INFLATION REPORT / II

2019

CZECH NATIONAL BANK

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This Inflation Report was approved by the CNB Bank Board on 9 May 2019 and – with some exceptions – contains the information available as of 18 April 2019. Unless stated otherwise, the sources of the data contained in this Inflation Report are the CZSO or the CNB. All the Inflation Reports published to date are available on our website. Underlying data for the tables and charts presented in the text of this Inflation Report, minutes of Bank Board meetings, and time series of selected economic and monetary indicators (available in the ARAD database) are also published there.

Dear Readers,

The Inflation Report is our key monetary policy publication. We have been publishing it since 1998 and have gradually developed it over the years. It gained its current form at the start of 2017. Section I of the Report presents the message of our new quarterly forecast and the reasons behind the monetary policy decision adopted by the CNB Bank Board. In section II you will find a detailed description of the new forecast and its risks. Section III contains our assessment of past economic and monetary developments.

According to the Czech Constitution and the Act on the CNB, our primary objective is to maintain price stability. In addition, we maintain financial stability and see to the sound and smooth operation of the financial system in the Czech Republic. Without prejudice to our primary objective, we also aim to support the general economic policies of the Government leading to sustainable economic growth. By maintaining price stability, we assist Czech firms and households in their decision-making and planning, which ultimately results in greater stability of the entire Czech economy. Our independence is a necessary condition for successful implementation of monetary policy focused on price stability. For that reason, we are not allowed to seek or take instructions from the President of the Republic, from the Government, from Parliament, from administrative authorities or from any other body.

We have been maintaining price stability in the inflation targeting regime since 1998. The main features of this regime are a publicly announced inflation target, a focus on forecasts of the future path of inflation, and open communication with the public. We set the inflation target as year-on-year growth in consumer prices of 2% starting from 2010. We endeavour to ensure that actual inflation does not differ from this target by more than one percentage point on either side. Most advanced economies have similar inflation targets. There are several reasons why we define price stability as slight growth in prices rather than zero inflation. Inflation measures tend to be distorted upward because of imperfect adjustment for the impacts of changes in the quality of goods and services, where growth in quality is sometimes statistically captured as growth in prices. This distortion is also due to an assumption of constant weights in the consumer basket, whereas in reality people have a natural tendency to move away from goods and services whose prices are rising faster to those which are recording below-average growth or even falling. Last but not least, if we were to target an inflation rate that was too low or even zero, there would often be a threat of deflation, which has very harmful consequences for society as a whole. In such situations, moreover, the central bank would repeatedly hit the zero lower bound on interest rates and would often have to use other, less conventional instruments.

Changes in the monetary policy settings manifest themselves in the economy with a lag. Therefore, it is the future evolution of the Czech economy, rather than its current situation, that is of prime importance for the CNB Bank Board's decisions. The forecast for inflation at the "monetary policy horizon" (about 12–18 months ahead) is of greatest relevance to our decision-making. Our forecast tells us the most likely future course of the economy. It is drawn up by experts from the Monetary Department using the "g3" structural macroeconomic model. The core model captures the basic characteristics of the Czech economy as described by key variables such as prices, wages, GDP components in both nominal and real terms, the koruna exchange rate and nominal interest rates. Given the openness of the Czech economy, foreign trade and the koruna-euro exchange rate play an important role in the model. The structural linkages in the model provide a comprehensive and consistent view of the relationships between nominal variables and the real economy. From the viewpoint of economic theory, g3 is a dynamic stochastic general equilibrium (DSGE) model. Forward-looking expectations and their interaction with monetary policy, which reacts to economic shocks through changes in interest rates in an effort to stabilise inflation close to 2% at the monetary policy horizon, are important features of the model. The main forecasting inputs are an assessment of the current state of the economy (the initial state), projected developments abroad, and the outlook for administered prices and domestic fiscal policy. Based on this input information, and using the model and additional detailed analyses drawn up by economists from the Monetary Department, a forecast of the most likely course of the Czech economy is then compiled. In addition to the baseline scenario of the forecast, alternative or sensitivity scenarios are prepared as needed using the core prediction model.

The forecast is the key, but not the only, input to our monetary policy decision-making. Unless the economic situation requires an extraordinary monetary policy meeting, the Bank Board meets eight times a year to discuss monetary policy issues. At four of the meetings (in February, May, August and November) we discuss a new forecast, while at the other four (in March, June, September and December) we discuss the risks and uncertainties of the most recent forecast in the light of newly available information on domestic and foreign economic developments. Due to the arrival of new information since the forecast was drawn up and to the possibility of the Bank Board members assessing its risks differently, the decision we adopt may not fully correspond to the message of the forecast prepared by our experts.

The CNB's main monetary policy instrument is the two-week repo rate. We also set the discount rate and the Lombard rate. By changing these monetary policy rates, we influence financial market interest rates from which commercial banks derive their loan and deposit rates for their customers. A rate increase leads – via the "transmission mechanism" – to slower demand growth in the economy, which, in turn, causes inflation to go down. Lowering the repo rate has the opposite effect. If the forecast indicates growing inflation pressures which might cause inflation to exceed the 2% target, this is a signal that our monetary policy should be more restrictive, i.e. that interest rates should be raised. The opposite applies, of course, if inflationary tendencies decrease, as monetary policy in the (future) inflation-targeting regime is symmetrical in both directions. The exception is a situation where inflation is affected by extraordinary supply-side shocks which we cannot influence and which will cause it to deviate from the target only temporarily. Changes to indirect taxes and sharp swings in oil prices are typical examples of such shocks. Attempts to keep inflation on target despite such shocks would lead to unnecessary volatility in economic growth and employment. We therefore usually look past the first-round effects of such factors in our decision-making and tolerate a temporary deviation of inflation from the target due to such price shocks. Inflation then returns to the target after the shocks fade away.

We have a whole range of other instruments besides the monetary policy rates described above. These we can use in situations where the use of interest rates is not enough to reach the inflation target. One such situation was the adoption of the exchange rate commitment in autumn 2013, which we did after monetary policy rates had been lowered to "technical zero" in November 2012 and the situation called for a further easing of the monetary conditions. This instrument was used until 6 April 2017, when the Bank Board decided to discontinue the exchange rate commitment. In the standard managed float exchange rate regime to which we have returned, we can moreover respond to potential excessive fluctuations of the koruna exchange rate by intervening in the foreign exchange market. We use these instruments primarily to deliver price stability; to maintain financial stability we use a separate set of instruments called macroprudential tools. However, monetary policy and macroprudential policy affect one another, as monetary policy decisions have an impact on the financial sector and, conversely, macroprudential policy decisions influence the economy and inflation. We therefore take the interactions between the two policies into account.

We are proud of the fact that the CNB is one of the most transparent central banks in the world according to renowned international analyses. We publish our forecast and its risks – and subsequently also an explanation of the reasons for the Bank Board's decision – in order to make our monetary policy as transparent, comprehensible, predictable and therefore credible as possible. We are convinced that credible monetary policy effectively anchors inflation expectations and thereby significantly helps to maintain price stability and overall macroeconomic stability in the Czech Republic.

On behalf of the Czech National Bank

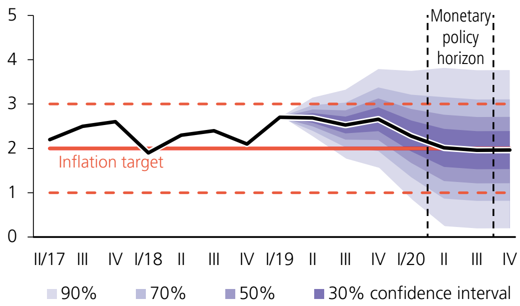
Jiří Rusnok

Governor

Chart I.1

HEADLINE INFLATION FORECAST

Inflation will be in the upper half of the tolerance band this year and will decrease to the CNB's 2% target over the monetary policy horizon
(year on year in %)

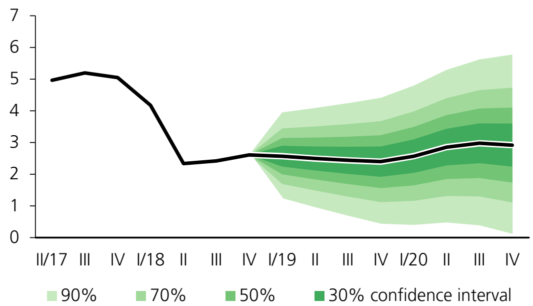


Note: The confidence intervals of the headline inflation forecast reflect the predictive power of past forecasts. They are symmetric and widening only for the first five quarters and then stay constant. This is consistent with both the past predictive power and the stabilising role of monetary policy.

Chart I.2

GDP GROWTH FORECAST

The Czech economy will grow at a stable pace close to 2.5% this year and pick up slightly next year
(annual percentage changes; seasonally adjusted)



Note: The confidence intervals of the GDP growth forecast reflect the predictive power of past forecasts. They are symmetric and linearly widening.

I. SUMMARY

Inflation will be in the upper half of the tolerance band this year and will return to the CNB's 2% target over the monetary policy horizon (see Chart I.1). Inflation rose at the start of this year (reaching 3% in March). The growth in prices continued to be driven mainly by core inflation, which increased even further at the beginning of the year. This reflected persisting fundamental price pressures. A rise in administered price inflation and renewed growth in food prices also played an important role. These factors will keep inflation elevated for the rest of this year. Nevertheless, the overall inflation pressures are already easing, due mainly to a temporary fade-out of the inflationary effect of import prices. Domestic inflation pressures are also beginning to diminish, owing to gradually falling wage growth and slower growth in economic activity. As a result, inflation will decrease at the start of next year. This will be supported by the fading out of the currently high growth in administered prices. The fall in inflation to the CNB's 2% target will also be fostered by a further tightening of monetary policy in both its exchange rate and interest rate components. As regards the structure of inflation, administered price inflation will rise further in the near future, driven by higher electricity, natural gas and heat prices. Food price inflation will also increase on the back of a rise in food commodity prices. By contrast, core inflation will decline gradually owing to an easing of the overall inflation pressures. Fuel prices will reflect an expected decline in koruna prices of crude oil; they will therefore start to decline year on year in the second half of this year and will keep falling for most of next year.

Following a slowdown last year, the growth of the Czech economy will reach 2.5% this year and pick up slightly next year (see Chart I.2). GDP growth will continue to be driven this year by all components of domestic demand. Solid growth in household consumption will be supported by continued, albeit gradually slowing, growth in household income. Rising demand and distinct labour shortages are motivating domestic firms to invest, which is helping to increase labour efficiency. Government investment expenditure will also grow further, mainly as a result of higher drawdown of EU funds. Fiscal policy will also contribute to domestic demand growth this year via a rise in public sector pay, pensions and social benefits. Net exports, by contrast, will hinder economic growth this year owing to slower growth in external demand and persisting capacity constraints in the domestic economy. Next year, the negative contribution of net exports to GDP growth will fade out on account of faster export growth. The labour market is past its peak, but a tight labour market situation persists. Wage growth will fall towards its steady-state level only gradually, due among other factors to an increase in the minimum wage in January. The unemployment rate is at a record low, which is preventing it from decreasing further. Owing to the labour shortages and lower growth in economic activity, total employment growth will slow as well.

The koruna will gradually appreciate over the forecast horizon (see Chart I.3). The forecasted path of the exchange rate takes into account its broad stability since 2018 Q2. The exchange rate forecast expects the koruna to appreciate to CZK 25.5 against the euro in 2019 Q2. It will continue to firm gradually for the rest of 2019 as a result of a markedly positive interest rate differential vis-à-vis the euro area and continued real convergence of the Czech economy linked with steady growth in labour efficiency. The exchange rate will thus gradually appreciate to just below CZK 25 to the euro at the end of this year. In 2020, the appreciation will slow owing to the start of monetary policy normalisation by the ECB, and the exchange rate will approach CZK 24.6 to the euro by the year-end. The koruna will also strengthen against the dollar, with the koruna-dollar rate reflecting an expected slight appreciation of the euro against the dollar.

Consistent with the forecast is an initial rise in domestic interest rates followed by broad interest rate stability until mid-2020 (see Chart I.4). The rise in rates at the start of the forecast is a reaction above all to persisting domestic inflation pressures and growth in import prices. The gradual pass-through of the higher administered price inflation into other components of inflation will act in the same direction. The subsequent broad stability of domestic rates until mid-2020 mainly reflects persisting negative interest rates in the euro area.

At its May monetary policy meeting, the CNB Bank Board unanimously increased the two-week repo rate by 25 basis points to 2%. At the same time, it increased the Lombard rate to 3% and the discount rate to 1%. The new interest rate levels come into effect on 3 May 2019.

The Board assessed the risks of the inflation forecast as being broadly balanced. A more pronounced and potentially more protracted slowdown in economic growth in the euro area is a risk to the forecast. The impacts of protectionist measures in global trade remain a source of external uncertainty. Uncertainty is also associated with the exchange rate of the koruna going forward.

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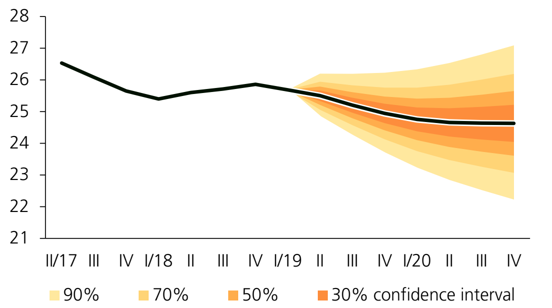
CHART I.3

EXCHANGE RATE FORECAST

The koruna will gradually appreciate over the forecast horizon
(CZK/EUR)

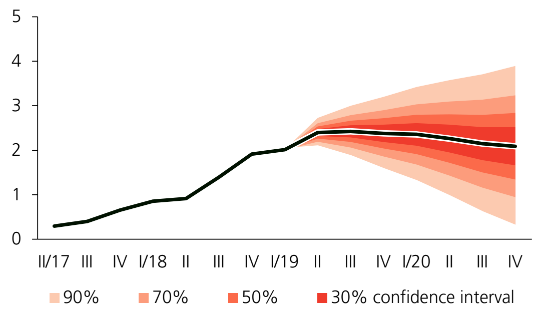


Note: The confidence intervals of the CZK/EUR exchange rate reflect the predictive power of past forecasts (with the exception of the exchange rate commitment period). They are symmetric and linearly widening.

CHART I.4

INTEREST RATE FORECAST

Consistent with the forecast is an initial rise in domestic interest rates followed by broad interest rate stability until mid-2020
(3M PRIBOR in %)

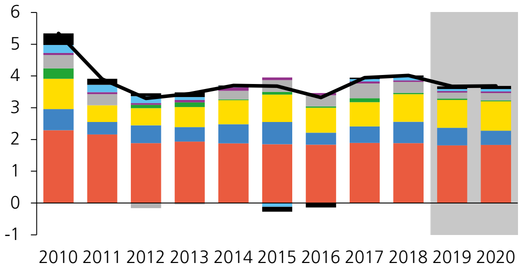


Note: The confidence intervals of the 3M PRIBOR forecast reflect the predictive power of past forecasts (with the exception of the exchange rate commitment period). They are symmetric and linearly widening.

CHART II.1.1

WORLD ECONOMY GROWTH OUTLOOK

The growth of the world economy will slow this year
(annual percentage changes in real GDP; contributions in percentage points; source: EIU, CF, CNB calculation)



Note: World economy growth is proxied by the growth of the eight largest economies, which account for around 75% of global GDP. The weights of the individual economies correspond to their nominal GDP at purchasing power parity. The sources of the outlooks are CF and EIU forecasts.

CHART II.1.2

STRUCTURE OF ANNUAL GDP GROWTH IN THE EURO AREA

Euro area GDP growth slowed further in late 2018 owing to a decline in net exports and a fall in the contribution of gross capital formation
(annual percentage changes; contributions in percentage points; seasonally adjusted; source: Datastream, CNB calculation)

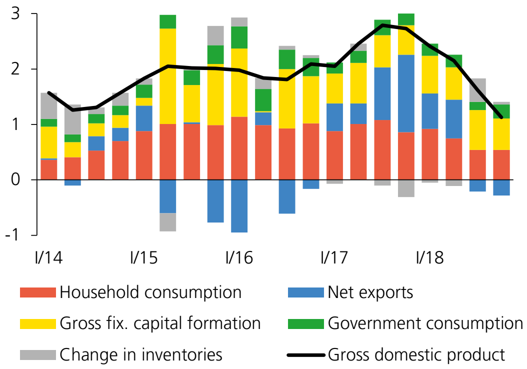
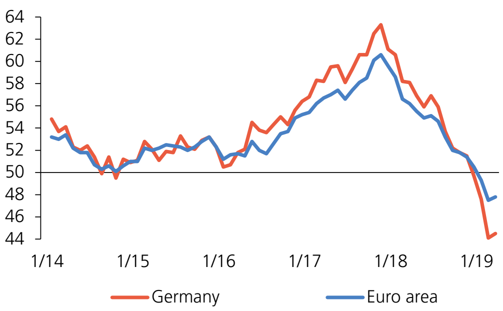


CHART II.1.3

PMI IN MANUFACTURING

Industrial production can be expected to decline further both in Germany and in the euro area as a whole
(Purchasing Managers' Index; source: Bloomberg)



II. THE FORECAST, ITS CHANGES AND RISKS

II.1 DEVELOPMENTS ABROAD AND EXTERNAL ASSUMPTIONS OF THE FORECAST

The world economic slowdown persists at the start of this year. Euro area GDP is expected to lose more momentum in the first half of this year and then accelerate slightly again. The growth in crude oil prices observed in early 2019 will temporarily slow the decline in euro area producer price inflation, which will subsequently stabilise above 2%. After falling this year, consumer price inflation is expected to rise slightly next year, but will not reach 2%. The ECB clarified that it will keep its interest rates at the current level at least until the end of 2019. According to the market outlook, the 3M EURIBOR will thus remain negative over the entire forecast horizon. Nevertheless, the spread between three-month dollar and euro rates is expected to narrow gradually as a result of an expected decrease in the dollar rate. This should lead to a slight strengthening of the euro against the dollar.

II.1.1 Economic developments abroad

The growth of the world economy will slow slightly, with almost all countries making smaller contributions.[1] Global growth will continue to be driven by China, whose slowdown in recent months is expected to halt due to government measures. In the USA, the effects of last year's fiscal expansion will gradually fade out; the Fed's key interest rates are expected to remain unchanged. Overall, the weighted growth of the monitored economies is expected to reach 3.7% this year and the next (see Chart II.1.1). There are considerable risks surrounding global economic growth, stemming above all from uncertainty in international trade and the still unfinished negotiations on the form of Brexit. These factors are being reflected not only in worsening sentiment indicators, but also in a slowdown in global trade and manufacturing.

The euro area economy continued to slow in 2018 Q4. GDP growth fell to 1.1% (see Chart II.1.2). It continued to be driven by a still positive, albeit slightly lower, contribution of domestic demand. The negative contribution of net exports increased slightly. The euro area slowdown in the second half of last year primarily reflected uncertainty linked with protectionist measures in international trade, which dampened global trade and hence also exports from the euro area (Germany in particular). Other factors included the unclear shape of Brexit, the negotiations between the Italian government and the European Commission on Italy's state budget and the switch to new emission standards in the automotive industry. Among the large countries, the main contributors to the euro area slowdown were Germany, whose economy stagnated in quarter-on-quarter terms at the year-end, and Italy, which found itself in technical recession. By contrast, growth in France stayed at 0.3% quarter on

1 A more detailed description of expected developments abroad, updated every month, is available in Global Economic Outlook.

quarter despite anti-government protests. The Spanish economy accelerated to 0.7% and Slovakia slowed slightly to 0.8%.

Leading indicators at the start of this year are signalling only low economic growth in the euro area. The economy is thus probably past the peak of the business cycle. External negative factors are mainly affecting industry, while household consumption and the services sector are showing positive developments. Industrial production declined in both month-on-month and year-on-year terms in February. This trend looks set to continue, as signalled by the PMI in manufacturing (see Chart II.1.3), which was in the contraction band for the fourth consecutive month in April. However, labour market developments are still favourable. Despite the economic slowdown, annual wage growth remained at 2.3% in 2018 Q4 and the unemployment rate was stable at 7.8% in February 2019. The favourable labour market developments are reflected in household consumption, as illustrated by, for example, retail sales, which increased by 2.8% year on year in February.

GDP growth in the euro area in effective terms[2] will slow to 1.2% this year and accelerate to 1.6% in 2020[3] (see Chart II.1.4). In the euro area proper, slightly lower growth rates than this are expected for both years. A slowdown is expected this year for most of the Czech Republic's trading partner countries, including Germany. According to the CNB's estimates, only slight growth can be expected for the German economy for the current and next quarters. This implies that the full-year growth figure will probably be the lowest in six years (0.6%). The risks to the external demand outlook are tilted towards lower growth. They stem primarily from the possibility of a longer-lasting stagnation of German industry, which would be reflected in worse consumer sentiment and in developments on the labour market and in the service sector.

II.1.2 Price developments abroad

The price of crude oil rose quite sharply during 2019 Q1, but its outlook is slightly falling. In early April, the Brent crude oil price broke through USD 70 a barrel (see Chart II.1.5). This was due mainly to production caps introduced by OPEC and Russia, which led to the first decline in global oil stocks since the end of 2017 according to an EIA estimate. The oil price was also buoyed by a slight shift towards a US-China trade deal, an improved Chinese manufacturing outlook and an

2 For the purposes of the forecast, external real and price developments are proxied by effective euro area indicators (see the Glossary). The outlooks for GDP, PPI and CPI in the individual euro area countries are based on the April Consensus Forecasts (CF). The outlooks for government bond yields, the euro-dollar exchange rate and the NEER of the euro are constructed on the same basis. The scenarios for the future paths of the 3M EURIBOR and 3M USD LIBOR and the Brent crude oil price are derived from market contracts as of 8 April 2019. The outlook is indicated by the grey areas in the charts. This convention is used throughout this Report.

3 The forecast for effective GDP growth in the euro area this year and the next has been lowered by 0.2 and 0.1 percentage point respectively relative to the April CF forecast on the basis of the CNB's model-based calculations. This is because the CF analysts did not take sufficient account of the continued deterioration in the observed data and leading indicators (especially in industry).

CHART II.1.4

EURO AREA GDP GROWTH OUTLOOK

Growth in economic activity will slow until mid-2019 and then recover

(annual percentage changes; seasonally adjusted)

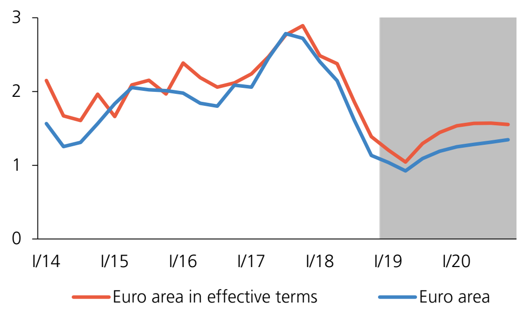


CHART II.1.5

PRICES OF CRUDE OIL AND OTHER COMMODITIES

The crude oil price is expected to fall slightly from its current level of around USD 70 a barrel; the decline in natural gas prices will deepen further in the short term

(oil in USD/barrel; other commodities: index [January 2014 = 100]; average price of natural gas in Europe; source: Bloomberg, World Bank, CNB calculation)

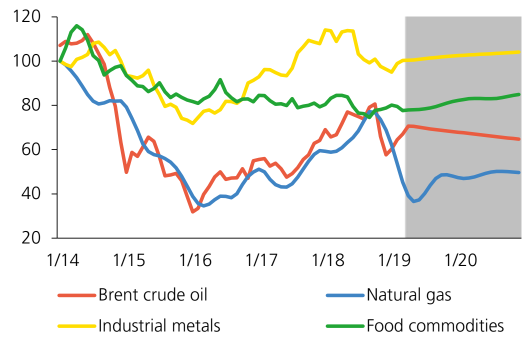
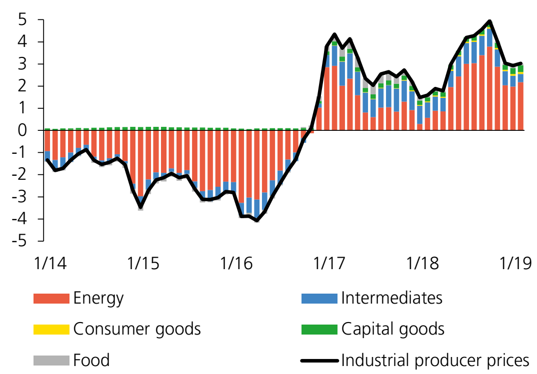


CHART II.1.6

INDUSTRIAL PRODUCER PRICES IN THE EURO AREA

Industrial producer price inflation has been at 3% since December, with a dominant contribution of energy prices

(annual percentage changes; contributions in percentage points; source: Eurostat, CNB calculation)



Note: Food prices including beverages and tobacco; consumer goods excluding food.

