INFLATION REPORT / I

2018

CZECH NATIONAL BANK

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This Inflation Report was approved by the CNB Bank Board on 8 February 2018 and – with some exceptions – contains the information available as of 19 January 2018. 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. Over the years we have gradually developed it. The form as you see it here has been in place since spring 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. Starting with this Inflation Report, we are resuming publication of the exchange rate forecast, which is important for understanding the overall course of monetary policy. 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 (including the resumed exchange rate 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.

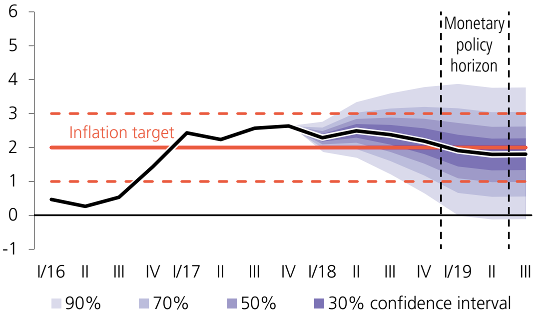
On behalf of the Czech National Bank

Jiří Rusnok
Governor

Chart I.1

HEADLINE INFLATION FORECAST

Headline inflation will stay above the 2% target this year and will be just below it in 2019
(year on year in %)

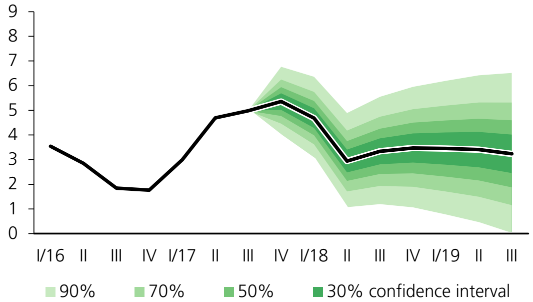


Note: The confidence intervals of the headline inflation forecast reflect the predictive power of past forecasts. They are symmetric and widening only for the first five quarters and then stay constant. This is consistent with both the past predictive power and the stabilising role of monetary policy.

Chart I.2

GDP GROWTH FORECAST

The growth of the Czech economy will slow from last year's high pace, but will remain above 3% over the next two years
(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 stay above the 2% target in 2018 and return to it at the start of the monetary policy horizon. The overall inflation pressures remain strong, mainly reflecting accelerating wage growth amid robust growth of the domestic economy. Growth in domestic costs will record a further short-term increase owing to labour market tightness. Domestic cost pressures will then moderate, aided by a stabilising effect of monetary policy. However, they will continue to outweigh the anti-inflationary effect of import prices, which will mainly reflect a strengthening koruna this year. At the same time, the one-off factors that increased inflation last year will fully disappear. Inflation will be just below the CNB's 2% target over the monetary policy horizon, i.e. in the first half of 2019 (see Chart I.1.). As regards the structure of inflation, core inflation will fall slightly this year, owing mainly to a decline in import prices. Food price inflation will also slow in the next two years as growth in world agricultural commodity prices unwinds. Administered price inflation will rise in early 2018, mainly as a result of an increase in electricity and gas prices, but will slow slightly again next year. Fuel prices will mostly increase this year owing to growth in oil prices, despite appreciation of the koruna against the dollar. Next year, by contrast, they will record a decline.

The growth of the Czech economy will slow from last year's high pace, but will remain above 3% in 2018–2019 (see Chart I.2). The economy will thus remain above its potential output level. The increase in domestic economic activity will be driven mainly by robust growth in household consumption, reflecting optimism of consumers in an environment of high growth in their income. Rising external demand coupled with an increasingly distinct shortage of available labour force and continued low interest rates are motivating firms to invest more in machinery and equipment. This investment is improving labour productivity. Investment growth in the government sector will recover as a result of higher drawdown of EU funds. Fiscal policy will also contribute to domestic demand growth via a significant rise in public sector pay and increasing pensions and social benefits. The economy will also benefit from stable demand growth in the Czech Republic's main trading partner countries. However, the still positive contribution of net exports to GDP growth will disappear as a result of an acceleration in import-intensive domestic demand and appreciation of the koruna. The monetary conditions will tighten in both their exchange rate and interest rate components, thus acting against an overheating of the domestic economy. The robust economic growth is reflected in a very tight labour market. The unemployment rate is still the lowest in the EU and there is little room for it to decrease further. This will lead to slower employment growth and a temporary acceleration of wage growth, which is already high.

According to the forecast, the koruna will appreciate further (see Chart I.3).[1] The exchange rate forecast for 2018 Q1 expects a further slight appreciation to an average of CZK 25.4 to the euro. The forecasted appreciation in the rest of this year will mainly reflect a widening of the interest rate differential vis-à-vis the euro area and the impact of continued asset purchases by the ECB until September 2018. Ongoing real convergence of the Czech economy towards the euro area countries, associated with rising labour productivity, will act in the same direction. Next year, the koruna will firm only modestly to around CZK 24.5 to the euro. This will reflect, among other factors, the assumed shift of ECB monetary policy towards normal during 2019.

Interest rates will rise further; this, coupled with appreciation of the koruna, will ensure that inflation returns to the target (see Chart I.4). The rise in interest rates will be slowed in 2018 by continued very accommodative ECB monetary policy, which will add to the appreciation pressures on the koruna. During 2019, domestic interest rates will converge smoothly to their assumed long-run neutral level (i.e. 3% for the 3M PRIBOR), owing, among other things, to foreign rates turning positive again. The forecast meanwhile implicitly assumes that the ECB's interest rates will shift to equilibrium at a faster pace in 2019 than suggested by the current market outlook.

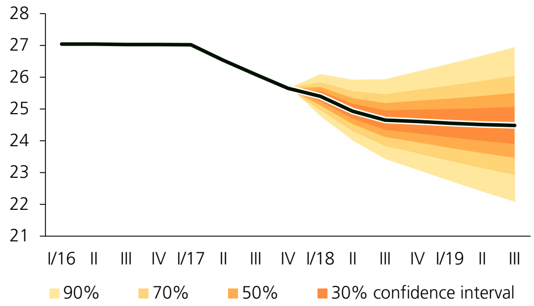
At its monetary policy meeting in February, the CNB Bank Board unanimously increased the 2W repo rate by 25 basis points to 0.75%. At the same time, it increased the Lombard rate by 50 basis points to 1.50% and kept the discount rate unchanged at 0.05%. The new interest rate levels come into effect on 2 February 2018.

The Bank Board assessed the risks to the inflation forecast at the monetary policy horizon as being balanced. At the same time, it stated that there are two bidirectional uncertainties of the forecast. The first one is associated with the strength of current and future domestic inflation pressures in conditions of a tight labour market. The labour market tightness is being reflected in increased wage growth, which may persist longer than forecasted. Cost pressures are simultaneously being dampened by increased labour productivity, which is being favourably affected by faster growth in private investment. The second, general, uncertainty concerns the exchange rate path.

CHART I.3

EXCHANGE RATE FORECAST

According to the forecast, the koruna will appreciate further, especially in the next few quarters
(CZK/EUR)

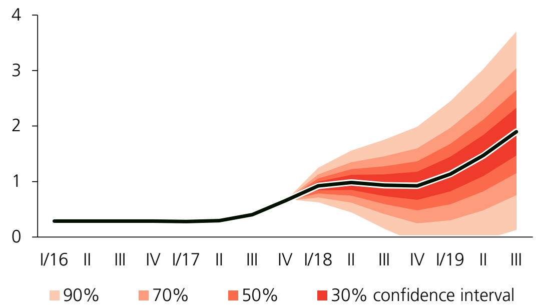


Note: The confidence intervals of the CZK/EUR exchange rate reflect the predictive power of past forecasts (in the period before the exchange rate commitment was adopted). They are symmetric and linearly widening.

CHART I.4

INTEREST RATE FORECAST

Consistent with the forecast is a further rise in domestic market interest rates this year and especially next year
(3M PRIBOR in %)



Note: The confidence intervals of the 3M PRIBOR forecast reflect the predictive power of past forecasts (in the period before the exchange rate commitment was adopted). They are symmetric, linearly widening and limited below by the zero lower bound.

1 The return to publication of numerical exchange rate forecasts is discussed in BOX below.

BOX Return to the publication of numerical exchange rate forecasts

The CNB started to publish forecasts for the nominal koruna-euro exchange rate in 2009. It thus became the only central bank in the world to publish forecasts for the nominal exchange rate against a specific currency in numerical form. This increase in forecast transparency was useful to analysts and market participants. With knowledge of the exchange rate that the central bank uses in its forecasts, they can better assess how new information affects the balance of risks to the forecast. As a result, they can better understand the Bank Board's decisions. For example, if the exchange rate is appreciating faster than forecasted but the prediction is materialising in all other respects, it is likely that the central bank will compensate for the greater tightening of the monetary conditions via the exchange rate by tightening policy less via interest rates. If the markets take this into account, their expectations of future interest rate growth will be lowered, which in turn will lessen the rate of appreciation. Therefore, publication of the exchange rate forecast by the central bank has a stabilising effect. This is ultimately beneficial to the whole economy.

The CNB stopped publishing exchange rate forecasts when it adopted its exchange rate commitment in November 2013. At that moment, the exchange rate became a monetary policy instrument and ceased to be a standard forecasted variable. The forecasts at the time assumed that the exchange rate of the koruna would be close to the publicly announced intervention level of CZK 27 to the euro until the exchange rate commitment ended. Publication of the exchange rate forecast – including the simultaneously disclosed confidence intervals in the form of a fan chart – thus temporarily became meaningless.

With this Inflation Report, the CNB is returning to publishing a numerical exchange rate forecast in the form of a fan chart. This move forms part of the normalisation of CNB monetary policy. The time gap between this step and the exit from the exchange rate commitment last April was due to the risk that an exchange rate path published soon after the intervention regime ended could have been misinterpreted by market participants as the central bank's intended or preferred path. In addition, the confidence intervals in the fan chart could have been misconstrued as sensitivity thresholds, the crossing of which would lead to the CNB returning to the forex market. Moreover, the risks connected with a premature return to publication of the exchange rate forecast were amplified by the fact that interest rates were still at the zero lower bound and monetary policy therefore had no standard instrument for reacting to an unexpected sharp appreciation. However, these risks shrank substantially as the exchange rate turned out to show no major swings and interest rates were increased above technical zero during 2017.

Like the interest rate path, the exchange rate forecast does not constitute any commitment by the CNB and is associated with uncertainty. The future exchange rate path is a part of the CNB's macroeconomic forecast. In the forecast, it is determined by the expected interest rate differentials between domestic and foreign rates (temporarily including the impact of the ECB's quantitative easing via shadow rates) and also by the risk premium. The premium reflects, among other things, the evolution of net external assets and hence the trade balance. The exchange rate forecast also takes into account the assumed real equilibrium rate of appreciation of the koruna against the effective euro area (1.5% a year). The effect of these factors on the exchange rate is spread over time so that it reflects the observed exchange rate behaviour (for details, see Box 2 in Inflation Report I/2009). Like the forecasts for all other variables, the exchange rate forecast is conditional on the assumptions of the forecast, including the outlooks for developments abroad. Unexpected shocks may cause the actual exchange rate to deviate in either direction from the forecast (see Chart 1), sometimes significantly. This uncertainty is expressed by the confidence intervals of the forecast, which are published in the form of an exchange rate fan chart in the Summary of the Inflation Report (see Chart I.3). The width of these intervals is temporarily based on the forecast errors recorded before the exchange rate commitment was adopted.

The exchange rate is generally difficult to forecast. In the case of the CNB forecasts published since 2009, the average absolute deviation of the actual exchange rate from the CNB forecast was just below CZK 0.5/EUR on average at the one-quarter horizon and about CZK 1.1/EUR at the one-year horizon. Before the exchange rate commitment was adopted, the forecasts on average expected the koruna to be stronger at both the one-quarter and one-year horizon than it subsequently turned out to be (see Chart 2). In the period of 2012–2013, the CNB's communication of the possible use of the exchange rate as a monetary policy instrument contributed to these deviations, fostering a gradual weakening of the koruna. The subsequent introduction of the exchange rate commitment in November 2013 and the related sharp depreciation to CZK 27 to the euro were not anticipated by the CNB's earlier forecasts, so the exchange rate outlooks consistent with those forecasts were heading towards stronger levels. By contrast, in the period before the global financial and economic crisis, and also in 2009–2010, the actual exchange rate usually deviated from the CNB's forecasts to the stronger side.

Although the exchange rate forecast may not materialise, it gives market participants a guide to the future monetary policy stance. A deviation of the actual exchange rate from the forecasted path points to a need to change the outlook for the interest rate component of the monetary conditions. This dependence is captured in the Inflation Report by an exchange rate sensitivity scenario (see section II.4) and in the period between two forecasts by the Graph of Risks to the Inflation Projection (GRIP; see the Annex to Inflation Report III/2011), publication of which will resume in March 2018.

CHART 1 (BOX)

MATERIALISATION OF KORUNA EXCHANGE RATE FORECASTS

The actual exchange rate usually deviates from the forecast, sometimes significantly
(CZK/EUR)

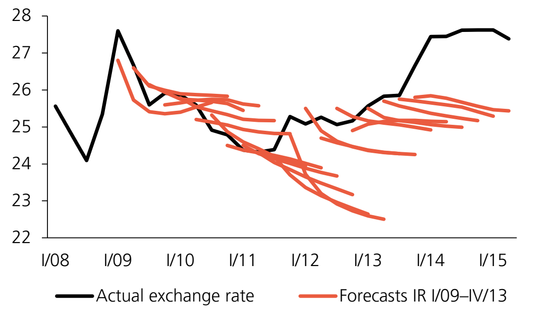


CHART 2 (BOX)

DEVIATIONS OF THE ACTUAL EXCHANGE RATE FROM THE FORECAST

The accuracy of nominal exchange rate forecasts is naturally lower at the one-year horizon than at the one-quarter horizon
(CZK/EUR)

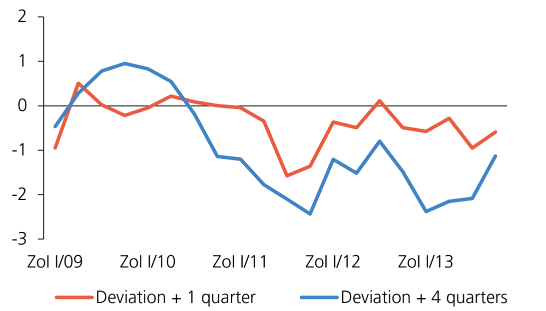
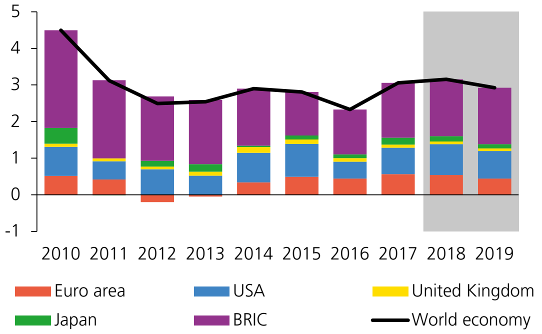


CHART II.1.1

WORLD ECONOMY GROWTH OUTLOOK

The world economy will grow on the back of rising performance of emerging economies and the USA amid solid growth in the euro area
(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 are calculated on the basis of nominal GDP in USD over the period 2010–2015; the BRIC group consists of Brazil, Russia, India and China.

CHART II.1.2

STRUCTURE OF ANNUAL GDP GROWTH IN THE EURO AREA

GDP growth accelerated further in Q3 and was again driven mainly by household consumption and fixed investment
(annual percentage changes; contributions in percentage points; seasonally adjusted; source: Datastream, CNB calculation)

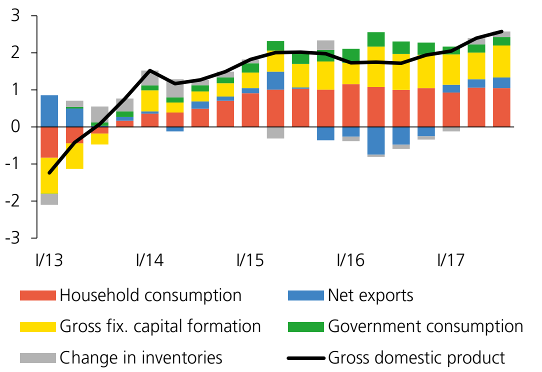
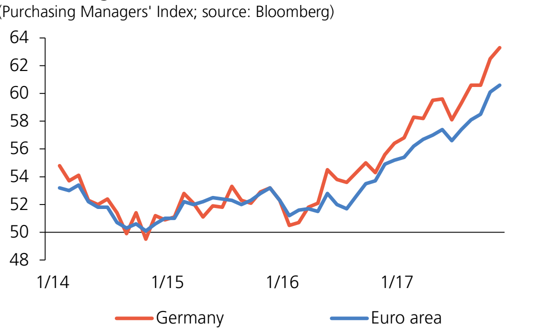


CHART II.1.3

PMI IN MANUFACTURING

The PMI in the euro area and Germany moved to new historical highs
(Purchasing Managers' Index; source: Bloomberg)



II. THE FORECAST, ITS CHANGES AND RISKS

II.1 DEVELOPMENTS ABROAD AND EXTERNAL ASSUMPTIONS OF THE FORECAST

The growth of the world economy will accelerate slightly further this year, whereas a modest slowdown is expected for 2019. The current robust growth in the euro area will slow gradually and will continue to be driven mainly by domestic demand. Growth in industrial producer prices will slacken at the start of this year but will then recover again, owing among other factors to the current growth in oil prices. The ECB is responding to persisting subdued inflation in the euro area with accommodative monetary policy, which will lead to a return of inflation to 2% at the end of the forecast horizon. Likewise, the 3M EURIBOR will not turn positive until the end of next year. The euro's negative interest rate differential vis-à-vis the dollar rate will widen further this year and start to narrow again in 2019. Despite this, the euro-dollar rate will remain broadly stable according to analysts' outlooks.

II.1.1 Economic developments abroad

The growth of the world economy will build on last year's solid result and accelerate slightly further this year.[2] The world economy is growing due mainly to the contribution of emerging markets, but robust growth can also be seen in the other monitored territories. The USA grew at a solid pace in 2017 despite tighter Fed monetary policy and hurricane damage. This year, growth will additionally be supported by the approved tax reform. Despite Brexit-related uncertainty, the UK economy also recorded growth, mainly on account of a weakening of the pound, which is favourably affecting exports. The economies of Japan, the euro area and China accelerated slightly. Russia and Brazil emerged from several-year recessions. Their performance was supported by higher commodity prices. Overall, the weighted growth of all the monitored economies rose by 0.8 percentage point in 2017. It will reach around 3% again this year and the next (see Chart II.1.1).

The euro area economy is growing for the fifth consecutive year, with all demand components having made positive contributions in 2017 (see Chart II.1.2). In year-on-year terms, euro area GDP growth accelerated to 2.6% in 2017 Q3, owing mainly to higher contributions from investment and net exports. However, the growth is still being driven above all by private domestic demand, supported by accommodative monetary policy, favourable labour market developments and improving sentiment. Government consumption also made a positive contribution to the growth. Quarterly GDP growth slowed somewhat to 0.6%.

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

At the close of 2017, the euro area economy continued to show the robust growth it had recorded in Q3. Companies' production rose apace, as indicated by the PMI in manufacturing (see Chart II.1.3). In December, this index reached its highest level (60.6) since records began in 1997. Industrial production increased by 3.2% year on year in November. The labour market situation is also favourable. The unemployment rate dropped to 8.7% in November, the lowest level since 2008. On the other hand, the available data do not suggest a strong recovery in wage growth, which reached just 1.6% year on year in 2017 Q3. This notwithstanding, household consumption is rising at a solid pace, as signalled by confidence indicators and by retail sales, which rose by 2.7% in November.

GDP growth in the effective euro area[3] will gradually slow towards 2% (see Chart II.1.4). In early 2018, it will build on last year's high growth,[4] which accelerated towards 3% at the year-end, thanks mainly to fast growth of the German economy. However, this pace will gradually slacken and economic activity in the effective euro area for this year as a whole will rise by 2.3%. Next year it will slow further to 2%. Slightly lower growth rates are expected in the euro area proper.

II.1.2 Price developments abroad

Increased geopolitical risks, a decline in global stocks and strong demand led to a rise in the Brent crude oil price to USD 70 a barrel (see Chart II.1.5). The EIA estimates that global oil stocks fell in 2017 for the first time since 2013, in line with the price increase recorded in the second half of the year. The strong upswing in oil prices since mid-December was also due to shutdowns of key oil pipelines, demonstrations in Iran (although they have not affected that country's output and exports so far) and freezing weather in North America. The growth in oil prices was also supported by a weakening dollar and the building of net long positions by hedge funds. Renewed growth in global stocks is expected this year and the next. The EIA therefore expects Brent crude oil prices to decrease gradually during 2018 Q1 and then stabilise close to USD 60 a barrel. The market futures curve is still downward-sloping and implies an average price of USD 66 a barrel this year and USD 62 a barrel in 2019. Growth in oil demand is expected to remain

3 For the purposes of the forecast, external real and price developments are proxied by effective euro area indicators (see also the *Glossary*). In these indicators, the Czech Republic's major trading partners (especially Germany and Slovakia) have larger weights (50% and 14% respectively) than their shares in the euro area proper (the weights used in the calculation of the effective indicators are equal to the shares of the euro area countries in total Czech exports to the euro area). The outlooks for GDP, PPI and CPI in the individual euro area countries are based on the January Consensus Forecasts (CF). The outlooks for government bond yields, the euro-dollar exchange rate and the NEER 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 prices of market contracts as of 8 January 2018. The outlook is indicated by the grey areas in the charts. This convention is used throughout this Report.

4 The forecast for 2017 has undergone an upward expert adjustment of 0.1 percentage point relative to the CF forecast to account for the current rapid growth in the euro area.

