

INFLATION REPORT / III

2016



# INFLATION REPORT / III

---



In 1998, the Czech National Bank switched to inflation targeting. In the inflation targeting regime, the central bank's communication with the public plays a significant role. One of the core elements of this communication is the publishing of quarterly Inflation Reports. Section II of the Inflation Report contains a description of the Czech National Bank's new quarterly macroeconomic forecast, and section III presents its assessment of past economic and monetary developments.

The inflation forecast and the assumptions underlying it are published with the aim of making monetary policy as transparent, comprehensible, predictable and therefore credible as possible. The Czech National Bank is convinced that credible monetary policy effectively influences inflation expectations and minimises the costs of maintaining price stability. Maintaining price stability is the Czech National Bank's primary objective.

The forecast for the Czech economy is drawn up by the CNB's Monetary Department. The forecast for inflation at the "monetary policy horizon" (about 12–18 months ahead) is of greatest relevance to the decision-making on the current interest rate settings.

The forecast is the key, but not the only, input to the Bank Board's decision-making. At its meetings during the quarter, the Bank Board discusses the current forecast and the balance of risks and uncertainties surrounding it. The Bank Board's final decision may not correspond to the message of the forecast due to the arrival of new information since the forecast was drawn up and to the possibility of asymmetric assessment of the risks of the forecast and divergent views of some board members on the development of the external environment or the linkages between the various indicators within the Czech economy.

This Inflation Report was approved by the CNB Bank Board on 11 August 2016 and contains the information available as of 22 July 2016. 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 the [CNB 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 published at the same internet address.



<b>FOREWORD</b>	<b>3</b>
<b>CONTENTS</b>	<b>5</b>
<b>I. SUMMARY</b>	<b>6</b>
<b>II. THE FORECAST, ITS CHANGES AND RISKS</b>	<b>9</b>
<b>II.1 External assumptions of the forecast</b>	<b>9</b>
BOX 1 A model of the effective indicator of industrial producer prices in the euro area	10
<b>II.2 The forecast</b>	<b>13</b>
BOX 2 The impact of the Balassa-Samuelsen effect on prices in the domestic economy	17
<b>II.3 Comparison with the previous forecast</b>	<b>26</b>
<b>II.4 Forecasts by other entities</b>	<b>28</b>
<b>III. CURRENT ECONOMIC DEVELOPMENTS</b>	<b>30</b>
<b>III.1 Inflation</b>	<b>30</b>
III.1.1 Fulfilment of the inflation target	30
III.1.2 Current inflation	32
<b>III.2 Import prices and producer prices</b>	<b>34</b>
III.2.1 Import prices	34
III.2.2 Producer prices	35
<b>III.3 Demand and output</b>	<b>37</b>
III.3.1 Domestic demand	37
III.3.2 Net external demand	39
III.3.3 Output	39
III.3.4 Potential output and estimate of the cyclical position of the economy	40
<b>III.4 The labour market</b>	<b>42</b>
III.4.1 Employment and unemployment	42
III.4.2 Wages and productivity	43
<b>III.5 Financial and monetary developments</b>	<b>45</b>
III.5.1 Money	45
III.5.2 Credit	45
III.5.3 Interest rates	47
III.5.4 The exchange rate	50
III.5.5 Economic results of non-financial corporations	51
III.5.6 Financial position of corporations and households	52
III.5.7 The property market	53
<b>III.6 The balance of payments</b>	<b>55</b>
III.6.1 The current account	55
BOX 3 The Czech Republic's trade relations with the UK	56
III.6.2 The capital account	58
III.6.3 The financial account	58
<b>III.7 The external environment</b>	<b>60</b>
III.7.1 The euro area	60
III.7.2 The United States	62
III.7.3 The exchange rate of the euro against the dollar and other major currencies	63
III.7.4 Prices of oil and other commodities	64
<b>CHARTS IN THE TEXT</b>	<b>66</b>
<b>TABLES IN THE TEXT</b>	<b>69</b>
<b>ABBREVIATIONS</b>	<b>70</b>
<b>BOXES AND ANNEXES CONTAINED IN INFLATION REPORTS</b>	<b>71</b>
<b>GLOSSARY</b>	<b>73</b>
<b>KEY MACROECONOMIC INDICATORS</b>	<b>78</b>

## I. SUMMARY

Both headline and monetary policy-relevant inflation decreased slightly in 2016 Q2 and thus stayed well below the CNB's target. The growth of the Czech economy is slowing as a result of a drop in government investment and will reach 2.4% in 2016 as a whole. Economic activity is still being supported by easy monetary conditions, growth in external demand and low oil prices. GDP growth will pick up again to 3% in the next two years. In the context of continued economic growth, the labour market situation will improve further, including an acceleration of wage growth. The growing economic activity and wages will continue to foster higher domestic costs over the entire forecast horizon. The anti-inflationary effect of import prices will disappear. Both headline and monetary policy-relevant inflation will therefore increase and slightly exceed the 2% target at the monetary policy horizon. They will then return to the target from above. The forecast assumes that market interest rates will be flat at their current very low level and the exchange rate will be used as a monetary policy instrument until mid-2017. Consistent with the forecast is an increase in market interest rates thereafter.

The annual rate of growth of the **Czech economy** slowed to 3% in **2016 Q1**, owing mainly to slower growth in investment. All components of demand except inventories made positive contributions to the growth. The forecast expects GDP growth to slow further in 2016 Q2 as a result of a drop in government investment.

Both **headline and monetary policy-relevant inflation** slowed on average in **2016 Q2** and thus stayed well below the CNB's target, or below the lower boundary of the tolerance band around the target (see Chart I.1). This low inflation is still being caused by positive supply-side shocks from abroad. These shocks are reflected in a renewed decline in food prices and administered prices as well as a drop in fuel prices, which has, however, now started to moderate. Adjusted inflation excluding fuels, which reflects growth in the domestic economy and wages, thus remained the main driver of consumer price inflation.

Growth in economic activity in the **effective euro area** will fluctuate around 2% over the entire forecast horizon, although it will dip temporarily below this level next year as a result of worse economic sentiment following the UK referendum. Producer and consumer price inflation in the euro area remains very subdued. However, both producer and consumer prices will rise gradually as a result of the unwinding of the effect of the drop in oil prices and continuing growth of the euro area economy. This will also be fostered by the ECB's easy monetary policy, which is reflected in the outlook for 3M EURIBOR market interest rates. This outlook is negative until the end of 2018. The Brent crude oil price is expected to rise gradually.

According to the **forecast, both headline and monetary policy-relevant inflation** will start to rise in the near future and slightly exceed the 2% target at the monetary policy horizon (see Charts I.1

CHART I.1

## HEADLINE INFLATION FORECAST

Headline inflation will increase and slightly exceed the 2% target at the monetary policy horizon

(year on year in %)

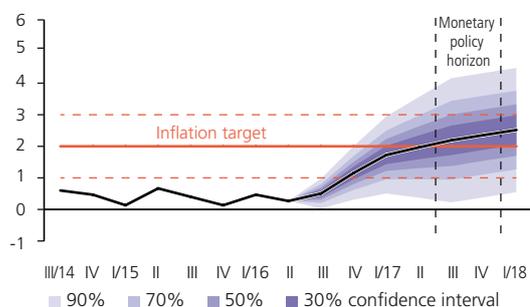
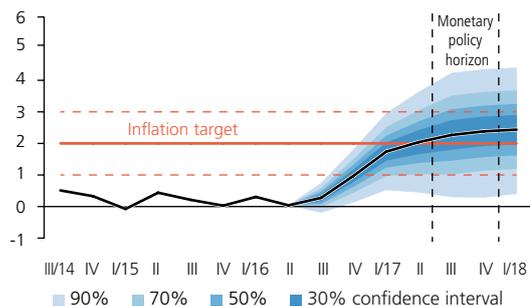


CHART I.2

## MONETARY POLICY-RELEVANT INFLATION FORECAST

Monetary policy-relevant inflation will break free from zero and fluctuate slightly above the 2% target at the monetary policy horizon

(year on year in %)



and I.2). During 2018, inflation will return to the target from above. Domestic costs will continue to rise apace over the entire forecast horizon due to rising wages and price of capital amid continued growth in economic activity. At the same time, the anti-inflationary effect of import prices, stemming from a fall in producer prices in the euro area, will gradually disappear. These factors will cause adjusted inflation excluding fuels to pick up from the end of this year. Food prices will start to rise from the end of 2016 owing to the evolution of world prices of agricultural commodities and the fading of one-off effects observed last year. Administered prices will be broadly flat overall this year and increase modestly over the next two years. The current deep year-on-year decline in fuel prices will moderate and these prices will start rising at the end of this year in line with world prices of oil.

The forecast expects market **interest rates** to be flat at their current very low level until mid-2017 (see Chart I.3). This reflects an assumption that the 2W repo rate will be left at technical zero and the money market premium will remain unchanged in the same period. Consistent with the forecast is an increase in market interest rates in the second half of 2017, followed by a further modest rise in 2018. The forecast assumes that the **exchange rate** will be used as a monetary policy instrument with the CNB's commitment at CZK 27 to the euro until mid-2017. The 2% inflation target will be exceeded slightly in 2017 Q3. Sustainable fulfilment of this target is a condition for a return to conventional monetary policy. This return should not result in the exchange rate appreciating sharply to the slightly overvalued level recorded before the CNB started intervening, among other things because the weaker exchange rate of the koruna is in the meantime passing through to the price level and other nominal variables. Nevertheless, a positive interest rate differential against the euro and the repercussions of the ECB's quantitative easing, which the forecast assumes will last until March 2017, will manifest themselves after the exit from the exchange rate commitment. Renewed – although much slower than in the pre-crisis period – real convergence of the Czech economy to the advanced euro area countries will act in the same direction. According to the forecast, the koruna will thus appreciate against the euro in the second half of 2017. It will also appreciate slightly in 2018.

The **growth of the Czech economy** will slow to 2.4% this year (see Chart I.4) because of a temporary decline in gross capital formation due mainly to a drop in government investment co-financed from EU funds. By contrast, the economy will continue to be supported by easy domestic monetary conditions via the weakened koruna and exceptionally low interest rates. Low oil prices and rising external demand are also fostering economic growth. Growth will pick up again to 3% in the next two years, with positive contributions from all components of demand except inventories. The rising economic activity will manifest itself in the **labour market** in faster wage growth and continued growth in employment, although its pace will slow. This will result in a further, albeit only modest, decrease in the unemployment rate.

CHART I.3

## INTEREST RATE FORECAST

The forecast expects market interest rates to be flat at their current very low level until mid-2017; consistent with the forecast is an increase in rates thereafter

(3M PRIBOR in %)

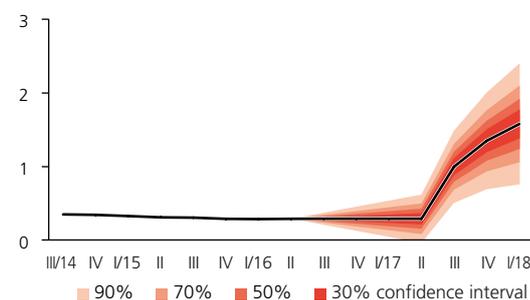
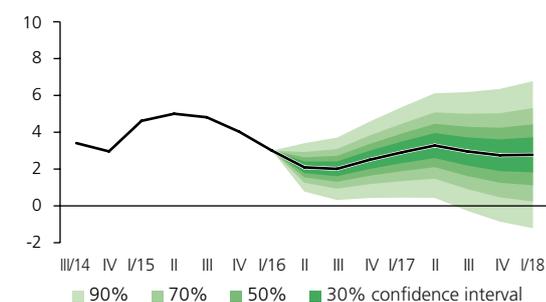


CHART I.4

## GDP GROWTH FORECAST

GDP will slow markedly this year due mainly to a drop in government investment financed from EU funds, and will pick up again in 2017

(annual percentage changes; seasonally adjusted)



At its monetary policy meeting on 4 August 2016, the Bank Board decided unanimously to keep interest rates unchanged at technical zero. The Bank Board also decided to continue **using the exchange rate as an additional instrument for easing the monetary conditions** and confirmed the CNB's commitment to intervene on the foreign exchange market if needed to weaken the koruna against the euro so that the exchange rate of the koruna is kept close to CZK 27 to the euro. A need to maintain expansionary monetary conditions at least to the current extent persists. The Bank Board assessed the risks to the forecast at the monetary policy horizon as being balanced. The main uncertainties of the forecast include the impacts of the outcome of the UK referendum on external demand, the effect of the domestic election cycle on public expenditure growth and the depth of the fall in government investment this year. At the same time, the uncertainty surrounding the impact of the long-lasting low inflation on the anchoring of inflation expectations has declined somewhat. In this context, however, the CNB still stands ready to shift the exchange rate commitment to a weaker level if there were to be a systematic decrease in inflation expectations manifesting itself in nominal variables, especially wages. At the same time, the Bank Board stated that the CNB would not discontinue the use of the exchange rate as a monetary policy instrument before 2017. The Bank Board still considers it likely that the commitment will be discontinued in mid-2017.

## II. THE FORECAST, ITS CHANGES AND RISKS

### II.1 EXTERNAL ASSUMPTIONS OF THE FORECAST

Growth in external economic activity will fluctuate around 2% over the entire forecast horizon, although it will dip temporarily below this level next year due to the impacts of the UK referendum on leaving the EU (Brexit). The previous sharp decline in energy commodity prices is reflected in an outlook for subdued growth in industrial producer prices, which will not return to annual growth until the start of next year. Consumer price inflation will also rise gradually, but will stay below 2% over the entire horizon. The outlook for 3M EURIBOR market interest rates, which is negative until the end of 2018, reflects continued easy monetary policy of the ECB, which – together with the outcome of the UK referendum – also manifests itself in a further expected weakening of the euro against the US dollar. The outlook for the Brent crude oil price is gradually rising over the entire forecast horizon.

The outlook for the **effective indicator of euro area GDP** foresees a pick-up in economic growth to 2.2% this year. This is 0.3 percentage point higher than in 2015 (see Chart II.1.1).<sup>1</sup> This pick-up will be fostered by continued easy monetary policy of the ECB, a related weaker exchange rate of the euro and low prices of energy commodities. By contrast, economic growth in the effective euro area is expected to slow to 1.8% next year and rebound slightly to 2% in 2018. Compared to the previous forecast, this represents an increase in the outlook for this year of 0.2 percentage point, reflecting the unexpectedly good results in Q1. Conversely, the outlook for next year is slightly lower on account of the impacts of the Brexit referendum on economic sentiment. However, these impacts are still a source of significant uncertainty.

The outlook for the **effective indicator of producer prices in the euro area** continues to reflect the previous fall in prices of oil and other energy commodities. Producer prices are expected to go down by 3% on average this year (see Chart II.1.2). Their growth is predicted to return to positive values at the start of next year, owing to the unwinding of the effect of the commodity price decrease coupled with continued economic growth. Producer prices are expected to rise by 1.4% on average next year and accelerate further to 2.1% in 2018.<sup>2</sup> The outlook for 2016 is 0.6 percentage point lower than in the previous forecast and the outlook for next year is also slightly lower.

CHART II.1.1

#### EFFECTIVE GDP IN THE EURO AREA

**Growth in external economic activity will slow in 2017 and then increase slightly again**

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

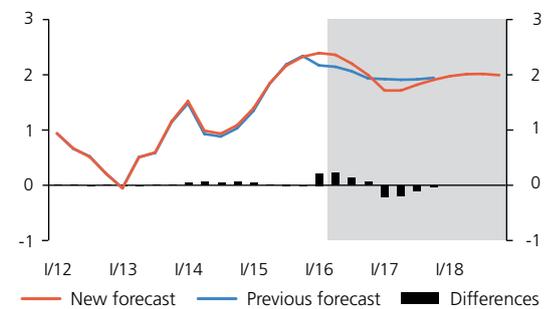
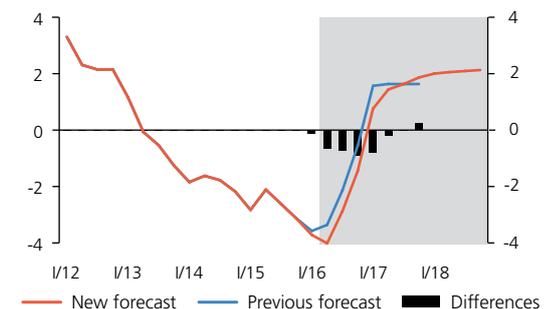


CHART II.1.2

#### EFFECTIVE PPI IN THE EURO AREA

**The decline in industrial producer prices will fade out in early 2017 and producer price inflation will subsequently converge towards 2%**

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



1 The outlooks for euro area GDP, PPI and CPI and the dollar-euro exchange rate are based on the July Consensus Forecasts (CF). The outlooks for the 3M EURIBOR and the Brent crude oil price are derived from prices of market contracts as of 11 July 2016. The outlook is indicated by the grey areas in the charts. This convention is used throughout this Report.

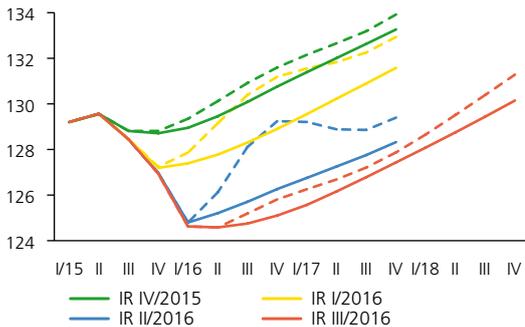
2 Expected industrial producer price inflation in the effective euro area has undergone a downward expert adjustment of 0.2 percentage point over the entire forecast horizon relative to the July CF outlook, as the CF analysts did not take the decline in commodity prices sufficiently into account (see Box 1).

CHART 1 (BOX)

### COMPARISON OF EXPERT ADJUSTMENTS WITH BASELINE PPI SCENARIOS BASED ON CF AND EIU FORECASTS

Past expert adjustments shifted the PPI forecast in the right direction, but to an insufficient extent from the current perspective

(base index; year 2000 = 100; source: CF, EIU, CNB calculation)



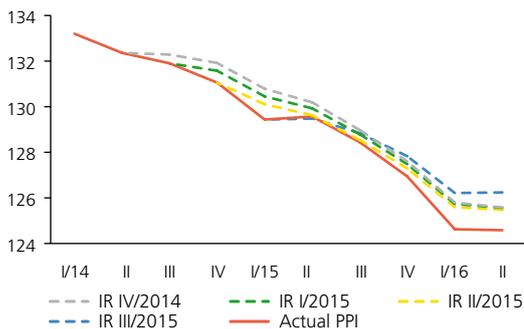
Note: The unbroken lines depict the expert adjustments of the PPI scenarios for the given forecasts. The dashed lines denote the scenarios based on CF and EIU forecasts.