CHART II.1.7

PPI IN THE EURO AREA

Industrial producer price inflation will drop towards 2%
(year on year in %; seasonally adjusted)

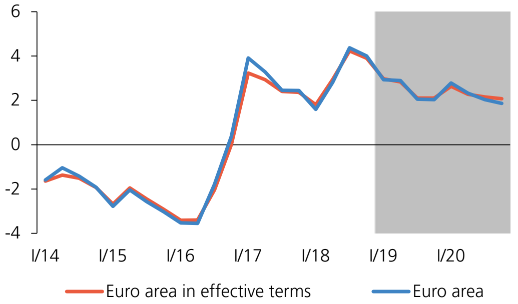
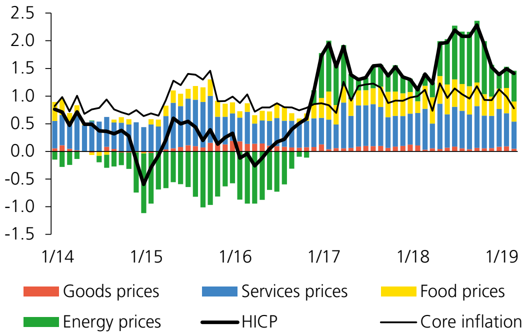


CHART II.1.8

INFLATION IN THE EURO AREA

The decrease in inflation in recent months was due to lower contributions of energy prices initially and services prices later on
(annual percentage changes; contributions in percentage points; source: Eurostat, CNB calculation)

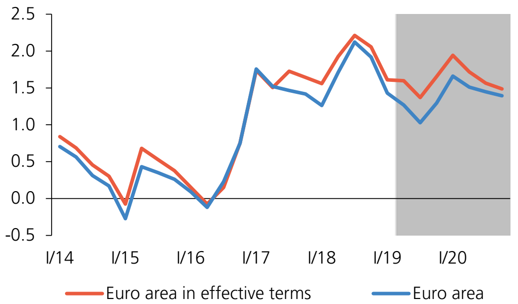


Note: Core inflation is calculated on the basis of the HICP excluding prices of energy, food, alcohol and tobacco.

CHART II.1.9

CONSUMER PRICE INFLATION OUTLOOK IN THE EURO AREA

Inflation will be below 2%
(HICP; year on year in %; seasonally adjusted)



increase in speculative funds' net long positions. The escalation of the political situation in Libya and tensions between the USA and Iran are increasing the supply-side risks. The dollar's modest appreciation trend and rising oil production in the USA are opposing growth in oil prices. The market curve based on Brent crude oil futures has a slightly negative slope and implies an average price of USD 68 a barrel for this year and USD 66 a barrel for next year. The EIA's predictions are slightly lower, as it expects global oil stocks to rise again next year.

The aggregate non-energy commodity price index continues to fluctuate with no visible trend, amid mixed movements in its components (see Chart II.1.5). Prices of most base metals stopped rising in mid-February and were then flat. They were supported by, among other things, an improved Chinese manufacturing outlook and progress in the US-China trade negotiations. By contrast, the food commodity price index weakened in March (due mainly to a fall in wheat prices). The outlooks for both sub-indices are rising.

Annual industrial producer price inflation in the euro area remained at 3% in February (see Chart II.1.6). In recent months, the index has primarily reflected the previous drop in oil prices; the changes in the contributions of the other components have been less significant. Adjusted for energy prices, annual industrial producer price inflation stood at 1.2% in February.

Annual effective industrial producer price inflation in the euro area will go down further (see Chart II.1.7). This will be due mainly to a modest year-on-year fall in the oil price. A weaker euro against the dollar in year-on-year terms will foster growth in producer prices this year, whereas a stronger euro will dampen it in 2020. Industrial producer price inflation is thus expected to fall to 2.5% on average this year and to 2.3% in 2020.[4] The patterns for the euro area in standard and effective terms will be similar.

Consumer price inflation in the euro area fell in 2019 Q1 (see Chart II.1.8). The contributions of non-energy components, in particular food and services prices, declined, while the contribution of energy prices grew in reaction to the rise in oil prices at the start of the year. Core inflation thus fell more sharply than headline inflation.

The effective indicator of consumer price inflation in the euro area will fluctuate well below 2% over the forecast horizon (see Chart II.1.9). The low expected consumer price inflation is due to weak fundamental inflation pressures accompanied by an expected modest year-on-year decline in energy prices. Inflation should thus fall to 1.6% on average this year and rise only slightly next year. Growth in the effective indicator should exceed growth in the standard inflation

4 The forecast for industrial producer price inflation in the effective euro area contains an upward expert adjustment of 0.4 percentage point for this year and the next relative to the April CF/EIU (owing to a higher oil price outlook).

measure, as higher inflation is expected in the Czech Republic's main trading partner countries than in the rest of the euro area.

II.1.3 Financial developments abroad

According to the market outlook, the 3M EURIBOR will remain negative over the entire forecast horizon (see Chart II.1.10). The ECB left its key interest rates unchanged during 2019 Q1. At the March meeting, however, it was announced that the ECB would leave the rates at their present levels at least through the end of 2019. The ECB will also conduct a new series of targeted longer-term refinancing operations (TLTRO-III) from September 2019 to March 2021, with the details of the programme to be announced. The Governing Council also discussed the possibility of introducing measures to mitigate the side-effects of negative interest rates on banks' profitability. These actions by the ECB and a revision of the economic outlook towards lower growth were reflected in the market outlook for the 3M EURIBOR. This outlook is negative over the entire forecast horizon, i.e. until the end of 2020. The April CF analysts expect the 3M EURIBOR to stand at -0.1% at the one-year horizon. The yield on the ten-year German government bond is expected to rise gradually from its current zero level to 0.4% at the one-year horizon (see Chart II.1.11).

A shift in Fed communications is reflected in a lower market outlook for the 3M USD LIBOR (see Chart II.1.10). At its March meeting, the US central bank decided to leave the target range for its policy rates unchanged at 2.25%–2.50%. However, a marked revision of the macroeconomic projections came as a surprise; according to the FOMC members' median estimates, rates can be expected to remain stable until the end of 2019. The termination of the Fed's balance sheet reduction process was also clarified. From October onwards, the Fed will again fully reinvest its current bond holdings repaid each month. The current market outlook thus expects the 3M USD LIBOR to decline gradually over the entire forecast horizon. This will foster a decrease in the differential vis-à-vis the euro rate with the same maturity.

The April CF outlook expects the euro to strengthen against the dollar (see Chart II.1.12). The euro depreciated against the dollar in 2019 Q1. The euro was negatively affected by the change in ECB communications, Brexit-related uncertainty and weaker-than-expected data from the euro area. By contrast, the dollar was supported by an agreement on the conditions for federal government funding in the USA and by some progress in the US-China trade negotiations. Nonetheless, the outlook expects the euro to appreciate gradually against the dollar on the back of an expected recovery in euro area growth and unchanged monetary policy in the USA. In effective terms, however, the euro is expected to be broadly stable.[5]

5 The appreciation of the euro against the dollar will be offset, among other factors, by a weakening against the British pound, the Polish zloty, the Czech koruna and the Nordic currencies.

CHART II.1.10

3M EURIBOR AND 3M USD LIBOR

The currently high spread between 3M rates in the USA and the euro area will narrow gradually
(in %; differences in percentage points)

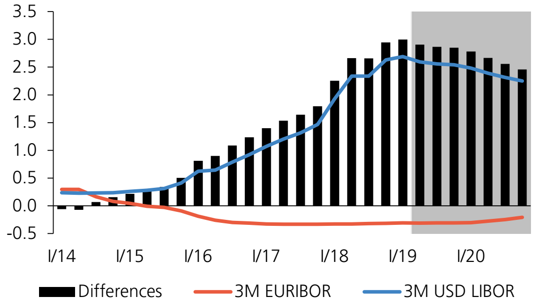


CHART II.1.11

10Y GOVERNMENT BOND YIELDS

Ten-year government bond yields are expected to rise slightly in both the USA and Germany; their differential will not start to narrow until the second half of 2020
(in %; differences in percentage points)

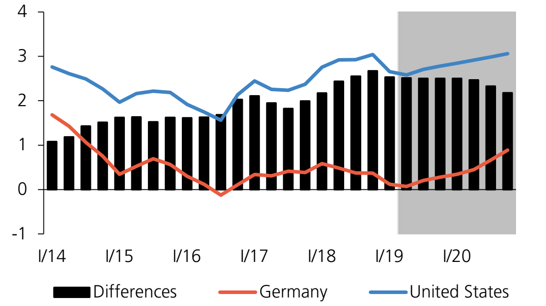


CHART II.1.12

EURO EXCHANGE RATE

The euro will strengthen against the dollar but will remain stable in effective terms
(USD/EUR; NEER of euro against currencies of euro area countries' 18 main partners; 2012 Q1 = 100; right-hand scale)

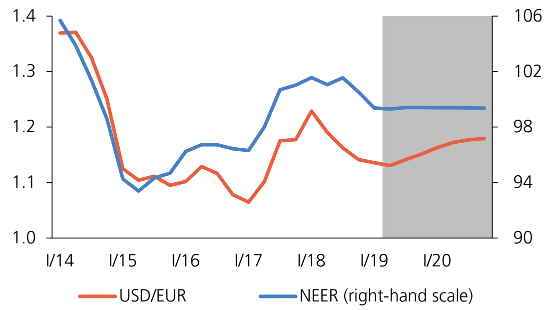


TABLE II.2.1

FORECASTS OF SELECTED VARIABLES

The continuing tightening of domestic monetary conditions will help reduce and then stabilise inflation at the target amid GDP growth slightly below its estimated potential
(annual percentage changes unless otherwise indicated)

	2018 actual	2019 forecast	2020 forecast
Headline inflation	2.1	2.7	2.1
GDP	2.9	2.5	2.8
Average nominal wage	8.1	6.5	5.0
Exchange rate (CZK/EUR)	25.6	25.3	24.7
3M PRIBOR (in %)	1.3	2.3	2.2

CHART II.2.1

HEADLINE INFLATION AND MONETARY POLICY-RELEVANT INFLATION

Inflation will be in the upper half of the tolerance band this year and will return to the CNB's 2% target over the monetary policy horizon
(annual percentage changes)

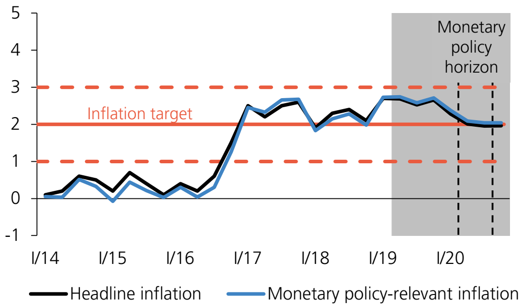
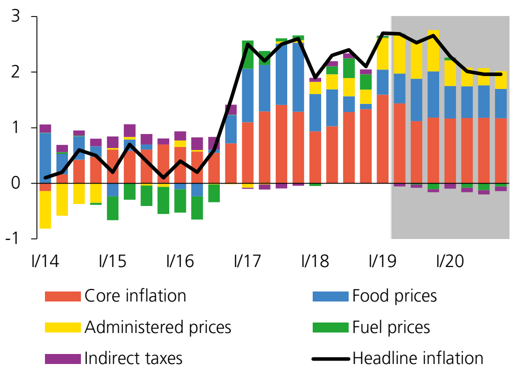


CHART II.2.2

STRUCTURE OF INFLATION AND THE INFLATION FORECAST

Inflation will continue to be driven mainly by core inflation, but the contributions of food prices and administered prices will also rise
(annual percentage changes; contributions percentage points)



Note: Food prices also include prices of alcoholic beverages and tobacco. Indirect taxes relate to non-administered prices.

II.2 THE FORECAST

Inflation will be in the upper half of the tolerance band this year and will return to the CNB's 2% target over the monetary policy horizon. Fundamental domestic inflation pressures will continue to ease slowly, mainly as a result of gradually falling wage growth. Following a temporary anti-inflationary effect, import prices will turn inflationary again in the second half of this year, mainly on the back of a renewed rise in foreign producer price inflation. Growth in economic activity will reach 2.5% this year, with all components of domestic demand contributing, and accelerate slightly next year. According to the forecast, the koruna will gradually appreciate, owing mainly to a wider positive interest rate differential vis-à-vis the euro area and to continuing real convergence of the Czech economy. Consistent with the forecast is an initial rise in domestic interest rates followed by broad interest rate stability until mid-2020.

II.2.1 Inflation and monetary policy

Inflation will be in the upper half of the tolerance band this year and will decrease to the 2% target next year (see Chart II.2.1). Higher inflation this year will be fostered above all by core inflation, substantial growth in administered prices and faster growth in food prices. A year-on-year decline in koruna prices of oil will be reflected in a year-on-year drop in fuel prices in the second half of 2019. As the high core inflation, administered price inflation and food price inflation come down, headline inflation will return close to the CNB's 2% target next year (see Chart II.2.2). Over the entire forecast horizon, inflation will be driven by persisting – albeit gradually easing – domestic inflation pressures stemming from wage growth amid continued growth of the economy. Following a temporary anti-inflationary effect, import prices will turn inflationary again in the second half of this year on the back of faster growth in foreign prices and later also markedly slower appreciation of the koruna. The return to the target next year will be aided by a further tightening of monetary policy. Monetary policy-relevant inflation, i.e. inflation adjusted for the first-round effects of changes to indirect taxes, will be only marginally higher than headline inflation over the entire forecast horizon.[6]

Core inflation will remain elevated in Q2 and then decline close to 2%. Still distinct domestic inflation pressures will affect prices in services in particular. Demand pressures and still solid – albeit slowing – wage growth stemming from the tight labour market situation and a further increase in the minimum wage in January 2019 will continue to manifest

6 The difference between headline and monetary policy-relevant inflation is due initially to the impacts of a decrease in VAT in public transport from 15% to 10% with effect from February 2019. The impact of this tax change on inflation is -0.06 percentage point. The forecast expects that the VAT decrease will not be reflected in final consumer prices. The forecast also includes an assumption of a reduction of the VAT rate on heat from 15% to 10% at the start of 2020 with an impact on inflation of -0.08 percentage point, which will pass through to consumer prices to only a limited extent.

themselves in this sector. These factors, together with the effects of the low comparison base, will result in core inflation staying at high levels in 2019 Q2 as well (see Chart II.2.3). It will then decline close to 2%, owing mainly to gradually diminishing domestic inflation pressures. A previous temporary decrease in import prices in late 2018 and early 2019 linked with gradual appreciation of the exchange rate will act in the same direction.

Food price inflation will continue to increase markedly on the back of a rise in food commodity prices. Faster growth in food prices will also be fostered by persisting inflation pressures from the domestic economy. Food price inflation is thus expected to peak above 3% at the end of this year (see Chart II.2.3). It will then come down as the currently strong growth in agricultural producer prices fades. Next year, food price inflation will thus be close to 2%.

Fuel prices will start falling year on year in mid-2019. According to short-term indicators,[7] fuel prices at filling stations continued to edge up year on year in April. The forecast nonetheless expects prices in this segment to start declining year on year in mid-2019 and keep falling for most of next year (see Chart II.2.3), as global oil prices will gradually drop from their current elevated levels in the quarters ahead. Renewed appreciation of the koruna against the dollar will affect domestic fuel prices in the same direction.

The already substantial growth in administered prices at the start of this year will accelerate even further in the quarters ahead. Administered price inflation was pushed up significantly in Q1 by higher growth in electricity prices, which will go up slightly further on the back of an already announced price increase during 2019 Q2. The forecast meanwhile expects that the current drop in gas prices on global markets will not affect retail prices for the time being and gas prices for households will keep rising significantly this year. Continued strong growth is also expected for heat prices for households in reaction to higher prices of energy inputs. Other administered prices except transport services prices will also rise. The decline in the latter is due to the introduction of fare discounts for students and senior citizens in September last year. The marked rise in prices of electricity, natural gas and heat will fade out next year. This will cause administered price inflation to moderate. Overall, this means that administered prices will rise by 4.3% this year, slowing to 2.3% next year (see Table II.2.2).

The koruna will gradually appreciate over the forecast horizon (see Chart II.2.4). The forecasted path of the exchange rate takes into account its broad stability since 2018 Q2. The exchange rate forecast expects the koruna to appreciate to CZK 25.5 against the euro in 2019 Q2. It will continue to firm gradually for the rest of 2019 as a result of a markedly

7 CCS payment cards portal data and the CZSO's weekly surveys of fuel prices.

CHART II.2.3

COMPONENTS OF INFLATION

Food price inflation will rise further, fuel prices will start falling year on year and core inflation will gradually decline close to 2%

(annual percentage changes)

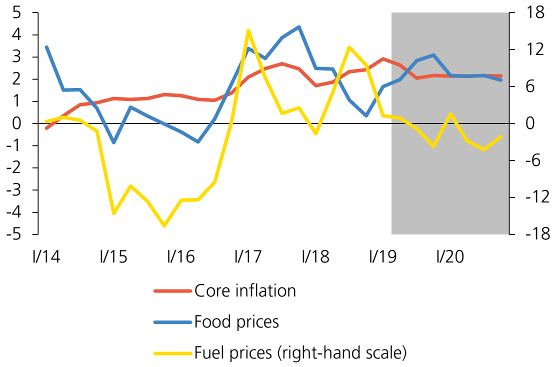


TABLE II.2.2

FORECAST OF ADMINISTRATIVE EFFECTS

Growth in administered prices will accelerate markedly this year, owing mainly to higher energy prices

(annual average percentage changes; contributions to headline inflation in percentage points)

	2018 actual		2019 forecast		2020 forecast	
ADMINISTERED PRICES[a)]	1.8	0.27	4.3	0.66	2.3	0.36
of which (main changes):						
electricity	4.4	0.19	10.2	0.44	3.3	0.14
natural gas	-0.7	-0.02	3.4	0.08	0.5	0.01
heat	-0.1	0.00	4.6	0.08	1.6	0.03
water	1.7	0.01	2.8	0.02	2.3	0.02
health care	5.0	0.06	2.2	0.03	3.5	0.05
transport	-1.9	-0.03	-4.9	-0.07	1.8	0.03

a) including effects of indirect tax changes

CHART II.2.4

EXCHANGE RATE FORECAST

The koruna will gradually appreciate over the forecast horizon

(CZK/EUR and CZK/USD)

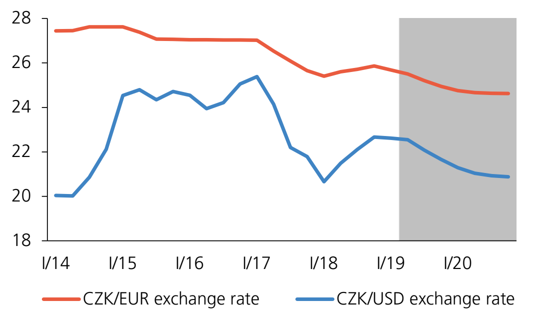


CHART II.2.5

INTEREST RATE FORECAST

Consistent with the forecast is an initial rise in domestic interest rates followed by broad interest rate stability until mid-2020
(percentages)

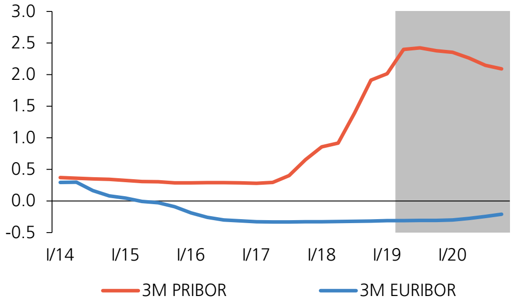


CHART II.2.6

COSTS IN THE CONSUMER SECTOR

The overall inflation pressures have eased; as regards their future evolution, slowing growth in domestic costs will be offset by a rising contribution of import prices
(nominal quarterly percentage changes; contributions in percentage points; annualised)

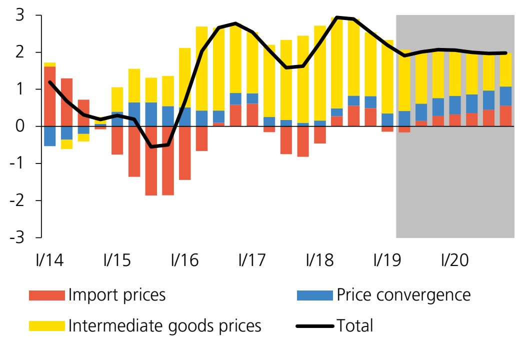
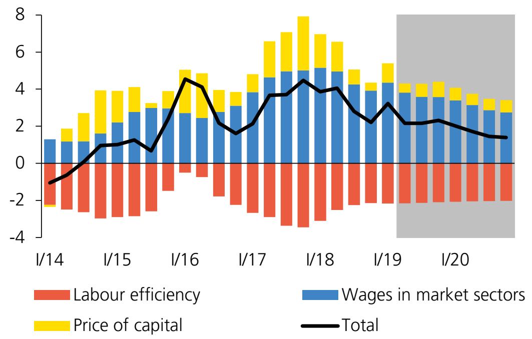


CHART II.2.7

COSTS IN THE INTERMEDIATE GOODS SECTOR

Growth in domestic costs will gradually weaken, mainly as a result of gradually falling wage growth
(nominal quarterly percentage changes; contributions in percentage points; annualised)



positive interest rate differential vis-à-vis the euro area and continued real convergence of the Czech economy linked with steady growth in labour efficiency. The exchange rate will thus gradually appreciate to just below CZK 25 to the euro at the end of this year. In 2020, the appreciation will slow owing to the start of monetary policy normalisation by the ECB, and the exchange rate will approach CZK 24.6 to the euro by the year-end. The koruna will also strengthen against the dollar, with the koruna-dollar rate reflecting an expected slight appreciation of the euro against the dollar (see section II.1).

Consistent with the forecast is an initial rise in domestic interest rates followed by broad interest rate stability until mid-2020 (see Chart II.2.5). The rise in rates at the start of the forecast is a reaction above all to persisting domestic inflation pressures and growth in import prices. The gradual pass-through of the higher administered price inflation into other components of inflation will act in the same direction. The subsequent broad stability of domestic rates until mid-2020 mainly reflects persisting negative interest rates in the euro area. The 3M PRIBOR will fall slightly in the second half of 2020.

II.2.2 Costs and the labour market

Total nominal costs will increase at a stable pace of around 2% over the entire forecast horizon (see Chart II.2.6). Growth in total costs in the consumer sector slowed further in 2019 Q1 as a result of the contribution of import prices turning slightly negative. This was due mainly to slight appreciation of the koruna amid temporary stability of foreign prices. The contribution of import prices will remain negative in 2019 Q2. However, import prices will then turn inflationary again, mainly on the back of renewed quarter-on-quarter growth in foreign producer prices. Next year, the positive contribution of import prices will increase further due to a decline in the pace of appreciation of the koruna. Inflation pressures from the domestic economy will ease over the forecast horizon due to gradually falling wage growth. The slowdown in total cost growth will be counteracted by a slightly rising positive contribution of price convergence.

Domestic cost pressures will ease gradually, reflecting a slowly cooling labour market (see Chart II.2.7). Growth in domestic nominal marginal costs in the intermediate goods sector went up temporarily in early 2019. This was due mainly to an increase in the minimum wage and an upswing in domestic demand connected with an above-average increase in old-age pensions. Growth in domestic costs will slow gradually over the forecast horizon due to gradually falling nominal wage growth in market sectors and an only modest contribution of the price of capital, which will reflect weaker growth in economic activity. The inflation pressures stemming from wage growth will be outweighed by rising labour efficiency over the entire forecast horizon. Growth in domestic costs will thus stay close to 2% this year and fall slightly further next year due to a continued slowdown in wage growth.

Employment growth will slow due to labour shortages and lower growth in economic activity (see Chart II.2.8). Tightness in the labour market, linked with a record-low unemployment rate, will be reduced only partially by growth in the labour force fostered by, among other factors, a gradual increase in the statutory retirement age. Growth in the number of employees converted into full-time equivalents will also slacken further. The rise in the converted number of employees will be aided mainly by the said increase in the number of employees amid initially slightly falling and, from the end of this year, broadly stable average hours worked in year-on-year terms.

The now record-low unemployment rate is preventing unemployment from falling further. The general unemployment rate will go down only slightly, stabilising close to 2% next year (see Chart II.2.8). The forecast also expects a slight decline in the share of unemployed persons. This will reflect an only marginal decrease in the number of registered job applicants amid a continued gradual decline in the population aged 15–64.

The labour market remains tight, but wage growth has already peaked. Wage growth in market sectors slowed further to 7% in 2019 Q1 (see Chart II.2.9). In addition to persisting labour market tightness, wage growth will be affected this year by the January increase in the minimum wage of CZK 1,150 to CZK 13,350. The slowdown in economic growth and firms' efforts to maintain their price competitiveness and profitability will act in the opposite direction. Wage growth will thus slow this year but will stay well above its steady-state level of 5%. It will gradually near that level in 2020. Pronounced wage growth, albeit considerably lower than last year, will continue in non-market sectors this year, reflecting an increase in the wages of teachers and other public employees. The forecast expects wage growth in the non-market segment of the economy to slow further to just below 5% in 2020.