CHART II.1.4

EURO AREA GDP GROWTH OUTLOOK

Growth in economic activity in the effective euro area is peaking at its highest rates in six years and will gradually return towards 2%
(annual percentage changes; seasonally adjusted)

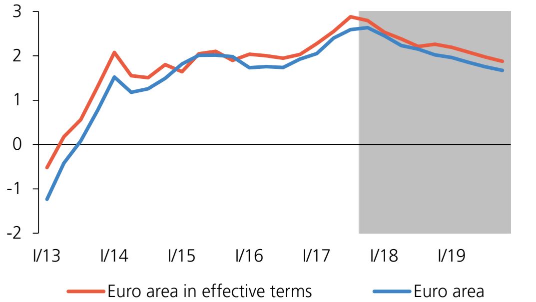


CHART II.1.5

PRICES OF CRUDE OIL AND OTHER COMMODITIES

Owing to the marked increase in current prices, the negative slope of the market curve derived from Brent futures has increased; gas prices are responding with a lag
(oil in USD/barrel; other commodities: index [January 2013 = 100]; natural gas [Russian in Germany]; source: Bloomberg, IMF, CNB calculation)

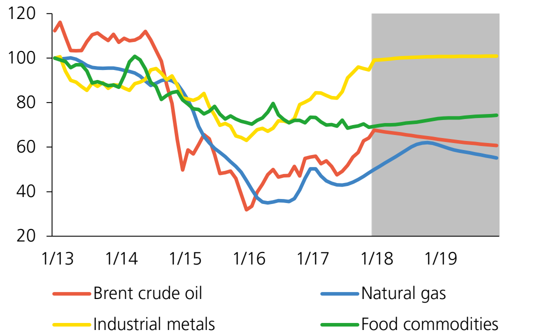
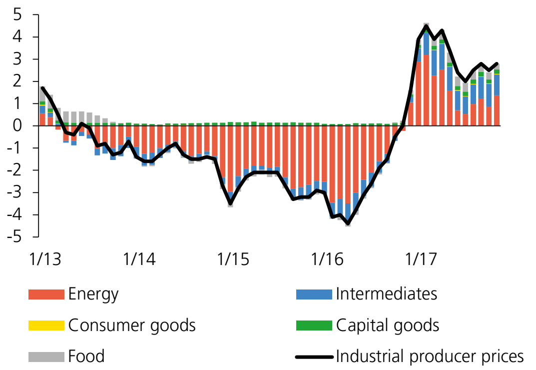


CHART II.1.6

INDUSTRIAL PRODUCER PRICES IN THE EURO AREA

Industrial producer price inflation went up in November owing chiefly to the 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 slow further in 2018 Q1, but will then accelerate again
(year on year in %; seasonally adjusted)

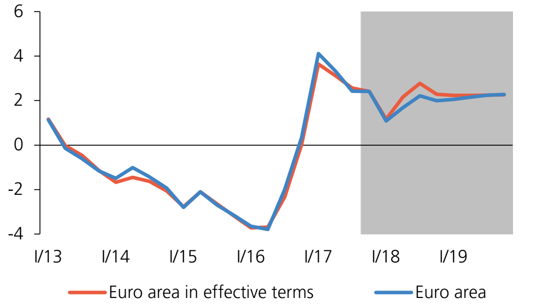
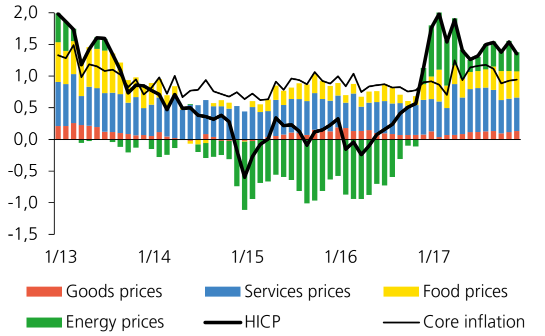


CHART II.1.8

INFLATION IN THE EURO AREA

Inflation has so far been driven by prices of services, food and energy
(annual percentage changes; contributions in percentage points; source: Eurostat, CNB calculation)

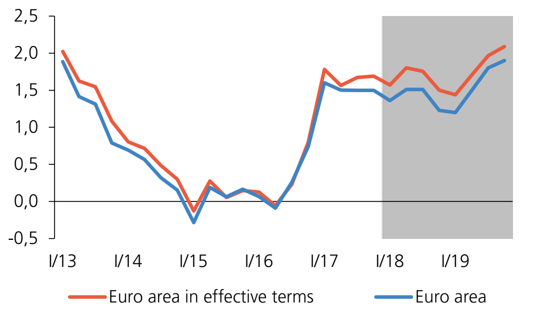


Note: Core inflation is calculated on the basis of the HICP excluding prices of energy, food, alcohol and tobacco.

CHART II.1.9

CONSUMER PRICE INFLATION OUTLOOK IN THE EURO AREA

Inflation will not approach 2% until the end of 2019
(HICP; year on year in %; seasonally adjusted)



strong this year, but global production is expected to rise even faster, driven mainly by extraction in the USA, Canada and Brazil.

Following a modest decrease in December, the aggregate non-energy commodity price index returned to an upward trend in January 2018. Both sub-indices contributed to this change (see Chart II.1.5). The food commodity price sub-index more or less remains close to its lowest level since 2010. However, its outlook is rising, and this is contributing in large part to a rising outlook for the aggregate index. After a temporary swing in December, the industrial metals price sub-index recorded strong growth in January, reaching its highest level since February 2013. Prices of industrial metals continue to be supported by a weak dollar and a favourable outlook for manufacturing. However, their outlook indicates broad stability close to current levels.

Euro area industrial producer price inflation went up in November owing to faster growth in energy prices. It stood at 2.8% year on year (see Chart II.1.6). Adjusted for energy prices, however, it slowed slightly. Compared to the previous month, producer price inflation in the Czech Republic's main trading partner countries – Germany and Slovakia – fell to 2.3% and 2.4% respectively, running counter to the euro area average.

Annual industrial producer price inflation will slow at the start of this year, but will then recover (see Chart II.1.7). The outlook for this year primarily reflects the current high oil price and the robust growth in euro area economic activity. Overall, the effective indicator of producer prices will rise by 2.1% in 2018 and grow at a similar pace in 2019.[5] The same indicator for the euro area proper will follow a similar course at a rather lower level.

Consumer price inflation in the euro area remained broadly stable in Q4. In December it edged down to 1.4% (see Chart II.1.8), thus staying below the ECB's definition of price stability. This subdued growth in consumer prices was driven by prices of services, food and energy. Core inflation was stable at 0.9% in December.

The effective indicator of consumer price inflation in the euro area will not reach 2% until the end of the forecast horizon (see Chart II.1.9). Inflation in the Czech Republic's main trading partner countries will be higher than in the rest of the euro area, so the effective inflation indicator will exceed the standard indicator for the euro area as a whole. The standard indicator will remain slightly below the ECB's target at the end of 2019.

5 The prediction for 2018 and 2019 has undergone an upward expert adjustment compared to the CF and EIU forecasts. The extent of this increase is 0.5 percentage point on aggregate, as we expect stronger cost pressures stemming from high economic growth.

II.1.3 Financial developments abroad

According to the market outlook, the 3M EURIBOR interest rate will not turn positive until the end of 2019 (see Chart II.1.10). The outlook reflects the ECB's intention to leave its key rates at the current levels for an extended period of time past the horizon of the asset purchase programme. The asset purchase programme was reduced from EUR 60 billion to EUR 30 billion a month in January 2018, but an extension of the programme until at least September this year was announced at the same time.[6] The market outlook for rates is the same as the analysts' predictions in the January CF, which expect the 3M EURIBOR to be at -0.3% at the three-month horizon and -0.2% at the 12-month horizon. According to the January CF, the ten-year German government bond yield will start to go up in mid-2018 and will increase by more than 1 percentage point over the next two years (see Chart II.1.11)

A further expected tightening of US monetary policy is reflected in a rising path of the 3M USD LIBOR according to the market outlook (see Chart II.1.10). In December 2017, the US central bank raised the target range for its policy rate by 25 basis points to 1.25%–1.50%. A further three 25 basis point increases can be expected in 2018 according to the FOMC members' median estimates. The current market outlook expects the 3M USD LIBOR to go up gradually to 2.4% at the end of 2019. The January CF expects the ten-year US government bond yield to rise to 3.4% (see Chart II.1.11). The yield differential vis-à-vis German government bonds of the same maturity should thus be around 2 percentage points.

The CF outlook expects the euro-dollar rate to stand just below USD 1.20 to the euro (see Chart II.1.12). The euro depreciated temporarily after the ECB announced a further extension of its asset purchase programme in October, but the European currency was supported at the end of 2017 by a series of positive economic news from euro area countries. The euro strengthened against the dollar to its strongest level in three years (USD 1.22 to the euro). This was also caused by the publication of the minutes of the December ECB meeting, which indicated greater confidence in the economic recovery and a possible change in the central bank's communication this year. According to the January CF outlook, the exchange rate will stand at USD 1.19 to the euro over the next two years. In nominal terms, the euro is expected to appreciate modestly against the currencies of the euro area's main trading partners.

6 As in previous forecasts, this prediction takes into account the ECB's asset purchase programme through expert adjustments using shadow interest rates, which are lower than market rates. This effect gradually decreases over time and will fade out completely in mid-2019.

CHART II.1.10

3M EURIBOR AND 3M USD LIBOR

The spread between 3M rates in the USA and the euro area will increase further until the end of 2018 due to continued normalisation of the Fed's monetary policy
(in %, differences in percentage points)

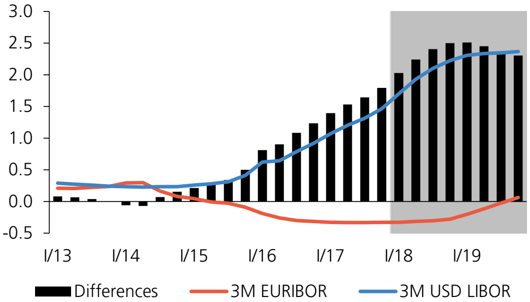


CHART II.1.11

10Y GOVERNMENT BOND YIELDS

The ten-year government bond yield in the USA will significantly exceed the Bund yield over the next two years
(in %, differences in percentage points)

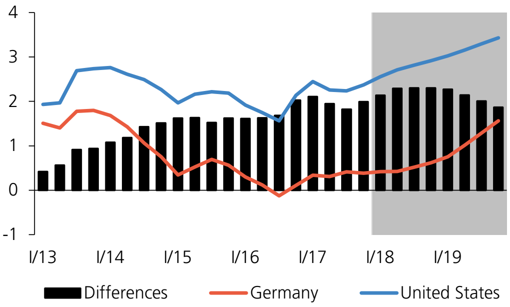
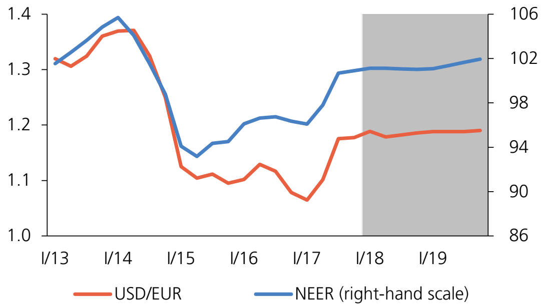


CHART II.1.12

EURO EXCHANGE RATE

The outlook for the euro-dollar exchange rate lies just below USD 1.2 to the euro until the end of 2019
(USD/EUR, NEER of euro against currencies of euro area countries' 18 main partners; 2012 Q1 = 100; right-hand scale)



II.2 THE FORECAST

The currently strong inflation pressures, stemming from faster growth of the domestic economy and wages, will ease gradually. In 2018, this will be due mainly to a strengthening anti-inflationary effect of import prices. At the same time, the one-off price factors that increased inflation last year will fully disappear. However, faster growth in administered prices will help headline inflation stay above the 2% target this year. Inflation will be just below the target over the monetary policy horizon. The economy will continue to be supported by solid growth in external demand, robust household consumption and strong investment activity. The GDP growth rate will decrease compared to last year, but will remain above 3%. Rising labour demand coupled with an increasingly distinct shortage of available labour will manifest itself in continued rapid wage growth. According to the forecast, the koruna will appreciate further, owing mainly to monetary policy being tightened sooner in the Czech Republic than in the euro area and to continuing long-term real convergence. Besides appreciation of the currency, a further increase in interest rates will ensure that inflation returns very close to the target.

TABLE II.2.1

FORECASTS OF SELECTED VARIABLES

The overall economic outlook is positive

(annual percentage changes unless otherwise indicated)

	2016 actual	2017 forecast	2018 forecast	2019 forecast
Headline inflation	0.7	2.5	2.3	1.9
GDP	2.5	4.5	3.6	3.2
Average nominal wage	3.7	6.9	7.4	4.9
Exchange rate (CZK/EUR)	27.0	26.3	24.9	24.5
3M PRIBOR (in %)	0.3	0.4	0.9	1.7

Note: The 2017 figures for headline inflation, the exchange rate and the 3M PRIBOR are actual data.

CHART II.2.1

HEADLINE INFLATION AND MONETARY POLICY-RELEVANT INFLATION

Inflation will stay in the upper half of the tolerance band around the 2% target this year and be just below it next year

(annual percentage changes)

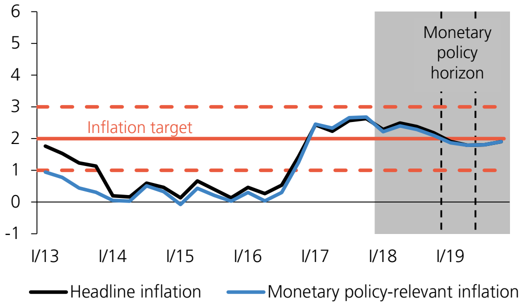
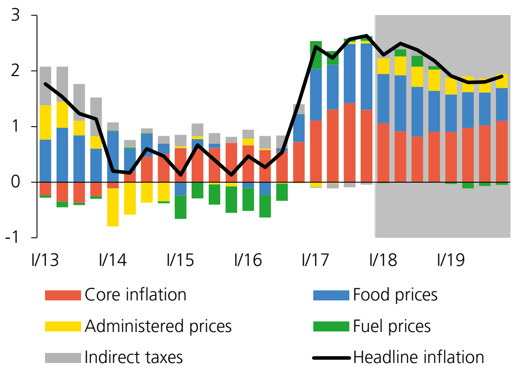


CHART II.2.2

STRUCTURE OF INFLATION AND THE INFLATION FORECAST

Core inflation and food prices will remain the main contributors to inflation; they will be joined by administered prices to a lesser extent

(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.

II.2.1 Inflation and monetary policy

Inflation will stay above the 2% target this year and return to it at the start of the monetary policy horizon (see Chart II.2.1). The increase in prices is currently due above all to core inflation and food prices (see Chart II.2.2). The gradual slowdown in inflation in 2018 will reflect the anti-inflationary effect of import prices as a result of a strengthening of the koruna and also an unwinding of one-off factors. By contrast, domestic inflation pressures from the labour market will remain strong. The contribution of growth in administered prices will rise this year but fall back slightly in 2019. This will cause inflation to move just below the target in 2019. Monetary policy-relevant inflation, i.e. inflation adjusted for the first-round effects of changes to indirect taxes, will be almost the same as headline inflation.[7]

Core inflation will slow this year owing to an unwinding of one-off factors and appreciation of the koruna. These anti-inflationary factors will be partly offset by the impact of rising domestic demand and wages. The price effects of the introduction of electronic sales registration (ESR) will fully disappear from growth in prices in restaurants and cafés. The price growth in this consumer basket category, which had already slowed in late 2017, will therefore slacken further. The contribution of imputed rent will also decline owing to an expected

7 The impact of indirect tax changes on headline inflation will be around 0.1 percentage point in 2018. The forecast incorporates the increases in excise duty on tobacco products introduced at the start of 2017 and 2018 and the fading effect of the reduction in the VAT rate on newspapers and magazines from 15% to 10% (effective 1 March 2017). The forecast assumes no changes to indirect taxes in 2019.

slowdown in new apartment prices.[8] By contrast, growth in prices of other services will surge on the back of inflation pressures from the domestic economy. Growth in tradables prices within core inflation will continue to be dampened by appreciation of the koruna and a temporary dip in the non-energy component of foreign producer price inflation. During 2019, core inflation will start to rise gradually back towards 2% (see Chart II.2.3), reflecting renewed growth in import prices.

The currently high food price inflation will fall owing to an expected slowdown in the rapid growth in agricultural commodity prices. Appreciation of the koruna will also act in this direction this year. In 2019, the forecast expects a further gradual decline in food price inflation to 2% (see Chart II.2.3).

Fuel prices will see renewed growth this year, but will decline slightly year on year in 2019. According to short-term indicators,[9] fuel prices were flat or rising slightly in January 2018 compared to previous months. In the period ahead, they are expected to rise faster in connection with the observed oil price growth, which will be only partly offset by appreciation of the koruna against the dollar. In 2019, the forecast expects a year-on-year drop in fuel prices owing to an expected decline in world prices of oil and petrol (see Chart II.2.3).

Administered prices will start rising again this year, owing mainly to an increase in electricity prices. The negative contributions of gas and heat prices to administered price inflation will fully disappear during 2018 Q1. The forecast also predicts the other components of administered prices (water supply and sewerage collection charges, transport prices and waste collection charges) to record an increase in growth at the start of 2018. This will imply a rise in annual administered price inflation to 2% in the first few months of this year. Administered prices are expected to pick up slightly further in the second half of the year and go up by 2.1% on average in 2018 as a whole (see Table II.2.2). In 2019, administered price inflation will slow somewhat owing to an expected drop in growth of gas and electricity prices.

According to the forecast, the koruna will appreciate further. The exchange rate forecast for 2018 Q1 expects a further slight appreciation to an average of CZK 25.4 to the euro. The forecasted appreciation in the rest of this year will mainly reflect a widening of the interest rate differential vis-à-vis the euro area and the impact of continued asset purchases by the ECB until September 2018. Ongoing real convergence of the Czech economy towards the euro area countries, associated with rising labour productivity, will act in the same direction. Next year, the koruna will firm only modestly to around CZK 24.5 to the euro (see

8 This slowdown will be due to macroprudential policy measures leading to a tightening of credit conditions for new mortgages, a gradual increase in interest rates and a recovery in construction of new apartments.

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

CHART II.2.3

COMPONENTS OF INFLATION

Food price inflation and core inflation will go down this year, due, among other things, to appreciation of the koruna
(annual percentage changes)

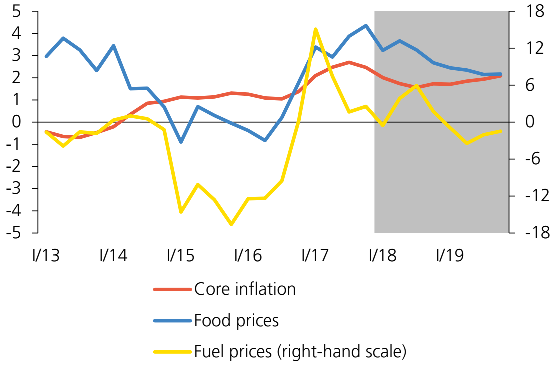


TABLE II.2.2

FORECAST OF ADMINISTRATIVE EFFECTS

Administered prices will pick up, driven by all components
(annual average percentage changes; contributions to headline inflation in percentage points)

	2016 actual		2017 actual		2018 forecast		2019 forecast	
ADMINISTERED PRICES[a)]	0.2	0.03	0.0	0.00	2.1	0.34	1.7	0.28
of which (main changes):								
electricity	1.2	0.06	0.3	0.01	3.0	0.14	2.0	0.09
natural gas	-4.7	-0.13	-2.8	-0.08	1.8	0.05	0.1	0.00
heat	1.0	0.02	-1.6	-0.03	1.0	0.02	1.7	0.03
water	1.4	0.01	1.4	0.01	2.0	0.02	1.9	0.02
health care	3.6	0.04	4.4	0.05	2.7	0.03	2.5	0.03

a) Including effects of indirect tax changes

CHART II.2.4

EXCHANGE RATE FORECAST

According to the forecast, the koruna will appreciate further, especially in the next few quarters
(CZK/EUR and CZK/USD)

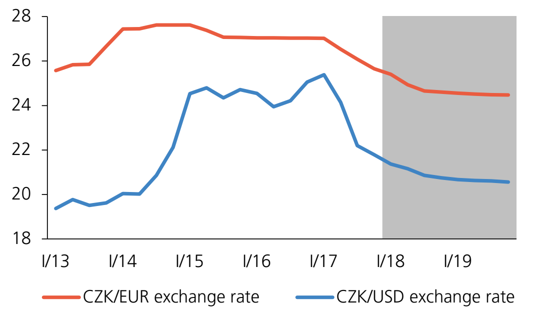


CHART II.2.5

INTEREST RATE FORECAST

Consistent with the forecast is a further rise in domestic market interest rates this year and especially next year
(percentages)

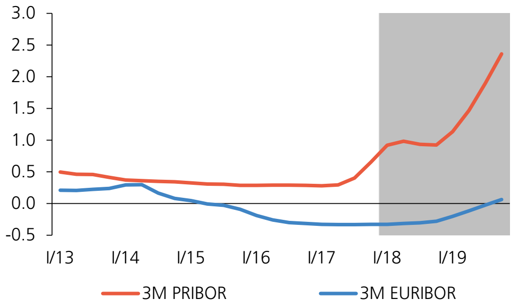


CHART II.2.6

COSTS IN THE CONSUMER SECTOR

Inflation pressures will ease this year, reflecting anti-inflationary import prices and later also a slowdown in domestic cost growth
(nominal quarterly percentage changes; contributions in percentage points; annualised)

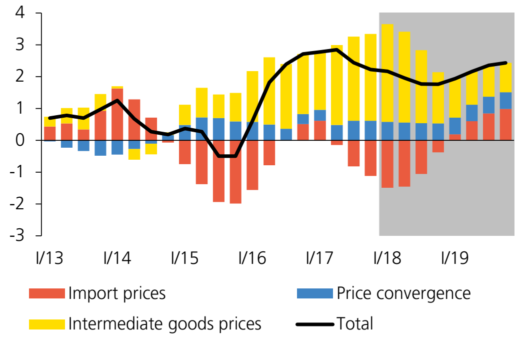


CHART II.2.7

COSTS IN THE INTERMEDIATE GOODS SECTOR

Domestic costs will grow at a slower pace than at present, due mainly to slowing growth in wages and the price of capital
(nominal quarterly percentage changes; contributions in percentage points; annualised)

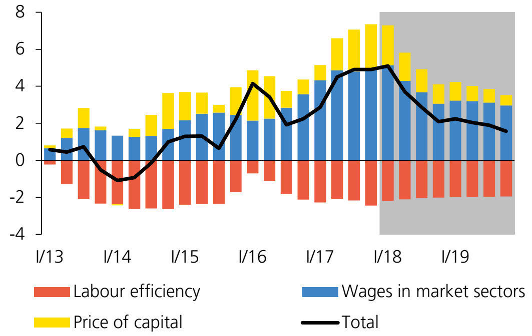


Chart II.2.4). This marked slowdown in its appreciation trend will reflect, among other factors, the assumed shift of ECB monetary policy towards normal during 2019.