CHART 2 (BOX)

### SIMULATION OF MODEL FORECASTS WITH KNOWLEDGE OF THE EVOLUTION OF INDEPENDENT VARIABLES

If the model had had knowledge of the explanatory variables, it would have simulated the subsequent path of the PPI very well

(base index; year 2000 = 100; source: CF, EIU, CNB calculation)



Note: The unbroken line depicts the actual path of the PPI. The dashed lines denote the model forecasts from the given period using the ex post realised evolution of the explanatory variables.

### BOX 1

#### A model of the effective indicator of industrial producer prices in the euro area

The CF forecast of the effective indicator of industrial producer prices in the euro area (PPI) is generally less reliable<sup>3</sup> than, for example, the outlooks for effective inflation or GDP in the euro area. Moreover, the quality of the PPI forecast has deteriorated significantly in recent years. The PPI recorded a constant deep decline in this period, owing initially to the previous economic downturn in the euro area and later to the drop in world prices of oil. By contrast, the CF and EIU forecasts for individual countries mostly returned relatively rapidly to the long-run equilibrium rate of inflation. They therefore significantly overestimated the subsequent outcomes without sufficiently quickly and strongly taking into account the downturn in economic activity and subsequently the drop in prices of oil and other commodities, which account for a large proportion of costs in industry. For the purposes of the CNB forecast, therefore, the PPI scenario has been lowered (since 2015 Q4) to varying degrees relative to CF and the EIU. These past expert adjustments shifted the forecast in the right direction (see Chart 1), but to an insufficient extent from the current perspective. This box presents a simple **econometric model** that provides a PPI forecast consistent with the expected evolution of other variables in the external environment. It can therefore be used as a systematic tool to verify the consistency of the outlooks for foreign variables and potentially as a guide for making expert adjustments to the PPI outlook in terms of both their direction and magnitude.

The **model specification** is based on the assumption that the PPI is strongly affected by commodity prices, among which the price of Brent crude oil plays a key role.<sup>4</sup> Furthermore, it can be assumed that producer prices reflect the exchange rate of the euro, which affects producers' import costs and export competitiveness. In this case, the exchange rate of the euro against the US dollar is incorporated (EUR; an increase means appreciation of the euro). Finally, producer price inflation can be expected to be higher at a time of high real euro area growth (GDP) than at a time of recession. To capture the long-term equilibrium relationship between the time series and

- 3 Consensus Forecasts publications pay little attention to the PPI – Germany and Italy are the only euro area countries for which such forecasts are published. Moreover, the forecasts are calculated on the basis of projections from about only one-half of the number of analytical institutions compared, for example, to the inflation or GDP forecasts. The EIU forecasts for other euro area countries are therefore also taken into account in the calculation of the effective PPI indicator.
- 4 Prices of other industrial commodities and agricultural commodities are highly correlated with the price of oil. The price of oil in euros is important for European producers (and hence also for the model).

the short-term dynamics simultaneously, the following error correction model (ECM)<sup>5</sup> is used:

$$\Delta \log(PPI_t) = 0.60 \cdot \Delta \log(PPI_{t-1}) + 0.03 \cdot \Delta \log(Brent_t) + 0.22 \cdot \Delta \log(GDP_t) - 0.07 \cdot [\log(PPI_{t-1}) - 1.24 - 0.06 \cdot \log(Brent_{t-1}) - 0.15 \cdot \log(EUR_{t-1}) - 0.70 \cdot \log(GDP_{t-1})]$$

The short-term PPI dynamics are affected in a statistically significant manner by euro prices of oil and euro area real GDP growth. By contrast, the effect of the euro exchange rate is not significant from the short-term point of view. There is also a long-run equilibrium relationship between these economic variables, although the return to this equilibrium is only gradual. According to this relationship, higher euro prices of oil and economic activity are connected with a higher PPI, in line with intuition. Conversely, the relationship between the euro exchange rate and producer prices in this equilibrium relationship is rather surprising, as, in the long run, producer prices display a statistically significant rise, not a fall, as the euro appreciates.<sup>6</sup>

In addition to test statistics, the quality of the estimated model can be shown by **simulations using data known ex post** (see Chart 2). It can be seen that if actual (subsequently realised) values of the explanatory variables are used to simulate the PPI forecast, the consistency of the forecast with the subsequent PPI outturns at the given horizon is very satisfactory.

In practice, however, the model will have to be based on imperfect forecasts of the explanatory variables. **Simulations of the PPI forecasts in real time**<sup>7</sup> (see Chart 3) capture subsequent outturns in recent years better than the scenarios based on CF and EIU forecasts, even though in the most recent forecasts these scenarios were expertly adjusted in the right direction (i.e. lowered, see above). The model will thus be used to ensure that the expert adjustments made to the effective euro area PPI are consistent with the outlooks for other foreign variables. That said, the CF and EIU outlooks have recently converged with the results of the model for the first time in a long time. For this reason, the need for expert adjustment was only small this time.

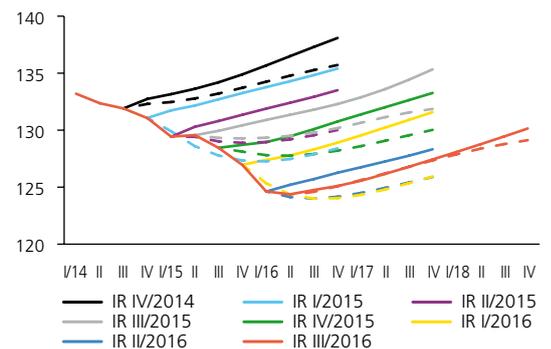
- 5 The model is estimated using the least squares method on quarterly time series. The data start in 1993 Q1 and end in 2016 Q1. Time series that are assumed to behave exponentially in the long run are log-linearised. The coefficients for variables in differences (for which the  $\Delta$  operator is used) are interpreted from the economic perspective as short-term elasticities. To remove auto-correlation in residuals, the equation includes a lagged value  $\Delta \log(PPI_{t-1})$ . Only statistically significant variables are included in the equation.
- 6 Rather than a causal relationship between the exchange rate and prices, this may be just co-movement due to a common factor such as non-price competitiveness which is not explicitly captured by the model. It may lead concurrently to appreciation/depreciation of the nominal exchange rate of the euro and to higher/lower euro area producer prices. This property of the model will be subject to further analysis.
- 7 This means the model is estimated, as in the first case, only using known data up to the forecast date. Scenarios of the explanatory variables from the relevant forecasts are used for subsequent forecasts.

CHART 3 (BOX)

**SIMULATIONS OF THE MODEL FORECASTS IN REAL TIME AND COMPARISON WITH THE ASSUMPTIONS OF THE RELEVANT FORECASTS**

**The PPI model provides better forecasts than the scenarios based on CF and EIU forecasts**

(base index; year 2000 = 100; source: CF, EIU, CNB calculation)



Note: The unbroken lines depict the known outturns and the related PPI scenarios from the relevant forecasts. The dashed lines denote the model forecasts using the actual scenarios for the explanatory variables from the given forecasts.

CHART II.1.3

**EFFECTIVE CPI IN THE EURO AREA**

**Consumer price inflation will gradually approach 2% from below**

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

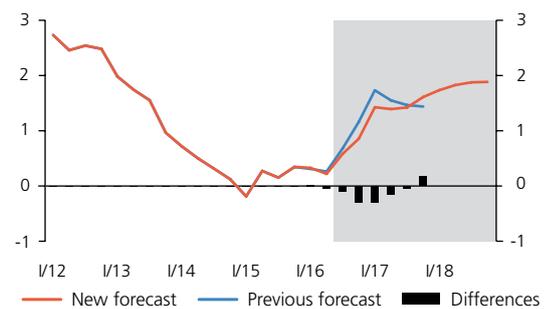
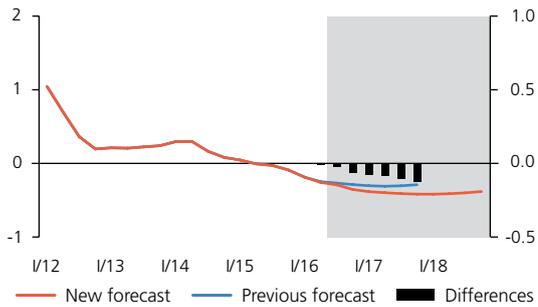


CHART II.1.4

## 3M EURIBOR

Continued easy monetary policy of the ECB is reflected in an outlook for negative market interest rates in the euro area over the entire forecast horizon, i.e. until the end of 2018 (in %; differences in percentage points – right-hand scale)



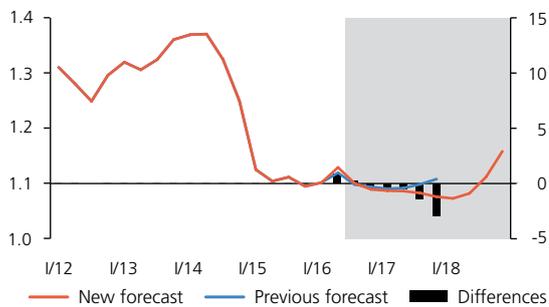
The outlook for the **effective indicator of consumer prices in the euro area** reflects the easy monetary policy of the ECB, the unwinding of the effect of low energy prices, and continued economic growth. Euro area consumer prices are expected to rise by 0.5% this year, up by 0.4 percentage point on the previous year (see Chart II.1.3). They are expected to go up by 1.5% next year and accelerate further to 1.8% in 2018. Compared to the previous forecast, however, this means slightly lower figures until almost the end of 2017.

The outlook for **3M EURIBOR market interest rates** reflects the subdued inflation in the euro area and continued easy monetary policy of the ECB. Market interest rates are expected to be negative<sup>8</sup> over the entire forecast horizon, slightly more so than in the previous forecast (see Chart II.1.4). 3M EURIBOR rates are expected to average -0.3% this year and -0.4% in the following two years. The market outlook for foreign interest rates at the three-month horizon is in line with the expectations of the analysts surveyed in the July CF. The market outlook for the 12-month horizon is 0.1 percentage point lower compared to CF.

CHART II.1.5

## EURO-DOLLAR EXCHANGE RATE

The euro-dollar exchange rate will gradually weaken until the start of 2018 (USD/EUR; differences in % – right-hand scale)



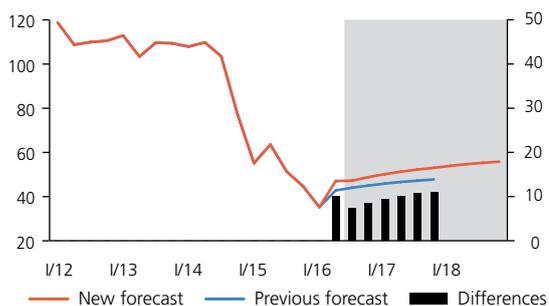
The outlook for the **euro-dollar exchange rate** foresees it fluctuating around USD 1.10/EUR this year (see Chart II.1.5). A slight weakening of the euro below this level is expected next year, followed by a modest strengthening to more than USD 1.10/EUR in 2018. Compared to the previous forecast, this represents a shift to a slightly weaker euro over almost the entire forecast horizon. This mainly reflects uncertainties connected with the likely Brexit and its impacts on the euro area economy, which may lead to a longer period of easy ECB monetary policy or to a further expansion of that policy. By contrast, given the favourable recent data, part of the market expects the Fed to tighten its monetary policy this year, albeit to a smaller extent than expected earlier.

The market outlook for the **Brent crude oil price** expects a gradual rise from the initial level of roughly USD 47 a barrel to about USD 56 a barrel at the end of 2018 (see Chart II.1.6). This is in line with the expectations of the analysts surveyed in the July CF, who expected the Brent crude oil price to be around USD 52 a barrel at the 12-month horizon (the same as the market outlook). The outlook is around USD 4 a barrel higher than in the previous forecast over the entire forecast horizon, mainly in response to a higher OPEC estimate of global oil demand this year. According to OPEC, the excess supply on the oil market will thus persist, but will gradually diminish this year. By contrast, prices are being pushed down by uncertainty connected with the economic impacts of the Brexit referendum result and by an expected slight appreciation of the US dollar.

CHART II.1.6

## PRICE OF BRENT CRUDE OIL

The market outlook for the crude oil price expects only a gradual rise (USD/barrel; differences in % – right-hand scale)



<sup>8</sup> Like the previous forecasts, this forecast takes into account the ECB's asset purchase programme (at least until March 2017) through expert adjustments using shadow interest rates. These rates are about 1.25 percentage points more negative than the market rate outlook.

## II.2 THE FORECAST

Both headline and monetary policy-relevant inflation decreased slightly in 2016 Q2 and stayed well below the lower boundary of the tolerance band around the CNB's target. However, they will start to rise in the near future and slightly exceed the 2% target at the monetary policy horizon. During 2018, inflation will return to the target from above. The domestic economy will continue to foster higher costs and consequently higher consumer prices via rising wages and an increasing price of capital. The anti-inflationary effect of import prices will gradually disappear. Real GDP growth will slow markedly to 2.4% this year because of a decline in gross capital formation due mainly to a fall in government investment from EU funds. On the other hand, the economy continues to be supported by still easy monetary conditions, low commodity prices and external demand. GDP is expected to grow by 3% in the following two years. The economic growth will be reflected in a further improvement in the labour market situation, including faster wage growth. The forecast assumes that market interest rates will be flat at their current very low level and the exchange rate will be used as a monetary policy instrument until mid-2017. Consistent with the forecast is an increase in interest rates thereafter.

Annual **headline inflation** slowed somewhat to 0.3% in 2016 Q2. However, it should start to rise in the period ahead despite a continued moderate decrease in administered prices and subdued food price inflation. This will be aided by continuing inflation pressures from the domestic economy, stemming mainly from rising wages, and by an unwinding of the anti-inflationary effect of import prices. At the monetary policy horizon, these fundamental developments, together with renewed growth in administered prices and food prices, will cause headline inflation to slightly exceed the 2% inflation target (see Chart II.2.1). Sustainable fulfilment of this target in the future is a condition for an exit from the CNB's exchange rate commitment, which the forecast assumes will occur in 2017 Q3. In 2018, inflation will return to the target from above in an environment of a gradually strengthening exchange rate and more moderate growth in domestic costs.

**Monetary policy-relevant inflation**, i.e. inflation adjusted for the first-round effects of changes to indirect taxes, was zero on average in 2016 Q2. It thus stayed well below the CNB's 2% target, or below the lower boundary of the tolerance band around the target. Over the forecast horizon, it will differ only marginally from headline inflation. The assumed overall impact of indirect tax changes is slightly positive for this year and 2018 and slightly negative for 2017. Monetary policy-relevant inflation will thus be slightly below headline inflation this year and in 2018 and slightly above it in 2017 (see Chart II.2.1). It, too, will therefore slightly exceed the target at the monetary policy horizon.

CHART II.2.1

### HEADLINE INFLATION AND MONETARY POLICY-RELEVANT INFLATION

Both headline and monetary policy-relevant inflation will rise and exceed the 2% target at the monetary policy horizon (year on year in %)

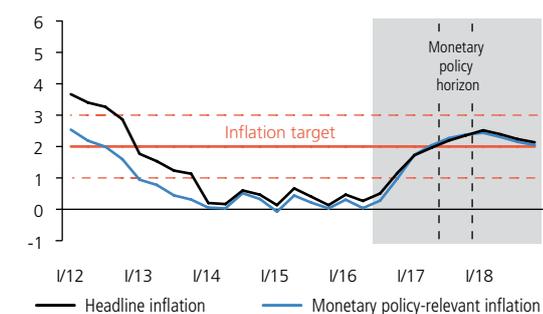
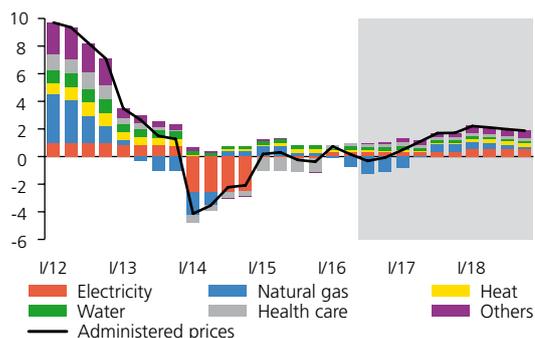


CHART II.2.2

## ADMINISTERED PRICES

**Administered prices will be almost unchanged on average this year and will rise at a rate of around 2% after the fall in natural gas prices fades out**

(annual percentage changes; contributions in percentage points)



The contribution of changes to **indirect taxes** to annual headline inflation was 0.2 percentage point in 2016 Q2, owing to a harmonisation adjustment made to excise duty on cigarettes and tobacco in January 2016. The forecast assumes further increases in excise duty on tobacco products at the start of 2017 and 2018 with an estimated impact on headline inflation of 0.1 percentage point in both cases. The forecast also incorporates a decrease in the VAT rate for restaurants and other catering facilities (excluding alcoholic beverages) from the current 21% to a reduced 15% rate with an estimated first-round effect on headline inflation of -0.15 percentage point. This change will take effect on 1 December 2016.

**Administered prices** increased slightly on average in 2016 Q2, but switched to an annual decline in May. This was largely due to a decrease in gas prices for households introduced by major suppliers. The forecast expects administered prices to continue falling until the end of 2016 due to a continued annual decline in gas prices. As regards electricity prices for households, the forecast predicts continued price growth of just above 1% this year, which should continue into 2017. Overall, administered prices will remain broadly unchanged this year, as the declining gas prices will be offset by growth in electricity prices, health care prices and water supply and sewerage collection charges (see Chart II.2.2). Next year, they will rise by 1.2% on average. This will be due to renewed growth in natural gas prices owing to expected growth in prices on world markets, and to positive contributions from all other major administered items (see Table II.2.1). Administered prices will rise by 2% in 2018.