II.2.3 Economic activity

After having slowed in the second half of last year, GDP will grow at a stable pace of around 2.5% this year and pick up slightly in 2020. Growth in economic activity will continue to be driven by all components of domestic demand this year (see Chart II.2.10) amid continued, though slower, growth in external demand. Growth in household consumption will reflect persisting, albeit gradually slowing, growth in wages and salaries and other income. Growth in gross fixed capital formation will remain high due to continued growth in private and government investment (co-financed from EU funds). Government consumption growth will slow from the high levels recorded last year but will remain solid. Net exports will make a negative contribution to economic growth in 2019 due to muted export growth caused by lower growth in external demand and a deterioration in Czech exporters' price competitiveness as a result of gradual appreciation of the koruna and continued rapid growth in domestic costs. The negative contribution of net exports to GDP growth will then fade away in 2020 owing to higher

CHART II.2.8

LABOUR MARKET FORECAST

Total employment will rise at a substantially slower pace than before, while the decline in the unemployment rate will be only weak

(annual percentage changes in employment; general unemployment rate in percentages; seasonally adjusted)

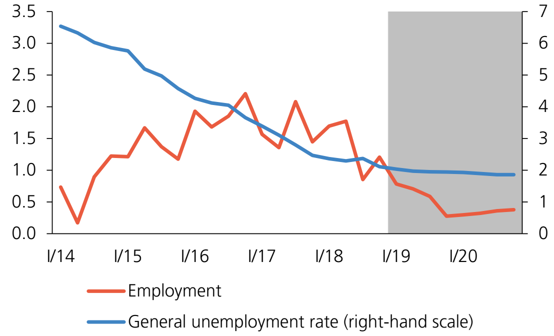


CHART II.2.9

AVERAGE NOMINAL WAGES

Wage growth in market sectors will continue to slow gradually; in non-market sectors the dynamics will be mixed, with a more marked tendency to slow in 2020

(annual percentage changes; total wages – source: CZSO; wages in market and non-market sectors – source: CNB calculation)

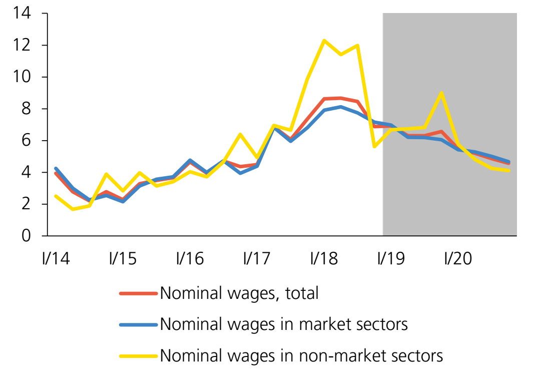


CHART II.2.10

ANNUAL GDP GROWTH STRUCTURE

Consumption and fixed investment will be the main contributors to GDP growth over the entire forecast horizon

(annual percentage changes; contributions in percentage points; seasonally adjusted)

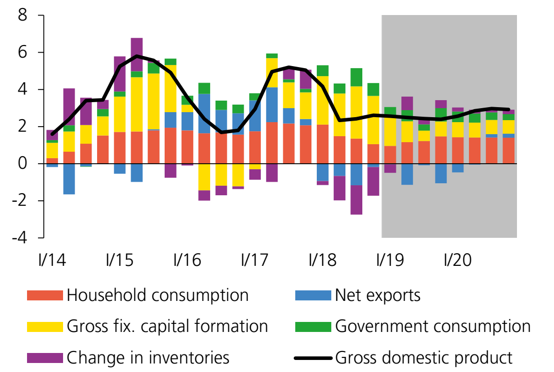


CHART II.2.11

REAL HOUSEHOLD AND GOVERNMENT CONSUMPTION

Household consumption growth will pick up and outpace government consumption growth next year
(annual percentage changes; seasonally adjusted)

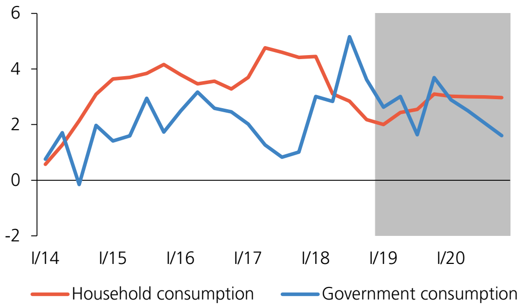
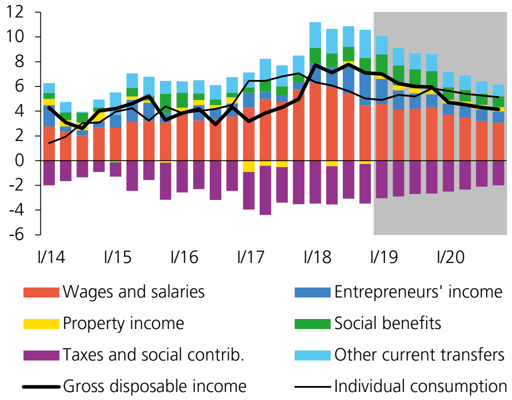


CHART II.2.12

NOMINAL DISPOSABLE INCOME

The still solid growth in disposable income will be a result mainly of continued, albeit gradually slowing, growth in wages and salaries and other income
(annual percentage changes; contributions in percentage points)

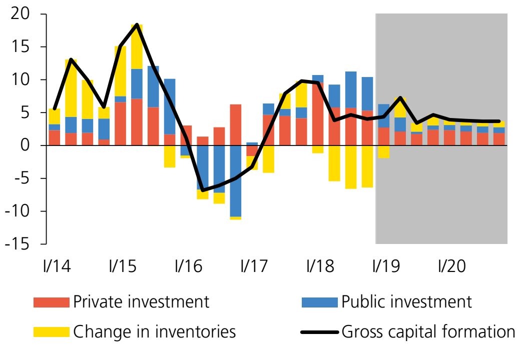


Note: Entrepreneurs' income comprises gross operating surplus and mixed income.

CHART II.2.13

INVESTMENT DECOMPOSITION

Gross capital formation will rise due to continued growth in both private and government investment; the contribution of change in inventories will also turn positive again
(annual percentage changes; contributions in percentage points; constant prices; seasonally adjusted; source: CZSO; contributions of private and government investment: CNB calculation)



growth in external demand. This will lead to a slight upturn in economic growth next year.

The current sluggish growth in household consumption will go up and fluctuate close to its steady-state level. The gradual slowdown in household consumption during 2018 was partly due to a rise in the saving rate amid heightened consumer concerns about future macroeconomic developments. Consumption growth will gradually pick up this year (see Chart II.2.11) and the saving rate will stop rising. Faster growth in consumption is also being fostered by an extraordinary increase in pensions in January going beyond the usual indexation, as households of old-age pensioners have a high propensity to consume. Household budgets will continue to benefit from buoyant growth in disposable income, reflecting slowing but still solid growth in wages and salaries and rising entrepreneurs' income (see Chart II.2.12). Social benefit income will also make a positive contribution to growth in disposable income. Growth in households' purchasing power will also be fostered by a decline in inflation next year. Overall, household consumption will thus grow by 2.5% this year and pick up to 3% in 2020.

Government consumption will continue to rise, due to both growth in non-wage expenditure and wage growth in the government sector. Growth in real government consumption will be 2.7% this year and slow only slightly next year (see Chart II.2.11). Government consumption expenditure in nominal terms will increase significantly mainly this year on the back of rapid growth in compensation of employees. In real terms, though, government consumption growth will be dampened by faster growth in the deflator. Current expenditure and social transfers in kind will continue to increase.

Gross capital formation will continue to be supported by both private and government investment, joined by renewed additions to inventories (see Chart II.2.13). Growth in fixed investment will slow to less than 4% this year, due mainly to base effects. Both private and government investment will decrease. Growth in investment in the business sector will additionally be held back by slower growth in external demand and higher interest rates. Nevertheless, private investment activity will remain solid and will continue to be motivated mainly by high capacity utilisation in a tight labour market. Government investment will also continue, with a significant share of investment co-financed from EU funds.

The currently muted export growth will recover significantly next year (see Chart II.2.14). While some domestic exporters are still facing high capacity utilisation and a tight labour market characterised by labour shortages, for others, lower external economic growth appears to be reflected in subdued export growth. Growth in external demand will strengthen next year. This, combined with steady growth in private investment, will be reflected in faster growth in exports of goods and services, which will exceed 6% at the end of 2020.

Import growth will reflect solid growth in domestic demand and later also a recovery in exports. Import growth continues to be driven mainly by a rise in import-intensive investment and household consumption. The expected appreciation of the koruna will also have an effect. Overall, goods and services imports will rise by around 5% this year (see Chart II.2.14). In 2020, import growth will start to be affected by higher export growth and faster growth in household consumption. Overall, import growth will thus increase modestly next year.

The contribution of net exports to GDP growth will remain negative this year. Imports will outpace exports. In 2020, the growth rates of exports and imports will converge and the contribution of net exports to GDP growth will be zero on average.

II.2.4 The balance of payments

According to preliminary figures, the current account surplus dropped sharply to 0.3% of GDP in 2018.[8] This was caused primarily by higher spending on oil imports on account of the rise in the oil price, lower net operations vis-à-vis the EU and higher income of non-residents in the Czech Republic transferred abroad. Moreover, the surplus on trade in goods in the category of motor vehicles including parts, which had been the key driver of the current account surplus (see Table II.2.3) in the past, stopped rising. The sizeable reduction in the capital account surplus was linked mainly with a fall in income from the EU and, to a lesser extent, a deficit on trading in emission permits. Overall, net of the surplus on operations vis-à-vis the EU (which is only temporary and, moreover, eliminated by the CNB through a direct purchase into its international reserves), the Czech real economy ceased to generate surpluses vis-à-vis the rest of the world.

On the financial account, non-residents last year closed the koruna positions they had built up before the exit from the exchange rate commitment. This outflow of capital was concentrated in a decline in holdings of short-term government bonds and T-bills (held largely through repo operations). To a lesser extent, it also involved koruna deposits with the banking sector. This outflow on the financial account was counteracted by an increase in foreign-currency liabilities of other sectors and the banking sector. Direct investment recorded a net inflow of capital for the first time in a year, although this was due solely to reinvested earnings. Net of reinvested earnings, a slight net outflow of capital prevailed.

The forecast expects the current account surplus to narrow slightly further to 0.1% of GDP in 2019 (see Chart II.2.15). This will reflect a slight decline in the trade balance (slower growth in external demand partly offset by a downswing in domestic demand and a year-on-year

8 In 2017, the surplus was 1.7% of GDP.

CHART II.2.14

REAL EXPORTS AND IMPORTS

The temporarily subdued growth in exports will gradually pick up and converge towards import growth at the end of 2020, reflecting faster growth in external demand
(annual changes in per cent and CZK billions; seasonally adjusted)

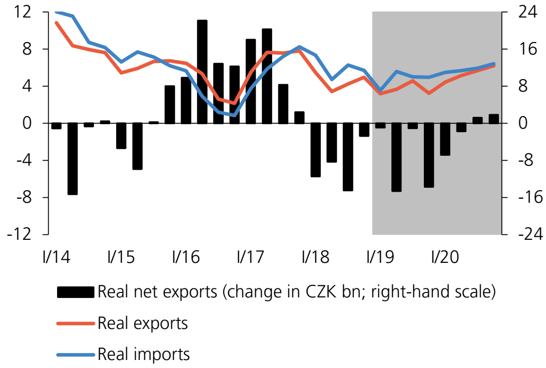


TABLE II.2.3

BALANCE OF PAYMENTS FORECAST

The current account surpluses this year and the next will be marginally lower than in 2018, while the financial account (excluding banking sector operations) will record a slight outflow of capital
(CZK billions)

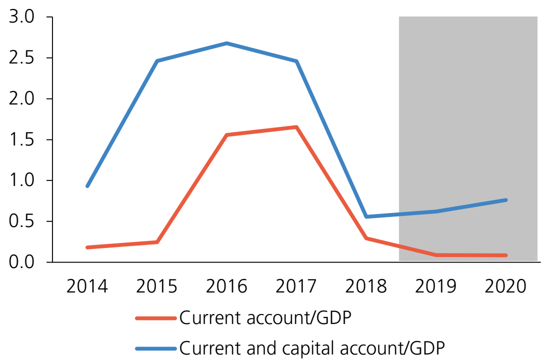
	2018 prelim. outcome	2019 forecast	2020 forecast
A. CURRENT ACCOUNT	15.5	5.0	5.0
Goods	217.2	210.0	220.0
Services	120.7	125.0	130.0
Primary income	-282.5	-300.0	-310.0
Secondary income	-39.9	-30.0	-35.0
B. CAPITAL ACCOUNT	14.0	30.0	40.0
C. FINANCIAL ACCOUNT[a)]	12.2	20.0	30.0
Direct investment	-91.3	-70.0	-60.0
Portfolio investment	22.5	-40.0	-40.0
Financial derivatives	-15.3	-	-
Other investment	46.3	40.0	40.0
Reserve assets	50.0	90.0	90.0

a) forecast excluding operations of banking sector and financial derivatives

CHART II.2.15

RATIOS OF THE BALANCE OF PAYMENTS ACCOUNTS TO GDP

The ratio of the current account surplus to GDP will drop further compared with 2018
(percentages)



Note: The figures for 2018 are preliminary.

decline in gas prices) and a wider primary income deficit (an increase in direct investment earnings of non-residents and a decrease in the compensation of employees surplus). A slight improvement in the balance of services (especially other services) and secondary income (growth in income from the EU) will act in the opposite direction.

The current account is forecasted to be unchanged at this year's level both in absolute terms and in relation to GDP in 2020. A modestly rising goods and services surplus will reflect rising external demand; the increase in the surplus will be dampened by expected appreciation of the koruna. The income deficit will widen slightly – the deficit on investment income and private transfers abroad will increase.

The capital account surplus will be affected mainly by drawdown of EU funds in both years. Moreover, a year-on-year increase in the surplus in 2020 is associated with expected income from a planned auction of frequencies. There is uncertainty regarding trading in emission permits. The size of such trading and the direction of the flows are hard to estimate, so the forecast for 2019 and 2020 excludes them.

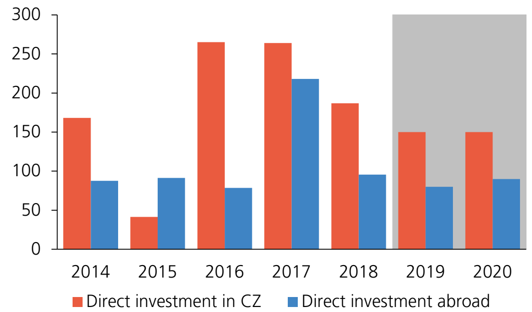
The financial account will this year record a slight capital outflow associated with growth in reserve assets and outflows in other sectors. The net inflow of direct investment capital into the Czech Republic will decrease slightly, mainly because of an expected decline in the balance of reinvested earnings. Slower global growth will be reflected in a lower volume of direct investment at home and abroad (see Chart II.2.16). The forecast expects a modest net capital outflow for new direct investment (net of reinvested earnings). As regards portfolio investment (see Chart II.2.17), the forecast expects residents' holdings of foreign securities to decrease slightly further due to a highly positive interest rate differential; a decline in bond holdings will outweigh expected growth in holdings of shares. On the liabilities side, the volume of government koruna bonds held by non-residents will decline. This will be partially offset by growth in the volume of euro-denominated bonds (government and corporate) held by non-residents. The overall surplus on the portfolio investment sub-item will be due to the banking sector's usual operations to optimise contributions to the Resolution Fund. Under other investment (excluding the banking sector), a net outflow of capital, associated with activities of the corporate sector (export loans and transfers of free funds to foreign accounts), is still expected. In the government sector, a short-term foreign loan is expected to be revolved due to persisting favourable foreign currency financing conditions (although the loan may be replaced with a bond issue). The forecasted higher growth in reserve assets than in 2018 is associated with an expected increase in returns on the CNB's reserves and a year-on-year increase in the surplus on operations vis-à-vis the EU. The overall picture of the financial account next year will be broadly unchanged from 2019.

The domestic real economy will not generate foreign currency surpluses, so debt capital will remain the main factor affecting the exchange rate. A highly positive interest rate differential vis-à-vis the

CHART II.2.16

DIRECT INVESTMENT STRUCTURE

The volume of domestic FDI will decline in 2019 and 2020 compared with previous years; the same will also apply to a lesser extent to residents' direct investment abroad
(CZK billions)

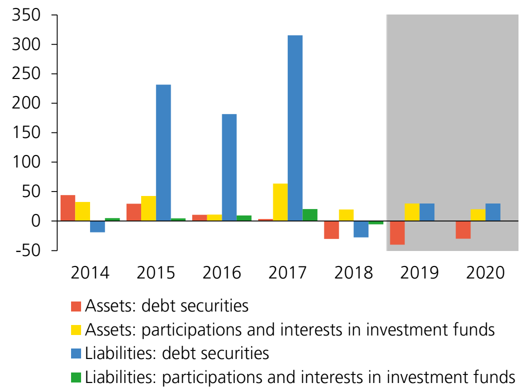


Note: The figures for 2018 are preliminary.

CHART II.2.17

PORTFOLIO INVESTMENT STRUCTURE

A positive interest rate differential of the koruna vis-à-vis the euro will make foreign bonds less attractive to residents
(CZK billions)



Note: The figures for 2018 are preliminary.

euro, which will motivate firms and the government to finance their liabilities much more cheaply on euro markets, will foster appreciation of the koruna. It will also dampen residents' interest in portfolio investment abroad. On the other hand, the appreciation of the koruna will be held back by a still sizeable amount of gradually outgoing foreign short-term capital invested in koruna assets before the exit from the exchange rate commitment and by still highly attractive dollar investment opportunities.

II.2.5 Fiscal developments

The government budget surpluses will decrease significantly over the forecast horizon. The general government budget ended 2018 in a surplus of 0.9% of GDP. The general government surplus will drop to 0.3% and 0.2% of GDP this year and the next respectively (see Table II.2.4). Owing to an expected slowdown in private consumption and the total volume of wages, the growth rate of tax revenues and social and health insurance contributions will decrease. Newly approved tax measures will also have a negative effect on the general government revenue side in 2019. These measures include the shifting of public transport fares to the second reduced VAT rate, an increase in flat-rate expenditure allowances for entrepreneurs and a reduction in the rate on employers' social security contributions. The reassignment of heat to the second reduced VAT rate will be reflected in lower income in 2020. On the other hand, government spending will be increased this year by continued growth in wages in the government sector and in government investment supported by co-financing from EU funds. An increase in social benefits connected with this year's more generous pension indexation[9] and with an increase in the care allowance, and the introduction of fare discounts for students and senior citizens in September 2018, will act in the same direction.

Fiscal policy will again be expansionary this year and neutral in 2020 (see Table II.2.5). The expansionary effect of fiscal policy this year is linked mainly with the higher-than-usual increase in old-age pensions, continued growth in government investment and rapid wage growth in the government sector. The neutral effect of fiscal policy in 2020 reflects the fact that the forecast only takes into account previously approved fiscal discretionary measures, the impact of which is marginal overall. Given the recently introduced proposals to increase mandatory expenditures (e.g. higher indexation of pensions and an increase in parental allowance), there is a risk of fiscal policy being expansionary in 2020 as well. However, this might be partially reduced by the proposed increases in some taxes (e.g. tax rates on games of chance and a further harmonisation amendment to the Excise Duty Act).

9 In 2019, the flat-rate component of pensions was increased from 9% to 10% of the average wage and senior citizens aged over 85 received an extra CZK 1,000 a month. This will increase pension spending by 0.3% of GDP.

Table II.2.4

FISCAL FORECAST

The general government surpluses will decrease and the government debt-to-GDP ratio will continue to fall
(% of nominal GDP)

	2018 actual	2019 forecast	2020 forecast
Government revenue	41.7	41.4	41.2
Government expenditure	40.8	41.1	40.9
of which: interest payments	0.8	0.7	0.7
GOVERNMENT BUDGET BALANCE	0.9	0.3	0.2
of which:			
primary balance[a)]	1.7	1.0	0.9
one-off measures[b)]	0.0	0.1	0.1
ADJUSTED BUDGET BALANCE[c)]	0.9	0.2	0.2
Cyclical component (ESCB method)[d)]	0.5	0.3	0.2
Structural balance (ESCB method)[d)]	0.4	-0.1	0.0
Fiscal stance in pp (ESCB method)[e)]	-0.8	-0.5	0.1
Cyclical component (EC method)[d)]	0.1	0.0	0.0
Structural balance (EC method)[d)]	0.8	0.3	0.2
Fiscal stance in pp (EC method)[e)]	-0.4	-0.5	-0.1
GOVERNMENT DEBT	32.7	30.9	29.3

a) government budget balance minus interest payments
b) This item consists of expected revenue from primary sales of emission permits, expenditure on the (New) Green Savings Programme, guarantees and revenue from the sale of frequency bands to mobile operators.
c) adjusted for one-off measures; CNB estimate
d) CNB estimate
e) year-on-year change in structural balance

Table II.2.5

FISCAL IMPULSE

The fiscal impulse will be positive this year due to the support of household consumption and growth in government investment
(contributions to GDP growth in percentage points)

	2018 actual	2019 forecast	2020 forecast
FISCAL IMPULSE	0.8	0.4	0.0
of which impact through:			
private consumption	0.4	0.3	0.0
private investment	0.0	0.0	0.0
government investment, domestic	0.2	0.0	0.0
government investment, EU funded	0.2	0.1	0.0

Government sector finances in structural terms will be broadly balanced and the ratio of government debt to GDP will decrease further. Despite the expansionary effect of fiscal policy this year, which will be reflected in a deterioration in the general government structural balance, the medium-term objective – namely a structural deficit of 0.75% of GDP from 2020 – will be met at the forecast horizon. Government debt will gradually drop below 30% of GDP in 2020, due mainly to nominal GDP growth amid a broadly flat level of government debt.

II.3 COMPARISON WITH THE PREVIOUS FORECAST

The biggest changes by comparison with the previous forecast are more gradual appreciation of the koruna and a revision of the outlook for foreign variables. The foreign producer price outlook has been raised due to higher oil prices. Conversely, expected growth in effective euro area GDP and the longer-term outlook for foreign rates have been reduced due to worsening sentiment. The strength of the inflation pressures in the domestic economy has been revised slightly upwards this year, despite slightly weaker domestic inflation pressures due to lower wage growth. This higher growth in costs is due to more inflationary import prices, which also reflect the more gradually appreciating exchange rate. Due to higher observed inflation, the inflation outlook for this year is thus higher. The interest rate path consistent with the new forecast is also higher over almost the entire outlook. Growth in domestic economic activity is lower due mainly to a worse outlook for external demand.

With regard to foreign variables, the outlook for producer prices has been increased while economic activity has been revised downwards (see Chart II.3.1). The outlook for inflation in the effective euro area has been increased by 0.6 percentage point this year and the next compared with the previous forecast. This mainly reflects stronger cost pressures stemming from higher growth in oil prices and a weaker exchange rate of the euro against the dollar. Slower growth in economic activity in the effective euro area compared with the previous forecast (0.3 percentage point lower this year and 0.1 percentage point lower in 2020) stems from a sharper decrease in growth in consumer demand. This ensues from both lower observed levels and worse leading indicators. The outlook for consumer price inflation in the euro area is thus lower. The market outlook for 3M EURIBOR rates has moved to more negative levels over the entire forecast horizon (especially in 2020). This reflects the ECB's extended commitment to keep its key interest rates at their present levels at least through the end of this year.

The forecast for growth in domestic economic activity has been lowered slightly due to worse external demand. The lower GDP growth (see Chart II.3.2) also reflects the currently muted growth in household consumption and investment this year. Conversely, the reduction in the GDP growth outlook will be lessened for most of this year by less negative contributions of net exports, which also reflect more gradual appreciation of the koruna. Government consumption will also contribute slightly more strongly to GDP growth than in the previous forecast. All the components of GDP will contribute to lower GDP growth next year, but the revision is not sizeable overall.

Wage growth will slow at a similar pace as in the previous forecast, although from slightly lower initial levels (see Chart II.3.3). Wage growth will be slower due to the lower levels observed at the end of last year, leading indicators at the start of this year and weaker forecasted economic growth. Wage growth will thus return close to its steady-state rate rather earlier than assumed by the previous forecast. Overall, the more subdued wage growth and lower economic growth will

CHART II.3.1

CHANGE IN THE FORECAST FOR THE EFFECTIVE PPI IN THE EURO AREA

The higher producer price inflation in the euro area reflects a higher outlook for the Brent crude oil price coupled with a weaker euro against the dollar

(annual percentage changes; differences in percentage points – right-hand scale; seasonally adjusted)

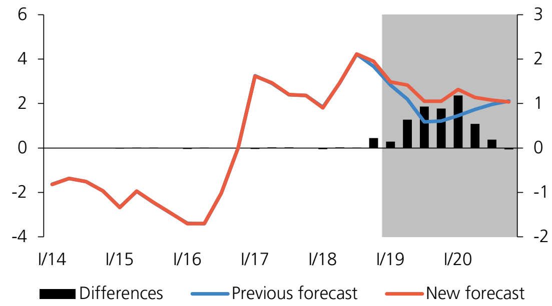


CHART II.3.2

CHANGE IN THE GDP FORECAST

The forecast for domestic economic growth has shifted lower

(annual percentage changes; differences in percentage points – right-hand scale; seasonally adjusted)

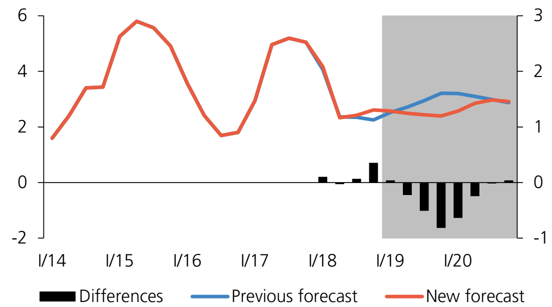


CHART II.3.3

CHANGE IN THE FORECAST FOR NOMINAL WAGES IN MARKET SECTORS

The lower wage growth forecast mainly reflects weaker observed levels and more gradual GDP growth

(annual percentage changes; differences in percentage points – right-hand scale; seasonally adjusted)

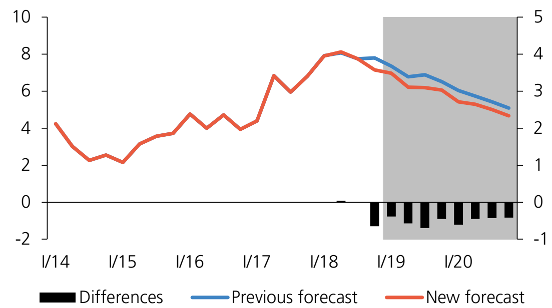


Chart II.3.4

CHANGE IN THE HEADLINE INFLATION FORECAST

The headline inflation forecast is distinctly higher at the one-year horizon, while the changes at the longer horizon are small

(year on year in %; differences in percentage points – right-hand scale)

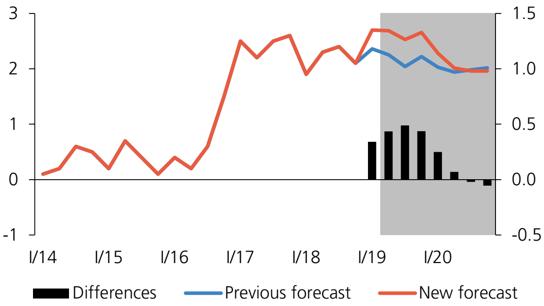


Chart II.3.5

CHANGE IN THE EXCHANGE RATE FORECAST

The koruna will appreciate more gradually due to longer-lasting impacts of negative sentiment on financial markets

(CZK/EUR; differences in CZK – right-hand scale)

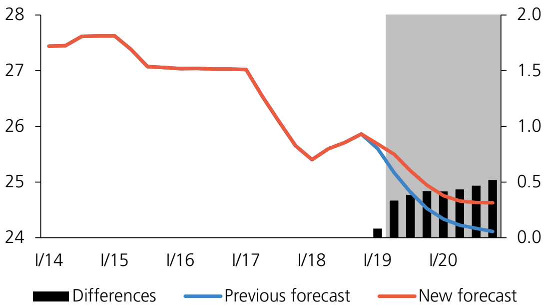
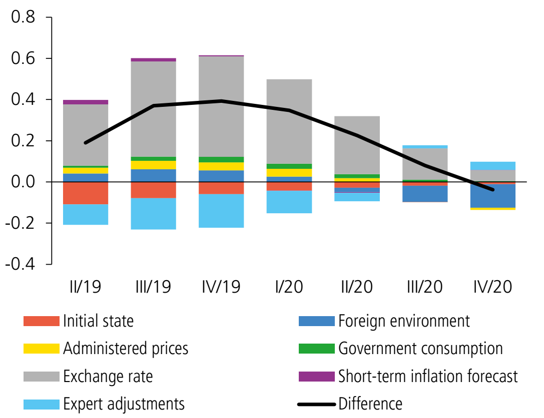


Chart II.3.6

DECOMPOSITION OF CHANGES IN THE INTEREST RATE FORECAST

The higher interest rate outlook is due mainly to slower appreciation of the koruna

(3M PRIBOR; percentage points)



lead to weaker domestic inflation pressures compared with the previous forecast.