Interest rates will rise further; this, coupled with appreciation of the koruna, will ensure that inflation returns to the target (see Chart II.2.5). The rise in interest rates will be slowed in 2018 by continued very accommodative ECB monetary policy, which will add to the appreciation pressures on the koruna. During 2019, domestic interest rates will converge smoothly to their assumed long-run neutral level (i.e. 3% for the 3M PRIBOR), owing, among other things, to foreign rates turning positive again. The forecast meanwhile implicitly assumes that the ECB's interest rates will shift to equilibrium at a faster pace in 2019 than suggested by the current market outlook.

II.2.2 Costs and the labour market

The overall inflation pressures remain strong, although they are being dampened by the anti-inflationary effect of import prices. Growth in nominal marginal costs in the consumer goods sector is gradually slowing (see Chart II.2.6), but remains above its long-run equilibrium rate. This is due mainly to strong pressures from the domestic economy, which are continuing to increase. By contrast, the anti-inflationary effect of import prices is gradually strengthening due to appreciation of the koruna coupled with slower growth in the non-energy component of foreign producer prices. The decline in import prices will intensify further in the short term but then gradually weaken. Next year, import prices will make a positive contribution to the total cost pressures, reflecting renewed growth in foreign producer prices and slower appreciation of the koruna. The upward pressures on prices from the domestic economy are currently peaking as a result of growing labour market tightness and faster economic growth. They will then start to decline gradually, partly in response to tightening monetary conditions. Growth in total costs will therefore slow to just below 2%. The contribution of price convergence to growth in costs will be positive in the long run. Growth in total nominal marginal costs will pick up pace again as import prices start rising in early 2019.

The currently robust domestic inflation pressures, reflecting an overheating economy and labour market, will ease. Growth in domestic nominal marginal costs in the intermediate goods sector will remain high at the start of 2018. This is due to rapid nominal wage growth in market sectors and also to an accelerating price of capital, reflecting the upward phase of the business cycle. However, these inflationary pressures are partly dampened by increasing labour efficiency, reflecting significant growth in private investment. A gradual slowdown in wage growth and economic activity towards their long-term equilibrium levels, fostered also by monetary policy tightening, will emerge in 2018 Q2. Growth in domestic costs will thus moderate to just below 2% in 2019 (see Chart II.2.7).

Employment growth will slow due to a shortage of available labour force. Nevertheless, employment growth will remain at high levels until mid-2018 (see Chart II.2.8). Growing tightness in the labour market, linked with a very low unemployment rate, will be reduced only partially by growth in the labour force. The latter will continue to be fostered by a gradual increase in the statutory retirement age. In addition, growth in the number of employees converted into full-time equivalents will slacken. This will be due to slowing growth in the number of employees, which, moreover, will be accompanied until mid-2018 by a slight decline in average hours worked. Average hours worked will start to increase in mid-2018 as a result of an exhausted labour market.

The now very low unemployment rate is preventing unemployment from falling significantly further. The general unemployment rate will thus go down only slightly, nearing 2% in 2019 (see Chart II.2.8). The forecast also expects a further decline in the share of unemployed persons. This will reflect a continued decrease in the number of registered job applicants amid a gradual decline in the population aged 15–64.

The tightness in the labour market will keep wage growth in market sectors at a high level. According to the forecast, wage growth picked up at the end of 2017. This was probably due in part to a higher contribution of bonuses. A further increase in the minimum wage will also foster continued fast wage growth at the beginning of this year.[10] Due to these factors, wage growth in market sectors will be only just below 8% in late 2017 and early 2018 (see Chart II.2.9). Later, it will slow gradually to close to its assumed long-term level of 5%, due, among other things, to tightening monetary conditions and firms' efforts to maintain price competitiveness. At the same time, the forecast predicts strong wage growth in non-market sectors this year. This reflects a wage increase by the government in November 2017. Teachers' pay rose by 15% and remaining public sector wages by 10%. This will lead to stronger year-on-year growth in wages in non-market sectors for most of this year. However, the forecast expects no repeat of this sizeable rise in wages next year, and wage growth in the non-market segment of the economy will slow to just above 4%.

II.2.3 Economic activity

GDP growth will gradually return to 3% from the high levels reached last year. The robust domestic economic activity is being driven mainly by accelerating growth in household consumption, which was joined by strong investment growth during 2017. Both components of demand reflect persisting optimism of consumers and firms in an

10 The minimum wage was increased from CZK 11,000 to CZK 12,200 in January 2018. This will foster an increase in the average wage in market sectors of around 0.4 percentage point.

CHART II.2.8

LABOUR MARKET FORECAST

Total employment will continue to rise, although at a substantially slower pace than before, while the decline in the unemployment rate will moderate

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

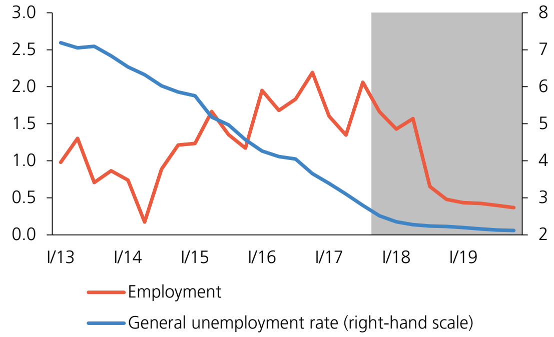


CHART II.2.9

AVERAGE NOMINAL WAGES

Wage growth will pick up further in market and non-market sectors, peaking in early 2018

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

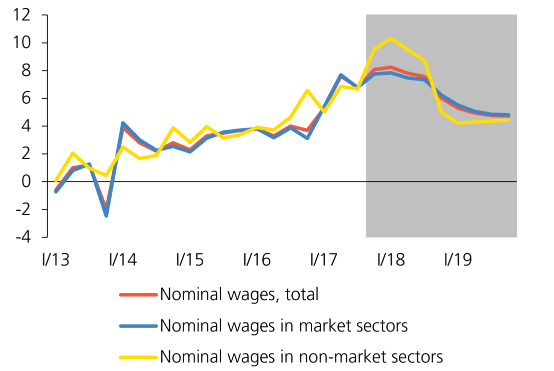


CHART II.2.10

ANNUAL GDP GROWTH STRUCTURE

Consumption and investment will contribute to GDP growth over the entire forecast horizon; the contribution of net exports will be negative this year

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

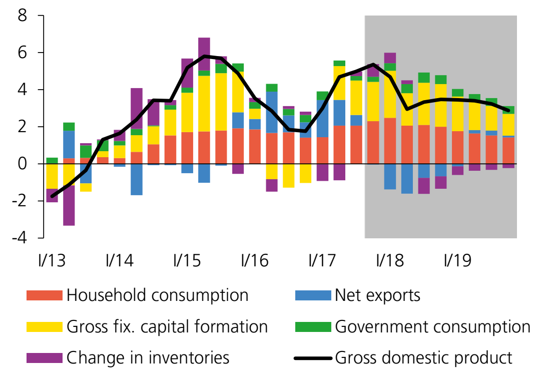


CHART II.2.11

REAL HOUSEHOLD AND GOVERNMENT CONSUMPTION

Household consumption growth will peak in late 2017 and early 2018; real government consumption will increase more moderately

(annual percentage changes; seasonally adjusted)

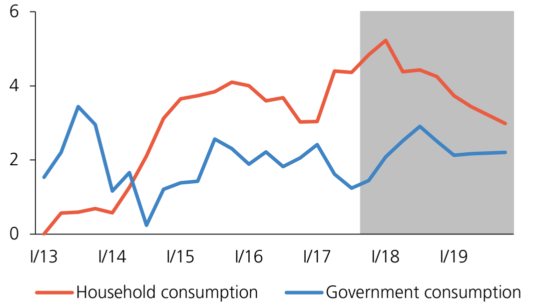
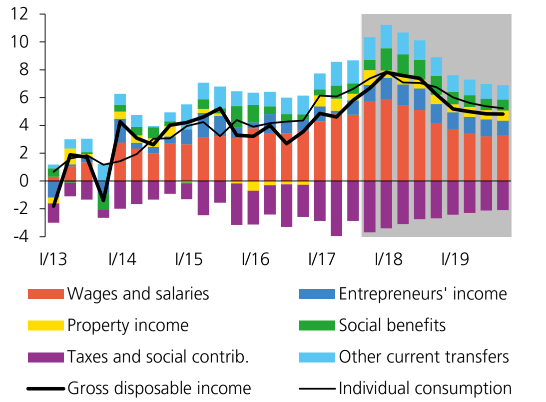


CHART II.2.12

NOMINAL DISPOSABLE INCOME

The high growth in disposable income will be a result of substantial growth in wages and salaries and other income

(annual percentage changes; contributions in percentage points)



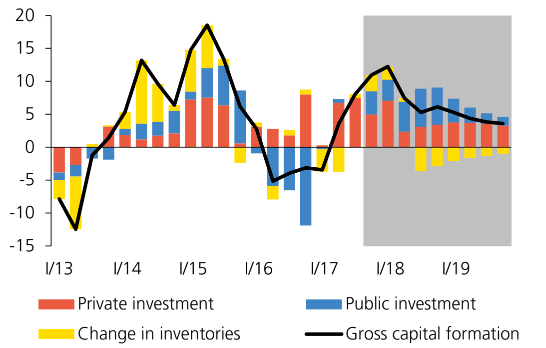
Note: Entrepreneurs' income comprises gross operating surplus and mixed income.

CHART II.2.13

INVESTMENT DECOMPOSITION

Investment will rise significantly due to continued growth in private investment and renewed drawdown of EU funds in the government sector

(annual percentage changes; contributions in percentage points; constant prices; seasonally adjusted; source: CZSO; contributions of private and government investment: CNB calculation)



environment of still low interest rates, buoyant growth in external demand and related positive expectations regarding future economic growth. Consumption growth is also being boosted considerably by rapid growth in wages and salaries, reflecting growing tightness on the labour market, which also seems to be motivating firms to invest more in machinery and equipment. The above two components of domestic demand are also expected to make large positive contributions this year and the next. By contrast, net exports will dampen GDP growth in 2018. This is linked with further appreciation of the koruna and a pronounced, import-increasing rise in domestic demand. The contribution of net exports will turn positive again in 2019 (see Chart II.2.10). GDP will grow by 3.6% overall in 2018 and slow to 3.2% in 2019.

The strong household consumption growth will reflect a rapid rise in wages and salaries and other income. According to the forecast, annual household consumption growth picked up further at the end of 2017 and will exceed 5% at the start of 2018 (see Chart II.2.11). Household expenditure will be driven by a further increase in disposable income growth connected with rising wages and salaries and increasing income of entrepreneurs (see Chart II.2.12). Pensions and social benefits will also increase. Consumption growth will average 4.6% this year and slow to 3.3% next year. This will reflect gradually slowing growth in wage income amid rising interest rates.

Real government consumption will continue to grow, mainly due to growth in current expenditure and wage growth in the government sector. Its pace will accelerate above 2% this year and stay there in 2019 (see Chart II.2.11). Nominal government consumption will be driven mainly by a sizeable increase in compensation of employees in the government sector at the end of 2017, but will be reduced significantly in real terms by an increase in the government consumption deflator.

Growth in gross capital formation will accelerate further owing to a recovery in government investment amid a continued rise in private investment. The switch of investment to positive growth in 2017 was fostered mainly by an upswing in private investment in the business sector, which is fostering an increase in labour efficiency. At the same time, the fall in government investment faded away. Growth in private investment will decrease modestly in the coming quarters, but will remain solid over the entire forecast horizon (see Chart II.2.13). It will be boosted by growth in external demand and a tight labour market. By contrast, it will be dampened by a gradual increase in interest rates. Government investment will pick up significantly this year due to higher drawdown of EU funds. Growth in total investment will thus reach almost 8% this year. Given the higher comparison base for drawdown of EU funds, government investment growth will not be as high in 2019, so growth in total investment will slow again. The positive contribution of additions to inventories will gradually disappear, turning negative this year and staying negative next year.

Growth in exports of goods and services will weaken at first but will later return to rates consistent with external demand. The temporary decline in export growth in the first half of 2018 will be due, among other things, to slower growth in demand in the automotive industry. However, this effect will gradually fade away and exports of goods and services will accelerate again. The barriers of a shortage of available labour force and a hampering effect of the appreciating koruna also seemed to start having a more visible effect in late 2017 and early 2018. Exports of goods and services will thus grow by more than 6% in 2018 (see Chart II.2.14) and more than 8% in 2019.

The upswing in aggregate domestic demand will result in a further increase in import growth. It will be driven mainly by surging investment, which is strongly import-intensive. It will also reflect robust household consumption. Imports of goods and services will grow by almost 9% this year. They will rise at a similar rate next year, too (see Chart II.2.14).

The contribution of net exports to GDP growth will be temporarily negative this year due to a recovery in investment and appreciation of the koruna. The positive contribution of net exports decreased last year and faded out completely at the year-end according to the forecast. It will turn distinctly negative this year as imports outpace exports. This will be due largely to growth in import-intensive investment, especially in the private sector, along with robust household consumption. The contribution of net exports to annual GDP growth will thus be around -1 percentage point in 2018 as a whole. It will return to slightly positive levels in 2019.

II.2.4 The balance of payments

The current account surplus probably fell slightly in 2017 compared to 2016, due mainly to growth in the secondary income deficit. According to the forecast, the current account surplus totalled CZK 45 billion (see Table II.2.3), or 0.9% of GDP. The trade surplus recorded a slight year-on-year decline due to higher oil prices. The services surplus conversely increased, mainly as a result of a rise in credits from manufacturing services and other services and an improved transport balance. By contrast, a decline in the travel surplus reduced the services surplus. A small year-on-year fall in the primary income deficit was associated with an expected modest decrease in the investment income deficit. Sharp growth in the secondary income deficit due to a fall in income from EU funds and a rise in other transfers abroad was the strongest factor fostering a decrease in the current account surplus.

The forecast expects the current account surplus to increase slightly this year. However, the forecasted surplus will stay just below 1% of GDP. The goods surplus will remain at the 2017 level, with a slight improvement in the terms of trade for machinery and equipment being offset by an increase in energy prices and faster growth in domestic demand. The services surplus will rise somewhat, mainly on account of growth in the other services surplus. The secondary income deficit will

CHART II.2.14

REAL EXPORTS AND IMPORTS

Growth in both exports and imports will reach high rates, reflecting the positive external demand outlook on the one hand and strong domestic demand on the other

(annual changes in per cent and CZK billions; seasonally adjusted)

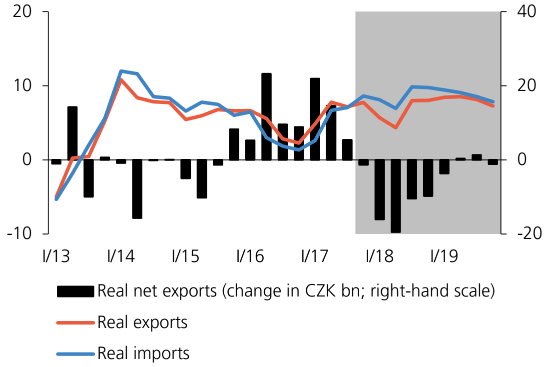


TABLE II.2.3

BALANCE OF PAYMENTS FORECAST

The current account surplus will record no major changes in 2017–2019

(CZK billions)

	2016 actual	2017 exp. outcome	2018 forecast	2019 forecast
A. CURRENT ACCOUNT	52.6	45.0	50.0	45.0
Goods	250.6	245.0	245.0	255.0
Services	101.1	115.0	120.0	125.0
Primary income	-271.8	-265.0	-280.0	-300.0
Secondary income	-27.3	-50.0	-35.0	-35.0
B. CAPITAL ACCOUNT	53.5	45.0	30.0	30.0
C. FINANCIAL ACCOUNT[a]	117.7	1050.0	-90.0	-55.0
Direct investment	-141.0	-145.0	-80.0	-70.0
Portfolio investment	-169.4	-55.0	-65.0	-45.0
Financial derivatives	11.3	-	-	-
Other investment	-146.7	-10.0	-40.0	-40.0
Reserve assets[b]	563.5	1260.0	95.0	100.0

a) forecast excluding operations of banking sector and financial derivatives
b) In addition to the other surpluses, the net capital inflow via the banking sector is a counterpart of growth in reserves in 2017. It amounted to CZK 737.5 billion in 2017 Q1–Q3.

meanwhile decrease due to higher net drawdown of EU funds. The rise in the current account surplus will be moderated by an increasing primary account deficit. It will result from growth in the direct investment income deficit.

A return of the current account surplus to the 2017 level is forecasted for next year, due to growth in non-residents' investment earnings. The surplus will amount to 0.8% of GDP. A continuing improvement in the output balance will mainly reflect slower growth in domestic demand and to a lesser extent also a fall in energy commodity prices on global markets. However, the total extent of this improvement will be reduced by the effect of appreciation of the koruna on domestic exports. Conversely, rising direct investment earnings of non-residents will foster a lower current account surplus.

The capital account surplus will continue to be affected mainly by drawdown of EU funds. Last year's balance was significantly affected by final payments for the 2007–2013 programme period. This one-off factor will disappear this year and the current account surplus will decrease to around CZK 30 billion, where it will stay in 2019.

The financial account was affected in 2017 by the massive inflow of short-term capital observed before the exchange rate commitment was ended. It was channelled mainly into Czech government bonds and koruna deposits by non-residents in domestic banks and gave rise to an extraordinary increase in the CNB's international reserves. There were relatively significant shifts between koruna assets held by non-residents in the second half of the year. Domestic firms' interest in foreign currency loans increased as a result of a higher interest rate differential vis-à-vis the euro and balance-sheet exchange rate hedging.

The amount of financial account transactions will drop significantly this year. The net inflow within the direct investment sub-item will moderate considerably due to a lower inflow of debt capital into the Czech Republic, lower investment by non-residents in property in the Czech Republic and limited acquisitions. The net inflow of portfolio investment will increase slightly. A positive and further increasing interest rate differential of the koruna vis-à-vis the euro and expected appreciation of the koruna should dampen residents' interest in investment abroad while maintaining non-residents' interest in domestic debt securities. In addition, the Czech Ministry of Finance is expected to show renewed interest in foreign currency funding due to a decline in government debt servicing costs. The forecast also incorporates expected banking sector accounting operations at the end of the year aimed at optimising contributions to the Resolution Fund.[11] Turning to other investment, the inflow of capital into the corporate sector will increase

11 These operations are recorded on the other banking sector investment account in the same amount but with the opposite sign.

due to domestic firms' interest in foreign currency loans.[12] The forecasted growth in reserve assets this year reflects expected returns on international reserves and net operations vis-à-vis the EU.

The financial account trends in 2019 will be similar to those seen this year. The net inflow of direct investment will drop slightly due to an expected increase in residents' financial activities abroad. The inflow of portfolio investment will also ease, mainly as a result of non-residents' limited interest in holding government bonds. The inflow of debt capital will be supported by a rising positive differential between domestic and euro area interest rates. The forecasted slightly higher growth in reserve assets than in 2018 is associated with expected growth in returns on the CNB's reserves, whereas net operations vis-à-vis the EU are forecasted to stay at the same level as in 2018.

II.2.5 Fiscal developments

The increasing government budget surpluses primarily reflect growth in tax revenues. According to the CNB's estimate, the general government budget ended last year in a surplus of 1.6% of GDP. The general government surplus will record a similar result both this year and the next (see Table II.2.4). The expenditure side is being affected mainly by a further drop in debt service costs. In addition to the economic growth effect, the general government revenue side is being bolstered by the positive impact of VAT control statements and the first two phases of ESR introduced in recent years and by a further rise in excise duty on cigarettes. By contrast, strong wage growth in the government sector, renewed growth in government investment and faster growth in social spending will increase government expenditure. Social spending will rise due to the launch of a more generous pension indexation scheme and a package of new social measures.[13] The revenue side of the public budgets will be affected slightly negatively by an increase in the tax discount for dependent children.

Positive developments will also be apparent in continued structural surpluses and a further drop in government debt. The general government structural surpluses will exceed 1% of GDP. The medium-term objective of a structural deficit of 1% of GDP will thus be comfortably met at the forecast horizon. Government debt will gradually decline to just below 30% of GDP in 2019 owing to the general government primary surpluses, still low interest rates on government debt and relatively buoyant nominal GDP growth.

Fiscal policy will be expansionary this year (see Table II.2.5). The contribution of fiscal policy to economic activity this year will be distinctly

12 The conversion of these funds into koruna will create room for a gradual exit of non-residents from koruna positions without major impacts on the exchange rate.

13 These include higher sick pay, the introduction of paternity leave and carer's leave, higher child allowances, accelerated parental allowance and higher foster care benefits. The budgetary impact of these measures amounts to 0.25% of GDP.