Annual **net inflation** decreased in May and June 2016 and was slightly negative on average in Q2 (see Chart II.2.3). However, it will increase quickly in the period ahead amid continued growth of the domestic economy and strengthening cost pressures from the labour market. The current strongly anti-inflationary effect of import prices and food prices will meanwhile moderate further. As from 2017 Q2, net inflation will fluctuate above 2% owing to persisting inflation pressures from the domestic economy in an environment of still easy monetary policy. It will also start to be affected by renewed growth in foreign producer prices, which until the end of the forecast horizon will (increasingly) offset the effect of appreciation of the koruna following the assumed exit from the use of the exchange rate as a monetary policy instrument.

**Adjusted inflation excluding fuels** slowed slightly in 2016 Q2, averaging 1.1%. Growth in non-tradables prices moderated slightly, while prices of tradables rose steadily, despite a continuing deep annual decline in import prices. Owing to the continued decline in import prices, adjusted inflation excluding fuels will slow slightly further in 2016 Q3 but will pick up gradually later (see Chart II.2.3). It should average 1.8% in 2017 and increase further to 2% in 2018. Its pick-up will be due to inflationary pressures from the domestic economy amid rapid wage growth and to a renewed increase in producer prices in the euro area, which will be partly offset by the expected appreciation of the koruna following the exit from the CNB's exchange rate commitment.

TABLE II.2.1

## FORECAST OF ADMINISTRATIVE EFFECTS

**All the main components of administered prices will rise as from next year**

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

	2015 actual	2015 forecast	2016 forecast	2017 forecast	2018 forecast			
Administered prices – total <sup>a)</sup>	0.0	0.00	0.1	0.02	1.2	0.21	2.0	0.34
of which (main changes):								
electricity	-0.4	-0.01	1.1	0.05	1.1	0.05	2.0	0.09
natural gas	3.1	0.08	-4.9	-0.14	0.3	0.01	2.0	0.05
heat	1.9	0.03	0.8	0.02	1.1	0.02	2.0	0.04
water	3.4	0.03	1.4	0.01	2.0	0.02	2.0	0.02
health care	-17.0	-0.15	3.6	0.04	3.7	0.04	3.3	0.04
First-round impacts of indirect tax changes in non-administered prices		0.21	0.20	-0.02			0.09	

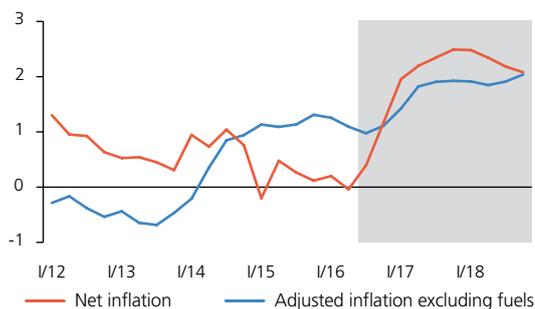
a) Including effects of indirect tax changes

CHART II.2.3

## NET INFLATION AND ADJUSTED INFLATION EXCLUDING FUELS

**The measures of market and core inflation will increase as a result of continuing wage growth and the unwinding of anti-inflationary external effects**

(year on year in %)



The year-on-year decline in **food prices** deepened during 2016 Q2, averaging 0.8%. This was due to an accelerating decline in agricultural producer prices, which passed through to retail prices. Food prices continued to reflect the lagged effect of the retaliatory embargo on imports of selected foodstuffs into Russia together with the lifting of milk quotas in the EU last year. The year-on-year decline in food prices should halt in the near future and food prices should return to growth at the end of this year (see Chart II.2.4). Their growth will pick up further in 2017 due both to the fading of the above one-off effects and to the effect of the domestic economy and renewed growth in agricultural commodity prices. Food price inflation will rise above 3% at the end of 2017 and slow slightly in 2018.

**Fuel prices** continued falling year on year in 2016 Q2, although the decline gradually slowed (to 10.2% in June; see Chart II.2.5). Fuel prices thus continued to reflect the low prices of Brent crude oil and petrol abroad. According to available indicators,<sup>9</sup> the deep year-on-year decline in fuel prices will moderate further in Q3 and these prices should show a slight year-on-year rise at the end of this year. Growth in fuel prices should be strong at the beginning of 2017 due to expected annual growth in global oil and petrol prices (mainly as a result of base effects), but weaken later. Fuel prices will increase by 2.8% on average in 2018.

Domestic money market **interest rates** remained at historical lows at all maturities in 2016 Q2. The forecast expects market interest rates to be flat at their current very low level until mid-2017. This reflects an assumption that the 2W repo rate will be left at technical zero and the money market premium will remain unchanged in the same period. Consistent with the forecast is an increase in market interest rates in the second half of 2017 followed by a further modest rise in 2018 (see Chart II.2.6).

The **exchange rate of the koruna against the euro** averaged CZK 27 in 2016 Q2. The forecast assumes that the exchange rate will be used as a monetary policy instrument until mid-2017 and will remain at the level of the CNB's exchange rate commitment. The 2% inflation target will be exceeded slightly in 2017 Q3. Sustainable fulfilment of this target is a condition for a return to conventional monetary policy. This return should not result in the exchange rate appreciating sharply to the slightly overvalued level recorded before the CNB started intervening, among other things because the weaker exchange rate of the koruna is in the meantime passing through to the price level and other nominal variables. Nevertheless, the positive interest rate differential against the euro<sup>10</sup> and the repercussions of the ECB's quantitative easing, which the forecast assumes will last

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

<sup>10</sup> However, the forecast routinely attaches only a minor weight to foreign interest rates beyond the six-quarter horizon, as it also takes into account model mechanisms which ensure a gradual return of these rates to their steady state.

CHART II.2.4

#### FOOD PRICES AND AGRICULTURAL PRODUCER PRICES

**Food prices will start rising again due to developments in agricultural commodity prices and fading one-off anti-inflationary effects**  
(annual percentage changes)

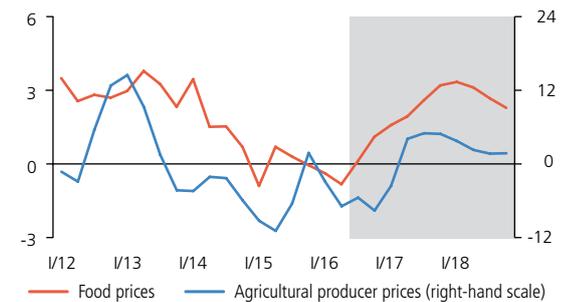


CHART II.2.5

#### FUEL PRICES AND THE OIL PRICE

**The decline in fuel prices will fade out at the end of this year in line with global oil prices**  
(annual percentage changes)

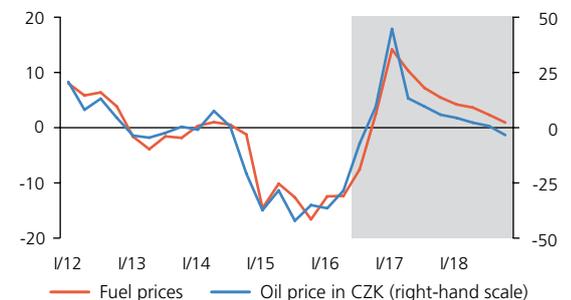


CHART II.2.6

#### INTEREST RATE FORECAST

**The forecast expects market interest rates to be flat at their current very low level until mid-2017; consistent with the forecast is an increase in rates thereafter**  
(percentages)

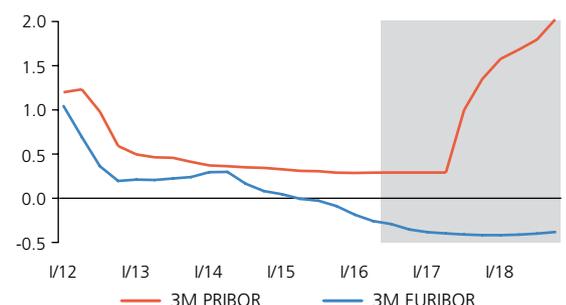
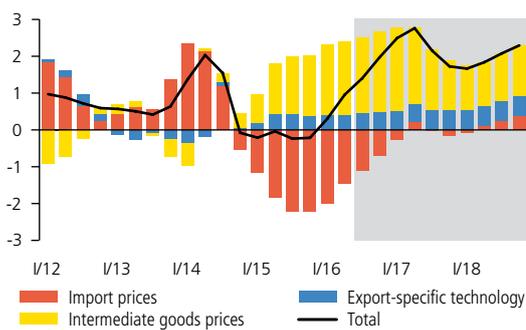


CHART II.2.7

## COSTS IN THE CONSUMER SECTOR

A sharp acceleration in growth in costs this year will reflect the growing domestic economy and wages and fading negative contributions of import prices

(quarterly percentage changes; contributions in percentage points; annualised)



until March 2017, will manifest themselves after the exit from the exchange rate commitment. Renewed – although much slower than in the pre-crisis period – real convergence of the Czech economy to the advanced euro area countries will act in the same direction. According to the forecast, the koruna will thus appreciate against the euro in the second half of 2017.<sup>11</sup> It will also appreciate slightly in 2018, roughly at its assumed equilibrium rate (1.5% a year in real terms). In light of the CF outlook for a slightly depreciating euro against the dollar (see section II.1), this implies depreciation of the koruna-dollar exchange rate until mid-2017. The koruna will subsequently strengthen against the dollar. This appreciation will be supported in 2018 by the assumed appreciation of the euro against the dollar.

The decline in **nominal marginal costs in the consumer goods sector** halted at the end of 2015 as domestic cost pressures offset the deflationary pressures from import prices. The growth in costs was appreciably positive in 2016 Q2 (see Chart II.2.7). This reversal reflects a slowdown in the quarterly decline in import prices coupled with accelerating wage growth. Estimated growth in export-specific technology, linked to different productivity growth in tradables and non-tradables (the Balassa-Samuelson effect; for details see Box 2), was renewed following a downturn during the global financial and economic crisis, thus contributing to the growth in total costs. The overall upward cost pressures on consumer prices will rise quickly until mid-2017. Accelerating growth in domestic wages and, in particular, renewed growth in foreign producer prices will thus be apparent. Given a stable exchange rate of the koruna, the anti-inflationary effect of import prices will thus moderate further and will disappear in the first half of next year. Appreciation of the koruna and continued growth in euro area producer prices will act in opposite directions in the second half of 2017, i.e. after the assumed exit from the use of the exchange rate as a monetary policy instrument. Import prices will thus start to have a slight anti-inflationary effect again and intermediate goods price inflation will also fall back from its previous high levels. Growth in the total costs of the consumer sector should return to 2% in 2018, amid a renewed slightly inflationary effect of import prices.

<sup>11</sup> However, the forecast does not take into account that the appreciation of the koruna may be dampened by hedging of exchange rate risk by exporters before the exit from the CNB's exchange rate commitment, by the closing of koruna positions by financial investors and by possible CNB interventions to mitigate exchange rate volatility after the exit.

**BOX 2****The impact of the Balassa-Samuelson effect on prices in the domestic economy**

The growth of the Czech economy has been outpacing that in euro area countries in the last two years. The question is whether and to what extent the accompanying convergence tendencies have been renewed as the performance of the Czech economy has **started to converge again** towards advanced European countries.

One of those tendencies is the **Balassa-Samuelson effect**,<sup>12</sup> which can be explained using the example of a two-sector economy producing tradable and non-tradable commodities.<sup>13</sup> It is based on the assumption that tradables prices are predominantly determined by the external environment and wage growth in this sector is closely linked to productivity growth so that competitiveness is maintained. Under this theory, the non-tradables sector takes wage growth from the tradables sector. However, given that productivity growth in the non-tradables sector is lower, this leads to significantly faster growth in nominal unit costs and, consequently, to a rise in prices. The aim of this box is to map out the said effect in order to identify to what extent it will contribute to growth in headline inflation in a period of continued use of the CNB's exchange rate commitment.

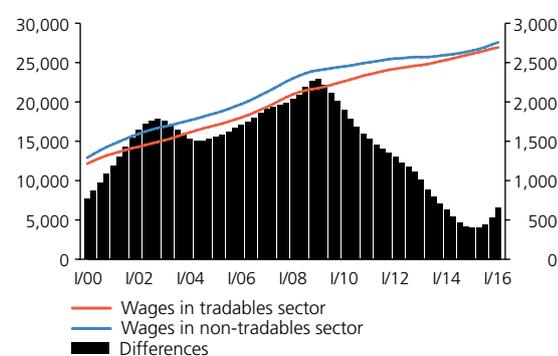
Since 2000, **wage growth** in the Czech economy has been characterised by broadly similar growth rates in the two sectors amid a higher wage level in the non-tradables sector (see Chart 1). Nevertheless, the gap between them started to narrow gradually after the onset of the global economic crisis at the end of 2008, and the two wage levels have shown little difference in the last two years. Together with subdued GDP growth in 2008–2013, this is likely to have contributed to a temporary weakening of the Balassa-Samuelson effect, as the sustained lower productivity growth in the non-tradables sector has been partly offset by lower wage growth relative to the tradables sector. However, the latest observations dating from early 2016 suggest the start of a renewed widening of the wage differences between the two sectors.

Producers in the **non-tradables sector** do not face international competition and, moreover, have a limited ability to react to wage growth in the economy by increasing their labour productivity. Inflation in this sector (contrary to the

**CHART 1 (BOX)****AVERAGE WAGE**

**The difference between wage levels in the tradables and non-tradables sectors has narrowed in recent years**

(CZK; differences – right-hand scale; source: CZSO; CNB calculation)

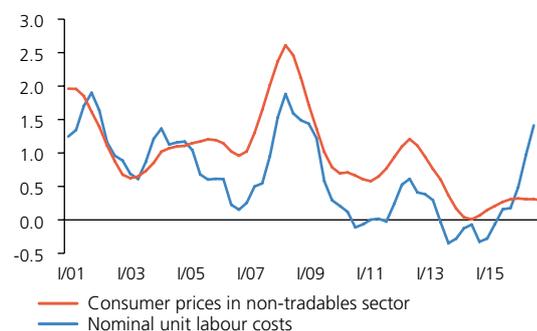


Note: The time series are filtered using the Hodrick-Prescott filter with  $\lambda = 10$ .

**CHART 2 (BOX)****CONSUMER PRICES AND WAGE COSTS IN THE NON-TRADABLES SECTOR**

**Unit labour costs in the non-tradables sector are a significant determinant of growth in consumer prices in this segment**

(quarter on quarter in %; source: CZSO; CNB calculation)



Note: The time series are filtered using the Hodrick-Prescott filter with  $\lambda = 10$ .

12 An explanation of the Balassa-Samuelson effect was provided in an annex to the April 2002 Inflation Report.

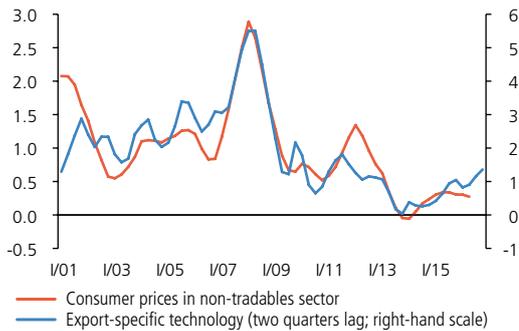
13 In this box, the tradables sector is represented by manufacturing and the non-tradables sector is represented by market services in the calculation of wages and unit wage costs.

CHART 3 (BOX)

## NON-TRADABLES PRICES AND EXPORT-SPECIFIC TECHNOLOGY

**Export-specific technology as a proxy for the Balassa-Samuelson effect is significantly correlated with inflation in the non-tradables sector**

(quarter on quarter in %; source: CZSO; CNB calculation)



Note: The non-tradables price time series is filtered using the Hodrick-Prescott filter with  $\lambda = 5$ .

tradables sector) is significantly affected by labour costs, or rather by the change in unit labour costs (see Chart 2), which confirms one of the assumptions of the Balassa-Samuelson theory. This relationship provides a fundamental explanation for the halt in non-tradables inflation in 2012–2013 and for its subsequent recovery. It also indicates room for a further pick-up in inflation in the near future.

**Export-specific technology** – an unobservable variable that is a component of nominal costs in the consumption sector – is used to capture the Balassa-Samuelson effect in the g3 core prediction model. This variable proxies for the above effect with direct proportionality, i.e. the faster the growth in export-specific technology, the stronger the estimated inflationary effect of the Balassa-Samuelson effect. At the same time, export-specific technology reflects the convergence of the domestic economy towards the euro area, because as it increases, the domestic price level gradually goes up and the koruna thus displays equilibrium real appreciation. Estimates of export-specific technology are historically quite closely correlated with the subsequently observed inflation in the non-tradables sector (see Chart 3). The estimate of export-specific technology also indicates a possible further pick-up in non-tradables prices.

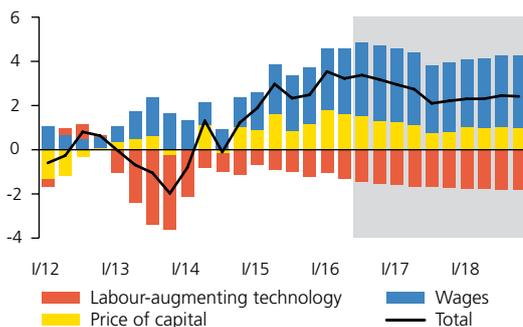
**To sum up**, the marked rise in nominal unit wage costs at the start of 2016 in the non-tradables sector can be expected to contribute to consumer inflation breaking away from levels slightly above zero over the next few quarters. Inflation will then accelerate significantly. Assuming that the exchange rate remains stable until mid-2017, this will aid fulfilment of the inflation target. The evolution of export-specific technology provides a similar picture. The Balassa-Samuelson effect can therefore be expected to intensify.

CHART II.2.8

## COSTS IN THE INTERMEDIATE GOODS SECTOR

**Domestic costs will rise on the back of wage growth and a rising price of capital**

(quarterly percentage changes; contributions in percentage points; annualised)

**Nominal marginal costs in the intermediate goods sector**

maintained a rate of growth of just above 3% in 2016 Q2 (see Chart II.2.8). This was due mainly to nominal wage growth in the business sector outpacing labour productivity growth. The price of capital also made a positive contribution to the growth in marginal costs, reflecting robust growth in investment activity and overall economic activity last year and stable growth in external demand. Growth in domestic nominal costs will slow in the period ahead, but will still reflect strong growth in wages and the price of capital in an environment of robust domestic demand. Conversely, continued growth in labour productivity will dampen the rise in costs. The expected slowdown in foreign demand and subsequently appreciation of the koruna in the second half of 2017 will reduce the positive contributions of the price of capital and, to a lesser extent, wages. Growth in domestic costs will thus stabilise at just above 2%.