The inflation forecast is higher for this year but almost unchanged at the monetary policy horizon (see Chart II.3.4). The higher inflation outlook relative to the previous forecast is due mainly to stronger price growth early this year. This was driven mainly by higher core inflation, which more strongly reflected growth in the prices of some non-tradables. Food prices were also slightly higher. Administered price inflation has been revised upwards only slightly for 2019, mainly because of higher heat prices. The overall inflation pressures are moderately higher this year compared with the previous forecast. The less anti-inflationary effect of import prices will outweigh the slightly lower domestic inflationary pressures connected with slower wage growth in market sectors. The inflation forecast for 2020 is almost unchanged. The assumptions regarding the first-round effects of changes to indirect taxes newly incorporate a reduction in the VAT rate on heat in 2020. The upward revision of monetary policy-relevant inflation in the new forecast is thus slightly larger than that of headline inflation.

The more gradual appreciation of the koruna mainly reflects its weaker levels observed last year. The new forecast incorporates the longer-lasting impacts of global factors associated with a change in the sentiment on world markets, which are causing the koruna to depreciate.[10] The new forecast thus assesses the exchange rate path in the last four quarters as being driven in larger part by longer-lasting factors than the previous one did. The koruna will thus appreciate more gradually this year and the next because of a change in perceptions about its recent path (see Chart II.3.5). A worse outlook for external demand acts in the same direction.

The new forecast implies a higher domestic interest rate path over almost the entire horizon (see Chart II.3.6). The higher rates relative to the previous forecast will be due mainly to a weaker koruna, reflecting the changed perceptions about its recent path.[11] This reassessment has a longer-lasting impact on the interest rate path by comparison with the previous forecast. Expectations of external developments, in particular higher growth in foreign prices, including oil prices, will also have an upward effect on rates until the start of 2020. By contrast, a lower 3M EURIBOR path will foster lower domestic interest rates in the course of next year. The initial state in the domestic economy – in particular the observed wage and household consumption levels – will have a downward effect on rates over the entire forecast horizon. The impacts of the observed slower household consumption growth are also reflected in expert adjustments fostering lower rates.

10 Observed exchange rate developments are newly incorporated using the longer-term effect of an increased risk premium. It replaces the effect of one-off shocks in the uncovered interest parity condition, which were used to dampen the initial appreciation in the previous forecast.

11 The "Exchange rate" contribution in Chart II.3.6 takes into account not only the short-term forecast for 2019 Q2, but also a change to the incorporation of this value into the forecast.

II.4 RISKS AND UNCERTAINTIES OF THE FORECAST

The Bank Board assessed the risks to the inflation forecast as being broadly balanced. The first risk is associated with a slowdown in economic growth in the Czech Republic's main trading partner countries. The impacts of protectionist measures in global trade also remain a source of external risks. Another uncertainty surrounds the future path of the koruna exchange rate. Uncertainty stems also from household consumption, which surprisingly slowed abruptly at the end of last year. In addition to the baseline forecast scenario, an alternative scenario describing the future evolution of the economy was prepared using the extended g3+ prediction model.

II.4.1 Risks perceived by the CNB

The Bank Board assessed the risks to the inflation forecast as being broadly balanced. A more pronounced and potentially more protracted slowdown in economic growth in the euro area is a risk to the forecast. The impacts of protectionist measures in global trade[12] remain a source of external uncertainty. Uncertainty is also associated with the exchange rate of the koruna going forward. The outlooks of other entities indicate a weaker exchange rate at the one-year horizon than the CNB forecast, with slightly higher interest rates and almost the same inflation prediction.

II.4.2 Risks signalled by other entities' forecasts

Inflation expectations in the economy continue to be firmly anchored by the CNB's 2% target. Inflation forecasted by financial market analysts is currently just above the CNB's 2% target at the one-year horizon. At the three-year horizon, it is at the target. According to the analysts, inflation will continue to fluctuate inside the upper half of the tolerance band around the CNB's target in the near future. During the rest of the year, inflation is expected to slow gradually to 2%. Labour market tightness generating strong wage growth remains the main inflationary factor according to the analysts. Slowing domestic economic growth and the outlook for slowly declining oil prices on world markets are having the opposite effect. The inflation expectations of business managers are also close to the central bank's target at the one-year horizon (see Table II.4.1).

The indicators of inflation perceived and expected by households have changed little recently. The still slightly positive level of perceived inflation suggests that households overall felt that prices rose over the last 12 months, though only slightly (see Chart II.4.1). Expected inflation remained stable on average. Its level signals that the proportion of

12 The protectionist measures already introduced or being considered were described in a box in IR III/2018. Due to current developments, the risk associated with Brexit has diminished temporarily or has moved to the future. The impacts of a disorderly Brexit were described in a sensitivity scenario in IR I/2019.

TABLE II.4.1

EXPECTED INDICATORS OF FMIE, CF AND CORPORATIONS

The analysts' inflation expectations are close to the CNB's 2% target at both the one-year and three-year horizons; the analysts believe that the economy will grow at a stable rate of 2.5%

(at 1Y; annual percentage changes unless otherwise indicated)

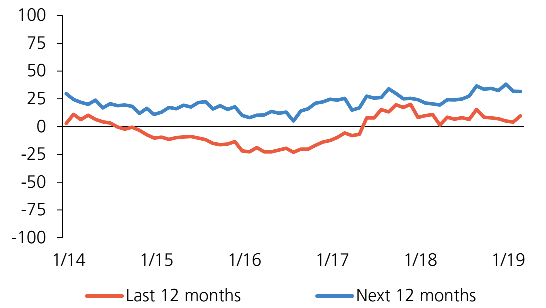
	12/18	1/19	2/19	3/19	4/19
FMIE:					
CPI	2.2	2.1	2.2	2.1	2.1
CPI, 3Y horizon	2.0	2.0	2.0	1.9	2.0
Real GDP in 2019	2.8	2.7	2.6	2.5	2.5
Real GDP in 2020		2.5	2.6	2.5	2.5
Nominal wages in 2019	6.7	6.8	6.8	6.4	6.4
Nominal wages in 2020		5.2	5.3	4.7	4.9
CZK/EUR exchange rate (level)	25.1	25.1	25.1	25.0	25.3
2W repo rate (in per cent)	2.3	2.3	2.2	2.2	2.2
1Y PRIBOR (in per cent)	2.7	2.6	2.5	2.5	2.5
Corporations:					
CPI	2.2			2.2	
CPI, 3Y horizon	2.8			2.7	
CF:					
Real GDP in 2019	2.9	2.8	2.7	2.7	2.6
Real GDP in 2020		2.6	2.6	2.6	2.5
Nominal wages in 2019	6.7	6.8	6.7	6.6	6.1
Nominal wages in 2020		5.0	5.3	5.2	5.3
CZK/EUR exchange rate (level)	25.3	25.2	25.3	25.2	25.3
3M PRIBOR (in per cent)	2.5	2.5	2.3	2.4	2.3

CHART II.4.1

PERCEIVED AND EXPECTED INFLATION

The indicators of perceived and expected inflation were little changed

(balance of answers; source: European Commission Business and Consumer Survey)



respondents who expect inflation to stay the same or increase over the next 12 months is still higher.

The analysts estimate that the Czech economy will show growth of about 2.5% both this year and the next (see Table II.4.1). The factors behind its slowdown compared with previous years include a tightening of domestic monetary conditions in both the interest and exchange rate components, slower global economic growth and the effects of global risks, which may be reflected in lower private sector investment activity. The labour market conditions are still assessed as tight. However, the unemployment rate is expected to go up gradually. According to the analysts, this will be accompanied by falling wage growth. The analysts on average forecast the koruna to appreciate to just above CZK 25 to the euro at the one-year horizon. The analysts agree that in the long term the koruna will appreciate due to favourable developments in the domestic economy, a current account surplus and a widening interest rate differential. In the short term, however, it may be deflected by external uncertainties, in particular the trade talks between the USA and China, Brexit-related economic impacts and the potential introduction of tariffs on car exports to the USA. More gradual appreciation amid persisting inflationary pressures would require a tighter interest rate component of the monetary conditions index. These uncertainties are also reflected in a quite wide expected range between the maximum and minimum values of the koruna.[13] A small majority of the analysts in the April FMIE survey were expecting the CNB Bank Board to leave key interest rates unchanged at the May meeting, while the rest were expecting them to be raised by 0.25 percentage point.[14] Their average estimate of the 2W repo rate at the one-year horizon was 2.2%.

Compared with the CNB, the analysts expect the same GDP growth and almost the same inflation this year, but with a different monetary conditions structure. The exchange rate at the one-year horizon is weaker on average in the analysts' predictions than in the CNB forecast, while the interest rate forecast is slightly higher (see Table II.4.1). Some of the analysts view the solid economic growth, inflation above the target and weak koruna as reasons for tightening monetary policy. Others believe that the CNB will hold off raising rates for precautionary reasons until the outcome of Brexit is clearer and gradually incoming data provide the Bank Board with a better picture of the condition of the global economy. The analysts' wage expectations do not differ much from the CNB's predictions.

The current market outlook for 3M rates implies a gradual increase over the one-year horizon. Consistent with the CNB forecast is an initial rise in domestic interest rates and subsequent broad interest rate

13 At the one-year horizon, the range is CZK 24.6–26.7 to the euro in the April FMIE survey and CZK 24.4–26.5 to the euro in the CF survey.
14 The cut-off date for this survey was 15 April. Most respondents in the subsequent polls released by news agencies just before the Bank Board meeting, i.e. at the end of April, were expecting the CNB's key rates to be raised.

stability until mid-2020. At the one-year horizon, the market outlook is thus only slightly lower than the rates in the CNB forecast (see Chart II.4.2).

II.4.3 An alternative forecast scenario – the g3+ model

An alternative forecast scenario was prepared using an extended version of the CNB's existing core prediction model. Its purpose is not to capture the specific risk of the baseline scenario, but to briefly present the g3+ model and the forecast created using this model. Starting with the next Inflation Report, this model will become the CNB's main prediction tool.

The g3+ model reflects the CNB's previous experience and trends in macroeconomic modelling for monetary policy purposes. From the viewpoint of economic theory, this is still a dynamic, stochastic general equilibrium model inspired by New Keynesian economics, which links the theory of the real business cycle with nominal rigidities. The extension of the current g3 model mainly involves the inclusion of a more detailed and interconnected external block structure, the division of foreign prices into energy and fundamental (non-energy) components, more realistic coverage of the consumption behaviour of households and a new way of processing exogenous outlooks. Some of the model parameters have also been adjusted. This includes a lowering of the steady-state level of foreign interest rates. Overall, the changes bring the model structure closer to reality in the domestic and foreign economy, enabling the CNB to capture economic phenomena more accurately and describe them in more detail in its forecasts. This ultimately makes the model framework more closely resemble current macroeconomic conditions and improves the model's predictive properties.

The extended external block captures a richer and interconnected structure of external developments. The external block of the current g3 core prediction model contains GDP and the PPI in the effective euro area and the 3M EURIBOR. The new model additionally includes the HICP in the effective euro area, the dollar-euro exchange rate and the price of Brent crude oil directly in its structure.[15] Moreover, these variables are interconnected in the g3+ model through a small structural model of the euro area economy. This will allow for better interpretation of developments abroad.

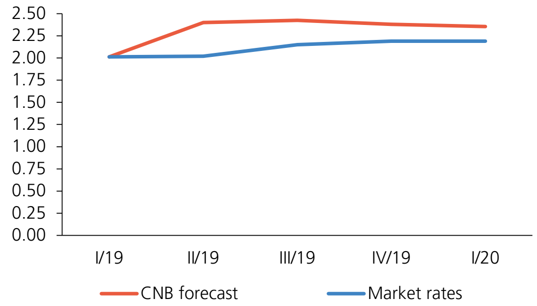
Another major change is the division of the external PPI into energy and non-energy (fundamental) components. The contribution of the energy component is derived from Brent crude oil prices, while that of the non-energy component reflects foreign fundamental cost pressures. This division is important due to the

15 The impacts of global oil prices and the euro-dollar exchange rate have so far figured in the CNB forecasts only through their expert incorporation into the external PPI, import prices and related domestic price categories (the PPI, administered prices, etc.).

CHART II.4.2

FRA RATES VERSUS THE CNB FORECAST

The market outlook for interest rates is gradually rising; at the one-year horizon it is only slightly below the rates contained in the CNB forecast
(percentages)



Note: Market rates represent for 2019 Q1 and 2019 Q2 the 3M PRIBOR and for 2019 Q3–2020 Q1 the average values of the FRA 3*6, 6*9 and 9*12 rates for the last 10 trading days as of 18 April 2019.

CHART II.4.3

ALTERNATIVE SCENARIO USING THE G3+ MODEL – HEADLINE INFLATION

Inflation returns to the 2% target next year in both the baseline and alternative scenarios; the differences are negligible

(year on year in %; differences in percentage points – right-hand scale)

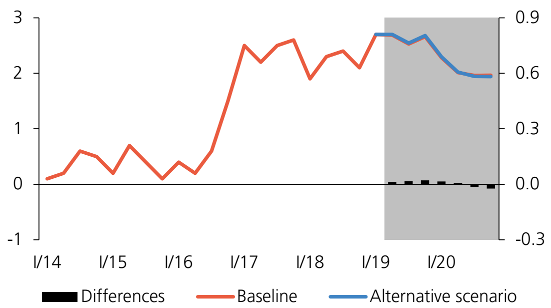


CHART II.4.4

ALTERNATIVE SCENARIO USING THE G3+ MODEL – NOMINAL WAGES IN MARKET SECTORS

Nominal wage growth slows to a similar extent in both scenarios

(annual percentage changes; differences in percentage points – right-hand scale; seasonally adjusted)

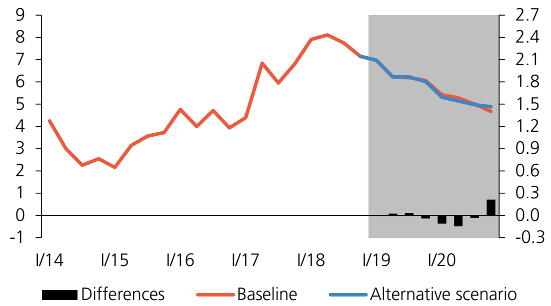
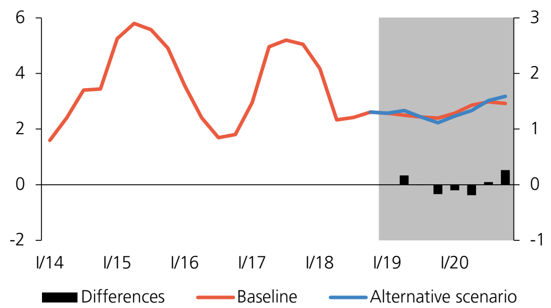


CHART II.4.5

ALTERNATIVE SCENARIO USING THE G3+ MODEL – REAL GDP

The differences in GDP growth between the two scenarios are negligible

(annual percentage changes; differences in percentage points – right-hand scale; seasonally adjusted)



asymmetry in the foreign trade structure of the Czech economy, which imports energy commodities and exports mostly higher-value-added goods and services. The contribution of energy prices can thus also now be identified in the decomposition of nominal marginal costs in the consumption sector.

The household block has been extended in the g3+ model structure. Model households are now divided into two types. The first has access to the financial market and hence can save or borrow, thereby smoothing its consumption over time. The second type does not have access to the financial market and spends all its income on consumption in the same quarter. This extension allows us to better capture the consumption behaviour of households and contributes significantly to improving the predictive properties of the extended model.

Besides these model changes, a new way of processing exogenous outlooks has been introduced. In the current g3 model, all the available information from outlooks spanning even a horizon of several years is used in the model agents' decision-making, particularly in the case of foreign variables. However, this turns out to be a strong assumption given the availability and reliability of the outlooks for the variables on which the forecast is conditional. The new g3+ model assumes that the information from outlooks is incorporated only gradually into agents' expectations and decisions.

The alternative scenario is based on the same assumptions and outlooks as the baseline scenario. The g3+ model forecast thus assesses the current phase of the economy similarly to the baseline scenario, i.e. as a decline from the peak of the business cycle accompanied by a dominant effect of domestic inflationary pressures stemming from a tight labour market.

As in the baseline scenario, consumer price inflation returns to the 2% inflation target over the monetary policy horizon (see Chart II.4.3). This is due to slowing growth in domestic costs and a decline in total import prices this year. The g3+ model additionally describes the effects of the individual components of import prices in more detail. Growth in energy commodity prices at the start of the forecast will switch to a positive contribution, which, however, will fade away quickly due to the expected fall in oil prices. The contribution of total import prices in the second half of 2019 is more negative relative to the baseline scenario. This is due to lower growth in the fundamental PPI component, which will reflect the previous drop in energy prices and slower external GDP growth. Both scenarios forecast a continued gradual decline in wage growth in the domestic economy (see Chart II.4.4) to its steady-state level at the end of the forecast horizon. In 2020, the contribution of domestic cost pressures will stabilise at a level consistent with inflation at 2%. The contribution of fundamental import prices will be slightly inflationary amid only gradual appreciation of the koruna.

The growth of the Czech economy will be roughly stable this year and pick up slightly next year according to both scenarios (see Chart II.4.5). The annual growth rates in the g3+ model forecast are fully consistent with the baseline scenario. Household consumption and investment will also follow similar paths over the forecast horizon. The higher export growth in the alternative scenario relative to the baseline scenario is supported by a weaker koruna, which makes exporters more price competitive. The higher import growth is consistent with faster export growth.[16]

The nominal exchange rate appreciates rather more slowly than in the baseline scenario (see Chart II.4.6). This is due to slower growth in the fundamental (non-energy) component of external producer prices at the start of the forecast, which makes Czech exporters less competitive and thus puts pressure on the koruna to appreciate more gradually. Analogously to the baseline scenario, the observed path of the exchange rate is incorporated using an expert adjustment into the exchange rate path in both the initial state and the forecast.

The forecasted interest rate path in 2019 is broadly in line with the baseline scenario (see Chart II.4.7). Also consistent with the alternative scenario forecast is a rise in domestic interest rates in 2019 Q2 and subsequent broad interest rate stability for several quarters. Domestic rates are marginally lower in 2019 relative to the baseline scenario due to a more anti-inflationary effect of import prices. The more distinct decline in domestic rates next year reflects the new way of processing exogenous outlooks.

CHART II.4.6

ALTERNATIVE SCENARIO USING THE G3+ MODEL – THE NOMINAL EXCHANGE RATE

The koruna appreciates more gradually against the euro in the extended g3+ model

(CZK/EUR; differences in CZK – right-hand scale)

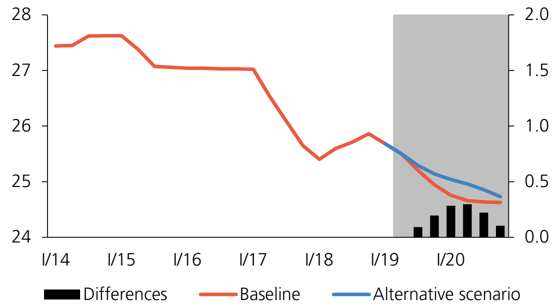
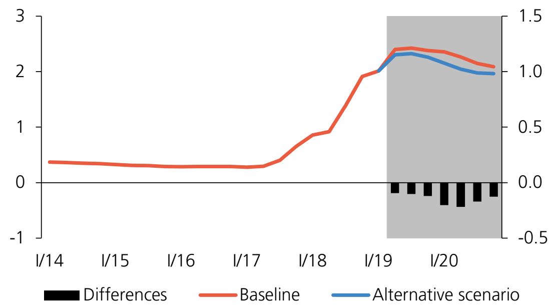


CHART II.4.7

ALTERNATIVE SCENARIO USING THE G3+ MODEL – THE 3M PRIBOR

Interest rates are slightly lower in the alternative scenario, but their profile is similar to that in the baseline scenario

(percentages; difference in percentage points – right-hand scale)



16 The import intensity of investment in the g3+ model decreases due to the introduction of the share of domestic production in investment. By contrast, import inputs are now partially assumed for government consumption.

III. CURRENT ECONOMIC DEVELOPMENTS

III.1 PRICE DEVELOPMENTS

Until the end of 2018, observed inflation was below the autumn 2017 forecast, a retrospective assessment of which is relevant for evaluating the current fulfilment of the inflation target. In 2019 Q1, however, consumer prices increased by 2.7% on average, well above the forecast. With the benefit of hindsight, the CNB's monetary policy in the past period can be assessed as having been slightly easier than optimal in terms of the fulfilment of the inflation target. The higher inflation in recent months was due mainly to core inflation, although faster growth in administered prices and renewed growth in food prices also played a big role. By contrast, fuel price inflation was subdued. Within core inflation, non-tradables prices continued to rise markedly, pointing to still strong domestic demand amid continued buoyant wage growth. Despite the recent fall in oil prices, import prices have accelerated somewhat this year on the back of a weaker koruna and still solid growth in foreign prices. Industrial producer prices have followed a similar pattern. Agricultural producer prices increased sharply. On the property market, growth in asking prices of apartments eased gradually, whereas growth in transaction prices rose again in the second half of 2018. Growth in construction work prices surged at the end of Q1. Prices of services for the business sector also showed brisk growth due to strong demand.

III.1.1 Fulfilment of the inflation target

According to the forecast published in IR IV/2017,[17] inflation was expected to stay above the target until the end of 2018 and return to it over the monetary policy horizon (see Chart III.1.1). Growth in domestic costs had been expected to increase further until the end of 2017 owing to labour market tightness. Domestic costs had been expected to moderate thereafter, aided by a stabilising effect of monetary policy, but to continue to outweigh the anti-inflationary effect of import prices. They had been expected to reflect mainly a strengthening koruna amid a temporary weakening of foreign producer price inflation.

Observed inflation was below the forecast until the end of 2018 but well above it at the start of this year. The gap between actual inflation and the forecast in 2019 Q1 was 0.7 percentage point (see Table III.1.1). This was fostered – especially in recent quarters – by a weaker koruna, reflected above all in core inflation and, together with

17 This section of the Inflation Report briefly analyses the contribution of the CNB's monetary policy to this situation. In order to assess the effect of monetary policy on the fulfilment of the inflation target it is appropriate to analyse retrospectively the forecasts and the Bank Board's decisions based thereon in the past. To assess the fulfilment of the target in 2019 Q1, we have to examine – in view of the monetary policy transmission lag – the period from July 2017 to March 2018 (the "reference period"). For the sake of clarity, the analysis of the fulfilment of the forecasts in this section is limited to a comparison of Inflation Report IV/2017 with subsequent inflation.

CHART III.1.1

FORECAST VERSUS ACTUAL HEADLINE INFLATION

Inflation was slightly below the forecast until the end of 2018 but well above it at the start of this year
(year on year in %)

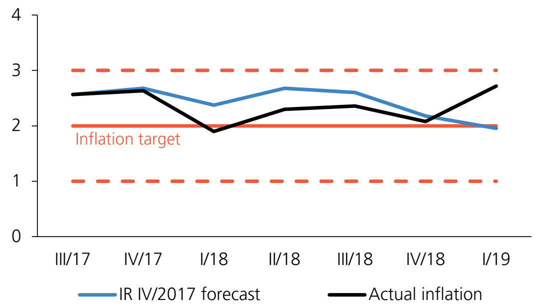


TABLE III.1.1

FULFILMENT OF THE INFLATION FORECAST

Core inflation and administered price inflation were higher than forecasted; by contrast, food prices partly offset the overall deviation from the forecast
(annual percentage changes; contributions in percentage points)

	IR IV/2017 forecast	2019 Q1 outturn	Contribution to total difference[c]
CONSUMER PRICES	2.0	2.7	0.7
of which:			
administered prices	1.7	3.7	0.3
first-round impacts of changes to indirect taxes[a]	0.0	0.0	0.0
core inflation[b]	2.1	2.9	0.5
food prices[b]	2.0	1.7	-0.1
fuel prices[b]	-1.7	1.3	0.1

a) impact on headline inflation except administered prices
b) excluding the first-round effects of changes to indirect taxes
c) Figures may not add up owing to rounding.

the previous effect of higher oil prices, also in fuel prices. Unexpectedly rapid growth in administered prices at the start of this year, caused by an increase in electricity prices for households, acted in the same direction. Food price inflation had the opposite effect.