TABLE II.2.4

FISCAL FORECAST

The government sector balance will remain in a sizeable surplus

(% of nominal GDP)

	2016 actual	2017 exp. outcome	2018 forecast	2019 forecast
Government revenue	40.1	40.6	40.8	40.6
Government expenditure	39.4	39.0	39.1	38.8
of which: interest payments	0.9	0.8	0.7	0.6
GOVERNMENT BUDGET BALANCE	0.7	1.6	1.6	1.8
of which:				
primary balance[a]	1.7	2.4	2.3	2.3
one-off measures[b]	0.0	0.1	0.0	0.1
ADJUSTED BUDGET BALANCE[c]	0.7	1.5	1.6	1.7
Cyclical component (ESCB method)[d]	0.0	0.3	0.5	0.4
Structural balance (ESCB method)[d]	0.8	1.3	1.1	1.3
Fiscal stance in pp (ESCB method)[e]	0.9	0.5	-0.2	0.2
Cyclical component (EC method)[d]	-0.2	0.1	0.2	0.3
Structural balance (EC method)[d]	0.9	1.4	1.4	1.4
Fiscal stance in pp (EC method)[e]	1.2	0.5	-0.1	0.0
GOVERNMENT DEBT	36.8	34.7	32.1	29.8

a) government budget balance minus interest payments
b) This item consists of expected revenue from sales of emission permits, expenditure on the (New) Green Savings Programme 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 distinctly positive this year, due to the support of household consumption and renewed growth in government investment

(contributions to GDP growth in percentage points)

	2016 actual	2017 exp. outcome	2018 forecast	2019 forecast
FISCAL IMPULSE[a]	-1.1	0.2	0.5	0.0
of which impact through:				
private consumption	0.0	0.2	0.3	0.0
private investment	-0.1	-0.1	0.0	0.0
government investment, domestic	-0.2	0.0	0.1	0.0
government investment, EU funded	-0.7	0.1	0.1	0.0

a) Figures may not add up due to rounding.

positive – at 0.5 percentage point – after last year's slightly positive effect. The fiscal expansion will relate mainly to measures supporting household consumption and to buoyant wage growth in the government sector. Czech economic growth will also be bolstered by faster growth in government investment in 2018. The fiscal impulse will be neutral overall in 2019.

II.3 COMPARISON WITH THE PREVIOUS FORECAST

The new inflation forecast for this year has shifted downward slightly despite moderately higher overall inflation pressures. This is due to slightly lower-than-expected core inflation at the end of 2017 and the postponement of the next phases of electronic sales registration. The slight revision of inflation for next year is due to a rather lower outlook for administered prices. Overall, these factors will outweigh stronger cost pressures stemming mainly from a higher outlook for foreign prices, moderately faster growth in domestic economic activity and slightly higher wage growth. The exchange rate of the koruna against the euro will appreciate slightly more by comparison with the previous forecast. Owing to a greater accumulation of inflation pressures from both the external and domestic economies, the forecast is leading to slightly higher interest rates in the near future compared to the previous forecast. By contrast, the pace of growth in interest rates in the longer term is more gradual.

In the outlook for foreign variables for this year, growth in economic activity in the euro area has been revised upwards (see Chart II.3.1).[14] The outlook is 0.3 percentage point higher than in the previous forecast. This shift takes into account in particular the higher growth in economic activity observed in the euro area in 2017 H2. Higher growth compared to the previous forecast is also suggested by leading indicators in manufacturing in the euro area and Germany, which continue to grow strongly. Expectations regarding external demand next year remain unchanged. The positive economic sentiment is also reflected in the outlook for the exchange rate of the euro against the US dollar, which is slightly stronger this year and the next compared to the previous forecast. The implied 3M EURIBOR path has shifted slightly lower in response to the ECB's measures and the communication thereof. The outlook for shadow 3M EURIBOR rates, which takes the extension of the ECB's asset purchase programme until September 2018 directly into account, has been lowered slightly more. Faster growth in external economic activity and a higher price of oil (around USD 10 a barrel higher on average) have raised the outlook for industrial producer prices in the euro area this year by 0.8 percentage point. By contrast, the outlook for producer prices in 2019 is lower, mainly as a result of an expected year-on-year decline in the oil price.

The domestic economic growth forecast for the years ahead has shifted slightly higher (see Chart II.3.2). This revision is due primarily to expected faster growth in household consumption as a result of stronger forecasted growth in wages and salaries. The contribution of rapidly rising gross capital formation will also be higher, especially in the private investment component. A lower contribution of net exports will have the opposite effect on GDP growth. As regards the macroeconomic

14 The differences in the past are due to seasonal adjustment and data revisions.

CHART II.3.1

EFFECTIVE GDP IN THE EURO AREA

The external economic activity outlook has shifted upwards due to higher observed levels and positive leading indicators
(annual percentage changes; differences in percentage points – right-hand scale; seasonally adjusted)

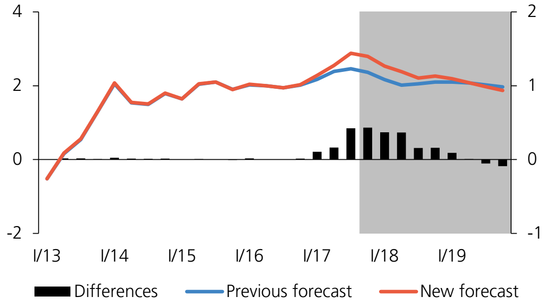


CHART II.3.2

CHANGE IN THE GDP FORECAST

The forecast for domestic economic activity is slightly higher
(annual percentage changes; differences in pp – right-hand scale; seasonally adjusted)

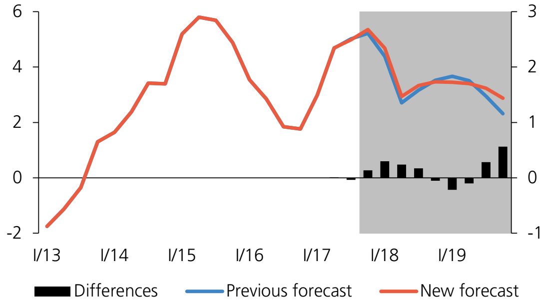


CHART II.3.3

CHANGE IN THE FORECAST FOR NOMINAL WAGES IN MARKET SECTORS

The wage forecast for 2018–2019 has shifted slightly upwards despite more moderate wage growth in 2017 Q3
(annual percentage changes; differences in pp – right-hand scale; seasonally adjusted)

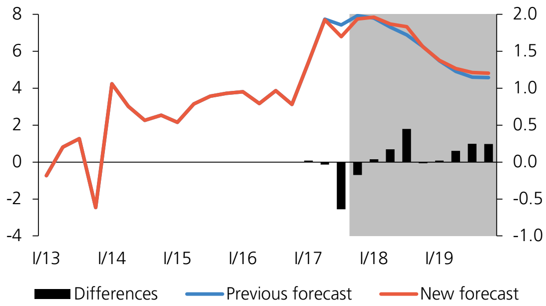


CHART II.3.4

CHANGE IN THE HEADLINE INFLATION FORECAST

The headline inflation forecast is lower, especially this year, but the changes are very small
(year on year in %; differences in pp – right-hand scale)

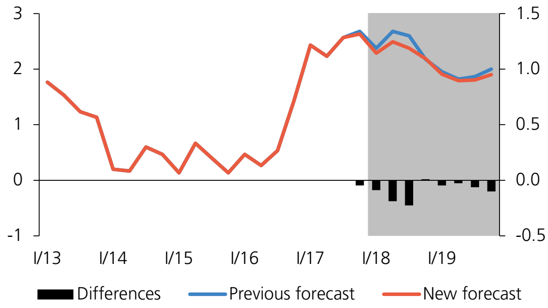


CHART II.3.5

CHANGE IN THE EXCHANGE RATE FORECAST

The exchange rate will appreciate slightly more than indicated by the previous forecast
(CZK/EUR; differences in CZK – right-hand scale)

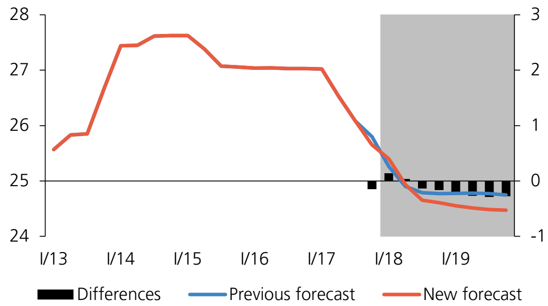
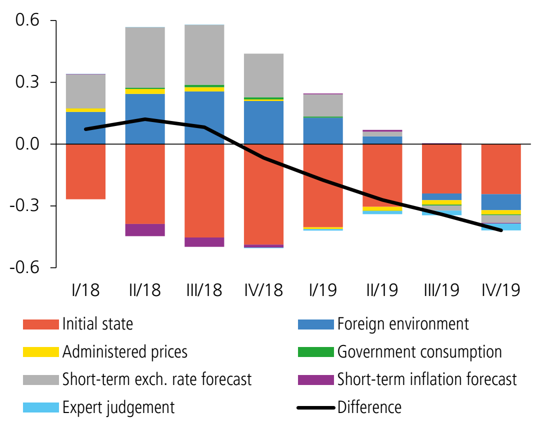


CHART II.3.6

DECOMPOSITION OF CHANGES IN THE INTEREST RATE FORECAST

The initial state is having a downward effect on the interest rate outlook; its effect is slightly outweighed in the near future by the current exchange rate level and by external factors
(3M PRIBOR; percentage points)



fundamentals underlying the individual components of GDP, faster growth in external demand and a stronger fiscal impulse will foster more rapid economic growth this year.

Wage growth will be slightly faster compared to the previous forecast (see Chart II.3.3). It will be supported by more robust economic growth, faster labour efficiency growth and a higher external demand outlook. Overall, domestic inflation pressures will thus be somewhat stronger this year and the next than in the previous forecast.

Despite slightly higher overall fundamental inflation pressures, the inflation forecast has been revised downwards slightly (see Chart II.3.4). The overall inflation pressures reflect the currently milder anti-inflationary effect of import prices compared to the previous forecast, which comes mainly from the unexpected rise in the price of oil at the end of last year. The stronger inflation pressures are also due to slightly higher growth in domestic costs stemming from the overheating labour market and accelerating economic activity. The stronger inflationary effect of the domestic economy compared to the previous forecast will persist in the short term, as will the slightly weaker anti-inflationary effect of import prices. The forecast for administered prices this year has been revised upwards due to higher outlooks for electricity and gas prices. This notwithstanding, the headline inflation forecast for this year is lower. This is due mainly to the slightly lower core inflation observed at the end of last year and the postponement of the next phases of ESR. Unlike the previous forecast, the new forecast does not take the price effects of ESR into account. The headline inflation forecast for 2019 has been revised only marginally downwards owing to a slightly lower outlook for administered prices. The assumptions regarding the first-round effects of changes to indirect taxes are unchanged, so the outlook for monetary policy-relevant inflation has been revised to the same extent as that for headline inflation.

The forecasted exchange rate of the koruna is slightly weaker at the start of this year but then moves to rather stronger levels (see Chart II.3.5). The revision of the koruna exchange rate outlook in the short term is in line with current market developments. In the longer term, a stronger exchange rate is fostered by more robust domestic and external economic activity coupled with higher growth in labour efficiency, and also by more accommodative ECB monetary policy.

The path of market interest rates in the coming quarters has shifted upwards slightly compared to the previous forecast (see Chart II.3.6). The slightly faster rise in interest rates in early 2018 compared to the previous forecast is due to greater inflation pressures from abroad and the short-term exchange rate forecast, which slightly outweigh the effect of the initial state. The downward effect of the initial state on rates is due mainly to an upward revision of labour efficiency growth as a result of higher growth in private investment. This faster labour efficiency growth partially reduces the impact of the cost pressures arising from wage growth while simultaneously exerting stronger appreciation pressures on the koruna, whose anti-inflationary effect needs to be counterbalanced by monetary policy. In the longer term, this factor is accompanied to a small extent by the newly incorporated nine-month extension of the ECB's quantitative easing programme.

II.4 RISKS AND UNCERTAINTIES OF THE FORECAST

At its monetary policy meeting in February, the Bank Board assessed the risks to the inflation forecast at the monetary policy horizon as being balanced. Two uncertainties were identified during the preparation of the forecast, uncertainties which the Bank Board subsequently agreed with. The first one is associated with the strength of current and future domestic inflation pressures in conditions of increased wage growth and faster labour efficiency growth. The second uncertainty concerns the exchange rate path and is described in a sensitivity scenario. The outlooks of other entities expect a weaker exchange rate at the one-year horizon than the CNB forecast amid higher interest rates and a slightly higher inflation outlook.

II.4.1 Risks perceived by the CNB

The strength of domestic fundamental inflation pressures represents an uncertainty of the forecast. That uncertainty is associated with the increasing labour market tightness and the related evolution of nominal wages, whose currently high growth could persist for longer than forecasted. At the same time, it is not clear how strongly the current significant growth in private investment will affect labour efficiency. The latter is dampening the strong inflationary effect of the domestic economy and will continue to do so, but it is uncertain to what extent. A similar type of uncertainty in the inflationary direction was described in a sensitivity scenario in Inflation Report IV/2017.

The exchange rate path represents a general uncertainty surrounding the forecast, as captured by a standard sensitivity scenario. With renewed publication of the exchange rate forecast, this symmetrical sensitivity scenario has become a standard part of the Inflation Report again. The scenario assumes a deviation of the nominal exchange rate of ±3% in the first quarter of the forecast. Interest rates in that quarter are the same as in the forecast. The exchange rate is thus set at CZK 24.6/26.2 to the euro in 2018 Q1, as against CZK 25.4 in the forecast. The simulation results for the weaker exchange rate variant, expressed in terms of deviations from the forecast, are given in Table II.4.1. The variant with a stronger nominal exchange rate has the same results but with the opposite sign.

The temporarily weaker exchange rate in the sensitivity scenario leads to a higher interest rate path compared to the forecast. Monetary policy thus responds to the fact that the weaker exchange rate boosts import price growth and generates higher inflation pressures. Another effect of the depreciation is a brief improvement in exporters' price competitiveness, which temporarily raises GDP growth compared to the forecast via higher net exports. Inflation goes up by about 0.2 percentage point at the one-year horizon, i.e. less than one-tenth of the initial depreciation. However, GDP growth then dips slightly below the forecasted level in response to tighter monetary policy and an exchange rate correction. The stabilising effect of monetary policy thus eventually leads to inflation returning to the forecast.

TABLE II.4.1

EXCHANGE RATE SENSITIVITY SCENARIO

A depreciation of 3% in the sensitivity scenario leads to temporarily higher inflation and faster GDP growth compared to the forecast; interest rates are also higher and thus have a stabilising effect
(deviations from baseline scenario paths)

	CPI inflation (in pp)	3M PRIBOR (in pp)	GDP growth (in pp)	Nominal exchange rate (CZK/EUR)
I/18	0.0	0.0	0.2	0.8
II/18	0.1	0.3	0.2	0.3
III/18	0.1	0.4	0.2	0.1
IV/18	0.2	0.3	0.0	0.0
I/19	0.2	0.1	-0.2	0.0
II/19	0.1	0.0	-0.3	0.1
III/19	0.1	0.0	-0.2	0.1
IV/19	0.0	-0.1	-0.1	0.1

The Bank Board assessed the risks to the inflation forecast at the monetary policy horizon as being balanced. At the same time, it stated that there are two bidirectional uncertainties of the forecast. The first one is associated with the strength of current and future domestic inflation pressures in conditions of a tight labour market. The labour market tightness is being reflected in increased wage growth, which may persist longer than forecasted. Cost pressures are simultaneously being dampened by increased labour productivity, which is being favourably affected by faster growth in private investment. The second, general, uncertainty concerns the exchange rate path.

II.4.2 Risks signalled by other entities' forecasts

Analysts' inflation expectations are anchored close to the CNB's 2% target. Inflation forecasted by financial market analysts is currently just above 2% at the one-year horizon. At the three-year horizon, by contrast, it is just below this level. The inflation expectations of business managers at the one-year horizon are also very close to the target (see Table II.4.2).

The indicator of inflation perceived by households increased slightly further. This suggests that households overall felt that prices rose, albeit not very strongly, in the last 12 months (see Chart II.4.1). This indicator was last at a similar level to the current one in mid-2008 and has been mostly negative since then. The indicator of expected inflation has long been positive, signalling that the respondents who expect prices to rise more rapidly over the next 12 months slightly outnumber those who expect prices to stay the same or increase more slowly than they did previously.

The analysts expect the Czech economy to show growth of over 3% this year (see Table II.4.2). The growth will, the analysts believe, continue to be supported by both domestic and external demand. The growth rate will slacken further next year. Nominal wages are expected to rise by about 7% this year and slow markedly next year. The analysts on average forecast the koruna to appreciate to CZK 25 to the euro or just below this level at the one-year horizon.[15] Before the February CNB Bank Board meeting, most of the FMIE analysts were expecting the CNB to raise its key interest rates by 0.25 percentage point. Their average estimate of the 2W repo rate at the one-year horizon is 1.3%.

Compared to the CNB, the analysts expect slightly slower GDP growth this year, with slightly higher inflation at the one-year horizon. The analysts' wage expectations are lower by comparison with the CNB. The analysts' interest rate outlook is slightly higher at the one-year horizon. The exchange rate at the one-year horizon is slightly weaker on average in the analysts' predictions than in the CNB forecast. This is

15 The expected range is relatively wide: CZK 24.0–25.3/EUR in the FMIE survey and CZK 24.5–25.5/EUR in the CF survey.

TABLE II.4.2

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 economic growth will slow this year
(at 1Y; annual percentage changes unless otherwise indicated)

	9/17	10/17	11/17	12/17	1/18
FMIE:					
CPI	2.2	2.2	2.1	2.1	2.1
CPI, 3Y horizon	2.0	2.0	1.9	2.0	1.9
Real GDP in 2017	4.1	4.2	4.4	4.5	
Real GDP in 2018	3.1	3.1	3.2	3.2	3.4
Nominal wages in 2017	6.5	6.6	6.7	6.7	
Nominal wages in 2018	5.9	6.2	6.7	7.0	7.2
CZK/EUR exchange rate (level)	25.4	25.2	24.9	24.9	24.8
2W repo rate (in per cent)	0.87	1.08	1.19	1.27	1.32
1Y PRIBOR (in per cent)	1.3	1.4	1.6	1.7	1.8
Corporations:					
CPI	2.0			2.1	
CPI, 3Y horizon	2.5			2.6	
CF:					
Real GDP in 2017	4.0	4.2	4.2	4.4	
Real GDP in 2018	3.0	3.1	3.2	3.2	3.3
Nominal wages in 2017	6.3	6.8	6.9	7.0	
Nominal wages in 2018	5.8	6.4	6.6	6.9	6.9
CZK/EUR exchange rate (level)	25.7	25.5	25.4	25.0	25.0
3M PRIBOR (in per cent)	1.0	1.1	1.3	1.3	1.4

CHART II.4.1

PERCEIVED AND EXPECTED INFLATION

The indicators of both perceived and expected inflation are slightly positive
(balance of answers; source: European Commission Business and Consumer Survey)

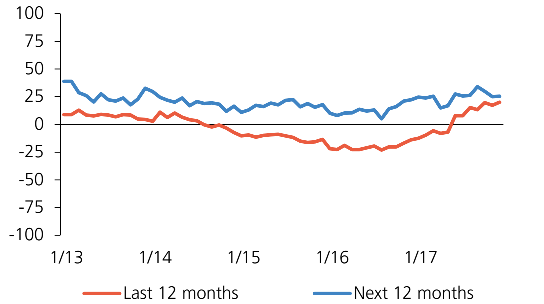
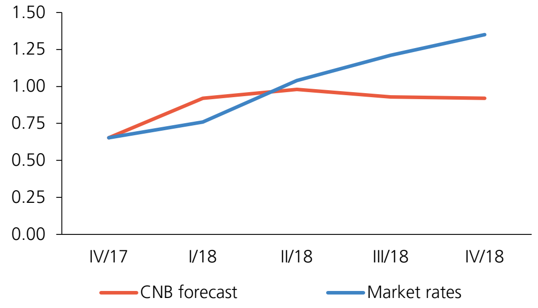


CHART II.4.2

FRA RATES VERSUS THE CNB FORECAST

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



Note: Market rates represent for 2017 Q4 and 2018 Q1 the 3M PRIBOR and for 2018 Q2–2018 Q4 the average values of the FRA 3*6, 6*9 and 9*12 rates for the last 10 trading days as of 19 January 2018.

probably because the analysts are taking the market overboughtness factor more strongly into account than the CNB forecast does.

The current market outlook for 3M rates implies a steady increase over the one-year horizon. A further rise in market interest rates is also consistent with the forecast. However, the rise is significant mainly in 2019, when rates will start to approach their long-run neutral level. The market outlook at the one-year horizon is thus above the interest rate level contained in the CNB forecast (see Chart II.4.2).

III. CURRENT ECONOMIC DEVELOPMENTS

III.1 PRICE DEVELOPMENTS

Inflation averaged 2.6% in 2017 Q4. It thus remained in the upper half of the tolerance band around the CNB's target. Compared to the summer 2016 forecast, a retrospective assessment of which is relevant for evaluating the current fulfilment of the inflation target, the effect of the domestic economy was more inflationary in 2017. This, coupled with one-off price effects, led to an earlier-than-expected increase in inflation above the 2% target. Nevertheless, with the benefit of hindsight, and with regard to the exchange rate commitment exit strategy, the CNB's monetary policy in the previous period can be assessed as having been appropriate. Core inflation slowed significantly at the end of 2017, partly as a result of an unwinding of the ESR effect observed in December 2016. Food prices kept rising broadly and briskly on the back of continued growth in agricultural producer prices in both livestock and crop production. Administered prices were broadly flat overall. As a result of appreciation of the koruna against the dollar, fuel price growth was subdued despite growth in global oil prices. The decline in import prices deepened owing to appreciation of koruna against the euro and to slower growth in foreign producer prices. The unwinding of growth in the koruna price of oil was subsequently reflected in subdued growth in domestic industrial producer prices. The inflationary effect of the domestic economy led to faster growth in construction work prices and prices of services for the business sector.

III.1.1 Fulfilment of the inflation target

In 2017 Q4, inflation was above the target and slightly above the forecast published in Inflation Report III/2016 (see Chart III.1.1).[16] This forecast was based on the assumption that the exchange rate would be used as an instrument for easing monetary policy under a CNB exchange rate commitment of CZK 27 to the euro until mid-2017. The forecast expected inflation to rise and exceed the 2% target at the monetary policy horizon and return to it from above thereafter. Growing economic activity and wages were expected to continue to foster higher costs and hence also higher consumer prices. The anti-inflationary effect of import prices at the time – resulting from a decline in euro area producer prices – was meanwhile expected to subside.