The gap in **profit mark-ups in the consumer goods sector** closed in mid-2015. It then started to open up again into negative values, where it will stay for the rest of this year (see Chart II.2.9). This will be a consequence of subdued inflation and increasing cost pressures (stemming mainly from wage increases and the unwinding of the significantly anti-inflationary effect of import prices). The gap in profit mark-ups will start to close again in mid-2017 due to appreciation of the koruna, rising inflation and temporarily slackening growth in domestic costs.

Annual growth in **whole-economy labour productivity** slowed considerably in 2016 Q1, to 0.7%. In addition to faster growth in employment, this reflected a significant slowdown in economic activity associated with the unwinding effect of the drawdown of EU funds last year. Owing to this effect, labour productivity growth will stay very muted in the rest of this year. A renewed pick-up in economic activity in 2017 coupled with a marked slowdown in employment growth will then result in labour productivity growth accelerating to levels close to 2.5%, where it will remain in 2018.

Average nominal **wage growth in the business sector** rose further to 4% year on year (seasonally adjusted) in 2016 Q1. The gradual pick-up in wage growth will continue this year (see Chart II.2.10), reflecting still high demand for new labour amid a low unemployment rate. The average nominal wage in the business sector will thus go up by 4.4% in 2016 as a whole. A gradual return of inflation to the target, a renewed pick-up in economic activity and an increasing shortage of available labour next year will foster a further rise in nominal wage growth, which will slightly exceed 5%. Wage growth will be close to this long-run equilibrium level in 2018. The real wage in the business sector will increase by 3.9% this year and slow to 3.0% and 2.5% in 2017 and 2018 respectively due to higher inflation.

Faster wage growth was also recorded in the **non-business sector** in early 2016 (see Chart II.2.10). Annual wage growth in this sector will be 4% this year. The forecast predicts that wages will accelerate to 5% next year. In addition to the government's current plans, this reflects expected growth in government revenues. In 2018, wage growth in the non-business sector will slow slightly to 4.5%.

**Real GDP growth** slowed to 3% year on year in **2016 Q1**. All components of demand except change in inventories made positive contributions to this growth, with household consumption and net exports being the main drivers (see Chart II.2.11). **GDP growth** will slow to 2.4% in **2016**, mainly because of a decline in gross capital formation, due to a fall in government investment as a result of only gradual drawdown of EU funds in the new programme period. The other components of demand, most notably household consumption, will make positive contributions to GDP growth. Household consumption will be supported mainly by continued high real wage growth and the positive effect of low commodity prices.

CHART II.2.9

## GAP IN PROFIT MARK-UPS IN THE CONSUMER SECTOR

The gap in profit mark-ups will turn more negative and then start to close in mid-2017

(percentages)

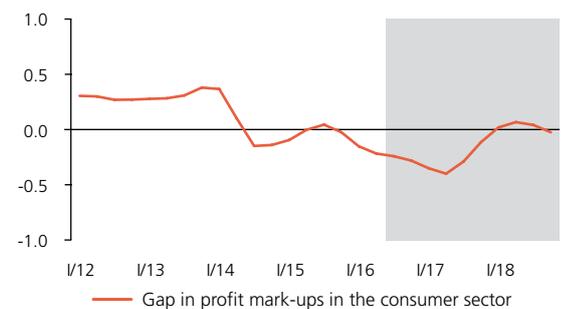


CHART II.2.10

## AVERAGE NOMINAL WAGE

Wage growth in both the business sector and the non-business sector will pick up further

(annual percentage changes; business sector – seasonally adjusted; non-business sector – seasonally unadjusted)

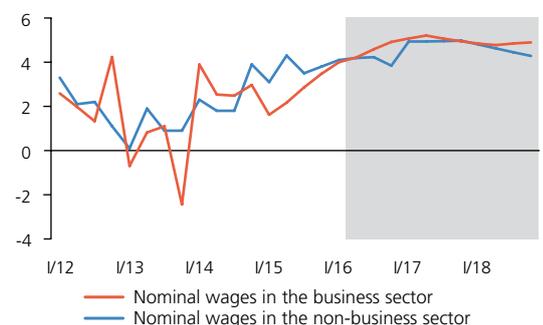


CHART II.2.11

## ANNUAL GDP GROWTH STRUCTURE

Household consumption will be the biggest contributor to GDP growth, whereas the contribution of investment will be negative this year

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

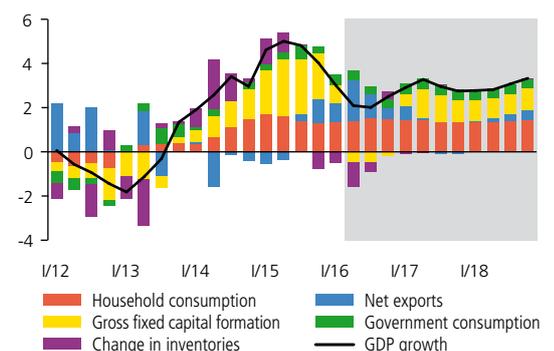
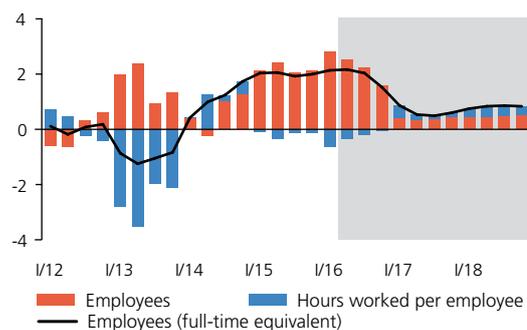


CHART II.2.12

## NUMBER OF EMPLOYEES (FULL-TIME EQUIVALENT)

The high growth in the converted number of employees will gradually slow amid an increasing shortage of available labour

(annual percentage changes; contributions in percentage points)



GDP growth will pick up to 3% in 2017 and 2018, mainly because of still robust household consumption and renewed growth in government investment. All components of demand (except inventories in 2017) will make positive contributions.

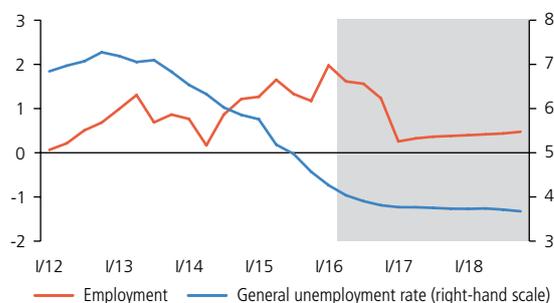
The number of employees converted into full-time equivalents will continue to rise year on year, although the growth will gradually slacken in the coming quarters. The converted number of employees will rise this year exclusively through a further increase in the number of employees. The contribution of growth in average hours worked will also renew in early 2017 due to slower growth in employment amid persisting demand for labour (see Chart II.2.12). The forecast also expects **total employment**, which is currently at record-high levels, to show slower annual growth. This slowdown will be visible mainly at the start of next year, reflecting an already limited supply of available labour and the effect of slower economic growth this year in addition to the unwinding of the effect of the surge in employment observed in early 2016. Growth in total employment will pick up again slightly owing to a subsequent renewed increase in growth in economic activity (see Chart II.2.13).

CHART II.2.13

## LABOUR MARKET FORECAST

Total employment will continue to rise slowly, albeit at a falling pace, while the decline in the unemployment rate will slow

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



The previous sharp decrease in the seasonally adjusted **general unemployment rate** will slow significantly this year. This indicator will be slightly below 4% over the next two years (see Chart II.2.13) amid identical quarterly growth in the labour force and employment. The forecast expects similar developments for the seasonally adjusted **share of unemployed persons, as determined by the MLSA**, which will drop from the current 5.6% to 4.9% in 2018 Q4, assuming a continued slight decline in the population aged 15–64.

Real **household consumption** went up by 2.9% year on year in 2016 Q1 (see Chart II.2.14). This growth was fostered by all its components in terms of kind, and most of all by short-term consumption and services. According to the forecast, the annual growth rate of household consumption remained at the same level in Q2 and will accelerate slightly in the second half of this year. Household consumption will thus remain a large contributor to annual growth in economic activity. In addition to an expected further increase in wages and salaries, this is consistent with still sizeable growth in retail sales, prevailing positive consumer confidence (see section III.3) and accelerating growth in consumer credit (see section III.5). Thanks to high real growth in wages coupled with still low real interest rates, growth in household consumption will average 3% this year. It will maintain a similar robust pace in 2017 and 2018, with faster growth in wages and other income being roughly offset by slower growth in employment and higher inflation.

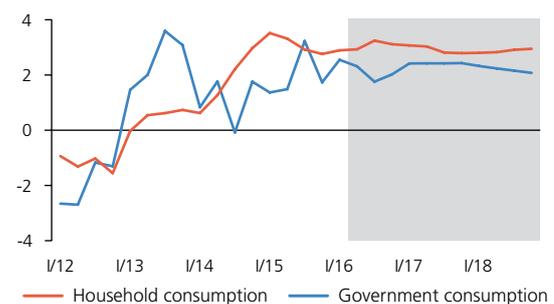
Growth in **gross nominal disposable income** slowed considerably in 2016 Q1 (by 1 percentage point to 1.5%), due mainly to a sharp decline in property income (see Chart II.2.15), which was only partly offset by a further rise in growth in the most significant component of income, i.e. wages and salaries. Over the forecast horizon, annual

CHART II.2.14

## REAL HOUSEHOLD AND GOVERNMENT CONSUMPTION

Household consumption will rise steadily and modestly outpace government consumption

(annual percentage changes; seasonally adjusted)



growth in disposable income will intensify to 6% at the end of 2018. The contribution of wages and salaries will be constantly high, on the back of continued growth in the average wage and employment. The contributions stemming from income of entrepreneurs will also renew next year.

The seasonally adjusted **household saving rate** remained just below 12% in early 2016. Over the forecast horizon, the saving rate will gradually drop to levels close to 11%, amid only slightly faster annual growth in nominal household consumption than gross nominal disposable income (see Chart II.2.16).

Annual growth in real **government consumption** picked up to 2.5% in 2016 Q1 due to a rise in intermediate consumption. The forecast expects annual growth in real government consumption to slow slightly in the remaining quarters of this year (see Chart II.2.14); government consumption will increase by 2.2% in 2016 as a whole. It will record similar growth rates in the next two years. Government consumption will be affected mainly by an expected sizeable increase in compensation of government employees and health care expenditure.

Annual growth in **gross capital formation** slowed markedly to 1.2% at the start of this year (see Chart II.2.17). This slowdown was due mainly to subsiding growth in government investment financed by EU funds from the previous programme period. Only gradual drawdown of EU funds in the new programme period acts in the same direction. The forecast therefore expects a negative contribution of gross capital formation to annual GDP growth in the coming quarters, with public sector investment turning negative due to base effects (see Chart II.2.18). By contrast, private investment will continue to rise, although the growth will slow temporarily in late 2016 and early 2017 due to external demand. Consequently, gross capital formation will drop by 1.8% year on year overall in 2016 as a whole. Growth in total investment will recover again in 2017 as government investment returns to growth. Gross capital formation will thus increase by 3.9% and maintain a similar growth rate in 2018.

Annual growth in real **exports of goods and services** slowed to 6.7% in 2016 Q1 (see Chart II.2.19). However, the forecast expects them to rise again in the coming quarters, in line with external demand and given a stable exchange rate of the koruna against the euro. Exports of goods and services will increase by 7.8% in 2016. Next year, growth in external demand will weaken slightly, due, among other things, to the outcome of the Brexit referendum. This, together with appreciation of the exchange rate following the exit from the exchange rate commitment, will also be reflected in slower growth in exports. Exports of goods and services will thus grow by 7.2% in 2017 and 6.9% in 2018.

Real annual growth in **imports of goods and services** also declined at the start of this year (to 6.1%), reflecting lower export growth and a slowdown in total investment growth, which are two strongly

CHART II.2.15

## NOMINAL DISPOSABLE INCOME

**Disposable income growth will gradually accelerate on the back of higher growth in income of entrepreneurs amid stable growth in wages and salaries**

(annual percentage changes; contributions in percentage points)

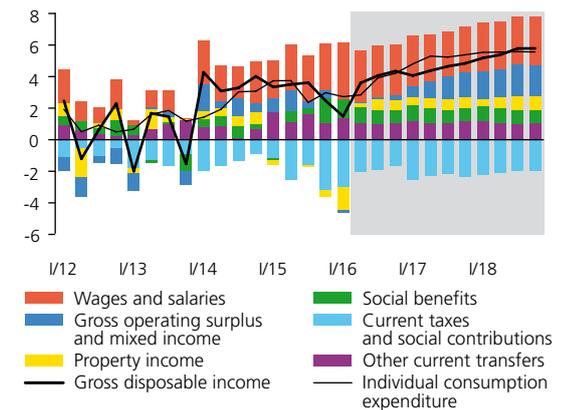


CHART II.2.16

## HOUSEHOLD SAVING RATE

**The household saving rate will decline slightly**

(percentages)

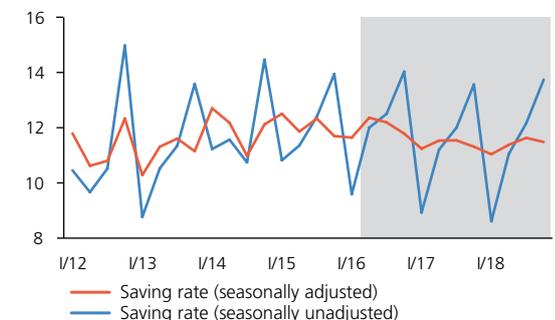


CHART II.2.17

## GROSS CAPITAL FORMATION

**Gross capital formation will fall this year, mainly due to a drop in government investment, but will rise at a stable rate over the next two years**

(annual percentage changes; seasonally adjusted)

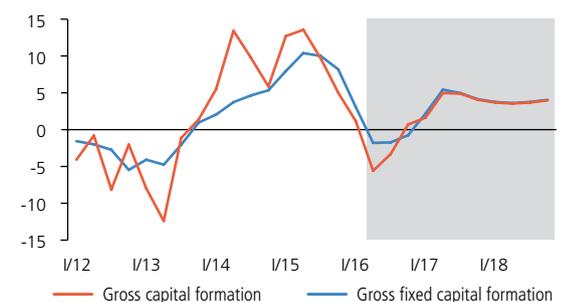
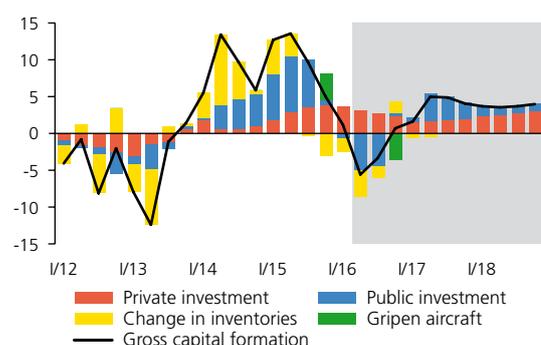


CHART II.2.18

## INVESTMENT DECOMPOSITION

**A fall in public investment this year will outweigh continued growth in private investment**

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



import-intensive components of demand. The forecast expects annual import growth to accelerate in 2016 H2. This will be due to increasing growth in exports, a moderate pick-up in household consumption and a gradual recovery in investment growth. Imports of goods and services will thus increase by 7.1% in 2016. Growth in imports will be slightly higher in 2017 and 2018, reflecting developments in GDP components taking their import intensity into account.

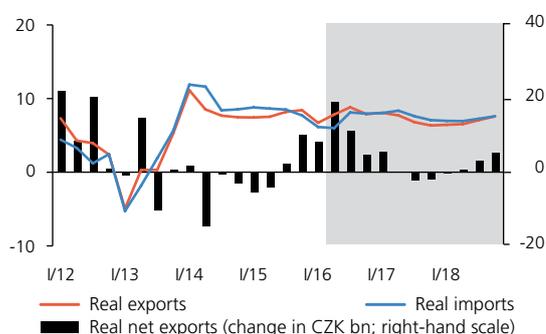
The contribution of **net exports** to annual GDP growth was distinctly positive in 2016 Q1 (0.8 percentage point). In the rest of this year, the forecast expects the contributions of net exports to be even higher due to a slight acceleration of export growth and a year-on-year decline in import-intensive total investment. Net exports will make a contribution of 1.1 percentage point to overall annual GDP growth in 2016 as a whole. Next year the contribution of net exports will be almost zero – amid a recovery in investment – and in 2018 it will increase slightly again.

CHART II.2.19

## REAL EXPORTS AND IMPORTS

**Exports and imports will grow at fairly high rates owing to rising external and domestic demand respectively**

(annual percentage changes; annual changes in CZK billions; seasonally adjusted)



According to preliminary data, the **balance of payments** recorded a current account surplus of 0.9% of GDP in 2015. According to the forecast, the current account surplus will amount to 1.9% of GDP in 2016 and will fall back to about 1% in the following years (see Table II.2.3).

The forecasted increase in the **current account surplus in 2016** mainly reflects a rise in the goods and services surplus, due primarily to an expected slowdown in aggregate domestic demand growth and a continued favourable effect of the decline in energy commodity prices. Modest year-on-year appreciation of the koruna and a further decrease in exports to Russia and the economies tied to it will have the opposite effect on the goods balance. To a lesser extent, the expected increase in the current account surplus will also be due to growth in the surplus on services (in particular other services). On the other hand, the current account surplus will be moderated by a widening of the primary income deficit (a rise in non-residents' direct investment income) and the secondary income deficit (a year-on-year drop in income from the EU).

The **current account surplus** will decrease significantly in 2017 compared to this year. This decrease will be fostered mainly by a drop in the trade surplus (a combination of slower growth in external demand,<sup>14</sup> faster growth in domestic demand and a predicted increase in energy commodity prices) and an increase in the primary income deficit. To a lesser extent, the deterioration of the current account will also be due to a shift in the secondary income balance to a larger deficit associated with an expected further decrease in net drawdown of EU funds. The services surplus will be unchanged compared to 2016.

<sup>14</sup> One factor is the impact of the Brexit referendum result (in particular the weakening of the pound and the expected decline in investment activity in the UK) on trade with the UK. This is dealt with in more detail in Box 3 in section III.6.1.

