			Projections							
	2008-2016	2017	2018	2019	2020	2021	2022	2023	2024	cumulative	debt-stabilizing primary balance [9]
Change in gross public sector debt	1.0	-2.1	-2.0	-1.0	-1.0	-0.8	-0.7	-0.9	-0.8	-5.3	
Identified debt-creating flows	2.0	-4.6	-2.2	-1.7	-1.3	-1.0	-0.8	-0.7	-0.7	-6.1	
Primary deficit	1.4	-2.2	-1.5	-0.8	-0.4	-0.3	-0.1	0.0	0.0	-1.6	-0.6
Primary (noninterest) revenue and grants	39.8	40.4	41.5	41.6	41.5	41.3	41.2	41.1	41.0	247.8	
Primary (noninterest) expenditure	41.2	38.2	40.0	40.9	41.0	41.1	41.1	41.1	41.0	246.1	
Automatic debt dynamics [5]	0.6	-2.3	-0.7	-0.9	-0.8	-0.7	-0.7	-0.6	-0.6	-4.5	
Interest rate/growth differential [6]	0.3	-1.3	-0.9	-0.9	-0.8	-0.7	-0.7	-0.6	-0.6	-4.5	
Of which: real interest rate	0.8	0.2	0.0	-0.2	-0.1	0.0	0.0	0.1	0.1	0.0	
Of which: real GDP growth	-0.5	-1.5	-1.0	-0.8	-0.8	-0.8	-0.7	-0.7	-0.7	-4.4	
Exchange rate depreciation [7]	0.4	-1.1	0.3	…	…	…	…	…	…	…	
Other identified debt-creating flows	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
General government net privatization proceeds (negative)	-0.1	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]	-0.9	2.4	0.2	0.7	0.2	0.2	0.1	-0.2	-0.2	0.8	



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 $[(r - \pi(1+g) - g + ae(1+r)]/(1+g+\pi+g\pi))$ 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 $r - \pi (1+g)$ and the real growth contribution as -g.

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

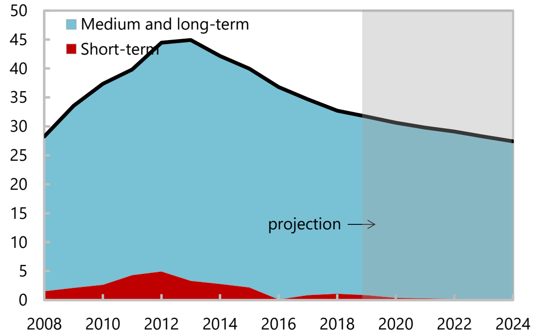
8/ Includes asset changes and interest revenues (if any). For projections, includes exchange rate changes during the projection period.

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.

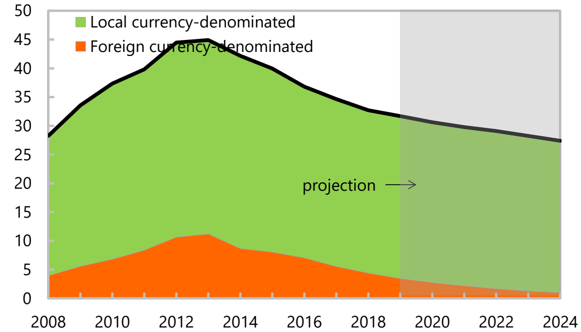
Figure 2. Czech Republic Public DSA—Composition of Public Debt and Alternative Scenarios

Composition of Public Debt

By Maturity
(in percent of GDP)



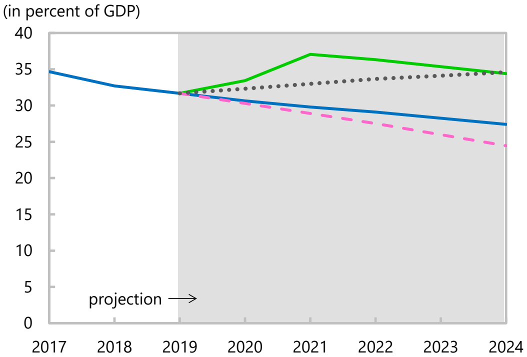
By Currency
(in percent of GDP)