16 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 one needs to analyse retrospectively the forecasts and the Bank Board's decisions based thereon in the past. To assess the fulfilment of the inflation target in 2017 Q4, we have to examine the period from spring 2016 to mid-2017, which takes into account the different lengths of transmission of interest rates and the exchange rate. This is because monetary policy passed through to inflation with a substantially shorter lag in the regime where the exchange rate was used as a monetary policy instrument than when interest rates were used. For the sake of clarity, however, the analysis of the fulfilment of the forecasts is limited here to a comparison of Inflation Report III/2016 with subsequent inflation.

CHART III.1.1

FORECAST VERSUS ACTUAL HEADLINE INFLATION

Inflation in 2017 Q4 was above the CNB's 2% target and slightly above the forecast published in Inflation Report III/2016

(year on year in %)

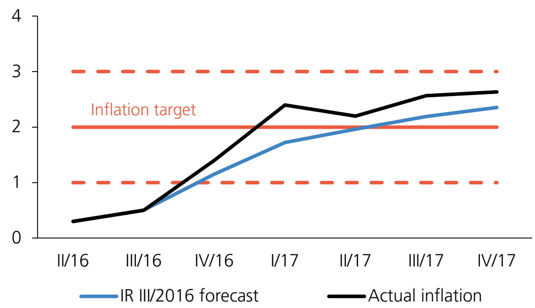


TABLE III.1.1

FULFILMENT OF THE INFLATION FORECAST

Higher-than-forecasted core inflation and food prices were partially offset by lower contributions of administered prices and fuel prices

(annual percentage changes; contributions in percentage points)

	IR III/2016 forecast	2017 Q4 outturn	Contribution to total difference
CONSUMER PRICES	2.4	2.6	0.2
of which:			
administered prices	1.7	0.3	-0.2
first-round impacts of changes to indirect taxes[a)]	0.0	0.0	0.0
core inflation[b)]	1.9	2.5	0.2
food prices[b)]	3.2	4.4	0.3
fuel prices[b)]	5.5	2.6	-0.1

a) impact on headline inflation except administered prices
b) excluding the first-round effects of changes to indirect taxes

TABLE III.1.2

FULFILMENT OF THE EXTERNAL ASSUMPTIONS

Industrial producer price inflation in the euro area recovered more strongly than forecasted, as did external economic activity

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

		III/16	IV/16	I/17	II/17	III/17	IV/17
GDP in euro area[a), b), c)]	p	2.2	2.0	1.7	1.7	1.8	1.9
	o	1.9	2.0	2.3	2.5	2.9	-
PPI in euro area[b), c)]	p	-2.9	-1.4	0.8	1.4	1.6	1.9
	o	-2.3	0.0	3.6	3.1	2.6	-
3M EURIBOR (percentages)	p	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4
	o	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
USD/EUR exchange rate (levels)	p	1.10	1.09	1.09	1.09	1.08	1.08
	o	1.12	1.08	1.06	1.10	1.18	1.18
Brent crude oil price (USD/barrel)	p	47.2	48.8	50.1	51.3	52.2	53.0
	o	47.0	51.1	54.6	50.8	52.2	61.5

a) at constant prices
b) seasonally adjusted
c) IR III/2016 outlook for effective indicator

TABLE III.1.3

FULFILMENT OF THE FORECAST FOR KEY VARIABLES

Domestic GDP growth and nominal wage growth both exceeded the forecast in 2017, thus fostering higher inflation

(p – prediction, o – outturn)

		III/16	IV/16	I/17	II/17	III/17	IV/17
Consumer price index (annual perc. changes)	p	0.5	1.2	1.7	2.0	2.2	2.4
	o	0.5	1.4	2.4	2.2	2.6	2.6
3M PRIBOR (percentages)	p	0.3	0.3	0.3	0.3	1.0	1.3
	o	0.3	0.3	0.3	0.3	0.4	0.7
CZK/EUR exchange rate[a)] (levels)	p	27.0	27.0	27.0	27.0	26.3	26.0
	o	27.0	27.0	27.0	26.5	26.1	25.7
Real GDP[b)] (annual perc. changes)	p	2.0	2.5	2.9	3.3	3.0	2.7
	o	1.8	1.8	3.0	4.7	5.0	-
Nominal wages[c)] (annual perc. changes)	p	4.6	4.9	5.1	5.2	5.1	4.9
	o	3.9	3.1	5.4	7.7	6.8	-

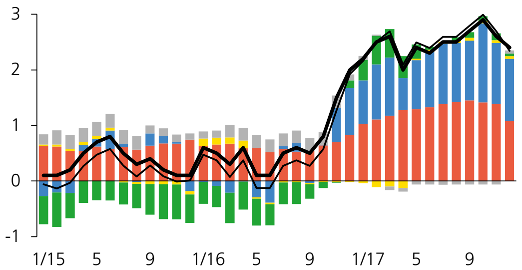
a) The forecast assumed that the exchange rate would stay at CZK 27 to the euro until mid-2017.
b) seasonally adjusted
c) in market sectors

CHART III.1.2

STRUCTURE OF INFLATION

Growth in consumer prices slowed at the end of 2017, due mainly to a decline in 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.

Headline inflation in reality was slightly above the forecast over the entire period under review. This difference was 0.2 percentage point in 2017 Q4 (see Table III.1.1). The slightly positive deviation from the forecast was due chiefly to higher core inflation and to food prices. Lower administered price inflation and fuel price inflation had the opposite effect.

External economic factors fostered a greater appreciation of the koruna and slightly lower domestic rates than forecasted. The biggest deviation was recorded by foreign production prices, whose growth rebounded faster than expected at the end of 2016 (see Table III.1.2). This was also fostered by higher-than-expected oil prices. External demand growth also deviated upwards from the forecast in early 2017. The forecast that foreign interest rates would stabilise at slightly negative levels[17] materialised. Overall, external developments had a broadly neutral effect on domestic inflation but, as regards monetary conditions, fostered greater appreciation of the koruna and slightly lower domestic interest rates.

In 2017, domestic economic activity fostered higher inflation compared to the forecast. More robust growth in household consumption and nominal wages was recorded in 2017. This was due to the labour market situation being tighter than forecasted.

The duration of the exchange rate commitment was shortened by almost one quarter relative to the assumption of the forecast contained in Inflation Report III/2016. The exchange rate stayed close to the CNB's commitment until early April 2017, when the CNB ended the commitment; the koruna then appreciated gradually. Market interest rates were stable at first, responding only to the CNB's key rate increases in August and November 2017 (see Table III.1.3). Compared to the forecast, the exchange rate component of the monetary conditions tightened earlier, while the interest rate component neutralised more gradually.

Overall, the monetary policy pursued by the CNB between April 2016 and June 2017 can be assessed as appropriate. 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. With the benefit of hindsight, it can be said that inflationary factors that had not been predicted by previous forecasts started to emerge at the end of 2016. These included a more pronounced pick-up in economic growth associated with a tighter labour market situation and also one-off factors (the launch of ESR and an increase in the weight of prices of new property within imputed rent in the CPI). Inflation has thus been above the CNB's target of 2%, though within the tolerance band, since the

17 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.

start of 2017. A slight overshooting of the inflation target, enhancing the robustness of its fulfilment in the future, was a deliberate component of the exit strategy.

III.1.2 Consumer prices and property prices

Annual consumer price inflation peaked at just below 3% in October 2017 and then fell gradually to 2.4% in December. The growth in consumer prices was driven mainly by the development of core inflation and food prices (see Chart III.1.2). Despite fast growth in oil prices on world markets, the growth rate of domestic fuel prices was dampened by appreciation of the koruna against the dollar. Monetary policy-relevant inflation was 0.1 percentage point above headline inflation in October and November, but moved slightly below it in December.[18]

Core inflation dropped significantly at the end of last year as one-off factors observed in December 2016 subsided (see Chart III.1.3). This slowdown mainly reflected non-tradables prices, whose growth fell from levels around 4% to 3.1% in December. The most pronounced slowdown in annual growth was recorded for prices in restaurants and cafés, where the effect of their sharp increase at the end of the previous year connected with the launch of ESR has now disappeared. Growth in imputed rents and prices of recreational and cultural services also slowed. Other non-tradables annual price inflation remained roughly at previous levels. Tradables price inflation also decreased in Q4, albeit from a much lower level and more slowly than non-tradables inflation. This reflected a gradual pass-through of the stronger exchange rate to prices in this segment of the consumer basket, which slightly outweighed the intensifying inflationary effect of the domestic economy.

Food prices rose quickly and almost across the board in Q4, peaking at 5% in October (see Chart III.1.4). The sharpest increases were recorded for dairy products, eggs and oils and fats. Prices of other foods – specifically bread and cereals, meat and fruit – recorded more modest year-on-year growth. Growth in prices of tobacco products stayed at around 1.5% at the end of 2017. Beer was the only category to show a price decline (see Chart III.1.5).

Administered prices rose slightly overall, but the development of their individual components remained mixed. Their low overall growth (see Chart III.1.4) was due to declines in prices of heat and gas for households. Waste collection charges also decreased slightly. Subdued growth was recorded by electricity prices, water supply and sewerage collection charges, and transport prices. The fastest growth

18 The effect of the December 2016 reduction in VAT applying to restaurants and catering facilities stayed in annual inflation until November. Currently, only the January 2017 increase in excise duty on cigarettes and tobacco is still affecting inflation. This is being offset to only a small extent by a reduction in the VAT rate on newspapers and magazines introduced in March 2017.

CHART III.1.3

CORE INFLATION

Core inflation fell at the end of 2017, owing mainly to slower growth in non-tradables prices
(annual percentage changes)

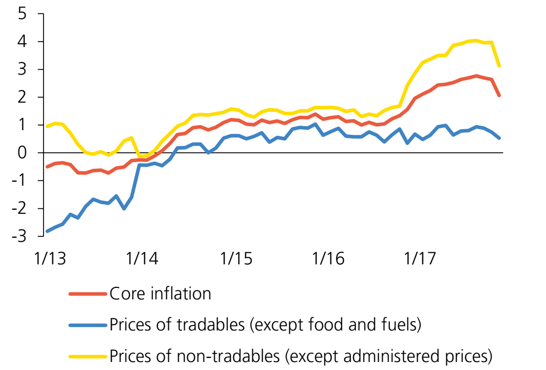


CHART III.1.4

FOOD PRICES, ADMINISTERED PRICES AND FUEL PRICES

Fuel prices and administered prices increased only slightly, whereas food price inflation remained high
(annual percentage changes)

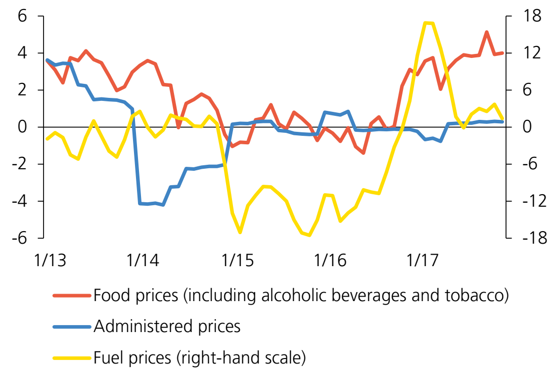


CHART III.1.5

STRUCTURE OF FOOD, ALCOHOL AND TOBACCO PRICE INFLATION IN 2017 Q4

Food prices mostly went up
(size of tile – relative weight in consumer basket; colour of tile – annual percentage changes)

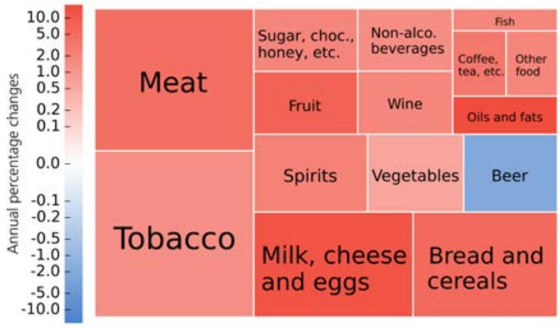


CHART III.1.6

TRANSACTION AND ASKING PRICES OF HOUSING

Growth in property transaction prices slowed slightly but remains elevated

(annual percentage changes)

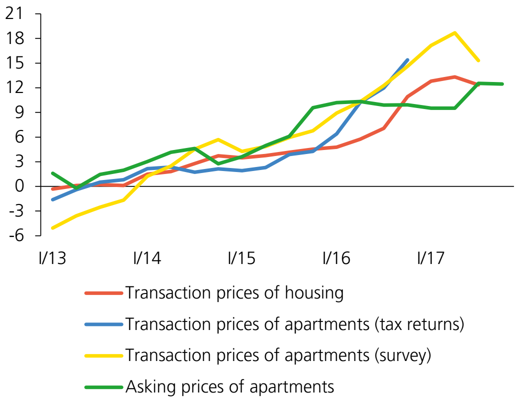


CHART III.1.7

THE EXPERIMENTAL CPIH PRICE INDEX

Growth in the CPIH index was broadly flat in 2017 Q3, but was still well above CPI inflation

(annual percentage changes)

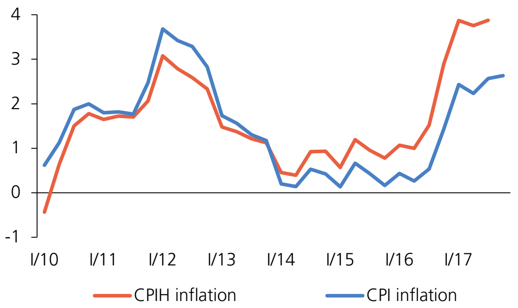
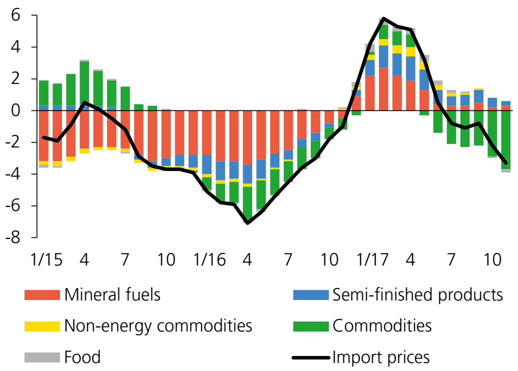


CHART III.1.8

IMPORT PRICES

The year-on-year decline in import prices deepened, with product prices falling in particular

(annual percentage changes; contributions in percentage points)



Note: Food also includes beverages and tobacco.

within administered prices was shown by prices in health care, which rose by 4.5%. As a result of persisting rapid food price inflation, the growth rate of school catering prices also picked up gradually.

Despite fast growth in dollar oil prices, fuel price growth was subdued owing to the appreciating koruna (see Chart III.1.4). Oil prices on world markets grew by almost 21% on average in 2017 Q4, but fuel price growth in the Czech Republic amounted to just 2.6%.

Growth in property transaction prices slowed slightly in 2017 Q3 but remains high. Their strong growth continued to reflect fast economic growth, positive sentiment among households and low interest rates. By contrast, macroprudential policy measures seem to have had a slightly dampening effect. Transaction prices of older apartments grew at a pace of just over 15% (see Chart III.1.7).[19] According to the internationally comparable House Price Index, growth in transaction prices of housing was slightly lower than this. Growth in apartment asking prices rose further in 2017 Q4, amounting to 12.5%. This was due to high growth in asking prices of apartments in Prague, which climbed to almost 19%, among other things due to limited construction of such property in recent years. By contrast, growth in asking prices of apartments outside Prague fell below 5%.

Growth in the experimental CPIH index remained just below 4% in 2017 Q3 (see Chart III.1.7). This index, consisting of prices of both new and older property as well as land (with a relatively large weight – see Box 1 in IR III/2017), thus outpaced the consumer price index by more than 1 percentage point.

III.1.3 Import prices and producer prices

The decline in import prices deepened further due to appreciation of the koruna and weakening growth in euro area producer prices. Annual inflation recorded a downturn across all the monitored categories in the second half of 2017. The decline in import prices was due mainly to a fall in product prices, most notably in the categories of machinery and transport equipment and miscellaneous manufactured articles. At the same time, the positive contributions of import prices of mineral fuels observed in 2017 H1 shrank considerably owing to lower year-on-year growth in global oil prices in koruna terms.

The declining import prices of inputs were reflected in a fall in industrial producer price inflation. As in the case of import prices, this was due mainly to falling prices of transport equipment and lower inflation in energy and commodity-related sectors in recent months. The lower oil price growth was accompanied by unchanged year-on-year growth in producer prices of electricity and water in 2017 H2. Prices in

19 The CZSO revised its previous estimates of transaction prices based on tax returns towards significantly faster growth for 2016.

the manufacture of basic metals continued to act in the opposite direction. Producer prices of food also increased. This was subsequently reflected in a rise in consumer prices of food.

In terms of use, prices of intermediate goods and non-durable goods showed the strongest growth in 2017 Q4. Conversely, capital goods and durable goods recorded a year-on-year decline in prices.

Agricultural producer prices kept rising sharply despite slowing slightly. Agricultural producer price inflation was affected by several major factors in 2017. The disinflationary factors observed in previous years faded away, with prices of milk and meat surging from exceptionally low levels. As for commodities of vegetable origin, prices of cereals, vegetables and fruit recovered. Agricultural producer prices were also pushed up by a recovery in global demand for agricultural commodities and a decline in global stocks. The slowdown recorded at the end of 2017 was due almost entirely to base effects.

Prices of market services for the business sector and construction work prices picked up further at the end of the year (see Chart III.1.11). Prices of market services for the business sector and construction work prices both recorded year-on-year growth of 1.9%. Marked price growth was recorded in employment placement services, private security services and advertising services. Conversely, prices of telecommunication services and rental and leasing services continued to fall. Prices reflected wage-cost pressures in an environment of rising demand. Growth in construction work prices, which is currently at its highest level since April 2009, also reflected growth in prices of materials used in the construction industry.

CHART III.1.9

INDUSTRIAL PRODUCER PRICES

Industrial producer prices were affected by a decline in energy and commodity price inflation

(annual percentage changes; contributions in percentage points)

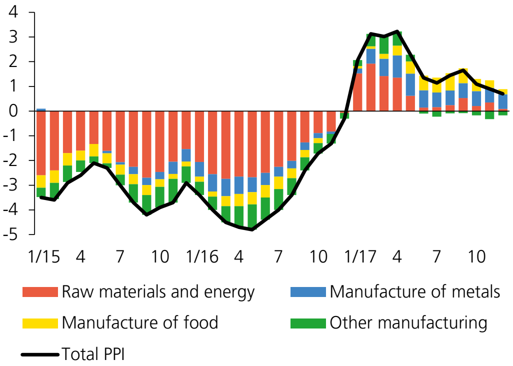


CHART III.1.10

AGRICULTURAL PRODUCER PRICES

Growth in crop and livestock product prices remained relatively high despite going down

(annual percentage changes)

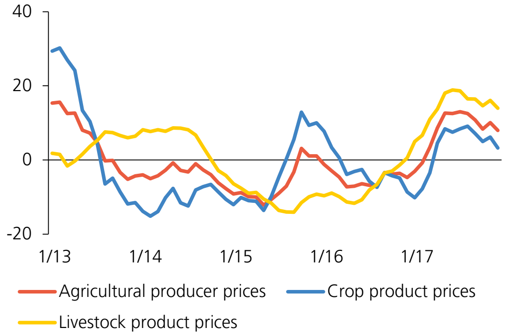


CHART III.1.11

MARKET SERVICES PRICES IN THE BUSINESS SECTOR AND CONSTRUCTION WORK PRICES

Growth in market services prices and construction work prices rose further at the end of the year

(annual percentage changes)

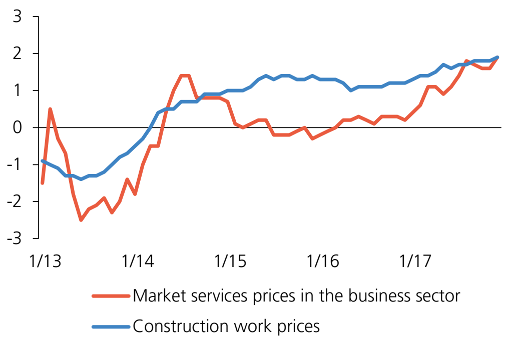


CHART III.2.1

OUTPUT GAP

The output gap is currently positive and remains above zero over the forecast horizon
(% of potential output)

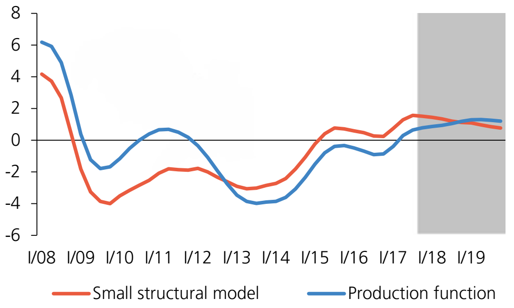


CHART III.2.2

POTENTIAL OUTPUT

The rate of growth of potential output is above 3% according to the small structural model
(annual percentage changes)

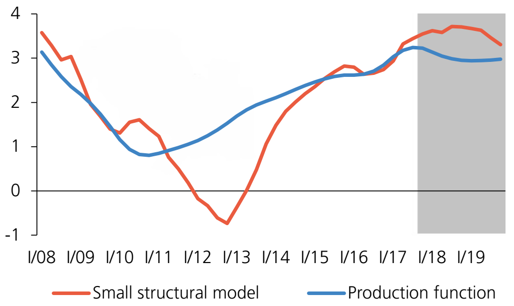
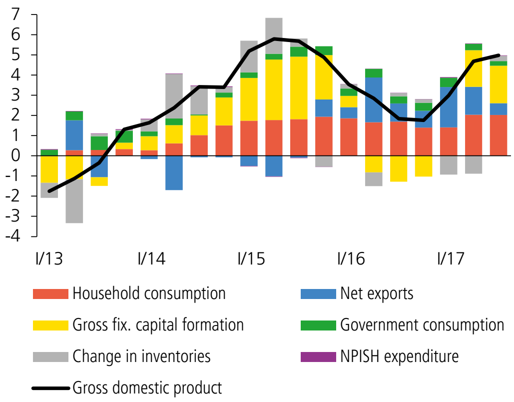


CHART III.2.3

GROSS DOMESTIC PRODUCT

The growth of the Czech economy picked up slightly to 5% in 2017 Q3, due mainly to an unwinding of the decline in additions to inventories
(annual percentage changes; contributions in percentage points; seasonally adjusted)



III.2 ECONOMIC DEVELOPMENTS

The Czech economy is above its potential output level amid accelerating economic growth. Household consumption remains a stable basis for GDP growth, reflecting strong wage growth and optimistic consumer expectations. Growth in economic activity is also being significantly aided by an increase in investment in the private sector. On the other hand, growth in government investment is still subdued. Buoyant growth in import-intensive private investment coupled with less pronounced growth in exports led to a decrease in the positive contribution of net exports. Favourable trends in economic activity can be observed in most sectors. Growth in gross value added is due increasingly to trade and market services. Despite a slight slowdown, manufacturing is continuing to grow robustly. The positive trend in the business sector is confirmed by still high business confidence, although strong wage growth halted the improvement in the financial results of non-financial corporations. Labour shortages remain a growing barrier to growth.