TABLE II.2.2

## FORECASTS OF SELECTED VARIABLES

**Real disposable income will continue to rise as wage growth picks up, and labour productivity will also increase**

(annual percentage changes unless otherwise indicated)

	2015 actual	2016 forecast	2017 forecast	2018 forecast
Real gross disposable income of households	3.1	3.0	2.3	2.9
Total employment	1.4	1.6	0.3	0.4
Unemployment rate (in per cent) <sup>a)</sup>	5.1	4.0	3.8	3.7
Labour productivity	3.1	0.7	2.6	2.6
Average nominal wage	2.7	4.4	5.0	4.8
Average nominal wage in business sector	2.5	4.5	5.1	4.8
Average real wage	2.4	3.8	3.0	2.5
Current account balance (ratio to GDP in per cent)	0.9	1.9	0.9	1.1
M3	7.3	9.6	8.5	6.4

a) ILO methodology, 15–64 years

The forecast for the **current account for 2018** expects the trend of gradual growth in the trade surplus to be renewed (mainly due to a recovery in external demand). At the same time, net drawdown of funds under secondary income will increase slightly (higher net drawdown of EU funds). The improvement in these two component balances will outweigh the expected deterioration in primary income (a further increase in the direct investment income deficit).

The forecast expects a large decrease in the **capital account** surplus in 2016 compared to last year. This is associated with the winding down of payments from EU funds for the 2007–2013 programme period. A further marked decline in 2017 will reflect the only gradual start of drawdown of funds from the new programme period; this drawdown will accelerate in 2018.

**Direct investment** flows are seeing a reversal this year, with a modest net outflow being replaced by a net inflow. This is because the extraordinary factors that affected direct investment in 2015 (a one-off outflow of residents' capital abroad and a drop in equity in major domestic subsidiaries owned by non-residents) will disappear. The direct investment balance will simultaneously be significantly affected in 2016 by intra-group financial operations in a major domestic company.<sup>15</sup> The net inflow will also be due to a new investment of more than CZK 20 billion by Nexen in the Czech Republic (in 2016 and 2017). The forecast predicts that direct investment in the Czech Republic will still primarily take the form of reinvested earnings. The aforementioned financial operations will unwind in 2017 and the net inflow of foreign direct investment will decrease. Its volume will be the same in 2018 (a modest increase in the reinvested earnings surplus will offset the unwinding of the Nexen investment).

The **portfolio investment** figures were significantly affected in 2015 (to an extent of almost CZK 140 billion) by accounting operations of the banking sector related to the calculation of contributions to the newly established Resolution Fund.<sup>16</sup> Portfolio investment will be affected on the liability side this year mainly by non-residents' continuing interest in government koruna bonds coupled with issuance activity by the Czech Ministry of Finance, which is taking advantage of the current interest rates to cut the cost of government debt financing. Owing to current developments on world stock markets, the forecast also expects a decrease in residents' interest in foreign stocks and a resulting moderation of the overall outflow of capital abroad on the asset side. Non-residents' interest in domestic government bonds will probably persist in the years ahead.

TABLE II.2.3

**BALANCE OF PAYMENTS FORECAST**

**A record current account surplus will be achieved this year, mainly as a result of a rising goods surplus; the current account surplus will subsequently decrease**

(CZK billions)

	2015 actual	2016 forecast	2017 forecast	2018 forecast
A. CURRENT ACCOUNT	41.4	90.0	45.0	55.0
Goods	210.7	275.0	255.0	270.0
Services	75.0	80.0	80.0	80.0
Primary income	-243.5	-260.0	-280.0	-290.0
Secondary income	-0.9	-5.0	-10.0	-5.0
B. CAPITAL ACCOUNT	106.1	60.0	20.0	35.0
C. FINANCIAL ACCOUNT <sup>a)</sup>	193.8	245.0	50.0	52.0
Direct investment	26.6	-70.0	-50.0	-50.0
Portfolio investment	-164.1	-110.0	-125.0	-40.0
Financial derivatives	-4.8			
Other investment	-15.2	100.0	75.0	50.0
Reserve assets	351.3	325.0	150.0	92.0

a) forecast excluding operations of banking sector and financial derivatives

<sup>15</sup> The forecast does not incorporate the purchase of a stake in Slovenská energetika for CZK 20.3 billion by EPH, because EPH made another major acquisition in Italy via a foreign subsidiary in the past. The same procedure is expected in this case.

<sup>16</sup> The method used to calculate the contributions has not changed, so the forecast predicts that they will remain unchanged in size in 2016–2018. However, it cannot be ruled out that they will increase above and beyond the transactions already executed.

TABLE II.2.4

## FISCAL FORECAST

**A continuing decline in the public finance deficit will culminate in a slight government budget surplus starting in 2017**

(% of nominal GDP)

	2015 actual	2016 forec.	2017 forec.	2018 forec.
Government revenue	41.4	40.4	41.0	41.1
Government expenditure	41.8	40.5	40.9	40.8
of which: interest payments	1.1	0.9	0.9	0.8
GOVERNMENT BUDGET BALANCE	-0.4	-0.1	0.1	0.3
of which:				
primary balance <sup>a)</sup>	0.7	0.8	0.9	1.1
one-off measures <sup>b)</sup>	-0.1	0.1	0.1	0.1
ADJUSTED BUDGET BALANCE <sup>c)</sup>	-0.4	-0.2	0.0	0.3
Cyclical component (ESCB method) <sup>d)</sup>	-0.1	0.2	0.2	0.0
Structural balance (ESCB method) <sup>d)</sup>	-0.2	-0.5	-0.1	0.3
Fiscal stance in pp (ESCB method) <sup>e)</sup>	0.5	-0.2	0.3	0.4
Cyclical component (EC method) <sup>d)</sup>	-0.1	-0.2	0.0	0.1
Structural balance (EC method) <sup>d)</sup>	-0.3	-0.1	0.0	0.1
Fiscal stance in pp (EC method) <sup>e)</sup>	0.3	0.2	0.1	0.1
Government debt	40.3	39.7	38.5	36.7

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, revenue from the sale of frequency bands to mobile operators, and in 2015 the impact of the extension of the lease of supersonic fighter aircraft and non-recurring revenue to the Deposit Insurance Fund in bankruptcy proceedings and completed lawsuits.

c) adjusted for one-off measures; CNB estimate

d) CNB estimate

e) year-on-year change in structural balance (positive value indicates fiscal restriction, negative value fiscal expansion)

TABLE II.2.5

## FISCAL IMPULSE

**The fiscal impulse will be markedly negative in 2016, mainly as a result of a drop in government investment; this effect will fade out next year**

(contributions to GDP growth in percentage points)

	2015 actual	2016 forecast	2017 forecast	2018 forecast
Fiscal impulse <sup>a)</sup>	0.8	-0.7	0.1	0.1
of which impact through:				
private consumption	0.2	0.0	-0.1	-0.1
private investment	0.1	-0.1	0.0	0.0
government investment, domestic	0.0	0.1	0.1	0.0
government investment, EU funded	0.5	-0.7	0.1	0.1

a) Owing to rounding, the total sum may not equal the sum of the individual items.

With regard to **other investment** (excluding banking sector operations), the forecast predicts a relatively high net outflow of capital from the corporate sector in the form of growth in residents' deposits abroad and repayments of existing loans accepted from non-residents. This outflow is expected to decrease gradually in the years ahead owing to expected growth in investment activity in the Czech Republic.

The forecast for **reserve assets** includes expected returns on international reserves, a surplus vis-à-vis the EU (drawdown of EU funds from the previous programme period and the only gradual start of the new programmes) and, while the exchange rate commitment is in effect, an inflow into the reserves stemming from surpluses on the other items of the balance of payments.

The future macroeconomic developments described above and the fiscal policy settings are reflected in the **government finance** outlook (see Table II.2.4).

In an environment of continuing economic growth, the general government deficit will decline to 0.1% of GDP in **2016**. On the expenditure side, this will be fostered by an expected marked decrease in government investment. This drop is related to the end of the previous programme period for drawing down European funds and the only gradual start of the new one. A decrease in debt service costs will act in the same direction. Counteracting this are higher subsidies for renewable energy resources and an extraordinary benefit payment to pensioners. The general government revenue side is bolstered by additional revenues from the introduction of VAT control statements,<sup>17</sup> a further increase in excise duty on tobacco products and a rise in the rate of tax on lotteries and other similar games. Fiscal policy will have a significantly restrictive effect overall this year, making a contribution to economic growth of around -0.7 percentage point (see Table II.2.5), primarily due to the aforementioned decrease in government investment.

In **2017**, a general government surplus of 0.1% of GDP can be expected, due mainly to continued favourable economic growth. The revenue side is expected to be positively affected by the introduction of electronic sales registration<sup>18</sup> and an increase in excise duty on tobacco products. Counteracting this will be the transfer of restaurant services to a reduced VAT rate related to electronic sales registration and an increase in the tax discount for dependent children. On the expenditure side, an acceleration of wage growth in the government sector and higher expenditure on pensions and health care are

17 The impact on VAT revenue of 0.2% of GDP is based on a conservative Finance Ministry estimate drawing on an analysis of the change in the implicit tax rate based on the Slovak experience after the introduction of a similar measure.

18 The Convergence Programme of April 2016 estimates the positive impact of electronic sales registration in 2017 at approximately 0.3% of GDP. In light of the date when this law will take effect, i.e. December 2016, the impact will be negligible this year.

assumed. The acceleration in government expenditure will be slightly dampened by a drop in some one-off expenditure measures taken this year and a further decline in debt service costs. Fiscal policy will be slightly expansionary overall in 2017, making a contribution to economic activity of around 0.1 percentage point.

The general government surplus will increase to 0.3% of GDP in **2018** due to the positive effect of economic growth. At the same time, the revenue side will be bolstered by additional revenues from the extension of the scope of business entities obliged to register their sales online and a further increase in excise duty on tobacco. Continued growth in expenditure on pensions and wages in the government sector is expected on the expenditure side. Fiscal policy will be slightly expansionary in 2018 again, making a positive contribution to economic activity of around 0.1 percentage point.

The current general government **structural deficit** will switch to a moderate surplus by 2018. Given the current fiscal policy settings, the medium-term structural deficit objective of 1% of GDP will thus be safely met at the forecast horizon.

Owing to the favourable evolution of the general government budget (i.e. increasing primary surpluses) and accelerating growth in nominal GDP, the forecast predicts a decrease in **government debt** to 36.7% of GDP in 2018 (from 40.3% of GDP in 2015). This will be also aided by a drop in debt service costs resulting from an expected further reduction in the effective interest rate on government debt owing to financial market developments and positive perceptions of the Czech Republic.

A **risk** to the fiscal forecast is a potential larger drop in government investment than expected by the forecast, due in part to the need to reassess the environmental impacts of certain infrastructure projects (EIA). Potentially higher government expenditure related to the approaching parliamentary elections in 2017 are a risk in the opposite direction.

### II.3 COMPARISON WITH THE PREVIOUS FORECAST

Compared to the previous forecast, the predictions for headline and monetary policy-relevant inflation are moderately higher until mid-2017. This is due to a slightly higher short-term prediction for net inflation, a higher outlook for administered prices and faster observed and expected growth in nominal wages. Overall GDP growth this year has been revised slightly upwards, mainly as a result of a more modest fall in gross capital formation. By contrast, the GDP forecast for 2017 is lower owing to slower growth in external demand, due in part to the outcome of the Brexit referendum. The assumption of flat market interest rates at their current very low level and the use of the exchange rate as a monetary policy instrument until mid-2017 has been left unchanged. The path of market interest rates after the exit from the CNB's exchange rate commitment is also almost unchanged compared to the previous forecast. Nominal wage growth in the business sector has shifted upwards until mid-2017.

CHART II.3.1

#### CHANGE IN THE HEADLINE INFLATION FORECAST

The forecast for headline inflation is slightly higher for the next 12 months

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

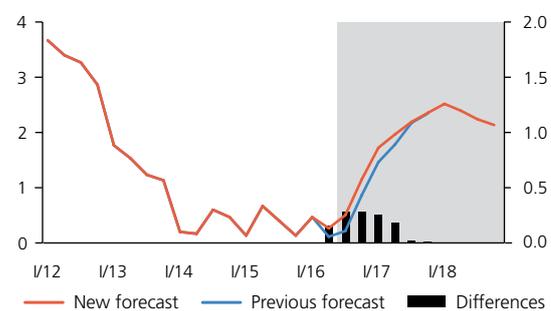
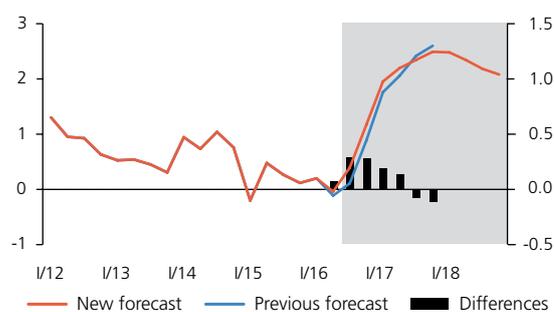


CHART II.3.2

#### CHANGE IN THE NET INFLATION FORECAST

The higher outlook for net inflation until the middle of next year reflects higher expected food and fuel prices and faster nominal wage growth

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



The forecast for annual **headline inflation** is slightly higher than the previous one for the next 12 months (see Chart II.3.1). The revision is due to higher expected net inflation and the outlook for administered prices. The net inflation forecast (see Chart II.3.2) is affected in the short run by leading indicators suggesting higher food prices and a smaller drop in fuel prices. The prediction also reflects cost pressures resulting from faster wage growth, which offset a later renewal of growth in foreign prices. Compared to the previous forecast, domestic cost pressures will thus rise more quickly in the short run and will then be roughly the same. The outlook for administered prices has been revised upwards, mainly due to a smaller-than-predicted reduction in prices of gas for households and faster growth in heat and electricity prices and water supply and sewerage collection charges. The estimate of the effects of changes to indirect taxes is unchanged. The forecast for **monetary policy-relevant inflation** has therefore been revised in the same way as that for headline inflation.

Turning to the assumptions regarding the **external environment** (see the charts in section II.1), the outlook for industrial producer prices in the effective euro area has been lowered further for this year and the next compared to the previous forecast. Import prices will thus have a more anti-inflationary effect over the forecast horizon. The prediction for external demand growth has been revised slightly upwards for this year due to positive developments early this year. Conversely, the forecast for next year has been revised downwards owing to the expected impacts of the Brexit referendum result. The market outlook for 3M EURIBOR interest rates has also been lowered slightly deeper into negative territory. The ECB's quantitative easing remains incorporated into the forecast via shadow rates. The revision of the shadow rates corresponds to the revision of the outlook for 3M EURIBOR rates, as the ECB's asset purchase programme remains unchanged.

The assumption of the use of the exchange rate as an additional monetary policy instrument until mid-2017 remains unchanged. The **exchange rate of the koruna against the euro** will thus remain at the CNB commitment level until then. The exchange rate outlook for 2017 H2 is also almost unchanged, with a downward shift in foreign market and shadow interest rates having only a marginal impact compared to the previous forecast. As in the previous forecast, domestic market **interest rates** will be stable until mid-2017. Their subsequent increase does not differ much from the previous forecast either (see Chart II.3.3).

The forecast for annual **GDP** growth is slightly higher this year owing to higher observed gross capital formation. In 2017, by contrast, it is lower, primarily because of slightly lower external demand (the Brexit effect). Annual GDP growth therefore remains volatile, although less so than in the previous forecast (see Chart II.3.4).<sup>19</sup> Despite continued robust growth in wages and salaries, the outlook for household consumption is slightly lower for this year and the next due to higher predicted inflation. Gross capital formation growth is significantly affected by government investment, which – taking the observed data into account – has been revised towards a more moderate decline in 2016. Fixed investment growth will therefore be generally less negative this year compared to the previous forecast despite lower expected growth in private investment. Real government consumption will rise at a slower rate this year and the next, mainly reflecting an increase in the government consumption deflator. The predicted fiscal impulse on top of government consumption is less negative for 2016. In 2017, it has been revised from a neutral to a slightly positive position.

The contribution of **net exports** to GDP growth in 2016 will be less positive, because import-intensive overall investment activity will not drop so sharply. In 2017, the contribution of net exports is smaller as a result of lower growth in external demand (including a drop in exports to the UK).

Compared to the previous forecast, growth in the average **nominal wage** in the business sector is higher until mid-2017 (see Chart II.3.5). This revision mainly reflects the higher wage growth observed early this year. At the same time, it is consistent with the higher expected GDP growth and inflation this year. From mid-2017, by contrast, nominal wage growth will be slower than in the previous forecast due to slower growth in domestic economic activity.

<sup>19</sup> Past GDP growth and nominal wage growth (see Charts II.3.4 and II.3.5) were significantly affected by data revisions by the CZSO.