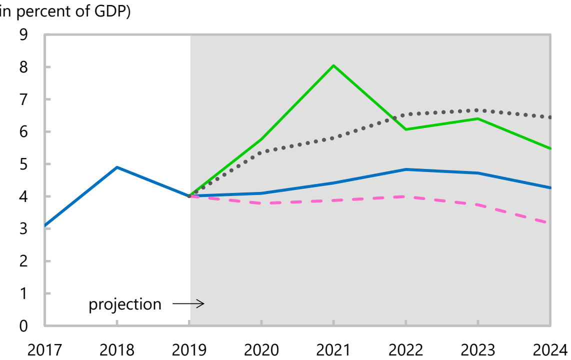
Alternative Scenarios

Baseline — Historical — Real GDP growth — Constant Primary Balance

Gross Nominal Public Debt
(in percent of GDP)



Public Gross Financing Needs
(in percent of GDP)



Underlying Assumptions
(in percent)

Baseline Scenario	2019	2020	2021	2022	2023	2024
Real GDP growth	2.5	2.6	2.6	2.5	2.5	2.5
Inflation	2.8	2.4	2.0	2.0	1.9	1.9
Primary Balance	0.8	0.4	0.3	0.1	0.0	0.0
Effective interest rate	2.3	2.3	2.2	2.2	2.2	2.2
Constant Primary Balance Scenario						
Real GDP growth	2.5	2.6	2.6	2.5	2.5	2.5
Inflation	2.8	2.4	2.0	2.0	1.9	1.9
Primary Balance	0.8	0.8	0.8	0.8	0.8	0.8
Effective interest rate	2.3	2.3	2.2	2.2	2.2	2.2
Real GDP growth						
Real GDP growth	2.5	-0.3	-0.3	2.5	2.5	2.5
Inflation	2.8	1.6	1.3	2.0	1.9	1.9
Primary Balance	0.8	-1.1	-2.8	0.1	0.0	0.0
Effective interest rate	2.3	2.3	2.3	2.4	2.4	2.3

Historical Scenario	2019	2020	2021	2022	2023	2024
Real GDP growth	2.5	1.6	1.6	1.6	1.6	1.6
Inflation	2.8	2.4	2.0	2.0	1.9	1.9
Primary Balance	0.8	-0.8	-0.8	-0.8	-0.8	-0.8
Effective interest rate	2.3	2.3	2.5	2.8	3.0	3.2

Source: IMF staff.

Annex VI. Implementation of the 2018 Article IV Key Recommendations

	Key recommendations	Actions
Monetary	Make policy rate increases gradual and guided by the data; avoid FX interventions.	*Implemented*. The CNB has moved to gradually normalize monetary conditions. The repo rate has been raised to 1.75 percent. There have been no FX interventions since the currency floor was removed.
Macroprudential	Make LTV, DTI, and DSTI restrictions binding.	*Not implemented.* Legislation providing powers over the LTV, DTI and DSTI was voted down in the Parliament.
Fiscal	Increase public investment spending, establish a unified and transparent infrastructure plan. Improve the debt management framework	*In progress*. Public investment increased in 2018 and is projected to accelerate this year, mainly due to increased absorption of EU funds. *In progress.* The debt management office has started to increase the maturities.
Structural	Boost potential growth by increasing labor market participation of certain population groups and enhancing investment in human and physical capital.	*In progress.* Several measures were implemented, including an increase in tax deductions concerning children and child allowances, introduction of weekly paternity leave, and guaranteed placement in nursery schools for children aged 3 and above. Education funding has been changed to improve the quality of regional education, and vocational training reform aims to increase coordination with businesses and improving the skills matching. The new amendment to the Building Act simplifies the conditions for starting construction and accelerates building permit proceedings.

INTERNATIONAL MONETARY FUND

CZECH REPUBLIC

STAFF REPORT FOR THE 2019 ARTICLE IV CONSULTATION—INFORMATIONAL ANNEX

May 28, 2019

Prepared By European Department

CONTENTS

FUND RELATIONS

(As of April 30, 2019; unless specified otherwise)

Membership Status: Joined 01/01/1993; Article VIII

General Resources Account

	SDR Million	Percent of Quota
Quota	2,180.20	100.00
IMF's Holding of Currency (Holding Rate)	1,763.69	80.90
Reserve Tranche Position	416.52	19.10
Lending to the Fund		

SDR Department

	SDR Million	Percent of Quota
Net Cumulative Allocation	780.20	100.00
Holdings	456.89	58.56

Outstanding Purchases and Loans: None

Financial Arrangements

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

Projected Payments to Fund:
(SDR Million; based on existing use of resources and present holdings of SDRs):

	Forthcoming				
	2019	2020	2021	2022	2023
Principal					
Charges/Interest	2.75	3.70	3.70	3.70	3.70
Total	2.75	3.70	3.70	3.70	3.70

Exchange Rate 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 exchange rate arrangement is floating. The external value of the koruna is determined by supply and demand in the interbank foreign exchange market, in which the Czech

National Bank (CNB) participates. The de jure and de facto exchange rate arrangements are classified as floating.