Turning to external factors, stronger external demand initially deviated from the assumptions of the forecast. Together with a much higher Brent crude oil price, it was reflected in faster-than-forecasted growth in producer prices in the effective euro area. In mid-2018, however, growth in external economic activity started to be slower than assumed by the forecast, with a decrease in the upward demand-pull pressures on production prices being offset by a weaker exchange rate of the euro against the dollar. The forecast that foreign interest rates would remain negative[18] materialised (see Table III.1.2). Overall, according to a simulation performed using the CNB's current core prediction model, actual external developments fostered sharper appreciation of the koruna compared with the forecast, amid a roughly neutral impact on domestic interest rates and prices. In reality, though, negative sentiment towards emerging markets meant that this did not lead to stronger-than-forecasted exchange rate levels.

Domestic economic activity fostered lower-than-forecasted inflation for most of the period. The observed growth in real GDP lagged behind expectations due to lower growth in household consumption and a smaller contribution of inventories. The contribution of net exports also deviated downwards from the forecast due to slower growth in external demand, reflecting the emergence of uncertainties in global trade. Conversely, wage growth was much higher than forecasted in 2018 due to continued overheating of the labour market amid simultaneous high growth in labour efficiency.

The structure of the monetary conditions deviated slightly from the forecast. The exchange rate initially appreciated more gradually than forecasted and even weakened unexpectedly in spring 2018 as a result of global factors. Monetary policy responded with an earlier and faster increase in interest rates than forecasted (see Table III.1.3). The monetary conditions were thus easier than expected in the exchange rate component at the end of the period under review, whereas the interest rate component was moved towards a neutral stance more quickly than forecasted.

The monetary policy pursued by the CNB between July 2017 and March 2018 can be assessed as having been easier than optimal. In addition to the forecast, an assessment of the risks associated with the forecast is important for the Bank Board's decisions on monetary policy settings. In the period under review, the Bank Board initially assessed the

18 The observed 3M EURIBOR market rates do not fully reflect the introduction of the ECB's unconventional measures. These measures are captured in the forecast by shadow rates, which were more negative.

TABLE III.1.2

FULFILMENT OF THE EXTERNAL ASSUMPTIONS

External economic activity initially rose more strongly than forecasted; the oil price was also higher, which resulted in higher producer price inflation

(annual percentage changes unless otherwise indicated; p – prediction, o – outturn)

		IV/17	I/18	II/18	III/18	IV/18	I/19
GDP in euro area[a), b), c)]	p	2.4	2.2	2.0	2.1	2.1	2.1
	o	2.9	2.5	2.4	1.9	1.4	-
PPI in euro area[b), c)]	p	1.5	0.0	1.0	1.9	2.3	2.6
	o	2.4	1.8	2.9	4.2	3.9	-
3M EURIBOR (percentages)	p	-0.3	-0.3	-0.3	-0.3	-0.2	-0.2
	o	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
USD/EUR exchange rate (levels)	p	1.18	1.17	1.17	1.18	1.18	1.18
	o	1.18	1.23	1.19	1.16	1.14	1.14
Brent crude oil price (USD/barrel)	p	55.5	55.0	54.7	54.4	54.2	54.1
	o	61.5	67.2	75.0	75.8	68.6	63.8

a) at constant prices
b) seasonally adjusted
c) IR IV/2017 outlook for effective indicator

TABLE III.1.3

FULFILMENT OF THE FORECAST FOR KEY VARIABLES

The monetary conditions were easier in the exchange rate component and tighter in the interest rate component

(p – prediction, o – outturn)

		IV/17	I/18	II/18	III/18	IV/18	I/19
Consumer price index (annual perc. changes)	p	2.7	2.4	2.7	2.6	2.2	2.0
	o	2.6	1.9	2.3	2.4	2.1	2.7
3M PRIBOR (percentages)	p	0.7	0.8	0.9	0.9	1.0	1.3
	o	0.7	0.9	0.9	1.4	1.9	2.0
CZK/EUR exchange rate (levels)	p	25.8	25.3	24.9	24.8	24.8	24.8
	o	25.7	25.4	25.6	25.7	25.9	25.7
Real GDP[a)] (annual perc. changes)	p	5.2	4.4	2.7	3.2	3.5	3.7
	o	5.0	4.2	2.3	2.4	2.6	-
Nominal wages[b)] (annual perc. changes)	p	7.9	7.8	7.3	6.9	6.3	5.5
	o	6.8	7.9	8.1	7.7	7.2	-

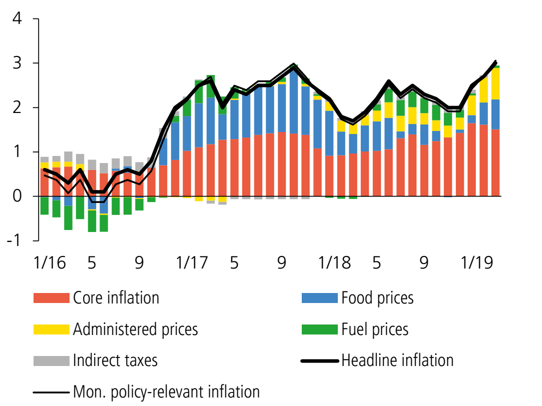
a) seasonally adjusted
b) in market sectors

CHART III.1.2

STRUCTURE OF INFLATION

Inflation rose to 3% during Q1 due to increasing contributions of food prices and administered prices amid still strong core inflation

(annual percentage changes; contributions in percentage points)



Note: Food prices also include prices of alcoholic beverages and tobacco. Indirect taxes relate to non-administered prices.

Chart III.1.3

CORE INFLATION

The increase in core inflation was due mostly to faster growth in non-tradables prices, while tradables prices also rose slightly
(annual percentage changes)

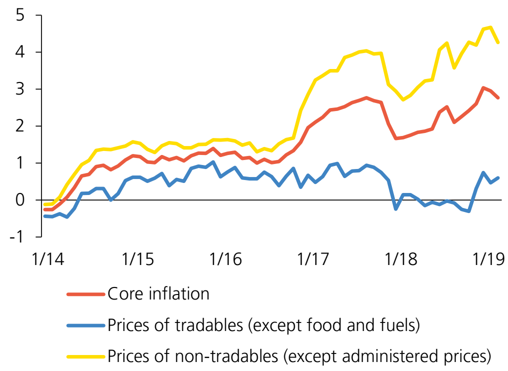


Chart III.1.4

FOOD PRICES, ADMINISTERED PRICES AND FUEL PRICES

Growth in food prices and administered prices went up at the start of the year, while growth in fuel prices was insignificant
(annual percentage changes)

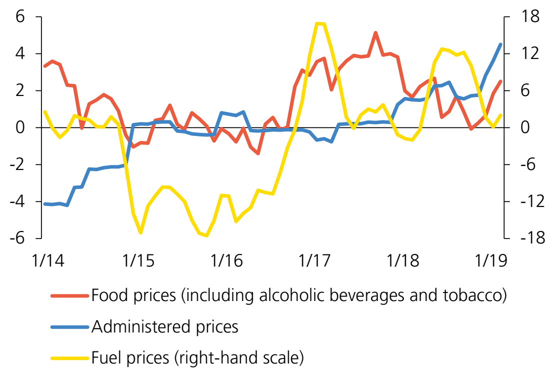
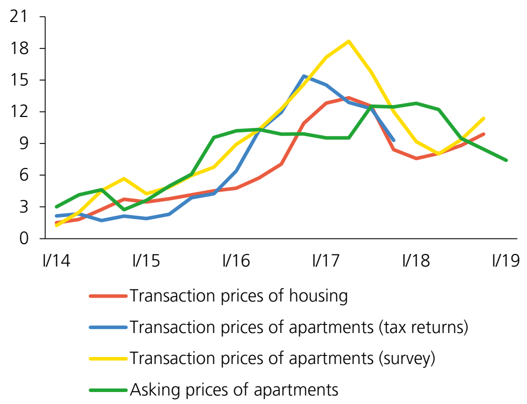


Chart III.1.5

TRANSACTION AND ASKING PRICES OF HOUSING

Growth in apartment asking prices moderated gradually, while growth in transaction prices picked up again
(annual percentage changes)



risks to the forecasts as being skewed in a mildly inflationary direction, later as being balanced and subsequently as being slightly anti-inflationary. Observed inflation rose into the upper half of the tolerance band around the 2% target in 2019 Q1, reaching its 3% upper boundary in March. With the benefit of hindsight, therefore, it can be said that monetary policy should have been somewhat tighter in the said period.[19]

III.1.2 Consumer prices and property prices

Consumer price inflation rose to 2.7% in Q1, reaching 3% in March (see Chart III.1.2). Core inflation again made the largest contribution, reflecting continued growth in consumer demand and buoyant wage growth. The increase in headline inflation was also due in large part to a rise in administered prices. Moreover, the contribution of food prices turned positive again in Q1. Fuel prices stopped rising temporarily in Q1 in response to a previous fall in oil prices, but rebounded at the end of the quarter. Monetary policy-relevant inflation was initially slightly below headline inflation but moved just above it during Q1.[20]

The increase in core inflation was due to both non-tradables and tradables prices (see Chart III.1.3). In the non-tradables category, prices of winter package holidays in the Czech Republic increased sharply in the first two months of 2019. Despite slowing slightly during the quarter, growth in imputed rents remained high. Other housing-related prices and prices in restaurants and cafes also recorded high growth. Tradables prices edged up during Q1, mainly due to rising prices of goods for personal care and household equipment. Prices of transport equipment also went up slightly. Growth in tradables prices was also affected by year-on-year depreciation of the koruna against the euro and especially against the dollar.

Food prices started to rise again gradually in early 2019 (see Chart III.1.4). The largest increases were recorded by prices of vegetables, especially potatoes. This reflected last year's poor harvest caused by drought. Prices of alcoholic beverages and bakery products also increased. On the other hand, prices of sugar kept falling steadily and prices of fruit continued to decline thanks to a good harvest last year.

A sizeable increase in electricity prices for households caused administered price inflation to rise sharply (see Chart III.1.4). This was preceded by strong growth in electricity generation prices on commodity exchanges. Faster growth in heat and gas prices affected administered prices in the same direction. Conversely, growth in

19 Monetary policy proceeded cautiously in tightening monetary conditions after the discontinuation of the exchange rate commitment in April 2017. Inflation above the CNB's 2% target was to some extent a conscious part of the exit strategy.

20 The positive tax impact of increases in excise duty on cigarettes and tobacco in January 2018 faded out in March 2019. A decrease in VAT in public transport started to act in the opposite direction in February 2019. Overall, the impact of changes to indirect taxes turned slightly negative in February 2019.

administered prices was dampened by bus and train fare discounts for students and senior citizens introduced last year. Overall, administered prices rose by 4.5% in March.

The sharp decrease in oil prices at the end of 2018 was reflected in a fall in fuel price inflation (see Chart III.1.4). Growth in fuel prices virtually halted in February despite the koruna weakening by more than 10% against the dollar. The return of koruna oil prices to year-on-year growth in recent months led to renewed growth in fuel prices in March.

The high growth in apartment asking prices moderated gradually, whereas growth in transaction prices picked up slightly in 2018 (see Chart III.1.5). Year-on-year growth in transaction prices of housing was roughly 10% in Q4. Undersupply of new apartments in cities remains a major factor behind the rapid growth in property prices overall. Transaction prices of new buildings in Prague continued to show particularly strong growth, rising by almost 18% year on year in Q4.

Year-on-year growth in the CPIH index decreased temporarily in line with consumer price inflation in 2018 Q4. The experimental CPIH index, consisting of prices of both new and older property including land, slowed to 3.1% at the end of 2018 (see Chart III.1.6). Growth in the CPIH index was 1 percentage point higher than CPI inflation in 2018 Q4.

III.1.3 Import prices and producer prices

Following a temporary slowdown late last year, growth in import prices strengthened slightly due to higher growth in product prices (see Chart III.1.7). This reflected previous depreciation of the koruna and continued growth in producer prices in the effective euro area (excluding energy prices). Prices of machinery and transport equipment increased in particular. The contribution of mineral lubricants remained low due to last year's decline in oil prices. Import prices of non-energy commodities, semi-finished products and food rose only very moderately.

Industrial producer price inflation went up gradually in Q1 (see Chart III.1.8). This was due mainly to increasing growth in producer prices of energy, gas and steam and also to gradually accelerating price growth in the food industry resulting from last year's poor harvest. The contribution of prices of coke and refined petroleum products declined in January but increased again in February. Growth in prices in mining and quarrying remained high despite a slight slowdown. Producer prices in the manufacture of basic metals and fabricated metal products showed a similar profile, rising by almost 3% in February. Growth in transport equipment prices picked up compared with 2018 Q4. All other industrial producer prices thus increased in Q1, owing to a weaker exchange rate and still strong domestic demand.

Agricultural producer prices increased further at the start of the year, growth in crop product prices being particularly strong (see Chart III.1.9). As in the case of import prices, growth in these prices was

CHART III.1.6

THE EXPERIMENTAL CPIH PRICE INDEX

Growth in the CPIH index decreased to a similar extent as consumer price inflation in 2018 Q4
(annual percentage changes)

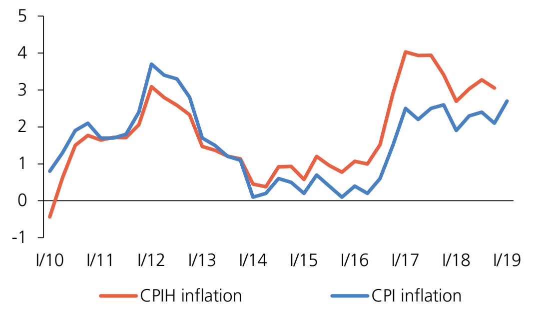
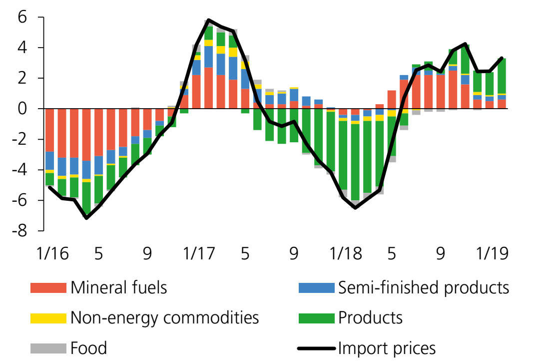


CHART III.1.7

IMPORT PRICES

An increase in the contribution of product prices had the dominant upward effect on import price inflation in Q1
(annual percentage changes; contributions in percentage points)



Note: Food also includes beverages and tobacco.

CHART III.1.8

INDUSTRIAL PRODUCER PRICES

Industrial producer prices gathered pace again in Q1 due mainly to an increasing contribution of commodities and energy
(annual percentage changes; contributions in percentage points)

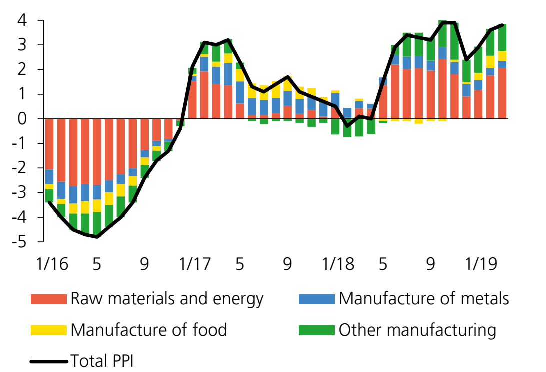


CHART III.1.9

AGRICULTURAL PRODUCER PRICES

In addition to strong growth in crop product prices, the higher agricultural producer price inflation was due to a fading decline in livestock product prices
(annual percentage changes)

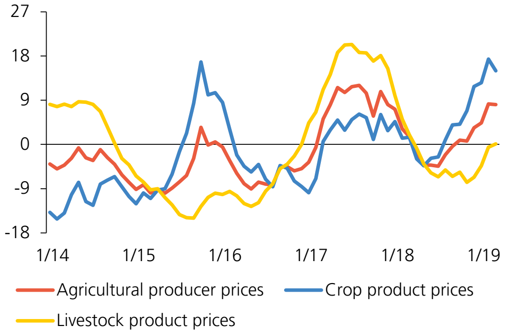
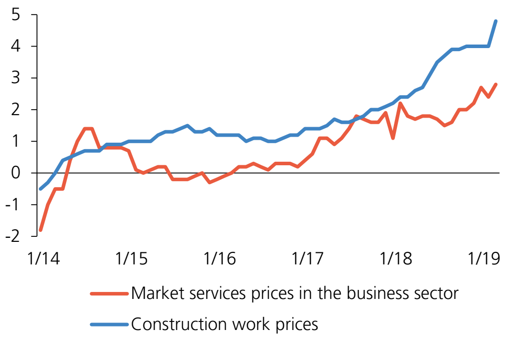


CHART III.1.10

MARKET SERVICES PRICES IN THE BUSINESS SECTOR AND CONSTRUCTION WORK PRICES

Growth in construction work prices surged at the end of Q1; prices of market services for the business sector also showed brisk growth
(annual percentage changes)



affected at the end of the year by depreciation of the koruna. The upswing in crop product prices was due to almost 20% growth in grain prices and renewed buoyant growth in oilseed prices. This was largely because of developments last year, when the effect of a lower domestic harvest was compounded by a decline in production by major global producers in Australia and Russia, which resulted in a decrease in global stocks. As for crop production, growth in vegetable prices also rose significantly further. The decline in livestock product prices faded away in Q1. This was due to, among other things, a gradual recovery in growth in milk prices after a sharp decline last year resulting from overproduction in the EU. The previous fall in most livestock product prices meanwhile came to a halt.

Growth in construction work prices surged to 5% in March, and prices of market services for business also showed brisk growth (see Chart III.1.10). The faster growth in construction work prices reflects strong demand for construction output and fast growing prices of materials and products used in the construction industry. Turning to market services for businesses, management, insurance, reinsurance and pension financing services and employment services recorded sizeable growth in prices. On the other hand, prices of storage and support services in transport declined.

III.2 ECONOMIC DEVELOPMENTS

The positive output gap in the Czech economy is gradually closing. GDP growth picked up slightly to 2.6% at the end of 2018. This was partly due to one-off effects that led to a decline in the net export deficit. The contribution of household consumption decreased again slightly, but its growth remains solid. The biggest contributors to growth in economic activity in Q4 were private and government investment. The contribution of government consumption also remained positive. Faster growth in gross value added was driven mainly by a larger contribution of manufacturing. However, market services and wholesale and retail trade remained the biggest contributors. Growth in industrial production was muted at the start of 2019, while construction output continued to show solid growth. Business and consumer sentiment fell slightly.

III.2.1 The cyclical position of the economy

The Czech economy is gradually converging to its potential output level from above. According to the small structural model, the positive output gap gradually shrank below 1% last year because of slowing GDP and a peaking inflationary effect of the labour market (see Chart III.2.1). The output gap will gradually close further over the forecast horizon in response to a further tightening of monetary conditions and only gradually rising external demand, while the fiscal impulse will remain positive this year. An alternative estimate using the production function, which does not take the inflation rate and the effect of monetary policy directly into account, conversely indicates that the economy has now converged to its potential and will remain near it over the entire forecast horizon.

Estimated potential output growth peaked at just under 4% last year and will return to 3% over the forecast horizon (see Chart III.2.2). It accelerated gradually in previous years after the repercussions of the economic crisis subsided and pronounced growth in economic activity resumed amid muted inflation pressures. According to both methods, potential output growth will slow slightly over the forecast horizon. As regards the factors entering the production function, the labour market has improved in recent years, with a rising participation rate causing faster growth in equilibrium employment. Investment by non-financial corporations has also seen renewed growth, although total fixed investment has been volatile due to uneven drawdown of EU funds. The positive effect of an increasing capital stock will continue to be reflected in growth in labour productivity.

III.2.2 The expenditure side of the economy

GDP growth picked up slightly to 2.6% in 2018 Q4 (see Chart III.2.3). The increase in growth was due to a decrease in the negative contribution of net exports, reflecting faster export growth and slower import growth. Except for a constantly negative contribution of change in inventories, the contributions of all the components of demand declined

CHART III.2.1

OUTPUT GAP

According to the small structural model, the previously positive output gap will gradually close further; according to the production function, the economy has returned close to its potential
(% of potential output)

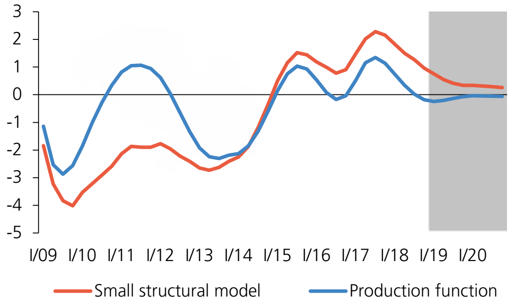


CHART III.2.2

POTENTIAL OUTPUT

Potential output growth peaked in 2018 Q3 and will gradually slow to 3% over the forecast horizon
(annual percentage changes)

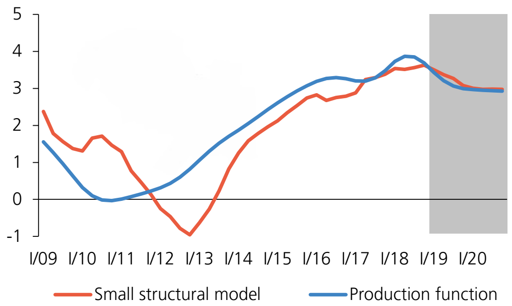


CHART III.2.3

GROSS DOMESTIC PRODUCT

The slight increase in Czech economic growth was due mainly to a decrease in the negative contribution of net exports in Q4
(annual percentage changes; contributions in percentage points; seasonally adjusted)

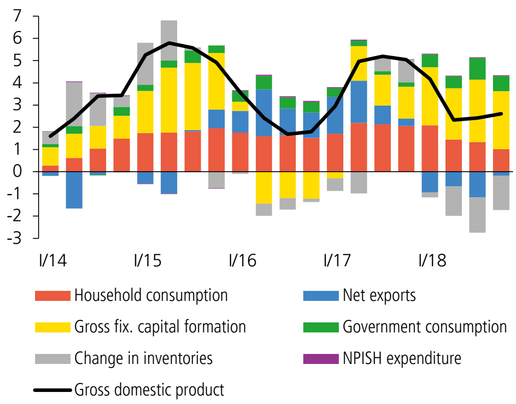
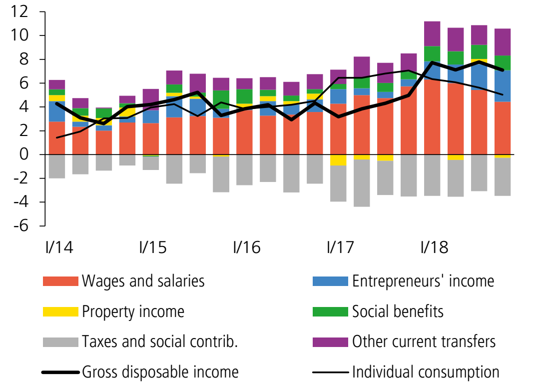


CHART III.2.4

DISPOSABLE INCOME

Household consumption growth continued to lag behind growth in gross disposable income, which was fostered mainly by wages and salaries and entrepreneurs' income
(annual percentage changes; contributions in percentage points; current prices; seasonally unadjusted)

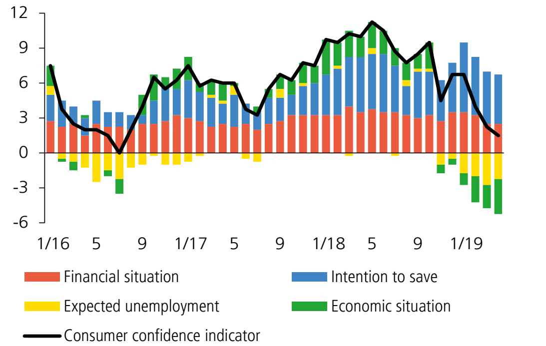


Note: Entrepreneurs' income comprises gross operating surplus and mixed income.

CHART III.2.5

CONSUMER CONFIDENCE BALANCE

Consumers' optimistic expectations began to fade; expectations regarding the economic outlook and unemployment worsened
(balance is difference in per cent between answers expressing improvement and deterioration in expected and ongoing tendencies)

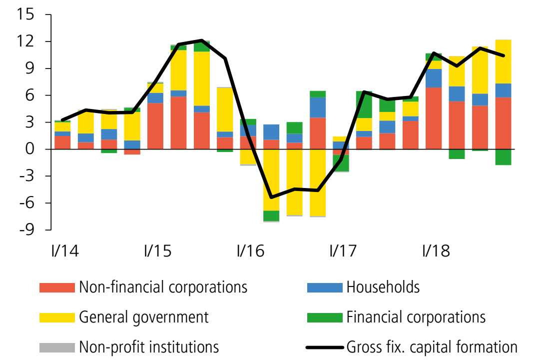


Note: Expectations 12 months ahead.