CHART II.3.3

#### CHANGE IN THE INTEREST RATE PATH

The assumption of flat market interest rates at their current very low level until mid-2017 has been left unchanged (3M PRIBOR in %; differences in pp – right-hand scale)

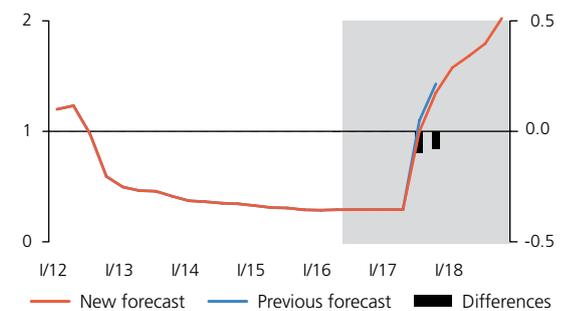


CHART II.3.4

#### CHANGE IN THE GDP FORECAST

The GDP growth forecast is slightly higher in 2016 and lower in 2017 owing to weaker external demand (annual percentage changes; differences in pp – right-hand scale; seasonally adjusted)

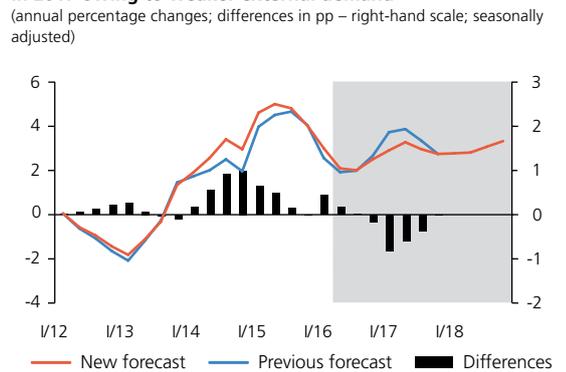


CHART II.3.5

#### CHANGE IN THE FORECAST FOR NOMINAL WAGES IN THE BUSINESS SECTOR

The nominal wage forecast has shifted higher until the middle of next year and is then slightly lower (annual percentage changes; differences in pp – right-hand scale, seasonally adjusted)

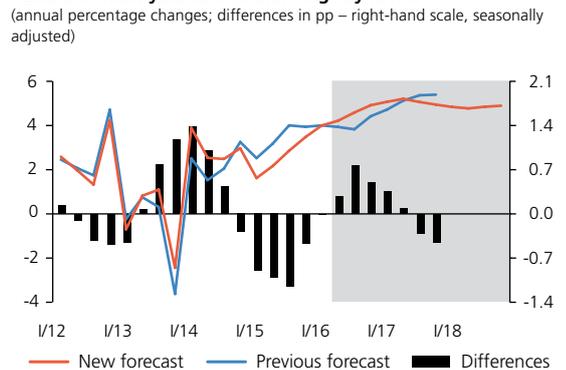


TABLE II.4.1

## EXPECTED INDICATORS OF FMIE AND CORPORATIONS

The analysts' inflation expectations are constantly slightly below the CNB's target of 2% at the one-year horizon and at the target at the three-year horizon

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

	3/16	4/16	5/16	6/16	7/16
FMIE:					
CPI	1.8	1.8	1.7	1.8	1.8
CPI, 3Y horizon	2.0	2.0	2.0	1.9	2.0
Real GDP in 2016	2.5	2.5	2.3	2.4	2.4
Real GDP in 2017	2.7	2.7	2.7	2.7	2.6
Nominal wages in 2016	4.1	4.1	4.1	4.2	4.2
Nominal wages in 2017	4.0	4.0	4.1	4.1	4.1
CZK/EUR exchange rate (level)	26.7	26.8	26.8	26.8	26.9
2W repo rate (in per cent)	0.05	0.05	0.05	0.05	0.05
1Y PRIBOR (in per cent)	0.5	0.5	0.5	0.5	0.5
Corporations:					
CPI	1.4			1.4	

CHART II.4.1

## PERCEIVED AND EXPECTED INFLATION

Perceived inflation stayed negative, while expected inflation has long been slightly positive

(source: European Commission Business and Consumer Survey)

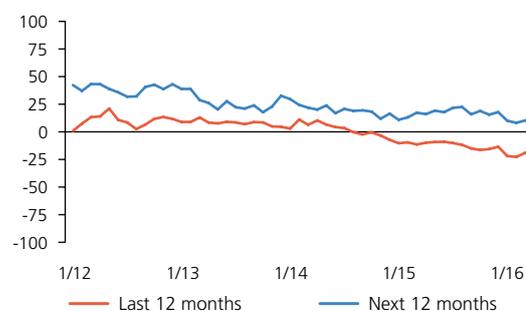


TABLE II.4.2

## CF EXPECTED INDICATORS

The CF analysts expect economic growth to slow below 3% this year and stay there next year

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

	3/16	4/16	5/16	6/16	7/16
Real GDP in 2016	2.5	2.4	2.4	2.5	2.4
Real GDP in 2017	2.7	2.7	2.7	2.7	2.5
Nominal wages in 2016	3.9	3.9	3.9	4.1	4.0
Nominal wages in 2017	4.0	4.0	4.0	4.0	4.0
CZK/EUR exchange rate (level)	26.7	26.8	26.6	26.6	26.8
3M PRIBOR (in per cent)	0.3	0.3	0.3	0.3	0.3

## II.4 FORECASTS BY OTHER ENTITIES

In recent months, analysts' inflation expectations have been constantly slightly below the CNB's target at the one-year horizon and at the target level at the three-year horizon. The indicator of inflation perceived by households is slightly negative, while the indicator of expected inflation is slightly positive. On average, the analysts expect economic growth to slow below 3% this year and to stay there next year despite a slight acceleration. According to the average of the analysts' opinions, the exchange rate of the koruna will appreciate to just below CZK 27 to the euro at the one-year horizon. None of the analysts expects the CNB's exchange rate commitment to be discontinued before 2017. At the same time, all the analysts were expecting key interest rates to be left unchanged both at the CNB Bank Board's August meeting and at the one-year horizon. The market outlook indicates a decrease in interest rates by about 0.1 percentage point at the one-year horizon and is therefore slightly below the interest rate level contained in the new CNB forecast.

**Inflation expected by financial market analysts** at the one-year horizon has been constantly slightly below the CNB's target of 2% in recent months. The inflation expectations of business managers at the one-year horizon also remain below the target (see Table II.4.1). Analysts' inflation expectations at the three-year horizon have long been exactly at the level of the CNB's 2% target or very close to it.

The indicator of **inflation perceived by households** has been slightly negative for almost two years now (see Chart II.4.1). This means that households overall felt that prices did not increase over the last 12 months. By contrast, the indicator of **expected inflation** has long been slightly positive. This signals that the number of respondents who expect prices to rise more rapidly over the next 12 months is slightly higher than the number of those who expect prices to stay the same or increase more slowly than they did previously. Both indicators were little changed in 2016 Q2.

**Both the FMIE and CF analysts** expect economic growth to slow below 3% this year after one-off factors from 2015 have subsided (see Tables II.4.1 and II.4.2). The growth should remain below this level next year despite accelerating modestly. Nominal wages are expected to increase by about 4% in both years. The analysts on average expect the koruna to appreciate to just below CZK 27 to the euro at the one-year horizon.<sup>20</sup> None of the analysts expects the exchange rate commitment to be discontinued before the end of 2016. Their expectations of this step are spread over the whole of 2017 and early 2018. A majority of the analysts place this moment in the second half of next year. Before the Bank Board meeting in August, all fourteen FMIE analysts were expecting no changes in

<sup>20</sup> The predicted range is relatively wide: CZK 26–27.3/EUR in the FMIE survey and CZK 26–27.4/EUR in the CF survey.

key interest rates at this meeting. All the analysts also expect the 2W repo rate to be flat at its current level of 0.05% at the one-year horizon.

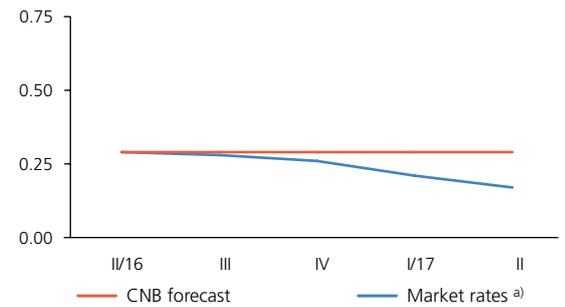
Overall, the analysts expect identical real GDP growth this year and lower growth next year **compared to the CNB's new forecast**. Inflation expected by the analysts at the one-year horizon is below the CNB forecast. The analysts' expectations regarding the 2W repo rate and market rates are in line with the 3M PRIBOR path contained in the new CNB forecast.

Chart II.4.2 provides a **comparison of expected 3M market rates** derived from FRA quotations and the interest rate path assumed by the new CNB forecast. The current market outlook for 3M rates implies a decrease of about 0.1 percentage point at the one-year horizon. Over this horizon, the expected market rates are thus slightly below the interest rate level assumed in the new CNB forecast.

CHART II.4.2

#### FRA RATES VERSUS THE CNB FORECAST

Expected interest rates derived from FRA quotations are slightly below the rates contained in the new CNB forecast (percentages)



a) for 2016 Q2 and 2016 Q3 the 3M PRIBOR and for 2016 Q4–2017 Q2 the average values of the FRA 3\*6, 6\*9 and 9\*12 rates for the last 10 trading days as of 22 July 2016

### III. CURRENT ECONOMIC DEVELOPMENTS

#### III.1 INFLATION

Annual headline inflation slowed on average to 0.3% in 2016 Q2. It initially accelerated to 0.6% in April, but then fell back close to zero in May and June owing to a decline in food prices and administered prices. Monetary policy-relevant inflation copied headline inflation, standing 0.2 percentage point lower on account of the harmonisation adjustment made to excise duty on cigarettes and tobacco in January 2016. In May and June it therefore turned slightly negative. It was thus still well below the CNB's target, or below the lower boundary of the tolerance band around the target. Adjusted inflation excluding fuels moderated somewhat, but remains the main driver of consumer price inflation. It reflected strengthening domestic cost pressures as a result of continued growth of the domestic economy and a further acceleration of wage growth. Anti-inflationary developments abroad continued to act in the opposite direction.

CHART III.1.1

#### FORECAST VERSUS ACTUAL INFLATION

**Inflation was well below the IR I/2015 forecast in 2016 Q2 and therefore well below the CNB's 2% target**  
(year on year in %)

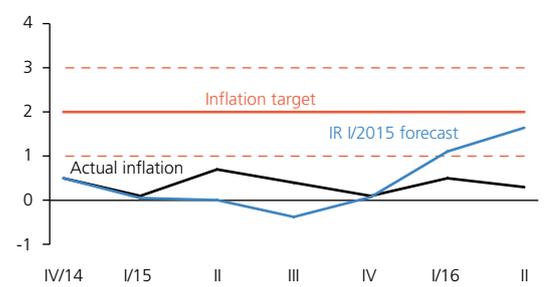


TABLE III.1.1

#### FULFILMENT OF THE INFLATION FORECAST

**The deviation of inflation from the forecast was due to all components of inflation except changes to indirect taxes**  
(annual percentage changes; contributions in percentage points)

	IR I/2015 forecast	2016 Q2 outturn	Contribution to total difference <sup>d)</sup>
CONSUMER PRICES	1.6	0.3	-1.3
Breakdown into contributions:			
administered prices	1.0	0.2	-0.1
first-round impacts of changes to indirect taxes <sup>a)</sup>	0.0	0.2	0.2
food prices <sup>b)</sup>	2.2	-0.8	-0.8
fuel prices <sup>b)</sup>	3.5	-12.4	-0.6
adjusted inflation excl. fuels <sup>b)</sup>	1.4	1.1	-0.1

a) impact in non-administered prices on total inflation

b) excluding the first-round effects of changes to indirect taxes

c) Owing to rounding, the total difference may not equal the sum of the individual items.

#### III.1.1 Fulfilment of the inflation target

In 2016 Q2, both headline inflation and monetary policy-relevant inflation were well below the CNB's target, or below the lower boundary of the tolerance band around the target, as well as below the **forecast published in Inflation Report I/2015** (see Chart III.1.1).<sup>21</sup> This forecast was based on the assumption that the exchange rate would be used as an instrument for easing monetary policy with a CNB exchange rate commitment of CZK 27 to the euro until the end of 2016. The forecast expected both headline and monetary policy-relevant inflation to be at zero or slightly negative levels in 2015 and then rise to the 2% target in 2016. Inflation pressures were expected to almost disappear in the first half of 2015, as the observed fall in global prices of energy commodities was expected to result in a substantial decrease in costs stemming from import prices. By contrast, continued growth in domestic economic activity and gradually accelerating wage growth were expected to foster growth in prices over the entire forecast horizon.

Headline **inflation in reality** remained positive over the entire period and thus fluctuated above the forecast in 2015. Since the start of 2016, by contrast, it has been lower than forecasted. The gap between

21 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 2016 Q2, we have to examine the period from October 2014 to March 2016, which takes into account the different lengths of transmission of interest rates and the exchange rate. This is because monetary policy starts to pass through to inflation with a substantially shorter lag in the regime where the exchange rate is used as a monetary policy instrument than when interest rates are used. For the sake of clarity, however, the analysis of the accuracy of the forecasts is limited here to a comparison of Inflation Report I/2015 with subsequent inflation.

actual headline inflation and the forecast was -1.3 percentage points in 2016 Q2 (see Table III.1.1). This deviation was due to all components of inflation except the first-round effects of indirect tax changes. Unexpectedly subdued food price inflation (a stronger-than-expected fall in global agricultural commodity prices, the embargo on food imports into Russia and the abolition of EU milk production quotas) made the biggest negative contribution. The negative deviation from the forecast was also due to a drop in fuel prices. To a lesser extent, the deviation was also due to slower growth in administered prices and lower adjusted inflation excluding fuels (owing mainly to a persisting decline in producer prices in the euro area).

**External economic factors** were the main contributor to the substantially lower-than-forecasted domestic inflation. The biggest deviation was recorded by foreign production prices (as much as 5 percentage points in early 2016), which did not record the expected growth and on the contrary continued to show strongly negative year-on-year dynamics (see Table III.1.2). The unexpected fall in oil prices as from 2015 H2 contributed substantially to these developments. External demand growth was slightly stronger than expected. Foreign interest rates decreased further, even reaching negative levels, a trend which had not been expected by the forecast either. Overall, then, external developments had an anti-inflationary effect on the Czech Republic, i.e. they acted towards a need for much easier monetary conditions. **Domestic market interest rates**, however, remained stable (see Table III.1.3) owing to the zero lower bound. The **exchange rate** stayed at levels that were at first slightly weaker than the commitment announced by the CNB, but they were not weak enough to offset the deflationary pressures from abroad and deliver a return of inflation to the target. The impacts of the anti-inflationary developments abroad on domestic inflation were thus much stronger than in an environment where monetary policy is not constrained by the zero lower bound.

The observed **domestic GDP growth** was markedly higher than the forecast under review. This difference was due (besides data revisions) to a stronger rise in investment as a result of drawdown of EU funds in 2015 and to real household consumption, which was favourably affected by unexpectedly low energy commodity prices. Government consumption was also higher than predicted by the forecast, mainly because of stronger wage growth in the government sector.

In addition to the forecast, an assessment of the risks associated with this forecast is important for the Bank Board's decisions on **monetary policy settings**. The Bank Board assessed the balance of risks to the forecast at the monetary policy horizon as being either on the downside or balanced over the entire key period. With the benefit of hindsight, it can be said that most of the identified risks materialised in the key period, with anti-inflationary risks (particularly subdued inflation in the euro area and global prices of energy and food commodities) clearly prevailing overall. The weakened exchange rate of the koruna is still contributing to growth of the domestic economy, fostering an

TABLE III.1.2

## FULFILMENT OF THE EXTERNAL ASSUMPTIONS

**External factors had an anti-inflationary effect overall, fostering a need for much easier domestic monetary conditions**

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

		I/15	II/15	III/15	IV/15	I/16	II/16
GDP in euro area <sup>a), b), c)</sup>	p	0.9	1.3	1.8	2.0	2.1	2.0
	o	1.4	1.9	2.2	2.3	2.4	-
PPI in euro area <sup>b), c)</sup>	p	-0.9	-0.1	0.5	1.3	1.5	1.6
	o	-2.8	-2.1	-2.6	-3.1	-3.7	-
3M EURIBOR (percentages)	p	0.1	0.1	0.0	0.0	0.0	0.1
	o	0.0	0.0	0.0	-0.1	-0.2	-0.3
USD/EUR exchange rate (levels)	p	1.19	1.18	1.16	1.16	1.15	1.15
	o	1.13	1.10	1.11	1.09	1.10	1.13
Brent crude oil price (USD/barrel)	p	49.3	52.7	55.7	57.9	59.9	61.8
	o	55.1	63.5	51.3	44.7	35.2	47.0

a) at constant prices  
b) seasonally adjusted  
c) I.R. I/2015 outlook for effective indicator

TABLE III.1.3

## FULFILMENT OF THE FORECAST FOR KEY VARIABLES

**Actual domestic GDP growth was higher than forecasted**

p – prediction, o – outturn

		I/15	II/15	III/15	IV/15	I/16	II/16
3M PRIBOR (percentages)	p	0.3	0.3	0.3	0.3	0.3	0.3
	o	0.3	0.3	0.3	0.3	0.3	0.3
CZK/EUR exchange rate (levels)	p	ER commitment: close to CZK 27 to the euro					
	o	27.6	27.6	27.4	27.1	27.1	27.0
Real GDP <sup>a)</sup> (annual perc. changes)	p	1.9	2.5	2.9	3.0	2.9	3.0
	o	4.6	5.0	4.8	4.0	3.0	-
Nominal wages <sup>b)</sup> (annual perc. changes)	p	1.8	2.2	2.8	3.4	3.6	3.7
	o	1.4	2.4	3.0	3.1	4.5	-

a) seasonally adjusted  
b) in the business sector

CHART III.1.2

## INFLATION

**Consumer price inflation fell to zero in 2016 Q2**  
(annual percentage changes)

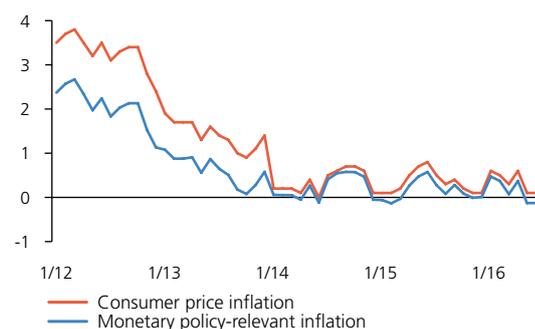
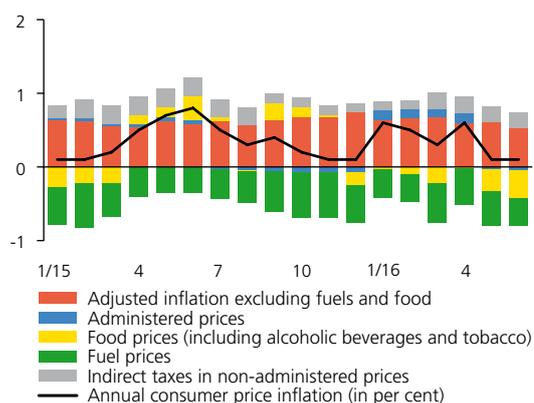


CHART III.1.3

## STRUCTURE OF INFLATION

The decrease in headline inflation in May and June was due mainly to a renewed decline in food prices

(annual percentage changes; contributions in percentage points)



increase in costs and consequently also consumer prices. On account of strong foreign anti-inflationary or even deflationary cost shocks, however, the inflation target has been significantly undershot for some time now. Overall, based on current knowledge, it thus seems that the monetary policy pursued between October 2014 and March 2016 should have been easier.