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:

The last Article IV consultation with the Czech Republic was concluded on June 22, 2018. The staff report and the press release were published on June 26, 2018.

FSAP Participation and ROSCs:

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: See attached table.

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 Assessments: Not Applicable.

Czech Republic: Technical Assistance, 1991–2018[1/]

Department	Timing	Purpose
FAD	December 1991–September 1993	Regular visits by FAD consultant on VAT administration
	March 1993	Public financial management
	September 1993	Follow-up visit on public financial management
	November 1993	Follow-up visit on public financial management
	January 1994	Follow-up visit on public financial management
	July 1994	Follow-up visit by FAD consultant on VAT administration
	May 1995	Follow-up visit on public financial management
	June 1995	Follow-up visit by FAD consultant on VAT administration
	June–July 1999	Medium-term fiscal framework
MCM	February 1992	Monetary management and research, foreign exchange operations, and banking supervision
	June 1992	Monetary research
	July 1992	Long-term resident expert assignment in the area of banking supervision (financed by EC-PHARE; supervised by the Fund)
	December 1992 and	Bond issuance and monetary management
	February 1993	Follow-up visit on bond issuance and monetary management and management of cash balances
	November 1993	Data management and monetary research
	April 1994	Foreign exchange laws (jointly with LEG) and external liberalization
	January 1995	Monetary operations
	May 1995	Banking system reform
	May 1995	Economic research
	May 1996	Banking legislation
	April 1997	Monetary research—inflation targeting
	February–June 1999	Integrated financial sector supervision (with WB)
RES	June 1999	Inflation targeting (financed by MFD)
	September 1999	Inflation targeting (financed by MFD)
	June–August 2000	Inflation targeting (financed by MFD)
STA	February–March 2005	Money and banking statistics
	May 1993	Balance of payments
	February 1994	Government finance
	April 1994	Money and banking statistics
	November 1994	Money and banking statistics
	January–February 1999	Monetary and financial statistics
	May 2002	Implementing GFSM 2001
	February 2003	GFSM 2001 Pilot Project
	November 2006	GFSM 2001 Implementation

[1/] Prior to January 1, 1993, technical assistance was provided to Czechoslovakia.

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.
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 deposit-taking 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).

Financial sector surveillance:

- CNB is reporting financial soundness indicators for Deposit Takers on a quarterly basis to STA.

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.

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 June 12, 2019)

	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/]	Apr. 2019	May 2019	D	M	M
Reserve/Base Money	Apr. 2019	May 2019	M	M	M
Broad Money	Apr. 2019	May 2019	M	M	M
Central Bank Balance Sheet	May 2019	May 2019	M	M	M
Consolidated Balance Sheet of the Banking System	Mar. 2019	Apr. 2019	M	M	M
Interest Rates[2/]	Current	Current	D	D	D
Consumer Price Index	Apr. 2019	May 2019	M	M	M
Revenue, Expenditure, Balance and Composition of Financing[3/] – General Government[4/]	2018 Q4	May 2019	Q	Q	Q
Revenue, Expenditure, Balance and Composition of Financing[3/]– Central Government	Mar 2019	Apr. 2019	M	M	M
Stocks of Central Government and Central Government-Guaranteed Debt[5/]	2018 Q4	May 2019	Q	Q	Q
External Current Account Balance	Mar. 2019	May 2019	M	M	M
Exports and Imports of Goods and Services	Mar. 2019	May 2019	M	M	M
GDP/GNP	2019 Q1	May 2019	Q	Q	Q
Gross External Debt	2018 Q4	Mar. 2019	Q	Q	Q
International Investment Position[6/]	2018 Q4	Mar. 2019	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 nonbank 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); Annually (A); Irregular (I); Not Available (NA).