CHART III.2.6

INVESTMENT BY SECTOR

The high investment activity has recently been due mainly to investment by non-financial corporations and government
(annual percentage changes; contributions in percentage points; constant prices; seasonally adjusted)



slightly. Gross fixed capital formation is still the biggest contributor to GDP growth. Its contribution has exceeded that of household consumption since the start of 2018.

Although household consumption gradually weakened last year, it still contributed significantly to the growth of the Czech economy. All its components in terms of kind contributed to the total growth. Short-term, medium-term and long-term consumption all increased. A decrease in goods consumption was partly offset by higher expenditure on services.

Growth in gross disposable income exceeded 7% throughout 2018 (see Chart III.2.4). A decline in the contribution of wages and salaries was partly offset by an increase in the contribution of entrepreneurs' income in Q4. Growth in gross disposable income continued to outpace that of household consumption. This led to a further increase in the saving rate, which has been rising since mid-2017.

The previously high consumer confidence started to weaken gradually in autumn 2018 (see Chart III.2.5). For the first time in a long time, Czech households see a possible future deterioration of the overall economic situation and expect unemployment to increase. However, they are still optimistic about their financial situation. This is also evidenced by strong growth in retail sales in the first few months of this year.

Real government consumption growth slowed at the year-end but remained buoyant. The increase in government consumption in nominal terms in 2018 Q4 was driven mainly by continued wage growth in the public sector. The latter, however, also led to high growth in the government consumption deflator. Growth in non-wage expenditure remained buoyant.

Almost all economic sectors recorded high investment growth (see Chart III.2.6). Non-financial corporations are maintaining a dominant position in investment in fixed capital. However, government investment is also increasing at a solid pace. Growth in public investment is rising at both the general and especially local government levels, aided by increasing drawdown of European funds. Corporate investment was channelled into all areas in terms of material breakdown. This reflects continued growth in domestic and external demand and firms' efforts to streamline production amid a tight labour market. Investment in machinery and equipment and investment in buildings and structures were the largest contributors to growth in gross fixed capital formation.

Investment by households, which channelled their capital expenditure mainly into house buying, also increased significantly. The continued buoyant investment activity is consistent with the observed high rate of apartment completions. The number of apartment starts conversely declined slightly. The still high household demand for housing is being dampened by tighter mortgage lending conditions.

The contribution of additions to inventories to GDP growth has remained very negative since early 2018. This is probably due to the gradual release of the large stock of inventories built up in the past. This is going on in a situation of high production capacity utilisation and still strong demand.

The negative contribution of net exports almost disappeared in Q4 due to a pick-up in exports of goods and services (see Chart III.2.7). Part of production and exports was thus probably postponed to Q4 because of the introduction of a more stringent new car certification process.[21] According to individual data for non-financial corporations, this primarily affected parts manufacturers in the Czech Republic. This hypothesis is supported by the product structure of goods exports, in which the contribution of motor vehicles rose sharply compared with Q3 while remaining broadly unchanged in the other segments. Conversely, imports slowed slightly due to weaker growth in domestic demand and the fade-out of the one-off increase in goods imports recorded in Q3. Even so, import growth remained high.

III.2.3 The output side of the economy

Growth in gross value added picked up again slightly at the end of 2018 (see Chart III.2.8). As in Q3, market services and wholesale and retail trade were the biggest contributors to gross value added growth. However, the upswing in growth was driven mainly by manufacturing, reflecting faster growth in automotive production intended for export. Firms in this sector have long faced very high capacity utilisation.

Sales growth in services slowed distinctly in all sectors. The highest growth in sales continued to be recorded in information and communication activities, followed by transport and storage. In other sectors, sales mostly declined year on year.

Growth in industrial production has been mostly subdued over recent months (see Chart III.2.9). All sectors recorded lower growth in 2018 Q4. While production capacity constraints remained the main barrier for some corporations, weaker external demand led to a downturn in production in others, as also indicated by muted growth in industrial orders.

Firms consider insufficient demand to be the greatest barrier to growth in industrial production (see Chart III.2.10). For the first time in a long time, it became the dominant factor curbing production. However, labour shortages remain a significant barrier, reflecting persisting labour market tightness. Conversely, firms' perception of their

21 In particular the Worldwide Harmonised Light Vehicle Test Procedure (WLTP), which meant a greater operational and administrative workload for manufacturers of cars and spare parts. With the exception of Q4, the tighter standards resulted in weaker output and subdued exports of these products from the Czech Republic in 2018.

CHART III.2.7

EXPORTS AND IMPORTS

Convergence of export and import growth resulted in a lower net export deficit
(annual changes in per cent and CZK billions; constant prices; seasonally adjusted)

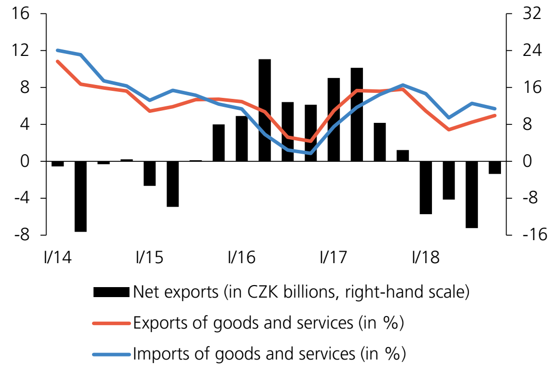
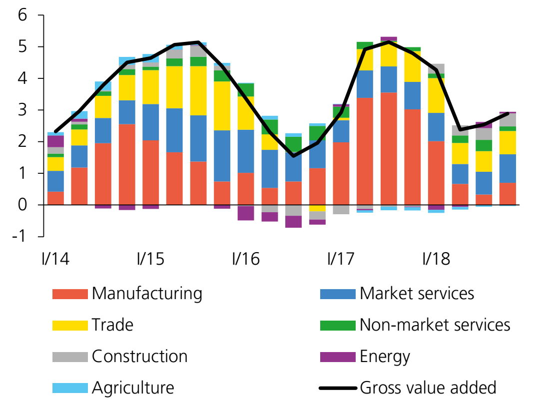


CHART III.2.8

CONTRIBUTIONS OF BRANCHES TO GVA GROWTH

Gross value added growth picked up slightly; market services and wholesale and retail trade were the biggest contributors to the growth
(annual percentage changes; contributions in percentage points; constant prices)



Note: Trade also includes hotels and restaurants and transport. Energy also includes mining and quarrying.

CHART III.2.9

INDUSTRIAL PRODUCTION AND CONSTRUCTION OUTPUT

Industrial production growth was subdued at the start of this year, while construction continued to grow apace
(annual percentage changes)

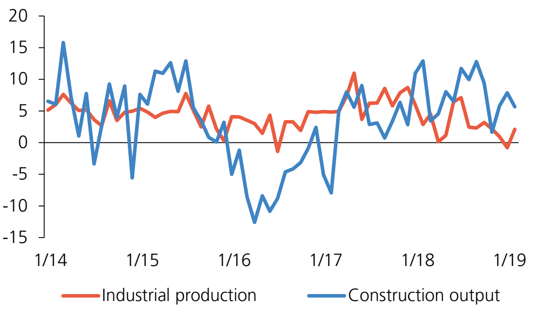


CHART III.2.10

BARRIERS TO GROWTH IN INDUSTRY

Insufficient demand is the main barrier to industrial production, although labour shortages also remain a major constraint
(percentages)

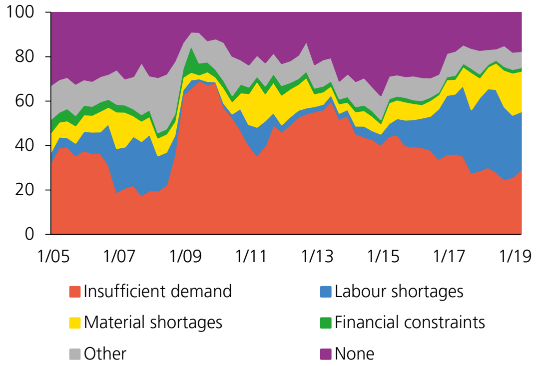
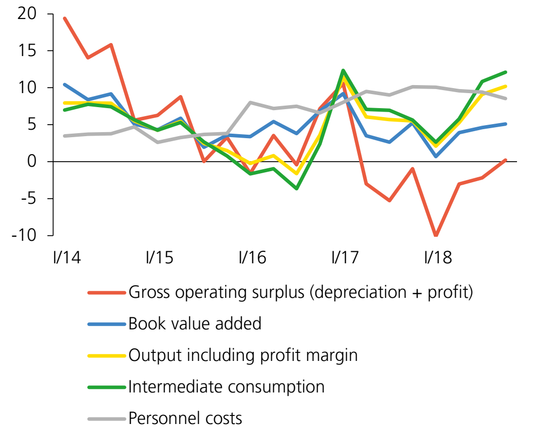


CHART III.2.11

KEY FINANCIAL INDICATORS

The decline in gross operating surplus halted for the first time in a long time; this was due to stronger output growth and slightly weakening growth in personnel costs
(annual percentage changes)



financial situation is favourable. Production capacity utilisation continues to exceed 85%.

The situation in construction was favourable at the start of 2019 (see Chart II.2.9). The brief dip in growth recorded in 2018 Q4 was due mainly to base effects and a lower value of new orders. The start of the year saw a rebound in building construction and especially civil engineering. The latter continues to benefit from rapid growth in government investment co-financed from EU funds.

Business sentiment decreased slightly but remains positive. However, worse global sentiment coupled with production capacity constraints had a negative effect on business confidence in industry and, to a lesser extent, in wholesale and retail trade and services. In construction, by contrast, the business confidence indicator increased.

The decline in gross operating surplus in the monitored corporations halted for the first time in a long time (see Chart III.2.11). Growth in output and intermediate consumption picked up further at the year-end, exceeding 10%. This was due mainly to mining and energy. Growth in book value added also rose sharply. This, together with a further weakening of growth in personnel costs, caused the decline in gross operating surplus to halt. Viewed in terms of sector structure, this was due to manufacturing, specifically the automotive industry.

III.3 THE LABOUR MARKET

The Labour Utilisation Composite Index indicates that the labour market is still very tight. However, the latest data suggest that the peak of the current phase of the business cycle has been reached. Employment growth rose slightly and the unemployment rate fell to a new historical low. However, the labour force is not growing sufficiently to meet demand for labour and firms are still finding it difficult to fill vacancies. This situation, coupled with growth in the minimum wage, is exerting continued upward pressure on the average wage. Average wage growth slowed slightly to less than 7% in 2018 Q4. This was due to lower wage growth in market and especially non-market sectors. Growth in whole-economy labour productivity went up moderately. At the same time, a slowdown in the wage bill fostered a decrease in growth in nominal unit labour costs. However, labour productivity growth still lags well behind wage growth overall.

III.3.1 Employment and unemployment

The continued growth in economic activity is maintaining strong demand for labour (see Chart III.3.1). Employment growth increased slightly to 1.2% in Q4 amid significant labour tightness and labour shortages. In terms of sector structure, the growth in employment was driven mainly by market services, although the contribution of industry also rose considerably compared with Q3 (see Chart III.3.2). The growth in employment in industry was due mainly to manufacturing. Information and communication activities, accommodation and professional and scientific activities were the biggest contributors in market services. Overall, about one-third of the employment growth was linked with a decrease in the number of unemployed persons. The potential labour force reserve, consisting of persons who are not actively seeking a job but are willing to work, fell further at the end of last year. This unused labour force dropped to about 102,000 persons in Q4 and was broadly comparable with the number of unemployed persons according to the Labour Force Survey (111,000).

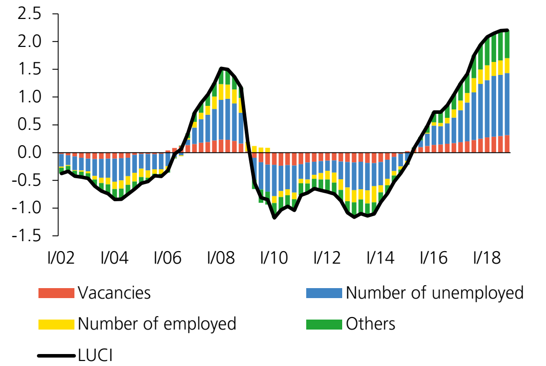
Growth in the converted number of employees gradually declined during 2018. Growth in the number of employees continued to make a positive contribution. This was counteracted by a fall in average hours worked in Q4 (see Chart III.3.3). Working hours decreased above all in industry, which thus contributed only slightly to the resulting growth in the converted number of employees. The growth in this indicator was due most of all to services, where, on the one hand, growth in the number of employees slowed compared with the previous quarter, but, on the other hand, the drop in average hours worked moderated. The increase in the converted number of employees in market services was due mainly to wholesale and retail trade, while that in non-market services was due to education and health care.

The general unemployment rate and the share of unemployed persons both fell further to new historical lows (see Chart III.3.4). The general unemployment rate is the lowest in the EU. Its year-on-year

CHART III.3.1

LUCI – LABOUR UTILISATION COMPOSITE INDEX

The labour market is indicating that the peak of the current phase of the cycle has been reached
(standard deviations from long-term average)



Note: The contributions are a result of the aggregation of the contributions of the individual time series in the given categories.

CHART III.3.2

EMPLOYMENT BREAKDOWN BY BRANCHES

The growth in employment in Q4 was due mainly to market services and industry
(contributions in percentage points to annual change; selected branches; source: LFS)

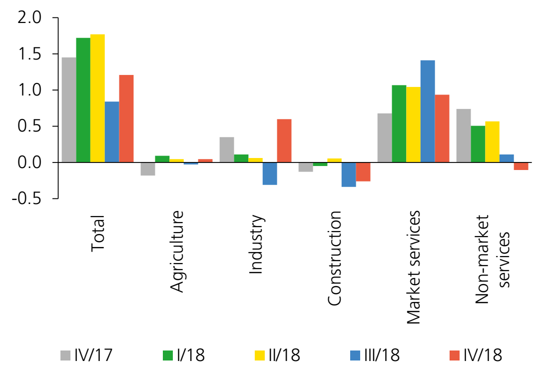


CHART III.3.3

NUMBER OF EMPLOYEES (FULL-TIME EQUIVALENT)

Growth in the converted number of employees dropped again due to a fall in average hours worked
(annual percentage changes, contributions in percentage points)

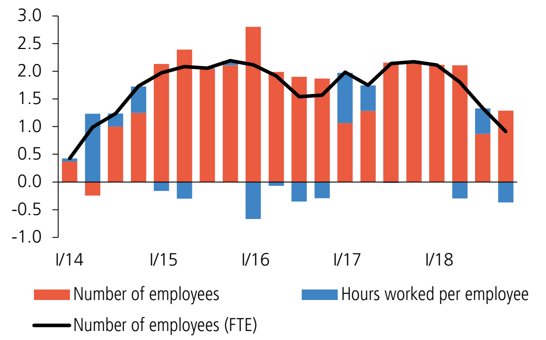


CHART III.3.4

UNEMPLOYMENT INDICATORS

The general unemployment rate and the share of unemployed persons both fell slightly further to new historical lows
(percentages; seasonally adjusted; source: MLSA, CZSO)

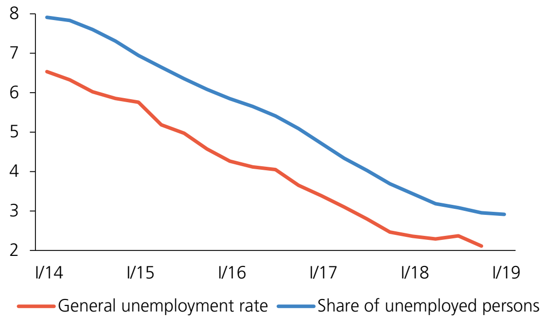


CHART III.3.5

BEVERIDGE CURVE

The number of vacancies is much higher than the number of registered unemployed persons; core inflation is at high levels
(numbers in thousands; seasonally adjusted; annual percentage changes for core inflation; source: MLSA, CZSO)

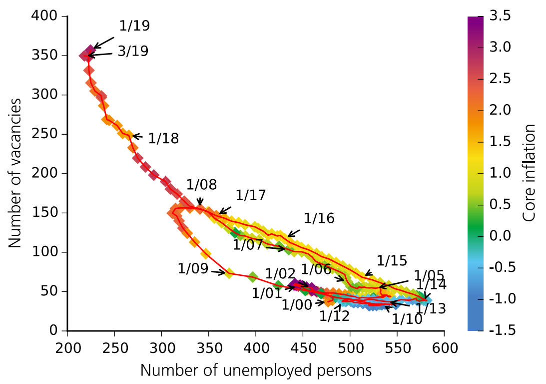
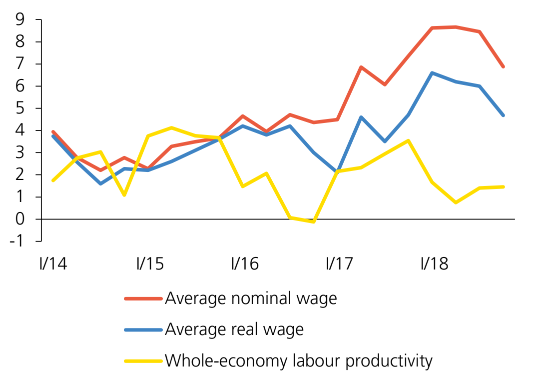


CHART III.3.6

AVERAGE WAGE AND WHOLE-ECONOMY LABOUR PRODUCTIVITY

Labour productivity growth is still lagging well behind wage growth
(annual percentage changes)



decline was again accompanied in Q4 by a drop in the number of long-term unemployed, which accounted for about one-third of the fall in the number of unemployed persons. The labour market tightness is being partially eased by a rising number of economically active persons. This was reflected in the rate of economic activity, which reached a historical high of 77.1% in February. According to labour offices, the seasonally adjusted share of unemployed persons stayed at 2.9% in March. This reflected a moderate decline in the number of available job applicants at labour offices and in the population aged 15–64.

The number of vacancies and the number of unemployed are both broadly stable. The highest number of vacancies offered via labour offices is registered in manufacturing. There is also strong demand for new employees in wholesale and retail trade and in construction. In February, almost two-thirds of vacancies were for employees with basic education and another almost one-sixth were for employees with vocational training with a school leaving certificate. Viewed in terms of the Beveridge curve (see Chart III.3.5), the number of vacancies was at an all-time high and the number of unemployed persons at an all-time low in Q1 (amid record-high employment and labour force levels). This is being reflected in marked wage growth, which is helping to maintaining core inflation at high levels. Core inflation is also higher than it was at the peak of the previous cycle in 2008.

III.3.2 Wages and productivity

Year-on-year wage growth slowed in market sectors and especially in non-market sectors in Q4. However, average nominal wage growth remains solid (6.9%), reflecting an increase in the minimum wage from CZK 11,000 to CZK 12,200 at the start of 2018 in addition to persisting pressures on the labour market. Average wage growth in market sectors stood at 7.2%. The observed slowdown was quite broad-based. Wages in accommodation, wholesale and retail trade and health care continued to rise at the highest rates. Average wage growth in non-market sectors slowed rather more in the same period, to 5.6%. This mainly reflected developments in public administration and culture, where wage growth was below 6%. The median wage went up by 7.1%, slightly outpacing the average wage. Wage differentiation thus continues to decrease gradually.

Labour productivity growth remained low, as employment continued to increase amid continued economic growth. Whole-economy labour productivity rose by 1.5% in Q4 and thus still lags well behind growth in the average real wage (4.7%, see Chart III.3.6). The productivity trends across sectors were mixed (see Chart III.3.7). The strongest growth was recorded in construction, although its rate of growth fell slightly. Productivity in market services and industry rose at roughly the same rate. By contrast, productivity in non-market services started falling again. The similar rate of whole-economy labour productivity growth as in Q3 was due largely to a pick-up in productivity in industry being offset by a renewed decline in productivity in non-market services at the year-end.

Growth in nominal unit labour costs declined further in Q4 due to slower growth in the wage bill (see Chart III.3.8). Nevertheless, growth in unit labour costs remained relatively high. Nominal unit labour costs rose the fastest in non-market services (by 6.6%). The growth in other sectors was lower. In industry and market services, nominal unit labour costs grew by about 4%. The growth in construction was moderate due to strong growth in labour productivity.

CHART III.3.7

PRODUCTIVITY BY SECTOR

Labour productivity picked up slightly in industry and market services and started falling again in non-market services; productivity in construction continues to rise at the fastest rate

(annual percentage changes)

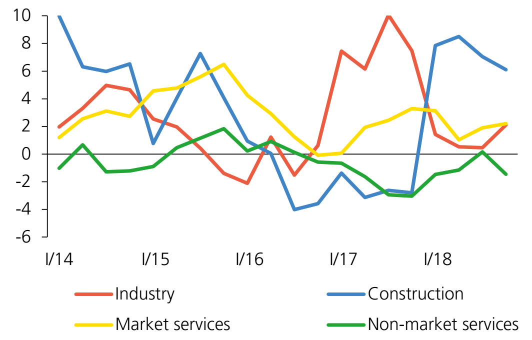
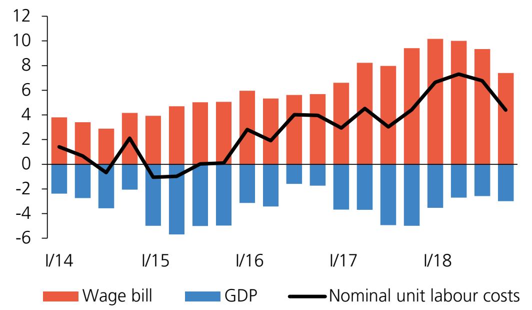


CHART III.3.8

UNIT LABOUR COSTS

A slowdown in the wage bill made the dominant contribution to the further decrease in growth in nominal unit labour costs

(annual percentage changes; contributions in percentage points)



III.4 FINANCIAL AND MONETARY DEVELOPMENTS

The CNB left its monetary policy interest rates unchanged in 2019 Q1; at its monetary policy meeting in May, the CNB increased them by 25 basis points. Money market rates remained stable, while rates with longer maturities fluctuated with no clear trend. Client interest rates on housing loans were also basically unchanged. Client rates on consumer credit stayed close to an all-time low and those on corporate loans fell slightly. The koruna fluctuated within a narrow band around CZK 25.7 to the euro in Q1. Growth in loans to the private sector slowed in all segments of the credit market. The volumes of new housing loans are much lower than they were a year ago, mainly reflecting a tightening of credit conditions and related frontloading of the market in autumn 2018. M3 growth also declined.

III.4.1 Monetary policy and interest rates

The CNB left its monetary policy rates unchanged at both the February and March meetings; in May it raised them by 25 basis points. The two-week repo rate is thus set at 2%, the Lombard rate at 3% and the discount rate at 1% with effect from 3 May 2019.

Money market interest rates have remained stable since early November 2018 (see Chart III.4.1). The 3M PRIBOR was 2% on average in 2019 Q1 and stayed at the same level in April. The money market premium, as measured by the spread between the 3M PRIBOR and the 2W repo rate, thus remains close to 0.25 percentage point. FRA rates were implying a longer period of expected interest rate stability around the time of the February Bank Board meeting. In mid-February, however, they moved higher, probably in response to the higher-than-expected January inflation figure. In March, they corrected back. This was due, among other things, to comments made by some Bank Board members, according to whom the future rise in the CNB's interest rates will be gradual due to external uncertainties. The end-April outlook for FRA rates implied expectations of only slight growth in the 3M PRIBOR over the one-year horizon.

Domestic interest rates with longer maturities showed no clear trend. The shorter end of the yield curve is affected above all by the CNB's key interest rates and thus reflects foreign rates to only a limited extent. The previous fall in rates in both the euro area and the USA, which have been linked with several factors (the protracted negotiations on the form of Brexit, concerns about barriers to international trade and a slowdown in global growth), halted in February. However, another impulse towards lower rates came in early March when the ECB stated that its monetary policy rates would remain at their present levels through the end of 2019. ECB President Mario Draghi's statement that the bank stood ready to further delay the first interest rate hike, as the euro area economy was experiencing a more persistent slowdown of growth, later acted in the same direction. The Fed's communications also suggested that US interest rates might not rise this year. Overall, rates abroad have thus fallen modestly since the start of this year, while

CHART III.4.1

INTEREST RATES

Money market rates remained stable, while rates with longer maturities fluctuated with no clear trend
(percentages)

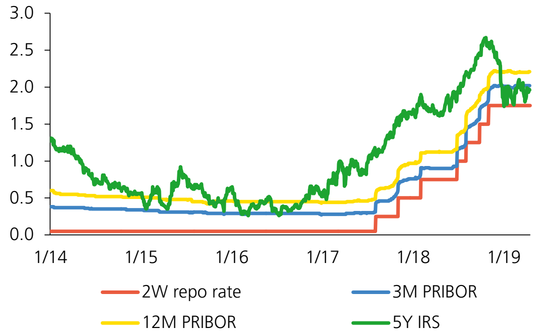
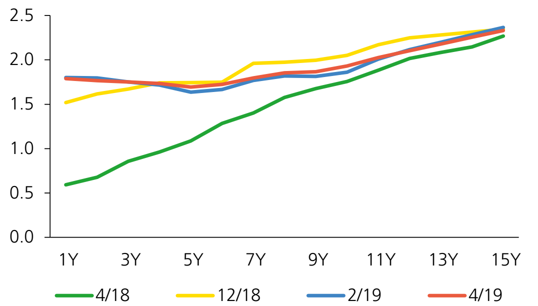


CHART III.4.2

GOVERNMENT BOND YIELD CURVE

The yield curve gradually flattened out significantly
(percentages)



domestic IRS derivative rates are almost unchanged (see Chart III.4.1). Domestic government bond yields were also little changed. The yield curve flattened out even further (see Chart III.4.2).