## III.1.2 Current inflation

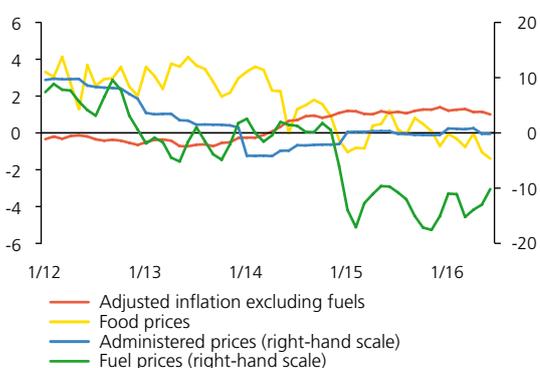
**Annual inflation** was 0.3% on average in 2016 Q2, 0.2 percentage point lower than in the previous quarter. Inflation initially accelerated to 0.6% in April, but reached only 0.1% in May and June (see Chart III.1.2). The April increase in annual consumer price inflation was due to a temporary moderation of the decline in food prices, which, however, subsequently deepened again. The decrease in inflation was also due to administered prices turning slightly negative. Adjusted inflation excluding fuels moderated somewhat, but remains the main driver of consumer price inflation (see Chart III.1.3).

CHART III.1.4

## INFLATION COMPONENTS

Adjusted inflation went down slightly, food and fuel prices continued to fall and administered prices also started to decline slightly

(annual percentage changes; excluding indirect tax changes except for administered prices)



The contribution of indirect tax changes to inflation was linked with the impact of the harmonisation adjustment made to excise duty on cigarettes and tobacco in January 2016 and amounted to around 0.2 percentage point. **Monetary policy-relevant inflation**<sup>22</sup> was thus below headline inflation, following it closely. In May and June, it fell slightly below zero. It was thus still well below the CNB's target, or below the lower boundary of the tolerance band around the target.

The previous moderate growth in **administered prices** was replaced by a year-on-year decrease of 0.2% in May and June (see Chart III.1.4), mainly as a result of a decrease in gas prices for households introduced in May by the largest suppliers. Transport prices also recorded a negative contribution as a result of falling fuel prices. By contrast, water supply and sewerage collection charges increased. Prices of electricity and heat for households maintained stable growth of 1%.

Annual **market price inflation**,<sup>23</sup> as measured by net inflation, was slightly negative on average in 2016 Q2. Food prices had the biggest impact on net inflation. A moderation of the decline in fuel prices and a countervailing decrease in adjusted inflation excluding fuels had a smaller effect on it.

**Prices of food, beverages and tobacco** saw a moderation of their annual decline to zero in April, but in May they fell again and in June this fall increased further (see Chart III.1.5). Their muted evolution reflected an accelerating decline in agricultural producer prices, including a persisting effect of the abolition of EU milk production

<sup>22</sup> Inflation excluding the first-round effects of indirect tax changes.

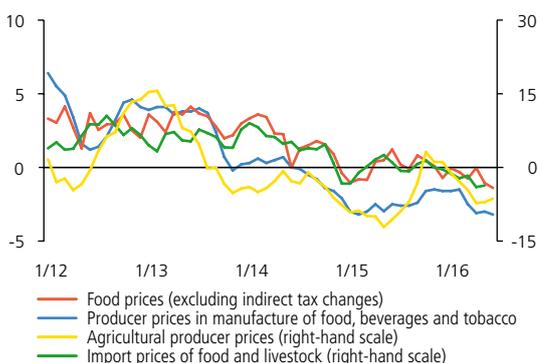
<sup>23</sup> The following text describes the evolution of the individual categories of market prices adjusted for tax changes.

CHART III.1.5

## FOOD PRICES

Prices of food, beverages and tobacco started falling again in May and June

(annual percentage changes)



quotas. Prices of milk, dairy products and meat, bread products, fruit and many other items thus continued to fall sharply. By contrast, prices of vegetables, fish, alcoholic beverages and tobacco increased (see Chart III.1.6).

The deep annual decline in **fuel prices** slowed gradually in 2016 Q2 (to 10.2% in June; see Chart III.1.4). Fuel prices thus followed the gradually subsiding annual declines in global prices of Brent crude oil and petrol amid slight appreciation of the koruna against the US dollar.

**Adjusted inflation excluding fuels** moderated slightly (to 1% in June; see Chart III.1.7), owing to a modest slowdown in growth in prices of non-tradables.<sup>24</sup> These prices rose by 1.4% on average, reflecting continued growth in domestic economic activity and accelerating wage costs. In particular, increases were recorded by prices of cultural and recreational services, rents, prices of services connected with the operation of personal transport equipment and services connected with personal care. Only post and telecommunications prices recorded a decline. Growth in prices of tradables<sup>25</sup> was flat at 0.6%. An acceleration in price growth in this segment was dampened by anti-inflationary foreign prices coupled with slight appreciation of the koruna against the euro.

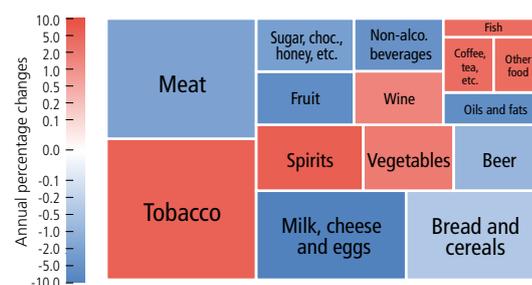
24 Prices of non-tradable commodities primarily comprise prices of services excluding administered prices.

25 Prices of tradable commodities comprise prices of goods excluding food and fuels.

CHART III.1.6

**STRUCTURE OF FOOD, ALCOHOL AND TOBACCO PRICE INFLATION IN JUNE 2016**

The trends in food prices remain very mixed (size of tile – relative weight in consumer basket; colour of tile – annual percentage changes)



Note: Adjusted for the effect of changes to indirect taxes, tobacco product prices would have increased by 5.1% year on year.

CHART III.1.7

**ADJUSTED INFLATION EXCLUDING FUELS**

Adjusted inflation excluding fuels moderated owing to a slowdown in growth in prices of non-tradables (annual percentage changes)

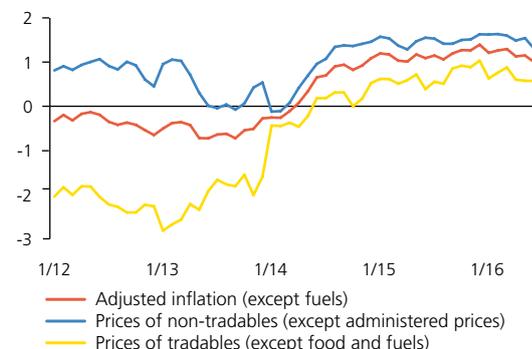
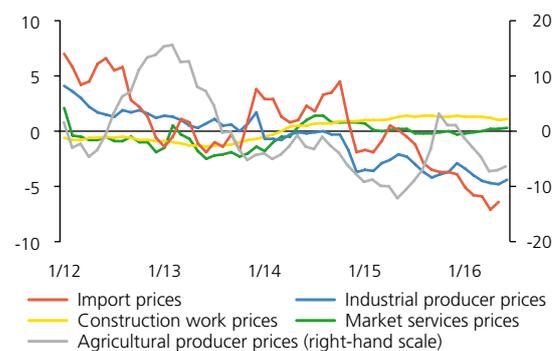


CHART III.2.1

## IMPORT PRICES AND PRODUCER PRICES

The declines in import prices, industrial producer prices and agricultural producer prices seem to have bottomed out (annual percentage changes)



## III.2 IMPORT PRICES AND PRODUCER PRICES

The marked annual decline in import prices continued into 2016 Q2, even though it started to moderate in May. This was due mostly to a persisting fall in energy commodity prices, although other components also showed year-on-year decreases. The lower prices of imported inputs were subsequently reflected in a continued year-on-year decline in industrial producer prices. The decline in agricultural commodity prices deepened as a result of a renewed fall in crop product prices and a deepening decline in livestock product prices. Prices of market services for the business sector switched to weak year-on-year growth. Annual growth in construction work prices remained subdued at around 1%.

## III.2.1 Import prices

The decline in **import prices** deepened slightly further during 2016 Q2 (to 6.4% in May; see Chart III.2.1), but in month-on-month terms most components of import prices rose slightly in May. Besides the persisting negative effect of mineral fuel prices, the continuing sizeable annual drop in import prices is also due to developments in 2015 H2, when import prices of semi-finished products and commodities with a high degree of processing declined markedly. However, these effects will dissipate gradually in the rest of this year (see Chart III.2.2).

The biggest negative contribution, recorded by prices of **mineral fuels**, was broadly unchanged during 2016 Q2 (see Chart III.2.2), owing to two opposite factors. The annual decreases in Brent crude oil prices and global natural gas prices moderated gradually (to 27.4% and 46.6% respectively), but this was counteracted by a year-on-year weakening of the koruna against the US dollar (see Chart III.2.3).

The year-on-year decline in import prices of **semi-finished products** and **non-energy commodities** deepened slightly. This was due chiefly to a sizeable fall in these prices in April, which was only partly offset in May. Import prices of **food, tobacco and beverages** recorded a more pronounced deepening of their decline. This was due mainly to import prices of food and live animals, although import prices of beverages and tobacco also decreased again.

The year-on-year fall in **import prices of commodities with a high degree of processing** also deepened during 2016 Q2 in the categories of both imported machinery and transport equipment and miscellaneous manufactured articles (to 1.9% and 3.1% respectively in May). However, import prices in the former category showed mixed trends. While import prices of road vehicles were flat, import prices of other machinery and electrical equipment saw declines ranging from 1.4% to 3.5%.

CHART III.2.2

## IMPORT PRICES

The continuing decline in import prices was broad-based, although the fall in energy commodity prices remained the biggest contributor to it (annual percentage changes; contributions in percentage points)

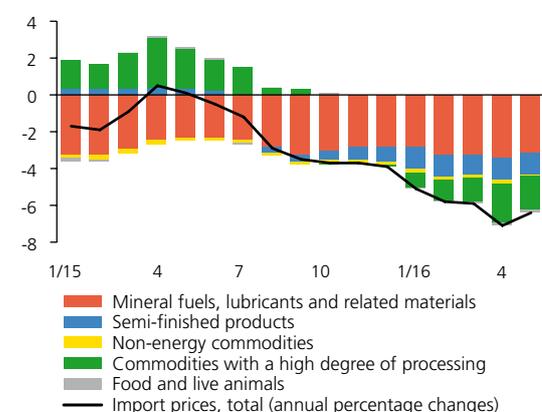
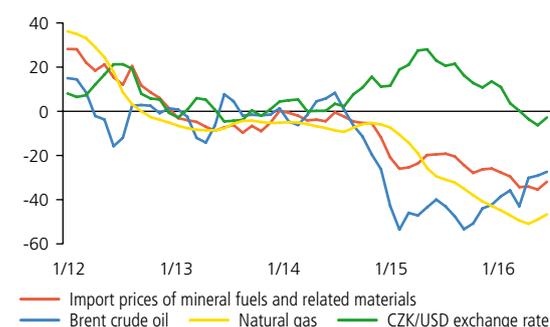


CHART III.2.3

## MINERAL FUELS AND LUBRICANTS

Prices of imported mineral fuels reflected a slowing decline in world prices of oil and natural gas and a counteracting appreciation of the koruna-dollar exchange rate (annual percentage changes)



### III.2.2 Producer prices

#### Industrial producer prices

In 2016 Q2, the long-running annual decline in **industrial producer prices** initially deepened further (see Chart III.2.4), but according to the June data this trend came to a halt and the decline moderated. This was due mainly to a continued fall in prices of imported inputs, in particular world prices of oil, which, however, started to slow in year-on-year terms.

The annual decline in industrial producer prices continued to be driven by the **composite indicator of energy producer prices and prices of water-related services**<sup>26</sup> (see Chart III.2.4). A closer look at the individual industries within this index revealed sizeable differences between its components. Prices of electricity, gas, steam and air-conditioned air have been falling since the start of the year (at a pace of around 4%). The decline in producer prices in mining and quarrying deepened further. By contrast, growth in producer prices in water supply and sewerage-related services accelerated in 2016 Q2 (to 1.6%; see Chart III.2.5). The continuing sharp annual decline in the composite indicator was therefore still due most of all to prices in the manufacture of coke and refined petroleum products, primarily reflecting the persisting annual decline in world oil prices. In the classification by main industrial groupings, this led above all to a continued sharp annual decline in prices of energy (see Chart III.2.6).

The annual decline in prices in the **food industry** deepened in 2016 Q2 (to 3%). A deep decline (of 6%) was recorded by prices in manufacture of **basic metals and fabricated metal products** in April. However, the decline in these producer prices slowed in June (to 4.3%). Prices of transport equipment producers fell at a roughly stable rate (by 2.1% in June).

Overall, **producer prices in manufacturing** continued to fall sharply in 2016 Q2 (by 4.5% in June). This was due not only to lower global oil prices and a persisting decline in producer prices in the effective euro area, but also to modest year-on-year appreciation of the koruna against the euro.

#### Agricultural producer prices

The year-on-year decline in **agricultural producer prices** deepened further in 2016 Q2 (to 6.4% in June; see Chart III.2.7). This was a result of a deepening decline in livestock product prices (of 10.7% in June) and a renewed fall in prices of crop products (of 2.6% in June). In the case of livestock products, the deepening price decline was due mainly to a further drop in milk prices amid a persisting decline in prices of

<sup>26</sup> In May 2015, the CZSO ceased to publish separate data on producer prices in the manufacture of coke and refined petroleum products. For this reason, in Chart III.2.4 this item is combined with mining and quarrying, electricity, gas, steam and air-conditioned air and water supply and sewerage-related services.

CHART III.2.4

#### INDUSTRIAL PRODUCER PRICES

The across-the-board decline in industrial producer prices continued into 2016 Q2

(annual percentage changes; contributions in percentage points)

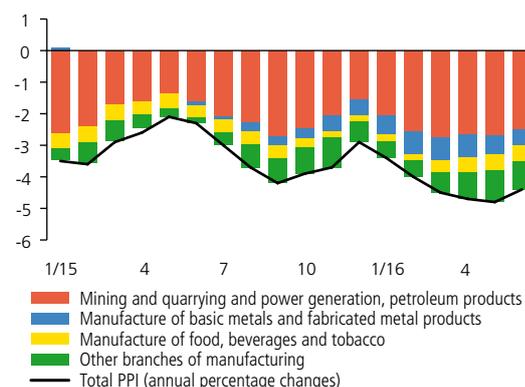


CHART III.2.5

#### PRICES OF ENERGY AND WATER-RELATED SERVICES

The decline in electricity prices and prices in mining and quarrying continued, while the growth in prices of water-related services accelerated slightly

(annual percentage changes)

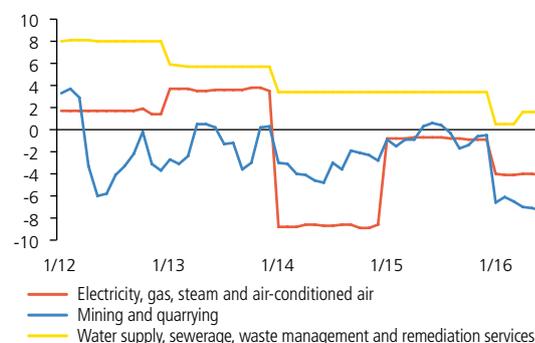


CHART III.2.6

#### PRODUCER PRICES BY MAIN INDUSTRIAL GROUPINGS

Energy producer prices recorded a further sharp decline and prices continued to fall in all other categories

(annual percentage changes)

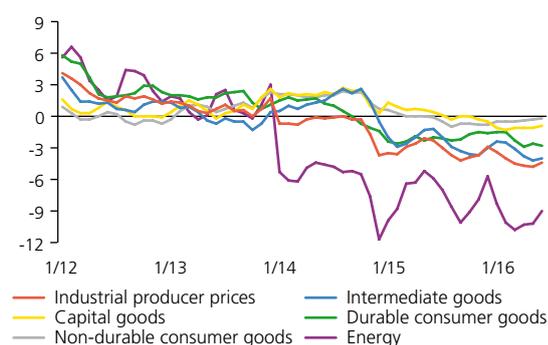
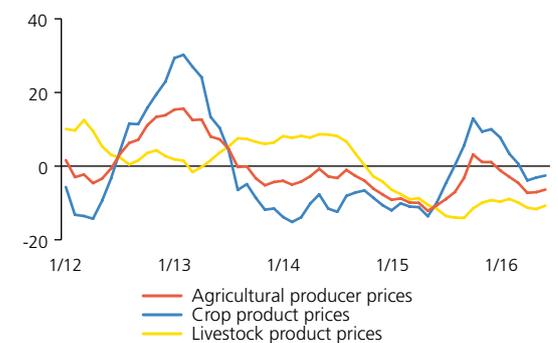


CHART III.2.7

## AGRICULTURAL PRODUCER PRICES

## Crop product prices started to fall again in 2016 Q2

(annual percentage changes)



most other products in this category except cattle. The renewed fall in prices of crop products was mostly due to declining grain prices, which were only partly offset by accelerating growth in prices of potatoes and vegetables.

This was due to several **factors**. Together with continuing retaliatory trade sanctions imposed by Russia, the liberalisation of the EU milk market last year helped maintain the decline in milk and pork prices. In addition to the above-average harvest last year, crop product prices were affected by an expected rise in global production this year leading to an expected further rise in global stocks amid a moderate decrease in global demand. This resulted in a further decline in the price level, especially for grain, and kept prices of a number of other crop commodities very low. A moderate year-on-year appreciation of the koruna also fostered lower domestic agricultural product prices.

**Other producer prices**

**Prices of market services for the business sector** switched to weak year-on-year growth in 2016 Q2 (see Chart III.2.8). Overall, however, inflation in this area remained subdued, with only postal and courier services and advertising services and market research recording price growth exceeding 3%.

The previous modest growth in **construction work prices** slowed slightly in 2016 Q2 (see Chart III.2.8), reflecting among other things a year-on-year drop in prices of materials and products consumed in the construction industry (of 1.8% in June).