III.2.1 The cyclical position of the economy

The output gap of the Czech economy is positive. According to the small structural model, it was close to 1.5% in 2017 Q3 (see Chart III.2.1). This is qualitatively in line with the observed inflation pressures from the domestic economy. The closure of the previously negative output gap and its switch to positive levels in past years was due to growth in both domestic and external demand. This was fostered by easy monetary policy and, in 2015, drawdown of EU funds. In 2016, conversely, a negative fiscal impulse resulted in a temporary return to the potential output level from above. However, this effect faded out last year and the output gap started to open up again. It remains positive over the forecast horizon.

Potential output growth is currently estimated at above the 3% level. It reached approximately this level in the previous two years after the repercussions of the economic crisis faded away and robust growth in economic activity coupled with only moderate inflation pressures re-emerged (see Chart III.2.2). As regards the factors entering the production function, the labour market improved significantly, with a rising participation rate causing faster growth in equilibrium employment. Investment by non-financial corporations also saw renewed growth, although total fixed investment has been volatile in previous years due to the EU funding cycle. Investment will also have a positive effect this year, when the forecast expects labour productivity growth to pick up further. Potential output growth will be close to 3% at the end of the forecast period.

III.2.2 The expenditure side of the economy

Annual GDP growth amounted to 5% in 2017 Q3 (see Chart III.2.3). The growth in economic activity is being supported by constantly strong household consumption. As in the previous quarter, the contribution of gross fixed capital formation also remained high. Faster growth in private investment and slower growth in government investment acted in opposite directions. Buoyant growth in import-intensive private investment coupled with lower growth in exports led to a lower contribution of net exports. A switch of the contribution of change in inventories from negative to slightly positive acted in the opposite direction within the structure of GDP.

Household consumption continued to grow briskly in all segments. The growth in real household consumption was due mainly to expenditure on short-term consumption and services. However, spending on semi-durable and durable goods also continued to rise.

The growth in household consumption reflected growth in gross disposable income in an environment of low interest rates. The pronounced acceleration in gross disposable income was due to higher growth in entrepreneurs' income and a less negative contribution of taxes, which outweighed a slightly smaller contribution of property income. Robust growth in wages and salaries remains the main source of growth in gross disposable income (see Chart II.2.4).

Still strong consumer confidence will boost household consumption in the near future as well. The high consumer confidence is being fostered by a positive outlook for the overall economic situation and by expectations of a good financial situation of households themselves (see Chart III.2.5). Expectations regarding unemployment remain neutral. Households are declaring an increased willingness to save as their income grows, but the saving rate is nonetheless decreasing in year-on-year terms. Persisting consumer optimism is also evidenced by continued strong growth in retail sales in both the food and non-food segments.

Real government consumption growth slowed, while government investment was broadly flat. The slower growth in real government consumption was due mainly to strong growth in the deflator, reflecting higher wage growth in the government sector. Government investment was virtually unchanged year on year and so did not build on the growth observed in 2017 Q2. The amount of government investment financed from EU funds remains subdued and the start of drawdown of funds from the new financial framework has been very gradual.

The growth in private investment was due predominantly to investment by non-financial corporations (see Chart III.2.6). As regards the material breakdown, investment in machinery and equipment surged. In addition to rising external demand, this may indicate greater automation of production by firms in an environment of labour shortages and fast growing wages. The latest results of the survey conducted by the CNB and the Confederation of Industry suggest continued solid growth in private investment in the quarters ahead.

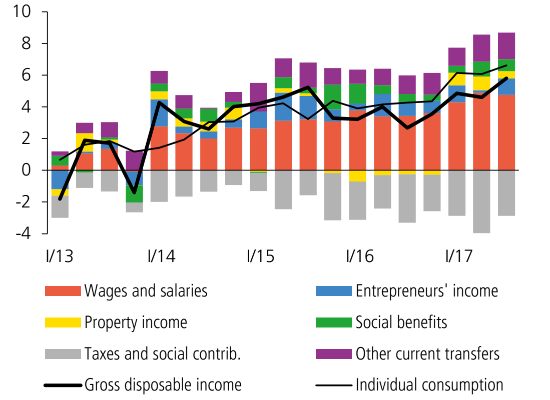
Household investment, a large proportion of which is property investment, also continued to grow. The supply of new apartments

CHART III.2.4

DISPOSABLE INCOME

The faster growth in disposable income was linked mainly to renewed growth in entrepreneurs' income and a less negative contribution of taxes

(annual percentage changes; contributions in percentage points; current prices; seasonally unadjusted)



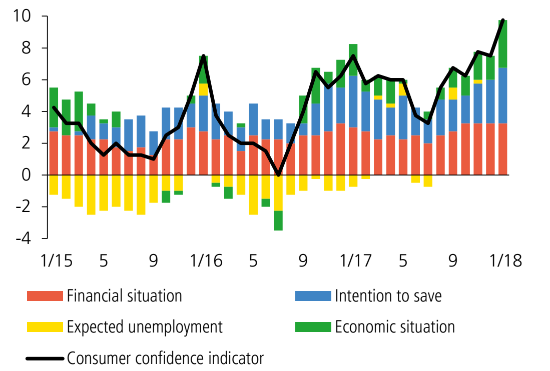
Note: Entrepreneurs' income comprises gross operating surplus and mixed income.

CHART III.2.5

CONSUMER CONFIDENCE BALANCE

Consumer confidence is strong due to good expectations of the financial situation of households and low unemployment

(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

Investment growth was driven by non-financial corporations, while the contribution of government investment was negligible

(annual percentage changes; contributions in percentage points; constant prices; seasonally unadjusted)

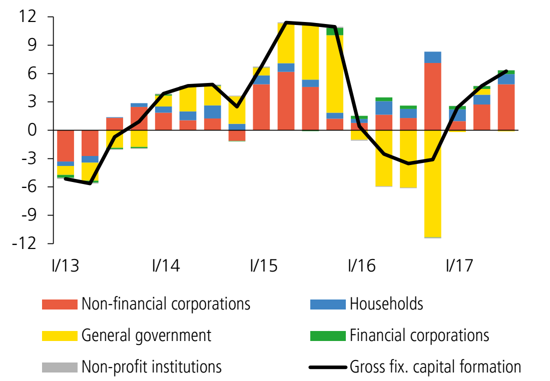


CHART III.2.7

EXPORTS AND IMPORTS

Net export growth slowed, while import growth caught up with export growth after a long time

(annual changes in per cent and CZK billions; constant prices; seasonally adjusted)

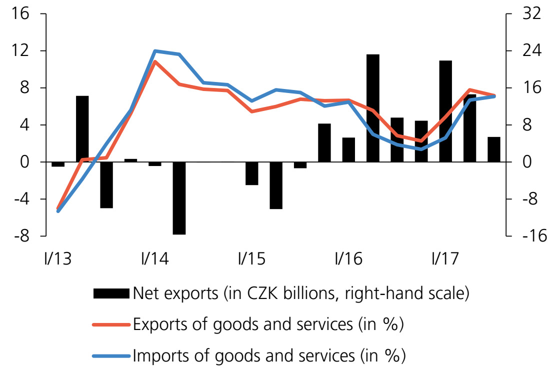
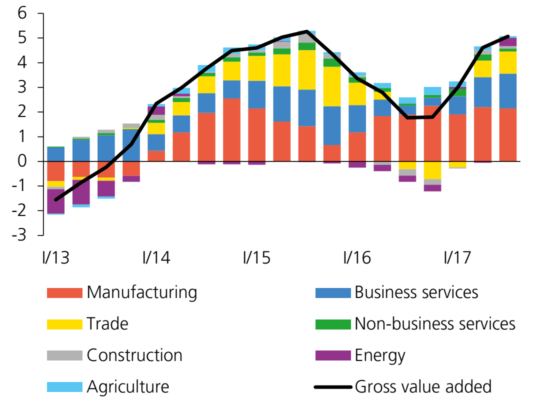


CHART III.2.8

CONTRIBUTIONS OF BRANCHES TO GVA GROWTH

The upswing in gross value added growth in 2017 Q3 was due to trade, market services and energy

(annual percentage changes; contributions in percentage points; constant prices)



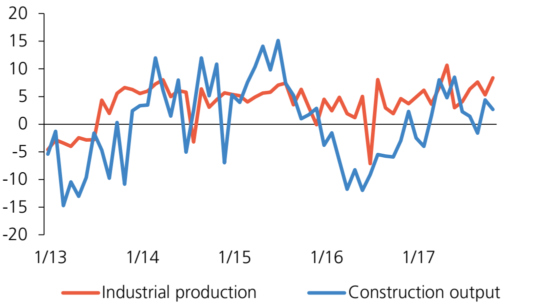
Note: Trade also includes hotels and restaurants and transport. Energy also includes mining and quarrying.

CHART III.2.9

INDUSTRIAL PRODUCTION AND CONSTRUCTION OUTPUT

Growth in both industrial production and construction output slowed in Q3, although only temporarily according to the latest data

(annual percentage changes)



remains limited. In an environment of strong growth in loans for house purchase, this is putting upward pressure on property prices. The number of housing starts has nonetheless increased in recent quarters. This should support growth in household investment in the future.

Investment in inventories switched from decline to year-on-year growth in Q3. Additions to inventories of goods and products went up, while inventories of work in progress recorded a lower contribution. Stocks of materials are rising at a steady pace. Additions to inventories continued to be driven strongly by large manufacturing firms.

Exports slowed, import growth increased and the positive contribution of net exports to GDP growth fell (see Chart III.2.7). Annual export growth slowed despite slightly faster growth in external economic activity. Compared to 2017 H1, export growth was lower in the automobile industry in particular. The more modest export growth in Q3 may have been due to irregularities in production in the summer months. Rising demand for capital goods, including inventories, meanwhile led to an upswing in imports. The contribution of net exports to GDP growth fell significantly as a result.

III.2.3 The output side of the economy

Growth in gross value added strengthened slightly further in 2017 Q3, owing mainly to the services sector (see Chart III.2.8). Its aggregate contribution exceeded the previously dominant contribution of manufacturing. This was due mainly to growth in trade and market services. The upswing in gross value added growth was also driven by the energy sector. The other contributions, including that of manufacturing, decreased negligibly. Overall, growth in gross value added remains high and broad-based, indicating that firms in the Czech Republic are faring well across all sectors.

Significant growth in sales was recorded in transport and storage and in information and communication activities. Sales in administrative and support service activities also grew strongly, owing mainly to rapid growth in sales of travel agencies and employment agencies. Unlike in 2017 H1, the significant growth in sales in accommodation and food service activities moderated.

Growth in industrial production slowed only temporarily, due to falling growth in manufacturing (see Chart III.2.9). The manufacturing sector fell short of the above-average results recorded in Q2 and most segments of manufacturing recorded lower output growth. By contrast, the energy sector saw a marked year-on-year rise in production. Production in mining and quarrying continued to fall. The latest available data for October and November indicate continued strong growth in the value of industrial orders, which is leading to gradually accelerating growth in production.

Labour shortages continue to be the most important constraint on the production potential of industrial corporations. According to the results of the CZSO's January business survey, the importance of this constraint increased further (see Chart III.2.10). Nevertheless, insufficient demand also remains a major constraint. The share of corporations facing material shortages decreased at the start of this year. Capacity utilisation in industry rose slightly and exceeded 85%.

As in industry, the downswing in construction output in Q3 was only temporary (see Chart III.2.9). This pattern was most pronounced in building construction, whose growth slowed in August and September but increased again in October. Moreover, the October and November data also show renewed growth in civil engineering output. Growth in the number of building permits issued and a marked increase in their estimated value are also indicating a pick-up in construction output.

Business confidence remains high. A positive assessment of the situation prevails in industry, trade and services (see Chart III.2.11). Moreover, renewed growth in construction output is leading to a gradual decrease of pessimistic sentiment in construction, which long faced falling demand.

Growth in the output of corporations slowed slightly, leading to a decline in the gross operating surplus amid high growth in personnel costs. The decline deepened year on year to 2.6% in 2017 Q3 (see Chart III.2.12). In both Q2 and Q3, growth in the output of non-financial corporations lagged behind the results recorded at the start of the year, especially in manufacturing. Rising input prices due to higher prices of energy and non-energy commodities in year-on-year terms led to growth in the material cost-output ratio. Together with the slowdown in output, they thus contributed to a gradual weakening of year-on-year growth in book value added.

CHART III.2.10

BARRIERS TO GROWTH IN INDUSTRY

According to the most recent survey, labour shortages are the main barrier to growth in industrial production
(percentages)

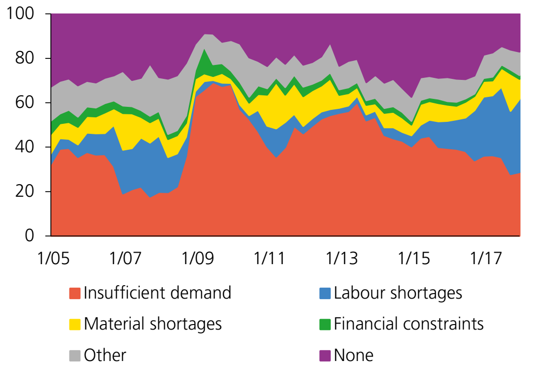


CHART III.2.11

BUSINESS CONFIDENCE BALANCES

With the exception of construction, business confidence remains positive
(balance is difference in per cent between answers expressing improvement and deterioration in expected and ongoing tendencies)

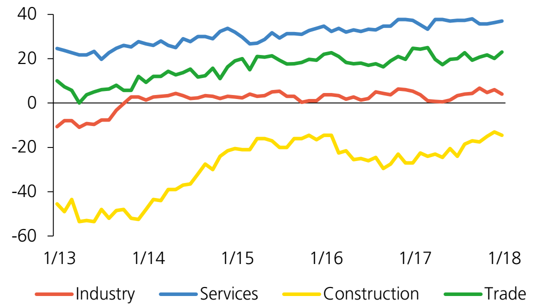


CHART III.2.12

KEY FINANCIAL INDICATORS

The decline in the gross operating surplus deepened due to a slight slowdown in output growth amid still strong growth in personnel costs
(annual percentage changes)

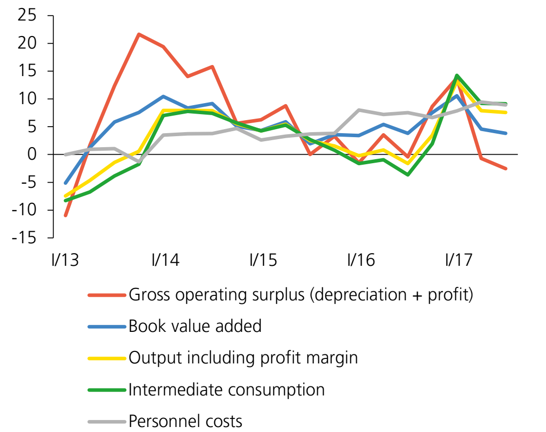
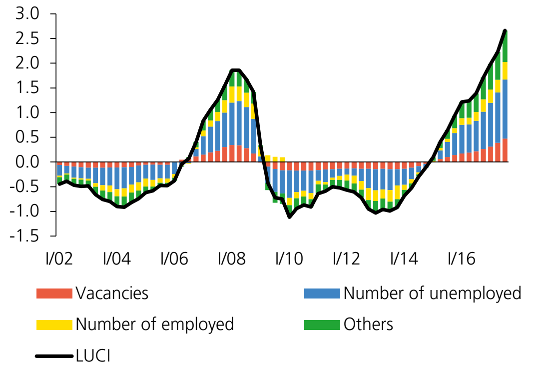


CHART III.3.1

LUCI – LABOUR UTILISATION COMPOSITE INDEX

The current labour market tightness exceeds the peak of the previous cycle
(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 was driven by non-market services, industry and market services to a similar extent
(contributions in percentage points to annual change; selected branches; source: LFS)

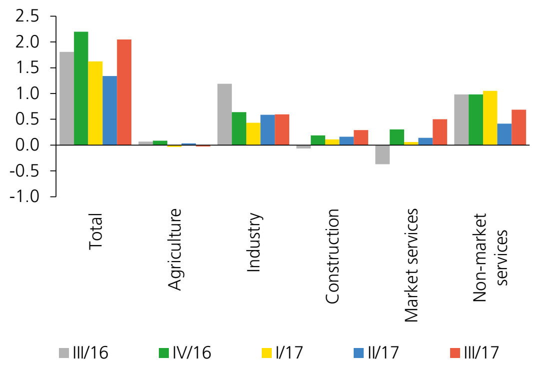
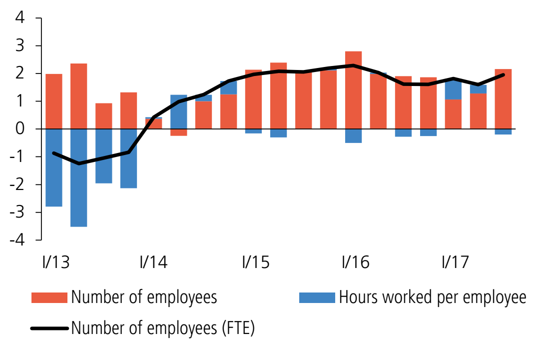


CHART III.3.3

NUMBER OF EMPLOYEES (FULL-TIME EQUIVALENT)

The increase in the number of employees was accompanied by a modest drop in average hours worked
(annual percentage changes; contributions in percentage points)



III.3 THE LABOUR MARKET

The Labour Utilisation Composite Index, which increased further above the peak of the previous cycle, is indicating a generally tight situation. Continued economic growth led to a further significant rise in employment in 2017 Q3 and a deepening of the historical low of the unemployment rate. Firms are finding it increasingly difficult to fill vacancies, as the growth in the labour force is not sufficient to meet demand for labour. The upward pressure on wages is due also to growth in the minimum wage in recent years. Despite slowing somewhat, average wage growth in market sectors was close to 7%. Wages in non-market sectors recorded a similar trend. Growth in whole-economy labour productivity strengthened slightly and growth in nominal unit labour costs slowed in 2017 Q3.

III.3.1 Employment and unemployment

The fast growing economic activity is pushing up employment and further increasing labour market tightness (see Chart III.3.1). Despite a perceived shortage of available labour force, employment growth remained sizeable in 2017 Q3 (at 2%; see Chart III.3.2). It was driven mainly by an increase in the number of employees. As regards age structure, half of the growth in employment was due to the 45–59 age group, in which a drop in the number of unemployed people accounted for roughly one-third of the employment growth.

The growth in employment was mostly due to non-market services (see Chart III.3.2). The number of people employed in this area increased mainly in health care. The contributions of industry and market services were only slightly lower than those of non-market services. The employment growth in industry was traditionally concentrated in manufacturing, while that in market services was due both to transport and storage and professional, scientific and technical activities. On the other hand, the number of people employed in wholesale and retail trade and in accommodation and food service activities continued to decline. Construction also made a positive contribution to employment growth.

The converted number of employees increased markedly further due to strong growth in the number of employees.[20] Unlike in 2017 H1, the growth in employee numbers in Q3 was dampened by a modest decline in average hours worked (see Chart III.3.3). This reflected a significant contribution of part-time work to employment growth. The growth in the converted number of employees was quite broad-based across economic sectors. Given its large weight, manufacturing was the biggest contributor.

20 Despite its long-running strong year-on-year growth, however, the converted number of employees is below the level observed at the start of 2008.

A decrease in the number of unemployed persons pushed the general unemployment rate down to new historical lows (see Chart III.3.4). The Czech unemployment rate fell to 2.5% in November and remains the lowest in the EU. This is due mainly to a continued decline in the number of long-term unemployed. The strong labour market tightness is being partially eased by moderate growth in the number of economically active persons, which has raised the rate of economic activity above 76% since August. According to labour offices, the share of unemployed persons dropped to 3.6% in November and stayed at that level in December. This reflected a virtual halt of the decline in the number of available job applicants at the end of last year amid a continuing modest fall in the population aged 15–64.

The number of vacancies rose sharply in Q4, while the decline in the number of unemployed people almost halted. The number of vacancies offered via labour offices exceeded 230,000 in December (seasonally adjusted), a significant proportion of which were in manufacturing. There was also strong demand for new employees in wholesale and retail trade and construction. The solid economic growth meanwhile led to a sizeable year-on-year decline in the number of registered unemployed persons, especially in the category of the long-term unemployed. Their number fell by about 50,000 year on year to less than 100,000 in December. However, the decline almost halted at the end of last year. Viewed in terms of the Beveridge curve (see Chart III.3.5), the number of unemployed persons on the labour market is currently the lowest since the start of this century and the number of vacancies is at an all-time high (amid record-high employment and labour force levels). This is being reflected in marked wage growth, which helped keep core inflation distinctly positive even after one-off factors (such as the launch of ESR) subsided.