The Ministry of Finance has renewed its issuing activity on the primary government bond market since the start of the year. The volume of short-term T-bills remains low (around CZK 2 billion). However, government koruna bonds totalling CZK 110 billion have been issued since the start of January.[22] Given the shape of the yield curve, the Ministry of Finance focused on longer maturities; the shortest maturity of the bonds issued was seven years. Non-residents' total government bond holdings have thus changed little in recent months. They amounted to CZK 603 billion at the end of March; the share of non-residents in total government bond holdings was 40%. This confirms that many foreign investors who opened koruna positions while the CNB's exchange rate commitment was in place have adopted longer-term strategies and are trying to profit from the higher yield on koruna investments than on euro positions, for example. The Ministry of Finance also issued three tranches of euro-denominated bonds with a slightly negative yield (with a maturity of 2.5 years and totalling EUR 450 million) and continued to sell state saving bonds ("Republic Bonds") to the public.

Interest rates on loans for house purchase and consumer credit were essentially unchanged, while those on corporate loans fell slightly. The rate on new mortgages stayed at 2.8% in February and its previous growth thus halted at the start of this year. The mortgage rate was 0.9 percentage point above the historical low it recorded at the end of 2016 (see Table III.4.1). The ten-year government bond yield, on which the mortgage rate largely depends, was flat at 1.8% following a decline. The spread between the rate on loans for house purchase and the government bond yield has increased since the end of last year. Banks' interest margin, as expressed by the spread between rates on loans for house purchase and deposits, was essentially unchanged following a previous increase. According to the latest Fincentrum Hypoindex data, the mortgage rate fell slightly in March. The consumer credit rate remains close to a historical low. Following previous rapid growth, the rate on corporate koruna loans declined slightly to 3%, mainly due to a drop in the rate on large loans of over CZK 30 million. By contrast, the rate on loans of up to CZK 7.5 million – usually provided to small firms – continued to rise. The total funding costs of corporations, as expressed by the cost of borrowing, decreased moderately and remain 1.5 percentage points higher than in the euro area (see Chart III.4.3). Real interest rates on loans to corporations and loans to households for house purchase are just under 1%.

Client deposit rates were also little changed at the start of this year and are negative in real terms. Deposit rates stand at 0.4% for

22 The Czech Republic's Funding and Debt Management Strategy for 2019 assumes issues on the domestic market of at least CZK 150 billion.

TABLE III.4.1

CLIENT INTEREST RATES ON LOANS AND DEPOSITS

Interest rates on loans for house purchase were essentially unchanged at the start of this year and those on corporate loans declined slightly
(interest rate in percentages; change in percentage points)

	Interest rate 2/19	Change since 12/18	2/18	11/16
HOUSEHOLDS				
Mortgages	2.8	0.0	0.5	0.9
Mortgages with rate fixation 1–5 years	2.8	0.1	0.5	0.8
Mortgages with rate fixation 5–10 years	2.8	0.0	0.5	1.0
New mortgages	3.0	0.1	0.7	1.2
Refinanced mortgages	2.8	0.0	0.5	1.0
Consumer credit	8.5	-0.1	-0.3	-1.7
Deposits				
Overnight deposits	0.1	0.0	0.1	0.0
New deposits with agreed maturity	1.5	0.1	0.6	0.4
NON-FINANCIAL CORPORATIONS				
Total new loans	3.0	-0.3	0.6	1.1
Small loans (up to CZK 30 million)	3.8	0.0	0.8	1.4
Large loans (over CZK 30 million)	2.8	-0.4	0.5	1.0
Total outstanding loans	3.7	0.0	0.8	1.2

CHART III.4.3

CLIENT INTEREST RATES IN THE CZECH REPUBLIC AND THE EURO AREA

The differences between client interest rates in the Czech Republic and the euro area remain significant
(total credit costs as expressed by cost of borrowing; percentages)

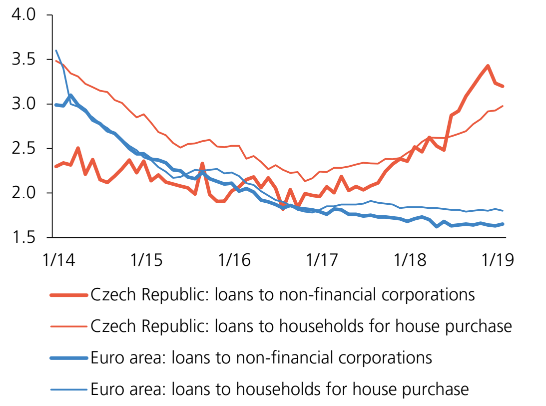


CHART III.4.4

CZK/EUR AND CZK/USD EXCHANGE RATES

The koruna remained relatively stable against the euro and depreciated gradually against the dollar in Q1

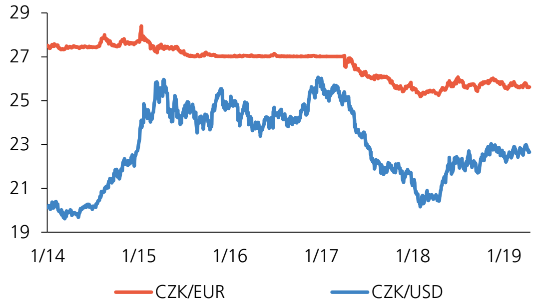
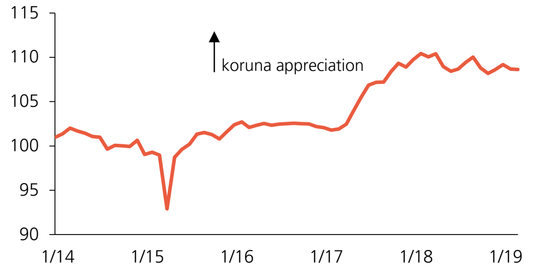


CHART III.4.5

NOMINAL EFFECTIVE KORUNA EXCHANGE RATE

The koruna fluctuated around its December level in effective terms in Q1
(basic index; 2015 = 100)

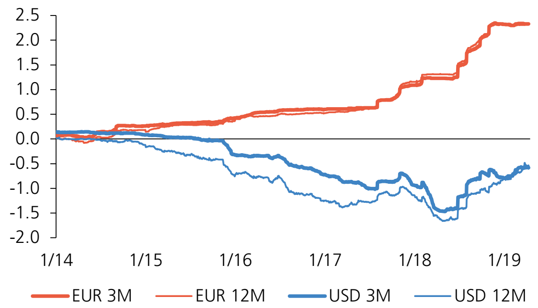


Note: In the calculation of the nominal effective exchange rate of the koruna (NEER), the euro has the largest share in the basket (64.3%). The renminbi, the zloty, the pound, the forint, the dollar and the rouble have smaller, but still significant shares (2.6%–7.8%). The shares of the remaining six currencies range between 0.9% and 1.4%. The calculation method (as applied by the IMF) includes all SITC categories.

CHART III.4.6

INTEREST RATE DIFFERENTIALS

The interest rate differential of the koruna vis-à-vis the euro stabilised at the end-2018 level, while the negative differential vis-à-vis the dollar narrowed slightly
(percentage points)



households and 0.3% for non-financial corporations. The rate on new household deposits with agreed maturity stayed at 1.5% in February, while that on overnight deposits, which account for four-fifths of total household deposits, remains close to zero.

III.4.2 The exchange rate

The koruna fluctuated within a narrow band around CZK 25.7 to the euro in Q1 (see Chart III.4.4). It was thus 0.7% (20 hellers) stronger on average than in 2018 Q4. The koruna is also very stable against the euro from the longer-term perspective. With very brief exceptions, it has been fluctuating between CZK 25.5 and CZK 26 to the euro since April 2018. In 2019 Q1, the koruna was 1.1% weaker than in 2018 Q1, when it reached its strongest levels since the exit from the exchange rate commitment. In mid-April, the exchange rate of the koruna was close to CZK 25.6 to the euro.

The koruna depreciated gradually against the dollar in Q1, yet still recorded a slight quarter-on-quarter appreciation on average (see Chart III.4.4). It fluctuated around a depreciation trend stemming from appreciation of the dollar on global markets. The exchange rate weakened from CZK 22.2 to the dollar in early January to CZK 23 to the dollar at the end of March. It averaged CZK 22.6 to the dollar. This was only slightly stronger than the average for 2018 Q4. In year-on-year terms, the koruna was a sizeable 9.4% weaker against the dollar. In the first half of April, it strengthened to CZK 22.6 to the dollar.

The koruna remained broadly stable in effective terms (see Chart III.4.5). A moderate appreciation in January was fully reversed in February and no change occurred in March, so the nominal effective exchange rate was the same as in December. As regards the individual currencies of the NEER basket, a quarter-on-quarter appreciation of the koruna against the euro was offset by depreciation against the Chinese renminbi and the British pound. The koruna's depreciation against sterling relative to December was the largest of the currencies under review (4%). The koruna was 1.3% weaker year on year in March in effective terms.

The short-term interest rate differential vis-à-vis the euro stayed constant, while the negative differential vis-à-vis the dollar narrowed slightly. The difference between koruna and euro 3M interbank rates remained at 2.3 percentage points in Q1 (see Chart III.4.6). The corresponding differential vis-à-vis the dollar narrowed to -0.6 percentage point in the same period due to a moderate fall in 3M dollar rates.

The observed stability of the exchange rate of the koruna against the euro is a result of the contrary effects of several factors. On the one hand, appreciation of the koruna is being fostered by its positive interest rate differential vis-à-vis the euro. In the opposite direction, the koruna is being affected by negative global sentiment towards emerging markets coupled with the still large positions held by foreign financial investors in the Czech Republic and the increased attractiveness of dollar assets. The negative, albeit falling, interest rate differential of the koruna vis-à-vis the dollar thus probably acted against appreciation of the koruna in Q1 through a partial outflow of short-term capital. By contrast, the high positive interest rate differential vis-à-vis the euro prevented a stronger capital outflow, particularly among predominantly Europe-oriented investors. The allocation of short-term capital and the current exchange rate are also being affected by the CNB's rhetoric. The CNB is one of the few central banks not ruling out further interest rate increases.

III.4.3 Credit

Growth in loans to the private sector slowed across all segments of the credit market. The annual growth rate of loans decreased during Q1, reaching 6% in February. This slowdown was due to lower credit growth in all segments of the credit market (see Chart III.4.7). Supply in the segment of loans to households was affected by the previous tightening of credit standards at the end of 2018. According to the April Bank Lending Survey, credit standards for loans to both households and non-financial corporations remained broadly unchanged in Q1. According to banks' perceptions, demand for loans declined across the credit market.

The high rate of growth of loans to households declined. The annual rate of growth of loans for house purchase fell slightly to 8.2% in February (from 8.6% in December 2018). The volumes of pure new housing loans are around one-quarter lower year on year (see Chart III.4.8). The drop in demand reflects macroprudential measures, including recommended DTI and DSTI limits, introduced by the CNB in October 2018 and related frontloading of the market in 2018 Q3. Demand was also dampened by high house prices and partly also by higher interest rates on housing loans. Banks expect demand to decline slightly further in the current quarter. Growth in consumer credit slowed only slightly. The lower demand was due to worse consumer confidence and the setting of DTI and DSTI limits for mortgage clients. The ratio of total household indebtedness to aggregate disposable income stabilised at 62%, close to an all-time high.

Growth in loans to non-financial corporations also slowed. According to the Bank Lending Survey, banks perceived a decline in demand from non-financial corporations for loans to finance fixed investment in Q1. The annual rate of growth in loans to corporations was 5.1% in February. The slowdown in credit growth was due largely to industry; growth in loans in manufacturing slowed and loans in other industrial sectors decreased. Loans to the real estate sector, services, wholesale and retail trade and construction continued to rise (see Chart III.4.9). The share of foreign currency loans in total corporate loans has recently stabilised around 31%. In Q1, firms hedged to a larger extent against exchange rate risk using classical financial instruments; the ratio of hedged exports in the coming 12 months rose to 43%.

CHART III.4.7

LOANS TO THE PRIVATE NON-FINANCIAL SECTOR

Credit growth decreased in all segments of the credit market in Q1
(annual percentage rates of growth)

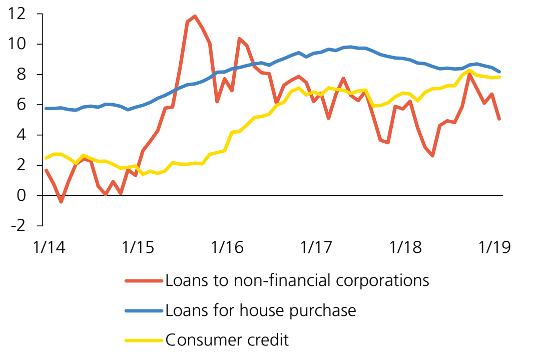
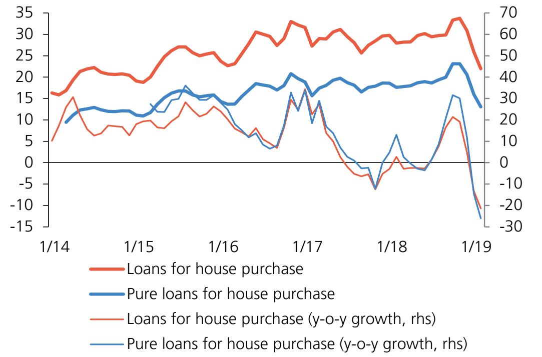


CHART III.4.8

NEW LOANS TO HOUSEHOLDS FOR HOUSE PURCHASE

The volumes of new loans for house purchase declined significantly
(monthly volumes in CZK billions; annual percentage changes)

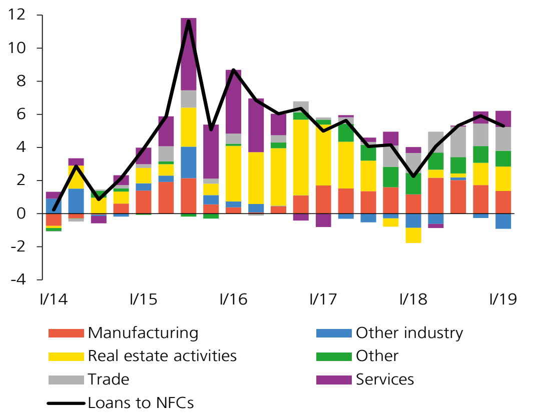


Note: The data are smoothed using three-month moving averages. Total new loans for house purchase comprise pure loans (i.e. loans newly provided to the economy), refinanced loans and other renegotiated loans.

CHART III.4.9

LOANS TO NON-FINANCIAL CORPORATIONS BY SECTOR OF ACTIVITY

The contribution of loans in industry as a whole declined, whereas loans in the remaining sectors are rising steadily
(annual percentage changes; contributions in percentage points; end-of-quarter data; most recent data are for February 2019)

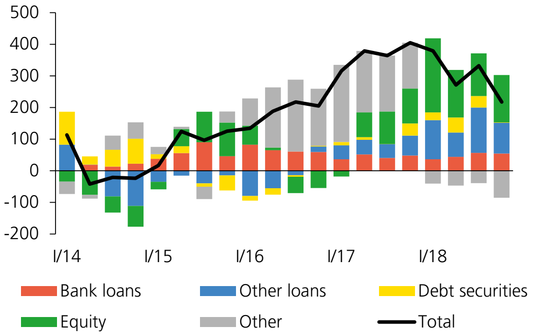


Note: Other comprises construction, agriculture and transport.

CHART III.4.10

EXTERNAL FINANCING OF NON-FINANCIAL CORPORATIONS

Flows of external financing slowed in 2018 after previous growth
(net annual flows in CZK billions)



Note: Other loans consist of loans from non-bank financial institutions, loans from abroad and loans from other non-financial corporations. Other comprises financial derivatives and other financial liabilities (including trade credits).

TABLE III.4.2

TOTAL LOANS AND DEBT SECURITIES OF NON-FINANCIAL CORPORATIONS

Debt financing of corporations is dominated by loans; debt securities purchased by non-residents also increased in 2018
(stocks of loans and debt securities; absolute changes in CZK billions)

	Volume			Abs. change in 2018 versus	
	2015	**2017**	**2018**	**2015**	**2017**
LOANS	2338	2491	2658	320	167
Bank loans	939	1035	1091	152	56
Other loans	1399	1456	1567	168	111
Loans from fin. non-bank institutions	254	346	459	205	113
Loans from non-financial corporations	422	363	341	-81	-22
Loans from abroad	723	747	767	44	20
DEBT SECURITIES	370	355	370	0	15
of which:					
Debt securities purchased abroad	244	209	244	0	35
Debt securities purchased by households	42	42	41	-1	-1
Debt securities purchased by firms	32	29	25	-7	-4
Debt securities purchased by banks	25	34	35	10	1
Debt securities purchased by other fin. inst.	22	31	17	-5	-14

Corporations' external financing flows have decreased recently (see Chart 4.III.10). This mainly reflects a drop in other sources (including trade credits). Flows of non-bank lending (comprising loans from non-bank financial institutions, loans from abroad and inter-company loans) have increased recently. As regards the structure of non-bank loans, the growth in flows was driven mainly by loans from non-bank financial institutions, where loans from financial intermediaries accounted for around 60%. Other loans also include loans drawn by Czech corporations abroad, which account for almost one-third of total corporate loans. Flows of loans from domestic banks grew slightly last year. The importance of shares in the structure of financing of corporations also increased. This reflected growth in unquoted shares and other equity in limited liability companies, while issuance of quoted shares remains at zero. Bond issues also contributed partly to the external financing of corporations in 2018.

Corporate bond issues were mostly allocated abroad in 2018 (see Table III.4.2). Their growth compared with 2017 was related to euro financing of large private corporations. This was motivated by lower costs of financing in euros compared with the domestic currency, among other things. The corporate bonds bought by non-residents amounted to CZK 244 billion (66% of the total bonds issued) at the end of 2018. Bonds totalling around CZK 41 billion are held by Czech households.

III.4.4 Money

M3 growth slowed to 5.5% in Q1. The highly liquid overnight deposits comprising M1, and gradually also deposits with an agreed maturity of up to two years, remained the biggest contributors to M3 growth. Turning to the sector structure of deposits, household deposits and, to a lesser extent, deposits of non-financial corporations are still the main drivers of M3 growth. The growth in deposits of both sectors has recently dropped (to 7.8% and 2.6% respectively), in the case of corporations mainly because of a decline in their profitability.

AEIS	Average Earnings Information System
BoE	Bank of England
BoJ	Bank of Japan
CEB	Czech Export Bank
CF	Consensus Forecasts
CNB	Czech National Bank
CPI	consumer price index
CPIH	experimental consumer price index incorporating prices of older properties
CZK	Czech koruna
CZSO	Czech Statistical Office
DSTI	debt service-to-income
DTI	debt-to-income
ECB	European Central Bank
EEA	European Economic Area
EIA	Environmental Impact Assessment
EIA	U.S. Energy Information Administration
EIU	Economist Intelligence Unit
ESA	European System of Accounts
ESCB	European System of Central Banks
ESR	electronic sales registration
EU	European Union
EUR	euro
EURIBOR	Euro Interbank Offered Rate
FDI	foreign direct investment
Fed	US central bank
FMIE	Financial Market Inflation Expectations
FOMC	Federal Open Market Committee
FRA	forward rate agreement
GBP	pound sterling
GDP	gross domestic product
GNP	gross national product
GVA	gross value added
HICP	harmonised index of consumer prices
HP filter	Hodrick-Prescott filter
HPI	house price index
ICT	information and communications technology
IEA	International Energy Agency
Ifo	index of economic confidence in Germany
ILO	International Labour Organization
IMF	International Monetary Fund
IRI	Institute for Regional Information
IRS	interest rate swap
JPY	Japanese yen
LFS	Labour Force Survey
LIBOR	London Interbank Offered Rate
LTV	loan to value
LUCI	Labour Utilisation Composite Index
M1, M3	monetary aggregates
MFIs	monetary financial institutions
MLSA	Ministry of Labour and Social Affairs
NAIRU	non-accelerating inflation rate of unemployment
NBS	National Bank of Slovakia
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries
PMI	Purchasing Managers Index
pp	percentage points
PPI	producer price index
PRIBOR	Prague Interbank Offered Rate
repo rate	repurchase agreement rate
USD	US dollar
VAT	value added tax
WTI	West Texas Intermediate

This glossary explains some terms frequently used in the Inflation Report. A more detailed glossary can be found on the CNB website (www.cnb.cz/en/general/glossary/index.html).

Administered prices: A sub-category of the consumer basket consisting of items with price ceilings (set at either central or local level), prices regulated on a cost-plus basis (items whose prices may only reflect economically justified costs and a reasonable profit) and administratively fixed fees. The selection of these items is based on the Price Bulletin of the Czech Ministry of Finance.

Agricultural producer prices: Surveyed by the CZSO monthly on the basis of exercise contract prices (excluding their own consumption) of products intended solely for the domestic market excluding VAT.

Apartment asking prices: Asking prices of apartments as estimated by the CZSO.

Apartment transaction prices (returns): Prices based on Ministry of Finance statistics from property transfer tax returns and published by the CZSO. These prices are the closest to actual market prices of apartments in terms of methodology, but are published with a time delay.

Apartment transaction prices (survey): An alternative source of data on transaction prices of older apartments based on a CZSO survey in estate agencies and available with a shorter time delay.

Balance of payments: Records economic transactions with other countries (i.e. between residents and non-residents) over a particular period. The basic structure of the balance of payments includes the current account, the capital and financial accounts and the change in CNB international reserves.

Bid-to-cover ratio: The ratio of total demand to demand coverage in primary auctions of medium-term and long-term government bonds.

Consensus Forecasts: A regular monthly publication issued by Consensus Economics bringing together the forecasts of hundreds of prominent economists and analytical teams regarding future world developments. The CNB uses these predictions in its macroeconomic forecast when forming assumptions regarding the future development of the external environment.

Core inflation: (Formerly called adjusted inflation excluding fuels.) The increase in prices of non-food items of the consumer basket excluding items with administered prices, indirect tax changes and fuels.

Covered bond: A bond collateralised (backed) by long-term assets, usually mortgage loans or public sector loans. The issuers are mostly banks and the issuance of covered bonds is subject to strict legislative rules. Compared to standard bonds, this type of bond has lower credit risk thanks to higher coverage (known as dual recourse), which gives the covered bond holder a preferential claim on the issuer's receivables underlying the mortgage loans or public sector loans and likewise a claim on the issuer. If the issuer defaults, the holder therefore has a preferential right to the assets backing the covered bond.

Current account: Records exports and imports of goods and services, income from capital, investment and labour and unrequited transfers.

Cyclical component of the general government balance: Expresses the effect of the business cycle on the general government fiscal balance.

Discount rate: A monetary policy rate which as a rule represents the floor for short-term money market interest rates. The CNB applies it to the excess liquidity which banks deposit with the CNB overnight under the deposit facility.

Disinflation: A decline in inflation.

Effective euro area indicators: Proxy for the effect of economic activity (effective GDP) and inflation (effective producer prices and consumer prices) in the euro area on the Czech economy. The weights used in the calculation are equal to the shares of the individual euro area countries in the total exports of the Czech Republic to the euro area.

Effective exchange rate: Shows the appreciation (index > 100) or depreciation (index < 100) of the national currency against a basket of selected currencies for a certain time period relative to a base period. The weights applied in the basket are the shares of major trading partners in foreign trade turnover.

Escape clause: Excuses the central bank from its obligation to hit the inflation target. In the flexible inflation targeting regime, it is applied in the event of large shock changes in exogenous factors (particularly supply-side shocks, e.g. indirect tax changes) that are completely or largely outside the purview of central bank monetary policy.

Euro area: The territory of all Member States of the European Union that have adopted the euro as a single currency pursuant to the Treaty Establishing the European Community.

Experimental CPIH price index: Unlike the Consumer Price Index (CPI), the CPIH includes prices of older property, i.e. the transactions that households carry out between themselves. The weight of housing is therefore substantially higher. This index can be viewed as an experimental analytical tool for macrofinancial considerations. For details, see Box 1 in Inflation Report III/2017.

Financial account: Records transactions connected with the creation, liquidation and change in ownership of the financial assets and liabilities of the government, the banking and corporate sectors and other entities vis-à-vis the rest of the world. It consist of direct investment, portfolio investment, other investment and financial derivatives transactions.

Fiscal impulse: A variable taking into account the effect of fiscal policy on economic activity in the short run.

Fiscal stance: The annual change in the general government structural balance (in percentage points). A positive figure indicates fiscal restriction and a negative figure indicates fiscal expansion.

Food prices: In CNB documents, the term food prices refers to the consolidated category of prices of food and non-alcoholic beverages and prices of alcoholic beverages and tobacco.

General government balance: Revenues minus expenditures of the general government sector. A negative government balance is called a general government deficit and a positive government balance is called a general government surplus.

General government primary balance: The general government balance net of interest payments (i.e. debt service).

General government structural balance: The cyclically adjusted general government balance adjusted for extraordinary one-off operations. It captures the structural configuration of fiscal policy.

General unemployment rate: Covers the 15–64 age group (as measured by the ILO methodology in the LFS). It is the ratio of the number of unemployed persons to the labour force (i.e. the sum of employed and unemployed persons) in the given age group.

Gross domestic product (GDP): The key indicator of economic development. It represents the sum of the value added by all economic sectors. In terms of use it consists of expenditure on final consumption (consumption of households, the government and non-profit institutions), gross capital formation (fixed investment and changes in inventories) and foreign trade (net exports of goods and services).

Gross operating surplus and mixed income of the household sector: Gross operating surplus – as a part of the gross disposable income of households – is the difference between gross value added in the household sector and the sum of compensation of employees and other taxes less other subsidies on production in this sector. Gross mixed income is generated only in the household sector, where remuneration for labour performed by a firm's owner or by family members cannot be distinguished from the entrepreneurial profit of the owner.