III.3.2 Wages and productivity

Despite slowing somewhat, average wage growth remained high in Q3 owing to strong tightness in the labour market. Both market and non-market sectors recorded strong earnings growth. Nominal wages in market sectors rose by 6.8% year on year. Wages in industry, trade, transport and storage and health care increased at an above-average rate. Wages in accommodation and food service activities saw the highest growth. This was linked with an increase in the minimum wage from CZK 9,900 to CZK 11,000 at the start of 2017. Wage growth in non-market sectors remained similar as in Q2, at 6.7%. This was due to a more than 9% rise in wages in culture. Wages in public administration and defence also grew by more than 8%. By contrast, wage growth in education fluctuated around 5% as in previous quarters. As for 2017 Q4, new monthly data from industry suggest that average nominal wage growth will accelerate again.

CHART III.3.4

UNEMPLOYMENT INDICATORS

Both the general unemployment rate and the share of unemployed persons are hitting new historical lows
(percentages; seasonally adjusted; source: MLSA, CZSO)

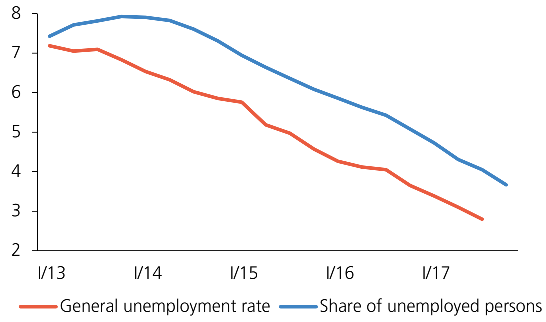


CHART III.3.5

BEVERIDGE CURVE

The fall in the number of unemployed persons gradually slowed, while the number of vacancies reached record highs
(numbers in thousands; seasonally adjusted; annual percentage changes for core inflation; source: MLSA, CZSO)

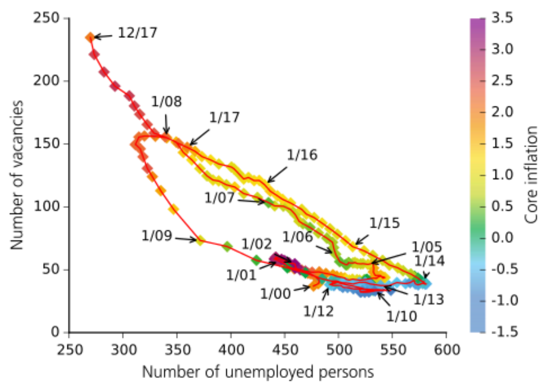


CHART III.3.6

AVERAGE WAGE AND WHOLE-ECONOMY LABOUR PRODUCTIVITY

Labour productivity grew much more slowly than wages; its growth was roughly stable in 2017
(annual percentage changes)

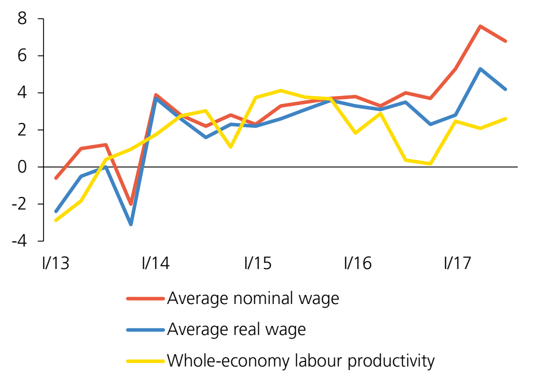


CHART III.3.7

PRODUCTIVITY BY SECTOR

The growth in whole-economy labour productivity continued to be driven primarily by industry

(annual percentage changes)

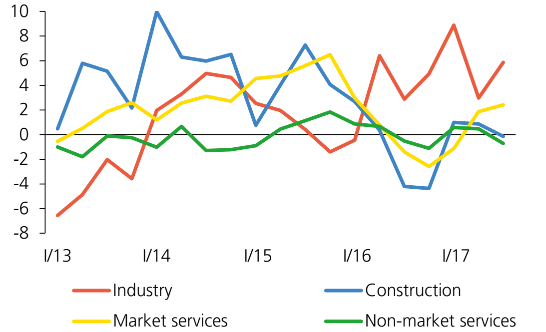
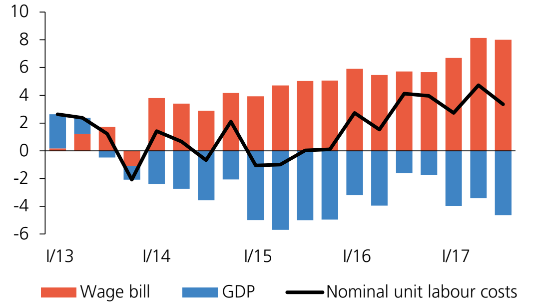


CHART III.3.8

UNIT LABOUR COSTS

Growth in nominal unit labour costs slowed in 2017 Q3 due to faster economic growth

(annual percentage changes; contributions in percentage points)



Growth in whole-economy labour productivity increased only slightly in 2017 Q3, as economic growth accelerated and employment increased at the same time. Whole-economy labour productivity[21] rose by 2.6% year on year in Q3 (see Chart III.3.6), similar to the rates recorded in 2017 H1. The individual sectors recorded mixed productivity trends (see Chart III.3.7). In industry and market services, productivity growth strengthened, mainly on the back of significantly higher GVA growth. The situation in non-market services was just the opposite, with productivity even falling slightly following a previous modest rise. Labour productivity in construction also worsened slightly year on year because of rapid growth in employment.

Growth in nominal unit labour costs slowed due to faster GDP growth and stable growth in the wage bill, but it remained quite high. Nominal unit labour costs increased by 3.4% year on year (see Chart III.3.8). However, very mixed trends were observed across the economy. Labour costs per unit of output rose the fastest in non-market services (by more than 8%). The growth in other sectors was significantly slower. In market services, growth in nominal unit labour costs only slightly exceeded 2%, while in industry it amounted to just 1.6% despite strong growth in the wage bill. Nominal unit labour costs in construction recorded even lower growth.

21 Total whole-economy productivity is calculated as the ratio of seasonally unadjusted 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).

III.4 FINANCIAL AND MONETARY DEVELOPMENTS

The monetary policy rate increases made in August and November 2017 and in February 2018 represented further steps in the gradual return of monetary policy to normal after the exit from the CNB's exchange rate commitment. Interest rates on the financial market, and gradually also client interest rates, responded to the raising of the two-week repo rate. The koruna strengthened moderately overall. Growth in loans to the private sector slackened slightly, mainly due to lower growth in loans for house purchase and a drop in lending in the real estate area. Growth in monetary aggregates slowed sharply at the end of last year as the specific market conditions that had led to the previous temporary surge in money growth subsided.

III.4.1 Monetary policy and interest rates

After raising its monetary policy rates in November 2017, the CNB increased them also in early February 2018.[22] These decisions were the second and the third increases in domestic interest rates after the exit from the CNB's exchange rate commitment in early April 2017. The overall monetary conditions thus continue to return gradually to normal.

PRIBOR rates increased to the same extent as the hike in the CNB's policy rates (see Chart III.4.1). The 3M PRIBOR rose to 0.65% on average in 2017 Q4 and then continued to grow moderately, averaging 0.76% in the first half of January. The money market premium, as measured by the spread between the 3M PRIBOR and the 2W repo rate, was close to 0.25 percentage point. FRA derivative rates went up gradually in 2017 Q4, even after the November meeting. The end-January outlook for FRA rates implies expectations of smooth growth in the 3M PRIBOR this year.

Domestic interest rates with longer maturities (IRS) also increased on the whole. They thus deviated further from rates on euro markets, which were volatile due to changing market opinions regarding the speed at which the ECB would abandon its current support measures[23] but changed only slightly overall. Domestic interest rates with maturities of over one year are responding predominantly to the adopted and expected monetary policy actions of the CNB and have risen by 0.5–0.6 percentage point over the past six months (see Chart III.4.1). They have increased slightly less at the longest maturities. The same goes for

CHART III.4.1

INTEREST RATES

Financial market interest rates responded to the increase in the CNB's policy rates by rising at all maturities
(percentages)

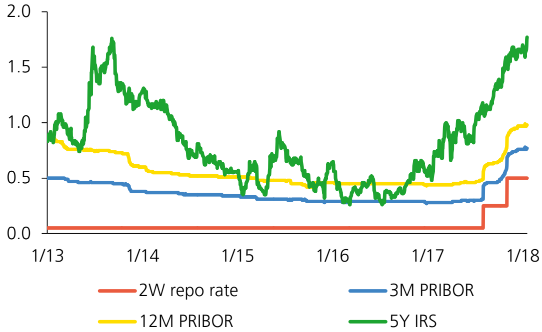
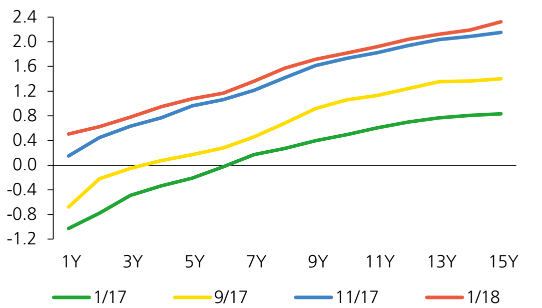


CHART III.4.2

GOVERNMENT BOND YIELD CURVE

The yield curve moved to a higher level
(percentages)



22 The two-week repo rate was set at 0.75% and the Lombard rate at 1.50% with effect from 2 February 2018. The discount rate was left unchanged at 0.05%. The changes in the CNB's key interest rates (in particular the raising of the 2W repo rate from technical zero) caused the composition of sterilised liquidity to change; the size of the deposit facility decreased in favour of better remunerated repo operations.

23 The ECB decided to reduce its monthly asset purchases to EUR 30 billion in January 2018. However, it simultaneously announced that it would continue making purchases until at least September this year. According to the markets, the ECB's communications regarding interest rates can be expected to increase in importance in the future due to accelerating inflation and a favourable economic outlook.

CHART III.4.3

INTEREST RATES ON MORTGAGE LOANS

Interest rates on new mortgage loans are responding only gradually to the growth in financial market interest rates
(new business, including increases; percentages)

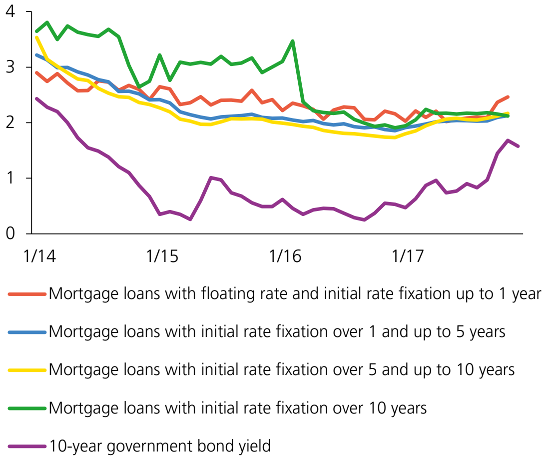
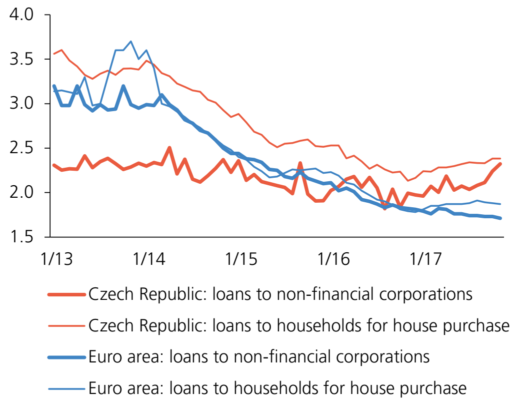


CHART III.4.4

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 are growing
(cost of borrowing indicators; percentages)



domestic government bond yields, whose yield curve has shifted higher and has been positive along its entire length since the end of October (see Chart III.4.2). Non-residents' total holdings of government bonds have dropped by about CZK 147 billion since the exit from the exchange rate commitment. At the end of December 2017, they amounted to CZK 571 billion. The share of non-residents in total holdings of these bonds was 42%. They have thus dropped by about 5 percentage points since the exchange rate commitment was discontinued.

The state continued to issue more T-bills than government bonds in the primary market. The Ministry of Finance took the opportunity to issue T-bills still with negative yields,[24] whereas negative yields were no longer achieved in government bond auctions.[25] The amount of T-bills issued since the start of October reached CZK 133.4 billion in nine auctions. In addition, 23 auctions of bonds with maturities of over one year were held in the same period. The amount of bonds issued was CZK 59.7 billion. The average bid-to-cover ratio was 1.7.

Mortgage interest rates are rising only slowly; only rates on loans with shorter fixation periods recorded faster growth. Given the assumed high sensitivity of demand to the interest rate, banks are cautious about raising mortgage prices. Rates on mortgage loans with longer fixation periods have risen by 0.3 percentage point since the end of 2016, when mortgage rates reached a historical low. Mortgage rates are rising at a slower pace than long-term financial market rates. The rate on new mortgages averaged 2.2% in November (see Chart III.4.3).

Interest rates on corporate loans went up slightly in Q4. In November they reached 2.3%, 0.6 percentage point above the euro area average (see Chart III.4.4).[26] Real client rates on loans to Czech corporations and loans to households for house purchase remain negative due to increased inflation and reflect the persisting accommodativeness of the interest rate component of the monetary conditions.

Bank financing costs increased. The financial market yield curve shifted upwards, while interest rates on deposits of households rose only slightly to 0.35% and those on deposits of non-financial corporations stayed at around 0.05%.

24 The T-bills issued in January had a slightly positive yield.
25 The Ministry of Finance was highly active on the government bond market while the exchange rate commitment was in place, taking advantage of low, and in some cases even negative, yields. The average yields in the auctions currently range between 0.8% and 2.6%, depending on the bonds' parameters and investors' interest.
26 The situation is different for consumer credit, where the difference compared with the euro area was around 3 percentage points despite a previous drop in interest rates below 9%.

III.4.2 The exchange rate

The koruna appreciated gradually for most of 2017 Q4, weakening temporarily only before the year-end. The koruna-euro exchange rate was relatively stable for most of Q3, but the koruna started to firm against the euro again after the September monetary policy meeting (see Chart III.4.5). This was due to expectations of further rapid growth in domestic interest rates, supported by the CNB's communication. As rates were eventually raised by "only" a quarter of a percentage point in November, the rate of appreciation of the koruna against the euro subsequently slowed. The strengthening of the euro on global markets due to the favourable economic situation in the euro area also fostered appreciation of the koruna. The koruna broke through CZK 25.5 to the euro at the end of November, but stayed at this level for only a few days and then reversed. It continued weakening until almost the end of December. This was largely due to the approaching year-end, when financial market participants optimise their portfolios, due in part to regulatory requirements. However, the koruna erased most of its December losses before New Year's Eve. The average exchange rate in Q4 was CZK 25.7 to the euro, which represents a year-on-year appreciation of 5.1%. The koruna has firmed to about CZK 25.4 to the euro since the start of January 2018.

The koruna also appreciated against the dollar in Q4. This trend was interrupted by just three short episodes. One of them was the aforementioned December weakening of the koruna due to the approaching year-end. The remaining two were caused by short-lived appreciations of the dollar on global markets. At the end of October, the dollar strengthened and the euro weakened after the ECB meeting, owing to the dovish tone of Mario Draghi's press conference. The dollar surged for a second time in early January (see Chart III.4.5). The average koruna-dollar rate in Q4 was CZK 21.8. The koruna appreciated by a sizeable 13.1% against the dollar in year-on-year terms. By mid-January, it had reached CZK 20.8 to the dollar.

The CNB's rate hike further widened the short-term interest rate differential against the euro, while the differential against the dollar was affected mainly by the Fed's increase in rates. The differential between 3M PRIBOR and 3M EURIBOR money market rates widened to 1.1 percentage points as a result of the November hike in Czech monetary policy rates (see Chart III.4.6). The short-term koruna-dollar interest rate differential responded similarly to the CNB's step by moving upwards, although it has been negative for two years now due to the previous divergence between the CNB's and the Fed's monetary policies. However, this differential widened again after the Fed also raised rates at its December meeting. It currently stands at -1 percentage point.

The koruna's nominal effective exchange rate continued to appreciate (see Chart III.4.7). The appreciation amounted to 6.6% year on year in December. Given the weights of the currencies in the index, the key factor was the appreciation of the koruna against the euro. The year-on-year appreciation of the koruna against the Chinese renminbi,

CHART III.4.5

CZK/EUR AND CZK/USD EXCHANGE RATES

The koruna resumed its appreciation trend in Q4, but at the very end of the year it depreciated temporarily

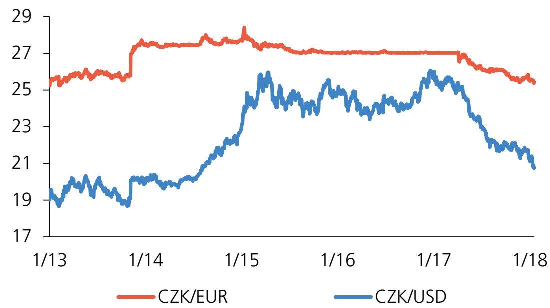


CHART III.4.6

INTEREST RATE DIFFERENTIALS

The interest rate differential of the koruna vis-à-vis the euro increased after the CNB raised interest rates, while the negative differential vis-à-vis the dollar widened again due to a rise in the Fed's rates

(percentage points)

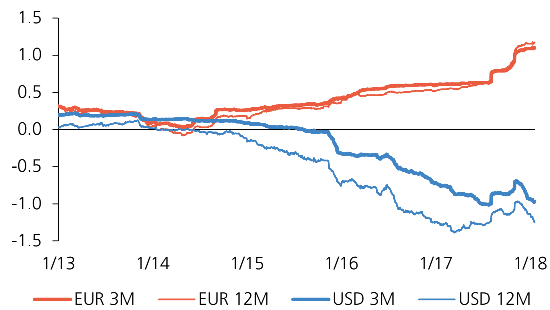
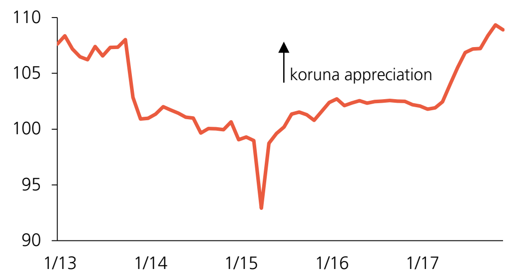


CHART III.4.7

NOMINAL EFFECTIVE KORUNA EXCHANGE RATE

The koruna exchange rate strengthened further in effective terms in Q4

(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.4.8

LOANS TO THE PRIVATE NON-FINANCIAL SECTOR

The slowdown in growth in loans to the private sector is particularly apparent in the segment of loans to non-financial corporations
(annual percentage rates of growth)

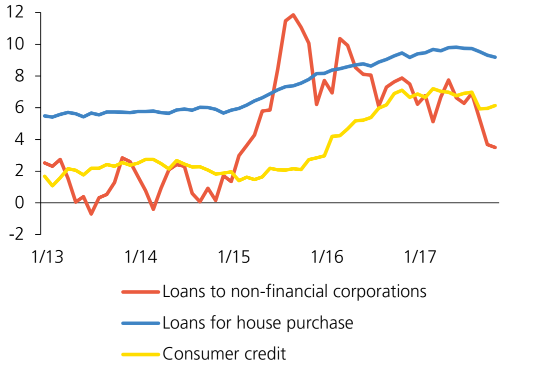


CHART III.4.9

CREDIT STANDARDS OF BANKS

Credit standards for loans for house purchase continue to tighten
(net percentages of banking market; positive value = tightening, negative value = easing)

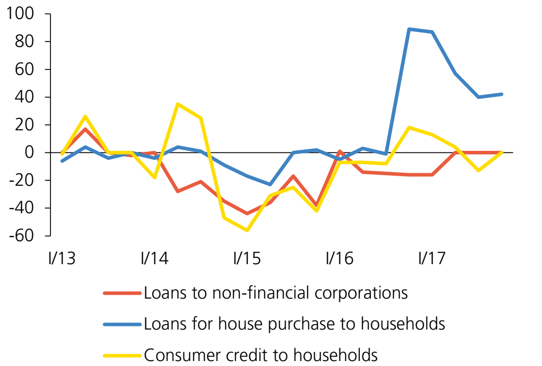
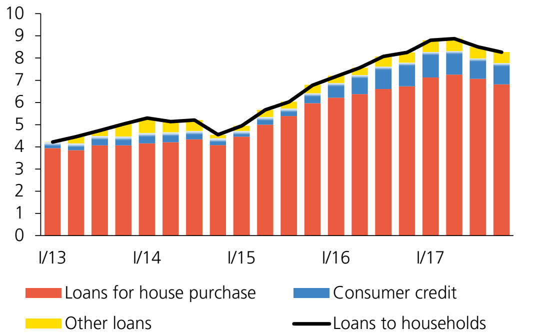


CHART III.4.10

LOANS TO HOUSEHOLDS

The slowdown in the high growth in loans for house purchase was reflected in slower growth in total loans to households
(annual percentage rates of growth; contributions in percentage points; end-of-quarter data; most recent data are for November 2017)



the US dollar and the British pound had a much smaller, but palpable, effect on the effective exchange rate. The koruna also appreciated strongly against the Japanese yen, the Swiss franc and the Russian rouble (by over 10% in each case). However, their weights in the index are smaller. The only currency of the NEER basket against which the koruna weakened in the given period was the Polish zloty.

III.4.3 Credit

Growth in loans to the private sector declined, mainly as a result of slower growth in loans to non-financial corporations. In addition, credit growth moderated due to lower growth in foreign currency loans to financial institutions. Growth in loans to households has also been gradually slowing recently (see Chart III.4.8). According to the Bank Lending Survey, banks expect demand for loans to non-financial corporations to increase moderately in 2018 Q1. By contrast, demand for loans to households is not expected to change.

Banks further tightened the credit standards for loans for house purchase while leaving them unchanged in the other credit market segments (see Chart III.4.9). The tightening of credit standards for house purchase loans continued to be due to the CNB's macroprudential measures and an increase in banks' cost of funds. At the same time, banks perceived risks regarding the residential property market and the overall economic situation. Downward pressure on interest margins persisted in the segment of loans to households. By contrast, margins on corporate loans increased, especially in the case of loans to large corporations.