Housing transaction prices: An internationally comparable House Price Index (HPI), which measures movements in the price level of apartments and houses including related plots of land according to a single harmonised EU standard. It includes both new and older (previously inhabited) residential property. The source of the data is the CZSO.

Industrial producer prices: Surveyed by the CZSO monthly on the basis of data provided by selected organisations. Industrial producer prices are those agreed upon between the supplier and the customer inland. They exclude VAT, excise tax, costs of transport to the customer and costs incidental to transport, and are invoiced for more important trade cases.

Inflation: Commonly, inflation is considered to be recurring growth of most prices in the economy. It means a decrease in the real value (i.e. purchasing power) of a given currency relative to the goods and services which consumers buy. If there is inflation in the economy, consumers need ever more currency units of the given country to buy the same basket of goods and services. In practice, inflation is measured by the increment of the consumer price index.

Inflation pressures: Determined in the CNB's modelling system by real marginal costs in the consumption sector and are divided into domestic (in the intermediate goods sector) and imported (in the import price sector).

Inflation rate: The increase in the average (basic) consumer price index for the last 12 months relative to the average for the previous 12 months.

Inflation target: The level of consumer price inflation that the CNB endeavours to achieve, set publicly and well in advance.

Labour efficiency: Affects the quantity of output per unit of labour. From a model perspective, it is the productivity of the production factor of labour in the Cobb-Douglas production function. A rise in labour efficiency enables a higher real volume of output to be produced using the same quantity of production factors. It therefore increases supply and causes the price of output relative to inputs to go down.

Loan-to-value ratio (LTV): The ratio of the amount of a loan to the value of the property securing the financing.

Lombard rate: A monetary policy interest rate which provides a ceiling for short-term interest rates on the money market. The CNB applies it to the liquidity which it provides to banks overnight under the lending facility.

Market services prices: Surveyed by the CZSO monthly. Market services prices comprise prices of domestic freight transport, postal and telecommunications services, banking and finance and insurance and sewerage charges.

Monetary aggregates: Represent the amount of money in the economy and are calculated from the liquid liabilities of a monetary nature of resident monetary financial institutions (the "money-issuing" sector) to other resident sectors (the "money-holding" sector). Besides households, the latter include non-financial corporations and non-monetary financial institutions, as well as local government authorities and social security funds (excluding central government). The Eurosystem has defined a narrow (M1), an intermediate (M2) and a broad aggregate (M3). These aggregates differ with respect to the degree of moneyness of the assets of residents of the Czech Republic included. The monetary aggregates also include liquid assets denominated in foreign currency of residents of the Czech Republic which are held with monetary financial institutions located in the Czech Republic. Narrow money (M1) consists of currency in circulation and overnight deposits. Intermediate money (M2) comprises narrow money (M1) and, in addition, deposits with an agreed maturity of up to two years and deposits redeemable at notice of up to three months. Broad money (M3) comprises M2 and marketable instruments issued by the monetary financial institutions sector. Certain money market instruments, in particular money market fund shares/units, and repurchase agreements, which are close substitutes for deposits, are included in this aggregate.

Monetary conditions: Represent the combined effect of interest rates (the interest rate component of the monetary conditions) and the exchange rate (the exchange rate component) on the economy. These are the key variables through which monetary policy can affect economic activity and, through it, inflation. Interest rates and the exchange rate do not necessarily affect the economy in the same direction.

Monetary policy horizon: The time horizon which monetary policy-makers focus on when making decisions and which takes into account the monetary policy transmission lag. This horizon is about 12–18 months ahead.

Monetary policy interest rates: Short-term interest rates associated with monetary policy-making. They comprise the two-week repo rate, the discount rate and the Lombard rate.

Monetary policy-relevant inflation: Inflation to which monetary policy reacts. It is defined as headline inflation adjusted for the first-round effects of changes to indirect taxes.

Money market: The part of the financial markets which is used to obtain short-term loans and where debt instruments maturing in less than one year are traded. T-bills are typical securities traded on this market. Within this market the CNB carries out its repo operations.

Nominal costs in the consumption sector: These comprise output prices in the intermediate goods sector and import sector, as final consumption goods are produced using inputs from these sectors. They also include price convergence, which approximates the productivity differential between the tradables sector and the non-tradables sector and its price effect, known as an analogy to the Balassa-Samuelson effect.

Nominal costs in the intermediate goods sector: Co-determined by prices of production factors, i.e. labour costs in the market sector and the price of capital. In addition to these components, they are determined by labour efficiency. In addition to domestic and external demand, the price of capital reflects the price deflator of fixed investment, which is affected by movements in the prices of imported capital goods.

Nominal unit labour costs: The labour costs needed to produce a unit of output. Nominal unit labour costs are calculated as the ratio of the nominal volume of wages and salaries to GDP at constant prices.

Non-tradables prices: Prices of items in the CZSO consumer basket which have the nature of services. These items can be divided into administered (e.g. water supply and sewerage collection charges, waste collection charges, public transport, electricity and gas, health care and education) and other (e.g. imputed rent proxying for housing prices, rental housing, repair services, recreation and accommodation, restaurants and canteens, body care services and financial and insurance services). These other items are included in core inflation.

Primary income: An item on the current account of the balance of payments comprising income from labour, capital, financial resources provided and non-produced non-financial assets (wages and salaries, dividends, reinvested earnings, interest, rent as well as taxes and subsidies on production and on imports, which represent a part of the financial flows vis-à-vis the EU budget). In a more detailed breakdown, primary income consists of three balances: compensation of employees, investment income and other primary income.

Repo rate: The CNB's key monetary policy rate, paid on commercial banks' excess liquidity as withdrawn by the CNB in two-week repo tenders.

Secondary income: An item on the current account of the balance of payments covering offsets to real and financial resources provided or acquired without a quid pro quo (subsidies and contributions vis-à-vis the EU budget and EU funds, pensions, foreign assistance, benefits, etc.)

Share of unemployed persons: The ratio of available job applicants aged 15–64 to the population of the same age.

Tradables prices: Prices of items of the CZSO consumer basket which are included in core inflation and have the nature of goods. They include, for example, clothing, footwear, equipment for housing and gardening, transport equipment and IT equipment. However, this category excludes prices of food, alcohol, tobacco and fuels, which follow specific patterns.

Unemployment rate: The ratio of the number of unemployed persons to the total labour force. We distinguish between the general unemployment rate, as determined by the CZSO according to International Labour Organisation methodology, and the share of unemployed persons, as determined by the Ministry of Labour and Social Affairs.

Whole-economy labour productivity: Calculated as the ratio of seasonally adjusted GDP to employment (i.e. including the effect of taxes and subsidies on products). Labour productivity in individual sectors is calculated as the ratio of gross value added to employment (i.e. excluding taxes and subsidies on products.

		years										
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
DEMAND AND SUPPLY												
Gross domestic product												
GDP	CZK bn, constant p. of 2010, seas. adjusted	3958.4	4028.9	3999.6	3980.2	4088.2	4308.3	4409.9	4610.3	4742.8	**4860.2**	**4997.8**
GDP	%, y-o-y, real terms, seas. adjusted	2.1	1.8	-0.7	-0.5	2.7	5.4	2.4	4.5	2.9	**2.5**	**2.8**
Household consumption	%, y-o-y, real terms, seas. adjusted	1.0	0.3	-1.2	0.5	1.8	3.8	3.5	4.4	3.1	**2.5**	**3.0**
Government consumption	%, y-o-y, real terms, seas. adjusted	0.5	-3.2	-2.0	2.5	1.1	1.9	2.7	1.3	3.7	**2.7**	**2.3**
Gross capital formation	%, y-o-y, real terms, seas. adjusted	4.2	1.8	-3.9	-5.1	8.5	13.0	-4.3	4.1	5.4	**4.9**	**3.8**
Gross fixed capital formation	%, y-o-y, real terms, seas. adjusted	1.0	0.9	-2.9	-2.5	3.9	10.4	-3.3	4.1	10.4	**3.9**	**2.9**
Exports of goods and services	%, y-o-y, real terms, seas. adjusted	14.3	9.2	4.5	0.2	8.7	6.2	4.1	7.1	4.5	**3.7**	**5.4**
Imports of goods and services	%, y-o-y, real terms, seas. adjusted	14.4	6.7	2.8	0.1	10.1	6.9	2.6	6.3	6.0	**4.8**	**5.9**
Net exports	CZK bn, constant p. of 2010, seas. adjusted	121.1	193.5	246.5	250.4	233.8	226.8	283.9	333.0	296.0	**265.8**	**260.3**
Coincidence indicators												
Industrial production	%, y-o-y, real terms	8.6	5.9	-0.8	-0.1	5.0	4.3	3.4	6.5	3.2	**-**	**-**
Construction output	%, y-o-y, real terms	-7.4	-3.6	-7.6	-6.7	4.3	6.8	-5.6	3.3	9.2	**-**	**-**
Receipts in retail sales	%, y-o-y, real terms	1.5	1.7	-1.1	1.2	5.5	7.7	6.1	4.5	2.5	**-**	**-**
PRICES												
Main price indicators												
Inflation rate	%, end-of-period	1.5	1.9	3.3	1.4	0.4	0.3	0.7	2.5	2.1	**-**	**-**
Consumer Price Index	%, y-o-y, average	1.5	1.9	3.3	1.4	0.4	0.3	0.7	2.5	2.1	**2.7**	**2.1**
Regulated prices (18.70%)*	%, y-o-y, average	2.6	4.7	8.6	2.2	-3.0	0.0	0.2	0.0	1.8	**4.3**	**2.3**
Food prices (including alcoholic beverages and tobacco) (24.58%)*	%, y-o-y, average	0.9	4.3	2.9	3.1	1.8	0.0	0.2	3.6	1.6	**2.4**	**2.1**
Core inflation (53.32%)*	%, y-o-y, average	-1.2	-0.4	-0.3	-0.5	0.5	1.2	1.2	2.4	2.1	**2.4**	**2.1**
Fuel prices (3.39%)*	%, y-o-y, average	12.8	7.2	6.0	-2.1	0.2	-13.5	-8.5	6.7	6.3	**-0.6**	**-1.9**
Monetary policy inflation (excluding tax changes)	%, y-o-y, average	0.4	1.9	2.1	0.6	0.2	0.2	0.5	2.5	2.1	**2.7**	**2.1**
GDP deflator	%, y-o-y, seas. adjusted	-1.4	0.0	1.5	1.4	2.5	1.2	1.3	1.4	2.1	**3.6**	**2.3**
Partial price indicators												
Industrial producer prices	%, y-o-y, average	1.2	5.6	2.1	0.8	-0.8	-3.2	-3.3	1.8	2.0	**2.9**	**1.7**
Agricultural prices	%, y-o-y, average	7.1	22.1	3.3	-12.1	4.7	-6.2	-6.0	7.4	-0.2	**6.7**	**-0.8**
Construction work prices	%, y-o-y, average	-0.2	-0.5	-0.7	-1.1	0.5	1.2	1.1	1.7	3.2	-	-
Brent crude oil (in USD/barrel)	%, y-o-y, average	28.4	38.2	0.7	-2.6	-8.5	-46.1	-16.0	21.7	30.5	**-4.9**	**-2.6**
LABOUR MARKET												
Average monthly wage	%, y-o-y, nominal terms	2.2	2.5	2.5	-0.1	2.9	3.2	3.7	7.0	8.1	**6.5**	**5.0**
Average monthly wage	%, y-o-y, real terms	0.7	0.6	-0.8	-1.5	2.5	2.9	3.0	4.4	6.0	**3.9**	**3.0**
Number of employees	%, y-o-y	-2.2	0.0	-0.1	1.6	0.6	2.2	2.1	1.7	1.6	**0.7**	**0.4**
Unit labour costs	%, y-o-y	-1.5	0.3	3.4	1.0	0.9	-0.5	3.2	3.8	6.2	**4.1**	**2.4**
Unit labour costs in industry	%, y-o-y	-6.2	0.7	5.9	5.1	-0.4	1.8	4.3	-0.4	5.0	-	-
Aggregate labour productivity	%, y-o-y	3.3	2.1	-1.2	-0.8	2.2	3.8	0.8	2.8	1.3	**1.9**	**2.5**
ILO general unemployment rate	%, average, age 15–64	7.4	6.8	7.0	7.1	6.2	5.1	4.0	2.9	2.3	**2.0**	**1.9**
Share of unemployed persons (MLSA)	%, average	7.0	6.7	6.8	7.7	7.7	6.5	5.5	4.2	3.2	**2.9**	**2.7**
PUBLIC FINANCE												
Government budget balance (ESA2010)	CZK bn, current prices	-166.0	-109.9	-159.6	-51.1	-90.6	-28.3	34.3	78.8	47.4	**16.8**	**13.2**
Government budget balance / GDP**	%, nominal terms	-4.2	-2.7	-3.9	-1.2	-2.1	-0.6	0.7	1.6	0.9	**0.3**	**0.2**
Government debt (ESA2010)	CZK bn, current prices	1480.2	1606.5	1805.4	1840.4	1819.1	1836.3	1754.9	1749.5	1735.1	**1741.2**	**1734.6**
Government debt / GDP**	%, nominal terms	37.4	39.8	44.5	44.9	42.2	40.0	36.8	34.7	32.7	**30.9**	**29.3**
EXTERNAL RELATIONS												
Current account												
Trade balance	CZK bn, current prices	40.4	75.5	123.8	167.0	220.0	188.0	245.7	259.1	217.3	**210.0**	**220.0**
Trade balance / GDP	%, nominal terms	1.0	1.9	3.0	4.1	5.1	4.1	5.2	5.1	4.1	**3.7**	**3.7**
Balance of services	CZK bn, current prices	78.5	81.3	77.6	70.4	55.7	78.0	107.6	127.7	120.7	**125.0**	**130.0**
Current account	CZK bn, current prices	-141.8	-84.8	-63.3	-21.8	7.9	11.3	74.2	83.5	15.5	**5.0**	**5.0**
Current account / GDP	%, nominal terms	-3.6	-2.1	-1.6	-0.5	0.2	0.2	1.6	1.7	0.3	**0.1**	**0.1**
Foreign direct investment												
Direct investment	CZK bn, current prices	-95.0	-46.8	-121.3	7.4	-80.4	49.7	-186.5	-45.9	-91.3	**-70.0**	**-60.0**
Exchange rates												
CZK/USD	average	19.1	17.7	19.6	19.6	20.8	24.6	24.4	23.4	21.7	**22.2**	**21.0**
CZK/EUR	average	25.3	24.6	25.1	26.0	27.5	27.3	27.0	26.3	25.6	**25.3**	**24.7**
CZK/EUR	%, y-o-y, real (CPI euro area), avg.	-4.5	-1.9	1.5	3.5	6.2	-0.9	-1.3	-3.4	-2.8	**-2.2**	**-2.9**
CZK/EUR	%, y-o-y, real (PPI euro area), avg.	-3.9	-3.0	2.2	2.4	5.1	-0.2	0.1	-1.8	-1.5	**-1.6**	**-2.1**
Foreign trade prices												
Prices of exports of goods	%, y-o-y, average	-1.0	1.7	2.9	1.2	3.5	-1.7	-3.1	-0.1	-0.3	**1.3**	**0.0**
Prices of imports of goods	%, y-o-y, average	2.0	4.3	4.2	-0.2	1.9	-1.9	4.0	0.9	-0.7	**0.5**	**-0.3**
MONEY AND INTEREST RATES												
M3	%, y-o-y, average	0.2	1.0	5.1	5.1	5.1	7.3	9.1	11.7	6.6	**5.6**	**8.3**
2W repo rate	%, end-of-period, CNB forecast = average	0.75	0.75	0.05	0.05	0.05	0.05	0.05	0.50	1.75	**2.04**	**1.95**
3M PRIBOR	%, average	1.3	1.2	1.0	0.5	0.4	0.3	0.3	0.4	1.3	**2.3**	**2.2**

* figures in brackets are constant weights in current consumer basket
** CNB calculation
- data not available/forecasted/released
data in bold = CNB forecast

2016				2017				2018				2019				2020			
QI	QII	QIII	QIV	QI	QII	QIII	QIV	QI	QII	QIII	QIV	QI	QII	QIII	QIV	QI	QII	QIII	QIV
1095.5	1099.2	1103.3	1112.0	1127.8	1153.8	1160.6	1168.1	1174.9	1180.7	1188.7	1198.6	1205.1	1210.2	1217.7	1227.3	1236.0	1244.7	1253.9	1263.1
3.6	2.4	1.7	1.8	3.0	5.0	5.2	5.0	4.2	2.3	2.4	2.6	2.6	2.5	2.4	2.4	2.6	2.9	3.0	2.9
3.8	3.5	3.6	3.3	3.7	4.8	4.6	4.4	4.4	3.1	2.8	2.2	2.0	2.4	2.5	3.1	3.0	3.0	3.0	3.0
2.5	3.2	2.6	2.5	2.0	1.3	0.8	1.0	3.0	2.8	5.2	3.6	2.6	3.0	1.6	3.7	2.9	2.5	2.0	1.6
1.1	-6.8	-6.1	-5.0	-3.2	2.2	7.9	9.8	9.5	3.8	4.7	4.0	4.4	7.3	3.4	4.7	3.9	3.8	3.7	3.7
1.5	-5.4	-4.4	-4.6	-1.2	6.4	5.6	5.8	10.7	9.3	11.3	10.4	6.3	4.3	2.1	3.0	3.1	3.0	2.9	2.8
6.5	5.4	2.6	2.2	5.5	7.7	7.6	7.8	5.5	3.4	4.2	5.0	3.2	3.7	4.6	3.2	4.4	5.2	5.7	6.2
5.7	2.9	1.2	0.8	3.7	5.8	7.2	8.3	7.3	4.7	6.3	5.7	3.6	5.6	5.0	5.0	5.5	5.7	5.9	6.4
65.9	69.1	71.2	77.8	83.9	89.4	79.5	80.2	72.4	81.1	65.0	77.4	71.5	66.5	64.0	63.8	64.7	64.8	65.2	65.6
3.2	6.1	0.8	3.5	8.4	4.3	5.5	7.8	2.3	3.3	3.6	3.5	-	-	-	-	-	-	-	-
-6.8	-8.8	-6.2	-1.6	0.9	7.2	1.6	3.0	14.1	7.8	12.3	4.9	-	-	-	-	-	-	-	-
7.1	8.5	4.7	4.3	7.0	3.5	3.3	4.6	2.7	2.9	2.3	2.1	-	-	-	-	-	-	-	-
0.4	0.3	0.4	0.7	1.2	1.7	2.2	2.5	2.3	2.3	2.3	2.1	2.3	-	-	-	-	-	-	-
0.4	0.2	0.6	1.5	2.5	2.2	2.5	2.6	1.9	2.3	2.4	2.1	2.7	2.7	2.5	2.7	2.3	2.0	2.0	2.0
0.7	0.2	-0.1	-0.1	-0.5	-0.1	0.2	0.3	1.4	1.8	2.1	1.7	3.7	4.4	4.2	4.8	3.0	2.2	2.0	2.1
-0.4	-0.8	0.2	1.8	3.4	2.9	3.9	4.4	2.5	2.5	1.1	0.4	1.7	2.0	2.8	3.1	2.2	2.1	2.2	2.0
1.3	1.1	1.1	1.4	2.1	2.5	2.7	2.5	1.7	1.9	2.3	2.4	2.9	2.6	2.0	2.2	2.1	2.2	2.2	2.1
-12.4	-12.4	-9.5	0.2	15.1	7.5	1.7	2.6	-1.6	5.0	12.4	9.5	1.3	0.9	-0.8	-3.7	1.6	-2.8	-4.2	-2.1
0.3	0.0	0.3	1.3	2.5	2.3	2.7	2.7	1.8	2.1	2.3	2.0	2.7	2.7	2.6	2.7	2.4	2.1	2.0	2.0
1.4	1.1	1.3	1.2	0.7	1.0	1.7	2.4	2.3	2.2	2.0	2.1	3.0	4.2	3.8	3.5	2.7	2.0	2.1	2.2
-4.0	-4.6	-3.3	-1.1	2.7	2.3	1.4	0.9	0.1	1.5	3.3	3.4	3.5	3.3	2.5	2.3	2.3	1.7	1.5	1.5
-3.2	-8.2	-7.0	-4.9	0.2	10.1	11.4	8.2	4.0	-3.4	-2.3	1.7	6.9	10.0	7.3	1.9	-2.2	-1.5	0.0	1.0
1.2	1.1	1.0	1.2	1.4	1.6	1.7	2.0	2.3	2.8	3.7	4.0	4.3	-	-	-	-	-	-	-
-36.3	-26.1	-7.6	16.0	57.6	9.1	11.0	20.8	22.9	47.6	45.8	11.6	-4.8	-5.9	-8.6	2.4	6.0	-5.3	-5.1	-5.1
4.7	4.0	4.7	4.4	4.5	6.9	6.1	7.4	8.6	8.7	8.5	6.9	6.9	6.3	6.3	6.6	5.5	5.2	4.9	4.6
4.2	3.8	4.2	3.0	2.1	4.6	3.5	4.7	6.6	6.2	6.0	4.7	4.2	3.6	3.8	3.9	3.2	3.2	2.9	2.6
2.8	2.0	1.9	1.9	1.1	1.3	2.2	2.1	2.1	2.1	0.9	1.3	0.9	0.8	1.0	0.3	0.4	0.3	0.4	0.4
2.8	1.9	4.0	4.0	2.9	4.5	3.0	4.4	6.6	7.3	6.8	4.4	4.4	3.9	4.0	4.3	3.1	2.5	2.1	1.9
6.4	3.1	5.4	2.5	-1.1	1.9	-2.9	0.1	5.0	6.2	5.8	3.3	-	-	-	-	-	-	-	-
1.5	2.1	0.1	-0.1	2.2	2.3	2.9	3.5	1.7	0.7	1.4	1.5	1.8	1.8	1.8	2.1	2.3	2.5	2.6	2.5
4.4	4.0	4.0	3.6	3.5	3.0	2.8	2.4	2.4	2.2	2.4	2.1	2.1	1.9	2.0	1.9	2.0	1.8	1.9	1.8
6.3	5.4	5.3	5.0	5.1	4.2	3.9	3.6	3.7	3.1	3.0	2.9	3.1	2.7	2.8	2.8	3.0	2.6	2.7	2.7
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
83.1	80.5	44.7	37.4	95.1	77.2	46.5	40.4	81.2	68.9	30.9	36.2	73.0	67.0	37.0	33.0	76.0	69.0	39.0	36.0
7.5	6.7	3.7	3.0	8.2	6.1	3.6	3.0	6.6	5.2	2.3	2.6	5.6	4.7	2.6	2.2	5.6	4.6	2.6	2.3
25.3	26.4	28.7	27.2	29.8	34.4	31.8	31.7	31.3	36.5	23.1	29.8	31.0	35.0	28.0	31.0	32.0	36.0	30.0	32.0
119.5	-10.0	-19.2	-16.1	110.5	-2.1	-30.1	5.1	51.5	5.4	-52.4	11.1	63.0	-16.0	-50.0	8.0	73.0	-20.0	-56.0	8.0
10.8	-0.8	-1.6	-1.3	9.5	-0.2	-2.3	0.4	4.2	0.4	-3.9	0.8	4.9	-1.1	-3.5	0.5	5.3	-1.3	-3.7	0.5
-1.8	-95.6	-63.0	-26.2	-40.3	-3.8	10.3	-12.0	7.7	-26.4	-37.1	-35.5	-	-	-	-	-	-	-	-
24.5	23.9	24.2	25.1	25.4	24.1	22.2	21.8	20.7	21.5	22.1	22.7	22.6	22.6	22.1	21.7	21.3	21.0	20.9	20.9
27.0	27.0	27.0	27.0	27.0	26.5	26.1	25.7	25.4	25.6	25.7	25.9	25.7	25.5	25.2	24.9	24.8	24.7	24.6	24.6
-2.4	-1.6	-0.5	-0.7	-0.8	-2.6	-4.3	-6.0	-6.3	-3.8	-1.6	0.8	0.1	-1.5	-3.1	-4.4	-3.8	-3.5	-2.5	-1.7
-1.5	0.0	1.1	1.0	0.4	-1.3	-2.6	-3.7	-4.4	-2.1	-0.5	1.3	0.6	-0.8	-2.3	-3.8	-3.3	-2.7	-1.6	-0.7
-4.1	-4.3	-2.6	-1.3	2.2	0.9	-1.1	-2.4	-4.4	-1.6	1.6	3.4	3.1	2.0	0.7	-0.4	-0.3	-0.3	0.1	0.6
-5.7	-6.3	-3.7	-0.4	5.1	2.9	-0.9	-3.3	-6.1	-2.3	2.6	3.5	2.9	1.2	-0.7	-1.3	-0.4	-0.5	-0.3	0.2
9.7	9.6	9.0	8.0	10.3	12.7	12.7	11.1	8.7	6.1	5.4	6.4	5.5	5.5	5.4	5.9	7.0	7.9	8.9	9.5
0.05	0.05	0.05	0.05	0.05	0.05	0.25	0.50	0.75	1.00	1.50	1.75	1.75	2.14	2.16	2.12	2.09	2.00	1.88	1.83
0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.7	0.9	0.9	1.4	1.9	2.0	2.4	2.4	2.4	2.4	2.3	2.1	2.1

Issued by:
CZECH NATIONAL BANK
Na Příkopě 28
115 03 Praha 1
Czech Republic

Contact:
COMMUNICATIONS DIVISION
GENERAL SECRETARIAT
Tel.: +420 22441 3112
Fax: +420 22441 2179

www.cnb.cz

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