The gradual tightening of credit conditions helped to slow down growth in loans for house purchase (see Chart III.4.8). This decrease was due to previous frontloading by the market in anticipation of tighter lending conditions, by the CNB's macroprudential measures and by a rise in financial market interest rates, which some banks started to incorporate into their mortgage rates. Growth in mortgages thus slowed to 9.7% in November. This was also reflected in a slower growth rate of total loans to households (see Chart III.4.10). The absolute volumes of new mortgages decreased, but they remain high.

Consumer credit has been rising steadily over the last two years (see Chart III.4.8). The growth in these loans of just above 6% is being supported, amid increased household optimism, by lowered interest rates, which reflect a drop in banks' average interest margins in this market segment. According to the Bank Lending Survey, banks expect demand for consumer credit to be roughly unchanged in 2018 Q1.

Growth in loans to non-financial corporations slowed in the last quarter due to a drop in loans in the real estate area. By contrast, loans increased in industry, transport, construction and wholesale and retail trade (see Chart III.4.11). Growth in foreign currency loans remains high due to previous balance sheet hedging against exchange rate risk, and is above the long-term average. However, it is below the historical high recorded in April 2017 and is gradually falling (it currently amounts to around 15%). The share of foreign currency loans in total loans to non-financial corporations dropped slightly to about 28%. In Q4, banks perceived growth in demand for loans for financing fixed investment, mergers and acquisitions and business and debt restructuring. Low interest rates had a positive effect. By contrast, banks felt that demand for loans was further reduced by the use of internal funding sources by corporations and newly also by issuance of debt securities.

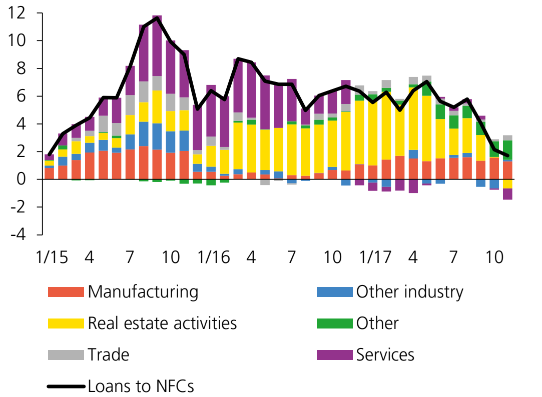
III.4.4 Money

M3 growth slowed significantly at the end of last year (see Chart III.4.12). The previous temporary surge caused by specific market conditions related to overboughtness of the koruna market and negative government bond yields is thus undergoing a gradual correction. In terms of the structure of M3, this is being reflected in falling year-on-year growth in deposits in financial investors' repo transactions with banks, accompanied by lower growth in deposits of households and non-financial corporations.

CHART III.4.11

LOANS TO NON-FINANCIAL CORPORATIONS BY SECTOR OF ACTIVITY

Loans to the sectors of manufacturing, construction and trade contributed the most to the growth in corporate loans
(annual percentage changes; contributions in percentage points)

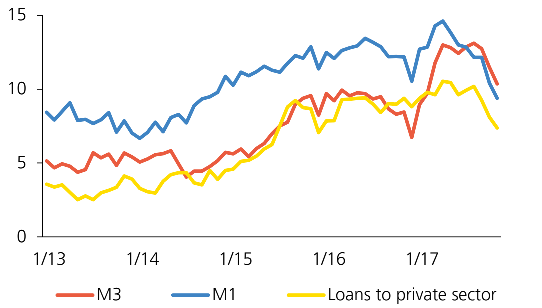


Note: Other comprises transport, construction and agriculture.

CHART III.4.12

MONETARY AGGREGATES AND LOANS

M3 growth slowed
(annual percentage rates of growth)



ABBREVIATIONS

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
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
ESR	electronic sales registration
ESCB	European System of Central Banks
EU	European Union
EUR	euro
EURIBOR	Euro Interbank Offered Rate
FDI	foreign direct investment
Fed	US central bank
FMIE	Financial Market Inflation Expectations
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
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).

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.

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.

Asking prices of apartments: Asking prices of older apartments as estimated by the CZSO.

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.

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.

Goods and services balance: The sum of the trade balance and the services balance.

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.

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.

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.

Monetary aggregates: Represent the amount of money in the economy covered in the monetary survey. According to the national definition, they are calculated from the monetary liabilities of resident monetary financial institutions to other resident sectors in the Czech Republic (households, non-financial corporations and financial institutions excluding the general government). Monetary aggregates differ according to the degree of liquidity of the individual components. The narrow monetary aggregate M1 comprises currency in circulation and overnight deposits. The broad monetary aggregate M2 comprises M1 plus total deposits with agreed maturity and redeemable at notice and repurchase agreements. The broad monetary aggregate M3 (harmonised with EU standards) comprises currency in circulation, overnight deposits, deposits with agreed maturity of up to two years, deposits redeemable at notice of up to three months, repurchase agreements, money market fund shares/units and issued debt securities with maturity of up to two years.

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. It can be understood as a concept similar to total factor productivity, e.g. in the Cobb-Douglas production function.

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.

Price-to-average wage ratio: The ratio of the price of an apartment to the sum of the annual average wage over the last four quarters. Higher values of this indicator usually mean that apartments are overpriced. The index is calculated from property transaction prices; the latest data are estimated from asking prices.

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.

Transaction prices of apartments (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.

Transaction prices of apartments (tax 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.

Transaction prices of housing: 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.

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.

		years									
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
DEMAND AND SUPPLY											
Gross domestic product											
GDP	CZK bn, constant p. of 2010, seas. adjusted	3958.1	4028.6	3999.6	3980.2	4088.2	4308.5	4415.8	**4614.9**	**4781.1**	**4936.0**
GDP	%, y-o-y, real terms, seas. adjusted	2.1	1.8	-0.7	-0.5	2.7	5.4	2.5	**4.5**	**3.6**	**3.2**
Household consumption	%, y-o-y, real terms, seas. adjusted	1.0	0.3	-1.2	0.5	1.8	3.8	3.6	**4.2**	**4.6**	**3.3**
Government consumption	%, y-o-y, real terms, seas. adjusted	0.5	-3.2	-2.0	2.5	1.1	1.9	2.0	**1.7**	**2.5**	**2.2**
Gross capital formation	%, y-o-y, real terms, seas. adjusted	4.0	1.8	-3.8	-5.1	8.5	13.1	-2.4	**4.7**	**7.7**	**4.2**
Gross fixed capital formation	%, y-o-y, real terms, seas. adjusted	1.0	0.9	-2.9	-2.5	3.9	10.4	-2.5	**5.8**	**8.8**	**5.7**
Exports of goods and services	%, y-o-y, real terms, seas. adjusted	14.2	9.2	4.5	0.2	8.7	6.2	4.3	**6.9**	**6.5**	**8.1**
Imports of goods and services	%, y-o-y, real terms, seas. adjusted	14.3	6.7	2.8	0.1	10.1	7.0	3.1	**6.2**	**8.7**	**8.7**
Net exports	CZK bn, constant p. of 2010, seas. adjusted	121.6	193.7	245.8	249.7	233.1	224.9	271.8	**312.5**	**256.7**	**253.5**
Coincidence indicators											
Industrial production	%, y-o-y, real terms	8.6	5.9	-0.8	-0.1	5.0	4.6	3.5	-	-	-
Construction output	%, y-o-y, real terms	-7.4	-3.6	-7.6	-6.7	4.3	7.1	-5.9	-	-	-
Receipts in retail sales	%, y-o-y, real terms	1.5	1.7	-1.1	1.2	5.5	8.1	6.4	-	-	-
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	-	-
Consumer Price Index	%, y-o-y, average	1.5	1.9	3.3	1.4	0.4	0.3	0.7	2.5	**2.3**	**1.9**
Regulated prices (18.70%)*	%, y-o-y, average	2.6	4.7	8.6	2.2	-3.0	0.0	0.2	0.0	**2.1**	**1.7**
Food prices (including alcoholic beverages and tobacco) (24.58%)*	%, y-o-y, average	0.9	3.9	2.8	3.1	1.8	0.0	0.2	3.6	**3.2**	**2.3**
Core inflation (53.32%)*	%, y-o-y, average	-1.2	-0.7	-0.4	-0.6	0.5	1.2	1.2	2.4	**1.8**	**1.9**
Fuel prices (3.39%)*	%, y-o-y, average	12.8	9.9	6.0	-2.3	0.2	-13.5	-8.5	6.7	**2.7**	**-2.0**
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	**2.3**	**1.8**
GDP deflator	%, y-o-y, seas. adjusted	-1.4	0.0	1.5	1.4	2.5	1.2	1.2	**1.5**	**2.8**	**2.0**
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	**1.3**	**1.5**
Agricultural prices	%, y-o-y, average	7.1	22.1	3.3	5.0	4.7	-6.7	-5.1	7.9	**2.7**	**2.3**
Construction work prices	%, y-o-y, average	-0.2	-0.5	-0.7	-1.1	0.5	1.2	1.2	1.6	-	-
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	**19.9**	**-5.6**
LABOUR MARKET											
Average monthly wage	%, y-o-y, nominal terms	2.2	2.5	2.5	-0.1	2.9	3.2	3.7	**6.9**	**7.4**	**4.9**
Average monthly wage	%, y-o-y, real terms	0.7	0.6	-0.8	-1.5	2.5	2.9	3.0	**4.5**	**5.0**	**3.1**
Number of employees	%, y-o-y	-2.2	0.0	-0.1	1.6	0.6	2.2	2.1	**1.6**	**1.0**	**0.4**
Unit labour costs	%, y-o-y	-1.5	0.3	3.4	1.0	0.9	-0.5	3.1	**3.7**	**4.5**	**2.1**
Unit labour costs in industry	%, y-o-y	-6.2	0.7	5.9	5.1	-0.4	1.8	1.0	-	-	-
Aggregate labour productivity	%, y-o-y	3.3	2.1	-1.2	-0.8	2.2	3.8	1.3	**2.7**	**2.5**	**2.8**
ILO general unemployment rate	%, average, age 15–64	7.4	6.8	7.0	7.1	6.2	5.1	4.0	**3.0**	**2.3**	**2.2**
Share of unemployed persons (MLSA)	%, average	7.0	6.7	6.8	7.7	7.7	6.5	5.5	4.2	**3.4**	**3.3**
PUBLIC FINANCE											
Government budget balance (ESA2010)	CZK bn, current prices	-166.0	-109.9	-159.6	-51.1	-83.1	-29.0	35.0	**81.3**	**88.4**	**99.3**
Government budget balance / GDP**	%, nominal terms	-4.2	-2.7	-3.9	-1.2	-1.9	-0.6	0.7	**1.6**	**1.6**	**1.8**
Government debt (ESA2010)	CZK bn, current prices	1480.2	1606.5	1805.4	1840.4	1819.1	1836.3	1754.9	**1752.4**	**1724.7**	**1690.7**
Government debt / GDP**	%, nominal terms	37.4	39.8	44.5	44.9	42.2	40.0	36.8	**34.7**	**32.1**	**29.8**
EXTERNAL RELATIONS											
Current account											
Trade balance	CZK bn, current prices	40.4	75.5	123.8	167.0	220.0	188.0	250.6	**245.0**	**245.0**	**255.0**
Trade balance / GDP	%, nominal terms	1.0	1.9	3.0	4.1	5.1	4.1	5.3	**4.8**	**4.6**	**4.5**
Balance of services	CZK bn, current prices	78.5	81.3	77.6	70.4	55.7	78.0	101.1	**115.0**	**120.0**	**125.0**
Current account	CZK bn, current prices	-141.8	-84.8	-63.3	-21.8	7.9	11.3	52.6	**45.0**	**50.0**	**45.0**
Current account / GDP	%, nominal terms	-3.6	-2.1	-1.6	-0.5	0.2	0.2	1.1	**0.9**	**0.9**	**0.8**
Foreign direct investment											
Direct investment	CZK bn, current prices	-95.0	-46.8	-121.3	7.4	-80.4	49.7	-141.0	**-145.0**	**-80.0**	**-70.0**
Exchange rates											
CZK/USD	average	19.1	17.7	19.6	19.6	20.8	24.6	24.4	23.4	**21.0**	**20.6**
CZK/EUR	average	25.3	24.6	25.1	26.0	27.5	27.3	27.0	26.3	**24.9**	**24.5**
CZK/EUR	%, y-o-y, real (CPI euro area), avg.	-4.5	-1.9	1.5	3.5	6.2	-1.2	-1.3	-3.4	**-6.0**	**-1.4**
CZK/EUR	%, y-o-y, real (PPI euro area), avg.	-3.9	-3.0	2.5	2.4	4.9	-0.4	-0.1	-1.6	**-4.7**	**-0.9**
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**	**-2.7**	**0.7**
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**	**-2.3**	**0.1**
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**	**7.0**	**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	**0.74**	**1.52**
3M PRIBOR	%, average	1.3	1.2	1.0	0.5	0.4	0.3	0.3	0.4	**0.9**	**1.7**

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

2015				2016				2017				2018				2019			
QI	QII	QIII	QIV	QI	QII	QIII	QIV	QI	QII	QIII	QIV	QI	QII	QIII	QIV	QI	QII	QIII	QIV
1057.5	1073.4	1086.0	1091.6	1095.0	1104.0	1106.0	1110.9	1127.7	1155.8	1161.1	1170.3	1180.5	1189.8	1199.8	1211.0	1221.2	1230.3	1238.7	1245.8
5.2	5.8	5.7	4.9	3.5	2.8	1.8	1.8	3.0	4.7	5.0	5.4	4.7	2.9	3.3	3.5	3.4	3.4	3.2	2.9
3.7	3.7	3.8	4.1	4.0	3.6	3.7	3.0	3.0	4.4	4.4	4.8	5.2	4.4	4.4	4.3	3.7	3.4	3.2	3.0
1.4	1.4	2.6	2.3	1.9	2.2	1.8	2.1	2.4	1.6	1.2	1.4	2.1	2.5	2.9	2.5	2.1	2.2	2.2	2.2
14.8	18.5	13.4	6.2	2.8	-5.2	-4.0	-3.1	-3.4	3.5	8.0	11.0	12.2	7.4	5.3	6.1	5.3	4.3	3.8	3.6
8.4	12.0	12.4	8.6	2.1	-3.1	-4.8	-3.9	-0.1	7.3	7.5	8.5	10.3	6.9	8.9	9.1	7.4	6.0	5.1	4.6
5.4	6.0	6.8	6.6	6.7	5.6	2.8	2.3	4.9	7.8	7.2	7.8	5.7	4.3	8.0	8.0	8.4	8.5	8.1	7.3
6.6	7.8	7.5	6.0	6.5	3.0	1.9	1.4	2.6	6.7	7.1	8.6	8.1	6.9	9.8	9.8	9.5	9.1	8.5	7.8
56.6	45.6	57.6	65.0	61.9	68.8	67.2	73.9	83.8	83.4	72.6	72.6	67.7	64.0	62.2	62.8	64.1	64.3	63.5	61.7
5.1	5.6	4.1	3.7	3.5	6.2	0.7	3.3	7.5	3.2	5.0	-	-	-	-	-	-	-	-	-
9.5	12.3	7.3	1.5	-6.9	-8.9	-6.6	-2.0	-0.3	5.4	-0.2	-	-	-	-	-	-	-	-	-
8.3	8.7	6.2	9.1	7.4	8.9	5.1	4.6	6.8	3.6	3.3	-	-	-	-	-	-	-	-	-
0.3	0.5	0.4	0.3	0.4	0.3	0.4	0.7	1.2	1.5	2.0	2.5	-	-	-	-	-	-	-	-
0.1	0.7	0.4	0.1	0.5	0.3	0.5	1.4	2.4	2.2	2.6	2.6	2.3	2.5	2.4	2.2	1.9	1.8	1.8	1.9
0.2	0.3	-0.2	-0.4	0.7	0.2	-0.1	-0.1	-0.5	-0.1	0.2	0.3	1.7	2.0	2.2	2.3	1.9	1.7	1.5	1.5
-0.9	0.7	0.3	0.0	-0.4	-0.8	0.2	1.8	3.4	2.9	3.9	4.4	3.2	3.7	3.3	2.7	2.4	2.3	2.1	2.2
1.1	1.1	1.1	1.3	1.3	1.1	1.1	1.4	2.1	2.5	2.7	2.5	2.0	1.7	1.6	1.7	1.7	1.8	1.9	2.1
-14.6	-10.1	-12.6	-16.6	-12.4	-12.4	-9.5	0.2	15.1	7.5	1.7	2.6	-0.5	3.9	5.9	1.7	-0.9	-3.4	-2.0	-1.5
-0.1	0.4	0.2	0.0	0.3	0.0	0.3	1.3	2.5	2.3	2.7	2.7	2.2	2.4	2.3	2.1	1.9	1.8	1.8	1.9
1.5	1.3	1.0	0.8	1.5	1.1	1.3	1.1	0.5	1.0	1.6	2.7	3.4	3.0	2.5	2.3	1.9	2.1	2.1	1.8
-3.3	-2.3	-3.6	-3.5	-4.0	-4.6	-3.3	-1.1	2.7	2.3	1.4	0.9	0.7	1.1	1.8	1.8	1.4	1.5	1.6	1.7
-9.3	-10.9	-6.5	1.8	-2.9	-6.9	-5.7	-4.1	-0.2	11.3	12.1	8.8	7.0	2.6	1.1	-0.1	2.1	1.6	2.8	2.9
1.0	1.3	1.4	1.3	1.3	1.1	1.1	1.2	1.4	1.6	1.7	1.8	-	-	-	-	-	-	-	-
-48.9	-42.1	-50.6	-41.6	-36.3	-26.1	-7.6	16.0	57.6	9.1	11.0	20.8	23.0	30.4	25.4	4.6	-5.9	-5.9	-5.6	-5.1
2.3	3.3	3.5	3.7	3.8	3.3	4.0	3.7	5.3	7.6	6.8	8.1	8.2	7.8	7.6	6.0	5.3	4.9	4.8	4.7
2.2	2.6	3.1	3.6	3.3	3.1	3.5	2.3	2.8	5.3	4.2	5.4	6.0	5.3	5.2	3.8	3.4	3.1	3.0	2.8
2.1	2.4	2.0	2.1	2.8	2.0	1.9	1.9	1.1	1.3	2.2	1.9	1.6	1.5	0.5	0.3	0.4	0.5	0.5	0.4
-1.0	-1.0	0.0	0.1	2.7	1.5	4.1	4.0	2.7	4.7	3.4	3.8	4.4	5.7	4.9	3.1	2.3	2.0	1.9	2.3
-0.7	0.4	3.0	4.4	5.3	-1.3	1.5	-1.2	-1.8	5.6	1.6	-	-	-	-	-	-	-	-	-
3.8	4.1	3.8	3.7	1.8	2.9	0.4	0.2	2.5	2.1	2.6	3.6	3.2	1.4	2.7	3.0	3.0	3.0	2.8	2.5
6.1	5.0	4.9	4.5	4.4	4.0	4.0	3.6	3.5	3.0	2.8	2.5	2.4	2.2	2.3	2.2	2.3	2.1	2.1	2.1
7.5	6.4	6.2	6.0	6.3	5.4	5.3	5.0	5.1	4.2	3.9	3.6	3.8	3.3	3.3	3.3	3.7	3.2	3.2	3.3
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
74.4	45.9	33.1	34.6	83.7	81.5	45.5	39.9	90.9	72.8	42.8	38.5	85.0	76.0	43.0	41.0	87.0	79.0	45.0	44.0
7.0	4.0	2.8	2.9	7.5	6.7	3.8	3.2	7.8	5.7	3.3	2.9	6.8	5.7	3.2	2.9	6.6	5.6	3.1	3.0
19.2	19.4	20.2	19.3	24.5	24.8	27.4	24.4	26.7	32.0	27.7	28.7	28.0	32.0	31.0	29.0	29.0	33.0	33.0	30.0
93.4	-48.4	-48.4	14.7	109.9	-11.6	-22.8	-22.8	97.6	-8.6	-37.7	-6.3	99.0	-6.0	-39.0	-4.0	102.0	-12.0	-45.0	0.0
8.8	-4.2	-4.1	1.2	9.9	-1.0	-1.9	-1.8	8.4	-0.7	-2.9	-0.5	7.9	-0.4	-2.9	-0.3	7.7	-0.8	-3.1	0.0
3.3	-1.4	20.2	27.6	9.6	-84.2	-51.6	-14.8	-62.7	-26.2	-11.9	-	-	-	-	-	-	-	-	-
24.5	24.8	24.3	24.7	24.5	23.9	24.2	25.1	25.4	24.1	22.2	21.8	21.4	21.2	20.9	20.7	20.7	20.6	20.6	20.6
27.6	27.4	27.1	27.1	27.0	27.0	27.0	27.0	27.0	26.6	26.1	25.6	25.4	24.9	24.7	24.6	24.6	24.5	24.5	24.5
0.4	-0.7	-2.3	-2.1	-2.4	-1.5	-0.5	-0.7	-0.7	-2.5	-4.3	-5.9	-6.7	-6.8	-6.0	-4.5	-3.6	-1.5	-0.3	-0.1
1.2	0.0	-1.0	-1.7	-1.9	-0.3	0.8	1.0	0.8	-1.0	-2.4	-3.7	-5.5	-5.1	-4.6	-3.6	-2.5	-0.9	-0.1	0.0
-0.5	-0.5	-2.7	-3.3	-4.2	-4.3	-2.7	-1.3	2.2	1.0	-1.1	-2.5	-4.5	-3.6	-1.8	-0.8	-0.4	0.5	1.2	1.4
-1.5	0.0	-2.5	-3.8	-5.6	-6.3	-3.7	-0.4	5.1	2.9	-0.9	-3.2	-4.9	-3.2	-0.7	-0.1	-0.5	-0.1	0.5	0.6
5.7	6.4	8.0	9.2	9.7	9.5	9.0	8.1	10.2	12.6	12.7	11.1	8.5	6.2	6.0	7.2	8.0	8.4	8.5	8.1
0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.25	0.50	0.72	0.78	0.73	0.72	0.94	1.27	1.70	2.16
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.7	0.9	1.0	0.9	0.9	1.1	1.5	1.9	2.4

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