CHART III.2.8

## MARKET SERVICES PRICES IN THE BUSINESS SECTOR AND CONSTRUCTION WORK PRICES

## Market services prices started to rise year on year, while growth in construction work prices fluctuated around 1%

(annual percentage changes)



### III.3 DEMAND AND OUTPUT

Economic growth slowed to 3% in 2016 Q1. Steadily rising household consumption was again the biggest contributor to the annual GDP growth. A positive contribution, albeit much smaller than in previous quarters, was also recorded by investment growth, which slowed mainly on account of the unwinding of the effect of intensive drawdown of EU funds from the previous programme period. Net exports of goods and services continued to rise, although the dynamics of total foreign trade turnover slowed. Growth in gross value added also slowed. It was driven mainly by services, whereas the contribution of manufacturing declined further. Economic output is close to its potential.

#### III.3.1 Domestic demand

At the start of this year, annual GDP growth (see Chart III.3.1) was again driven largely by **domestic demand**. However, its year-on-year growth rate slowed considerably, mainly because of a marked slowdown in fixed investment growth. Stable growth in household consumption and government consumption contributed to the growth in domestic demand. The contribution of change in inventories was slightly negative.

##### Final consumption

The annual growth in real **final consumption expenditure of households** continued in 2016 Q1 (2.6%; see Chart III.3.2). A similar rate of growth of household consumption as in the previous quarter was achieved amid markedly lower growth in gross disposable income, reflected in a year-on-year decline in the **saving rate** (of more than 1 percentage point to 9.6%<sup>27</sup>).

Annual growth in nominal **gross disposable income**, which is the main source of financing of households' consumption expenditure, slowed at the start of this year (by 1 percentage point to 1.5%; see Chart III.3.2). As the household consumption deflator was almost flat, households' real purchasing power rose by 1.4%. The observed slowdown in annual growth in gross disposable income was due chiefly to a sizeable decline in property income (of more than 20%). Income of entrepreneurs also recorded a slight year-on-year decrease. By contrast, growth in disposable income was fostered mostly by wages and salaries (see Chart III.3.3), which accelerated further (to 5.9%). On the other hand, this was reflected in a repeated significantly negative contribution of payments of taxes and social contributions.

The growth in **consumption expenditure** was channelled into all the monitored categories in 2016 Q1 (see Chart III.3.4). As in previous quarters, households increased their spending most of all

27 Seasonally unadjusted figure. The latest revision of the national accounts has led to a marked reassessment of the past evolution of the saving rate.

CHART III.3.1

#### GROSS DOMESTIC PRODUCT

Household consumption was again the biggest contributor to GDP growth, while fixed investment growth slowed markedly (contributions in percentage points to annual percentage change; seasonally adjusted data)

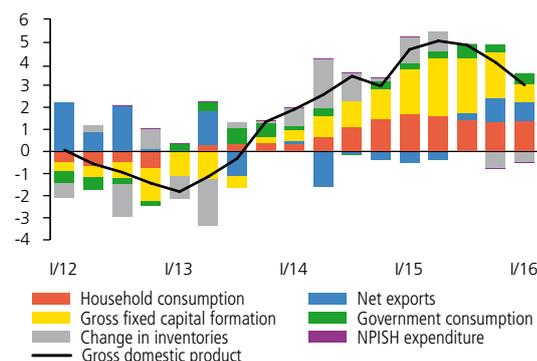


CHART III.3.2

#### HOUSEHOLD CONSUMPTION EXPENDITURE

Household consumption rose considerably faster than gross disposable income (annual percentage changes; seasonally unadjusted data)

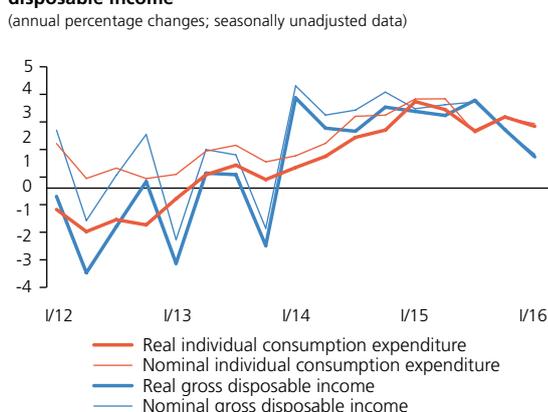


CHART III.3.3

#### DISPOSABLE INCOME

Wages and salaries were the biggest contributor to the growth in disposable income, whereas taxes and social contributions and property income acted in the opposite direction (annual percentage changes; contributions in percentage points; current prices; seasonally unadjusted data)

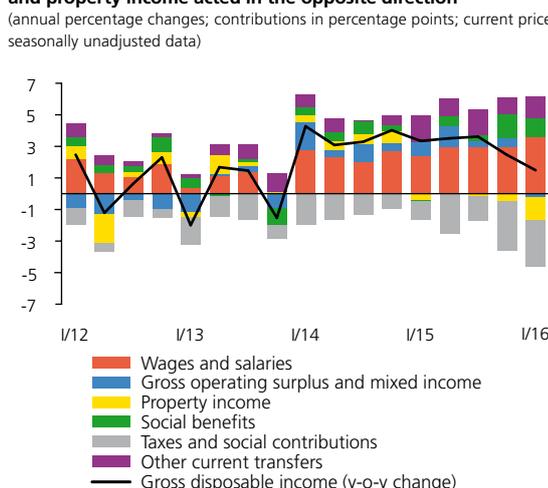


CHART III.3.4

## HOUSEHOLD CONSUMPTION

Household consumption expenditure increased in all categories, with expenditure on non-durable goods recording the largest contribution

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

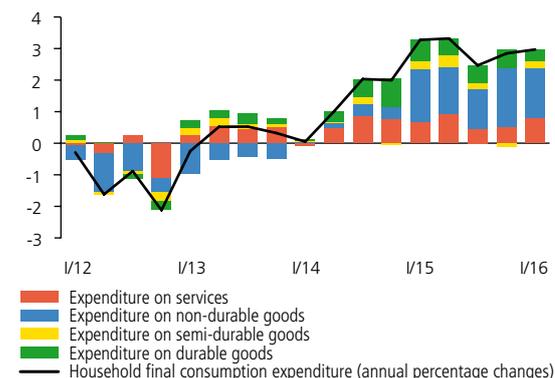


CHART III.3.5

## CONFIDENCE INDICATORS

Consumer and business confidence remains at high levels despite having declined slightly

(2005 average = 100)

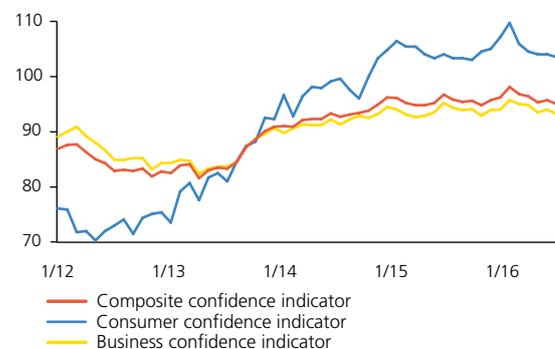
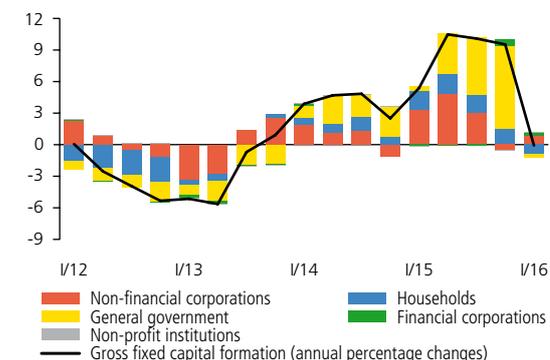


CHART III.3.6

## INVESTMENT BY SECTOR

The previous buoyant growth in fixed investment disappeared as a result of government investment growth turning negative

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



on non-durable items, but their expenditure on services also rose significantly. According to the latest available monthly indicators, strong annual growth in seasonally adjusted retail sales continued across the board in April and May.

The **consumer confidence indicator** edged down in 2016 Q2. The January peak therefore remains its all-time high (see Chart III.3.5). However, it is still relatively high.

Growth in real **government final consumption expenditure** went up to 2.5% in 2016 Q1, reflecting a rise in intermediate consumption. The positive contribution of government consumption to annual GDP growth thus stood at 0.5 percentage point (see Chart III.3.1).

## Investment

Growth in **fixed investment** slowed considerably at the start of this year (to 3.1%<sup>28</sup> from 8.2% in the previous quarter), owing chiefly to a drop in government investment to slightly negative levels.

The substantial change in the dynamics of investment activity was due<sup>29</sup> mostly to the unwinding of fixed investment growth in the **government sector**. Government fixed investment fell by 2.1% in 2016 Q1. As recently as the previous quarter, it had increased rapidly in connection with the drawdown of EU structural funds from the previous programme period (by more than 40%; see Chart III.3.6). As expected, the start of the drawdown of funds from the new programme period has been very gradual so far.

Investment growth in the **non-financial corporations sector** was subdued for the second consecutive quarter. A year-on-year decrease in investment in manufacturing and construction was offset by a continuing rise in investment in trade and services. This is in line with the CZSO's business survey indicators, according to which industrial corporations view future demand for their production as stable, while retail corporations expect it to grow. The latest survey conducted by the CNB and the Confederation of Industry for 2016 Q2 suggests that non-financial corporations expect their investment to increase only slightly at the six-month and twelve-month horizons.

Investment by the **household sector** switched to a year-on-year decline of 5% at the start of 2016 (see Chart III.3.6). The most important component of households' fixed investment, investment in dwellings, recorded a decrease (see Chart III.3.7). However, selected indicators suggest that this is just a short-term fluctuation. Households' confidence in favourable future evolution of the economy and employment remains high. Financing conditions for investment in dwellings remained favourable and were accompanied by strong

28 According to seasonally adjusted data at constant prices.

29 According to seasonally unadjusted data at constant prices.

growth in new mortgage loans (see section III.5.2) and rising property prices (see section III.5.7). The number of housing starts also continued to rise year on year (by 2.1%).

While the other components of domestic demand increased year on year, **change in inventories** dampened annual GDP growth for the second consecutive quarter (see Chart III.3.1).

#### III.3.2 Net external demand

**Net exports of goods and services**<sup>30</sup> contributed 0.8 percentage point to GDP growth in 2016 Q1 (see Chart III.3.1). They rose in year-on-year terms for the third consecutive quarter, albeit rather more moderately than in the previous quarter (see Chart III.3.8). Net exports increased as a result of continued growth in the services surplus and above all owing to the goods surplus, which increased in real terms following a year of annual declines. As in the previous quarter, the year-on-year increase in net exports was a result of export growth slightly outpacing import growth. Year-on-year growth in total foreign trade turnover meanwhile slowed.

Growth in **total exports** slowed to 6.7%. The slowdown in export growth occurred despite a slight pick-up in external demand growth in the Czech Republic's major trading partner countries. The moderation of total export growth was fostered by slower growth in goods exports and in particular by slower growth in services exports.

**Total imports** increased by 6.1%. Their growth also slowed because of a downswing in total domestic demand and slower growth in goods exports coupled with their high import intensity. The slowdown in total imports was due solely to a slowdown in goods imports, within which only imports for final consumption recorded rapid growth. By contrast, services imports increased again following a modest decrease.

#### III.3.3 Output

Growth in **gross value added** slowed further (to 2.8%) in 2016 Q1.<sup>31</sup> The contribution of the highest-weight industry – manufacturing – was half that recorded a year earlier (see Chart III.3.9), owing mainly to the chemical industry, electrical engineering and manufacture of metals. By contrast, trade and services again recorded stable growth in gross value added. The contribution of mining and energy remained negative, although less so than in the course of last year.

30 At 2010 prices, seasonally adjusted.

31 At constant prices, seasonally adjusted.

CHART III.3.7

#### GROSS FIXED CAPITAL FORMATION

**Growth in all components of gross fixed capital in terms of the material breakdown was subdued**

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

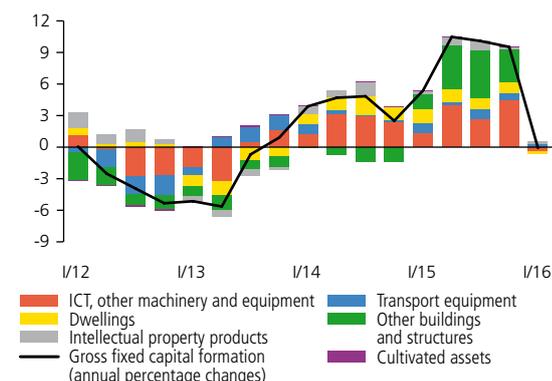


CHART III.3.8

#### EXPORTS AND IMPORTS

**Growth in net exports and trade turnover slowed**

(annual changes in percentages and CZK billions; constant prices; seasonally adjusted data)

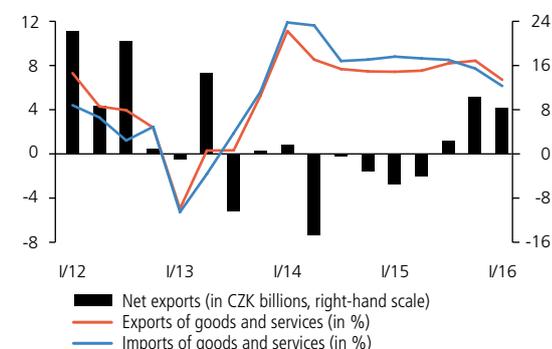


CHART III.3.9

#### CONTRIBUTIONS OF BRANCHES TO GVA GROWTH

**Growth in gross value added slowed further**

(annual percentage changes; contributions in percentage points)

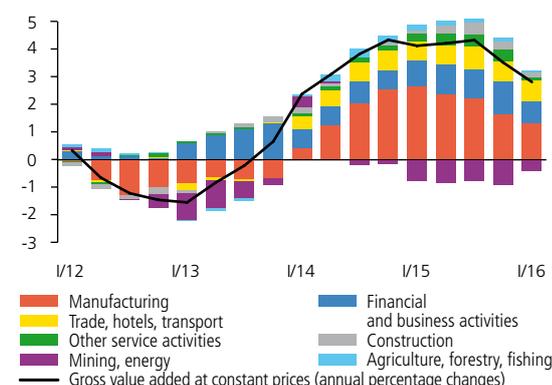


CHART III.3.10

## INDUSTRIAL PRODUCTION

Despite a slight slowdown, industrial production and production capacity utilisation remain high

(basic index; year 2010 = 100)

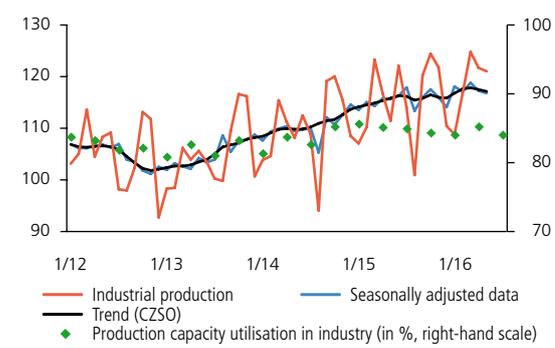


CHART III.3.11

## NEW ORDERS IN INDUSTRY

Growth in foreign and domestic industrial orders surged, thanks mainly to the automotive industry

(annual percentage changes)

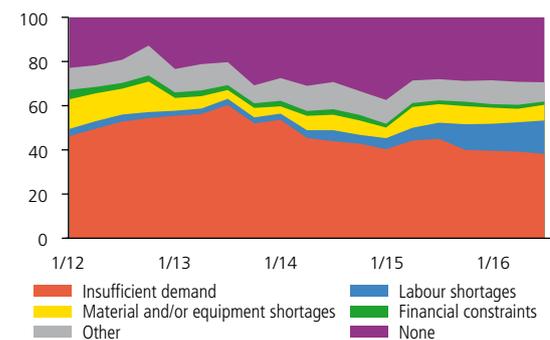


CHART III.3.12

## BARRIERS TO GROWTH IN INDUSTRY

The effect of insufficient demand as a barrier to growth in industrial production decreased slightly further, while labour shortages grew in significance

(percentages)



**Industrial production** growth accelerated slightly year on year (to 3.2%; see Chart III.3.10).<sup>32</sup> This was aided mainly by a less pronounced drop in energy production amid stable growth in manufacturing production. In terms of use, industrial production for investment and for long-term consumption increased in particular. According to the most recent monthly indicators, industrial production slowed in April and May (to 1.2% on average), with the annual decline in production in mining and quarrying continuing to deepen and growth in manufacturing production moderating. By contrast, energy production started to rise again year on year for the first time in a long time. The value of new industrial orders at current prices recorded a significant year-on-year increase in April and May (of 13.4%; see Chart III.3.11), caused mainly by a rise in orders in the automotive industry. The growth in orders was due to both domestic and external demand.

According to the July results of the CZSO's business survey, the importance of insufficient demand as the main **barrier to growth** decreased slightly further (see Chart III.3.12). By contrast, the share of businesses in industry considering a shortage of employees to be the main barrier to growth increased to its highest level since 2009. The share of businesses which see no barrier to their future development remained virtually unchanged. Capacity utilisation in industry edged down in July to roughly the early 2016 level (just under 85%).

**Construction output**<sup>33</sup> switched to a year-on-year decline (of 4.7%) in 2016 Q1, owing mainly to a decrease in government investment financed from the EU. Building construction output fell sharply, while the decline in civil engineering output was only modest at the time. The April and May data showed a further deepening of the decline in construction output (to 10.2% on average), with civil engineering also experiencing a sharper drop. However, the number of building permits issued has gradually been rising so far this year (by 1.7% in Q1 and by 6.4% on average in April and May) and their value has also increased (by a strong 41% in April and May).

### III.3.4 Potential output and estimate of the cyclical position of the economy

According to the **Cobb-Douglas production function**, potential output grew by 2.6% year on year in 2016 Q1 (see Chart III.3.13), i.e. at a comparable pace to that recorded in late 2015. Domestic economic activity is close to its potential (see Chart III.3.14). According to the production function, potential output will grow at a steady year-on-year pace at approximately the current level over the forecast horizon. The effect of rising employment will fade, being offset by an increase in the contribution of aggregate productivity and gross fixed capital. The output gap will gradually open into positive figures over the next two years.

<sup>32</sup> At constant prices, seasonally adjusted.

<sup>33</sup> At constant prices, seasonally adjusted.

A similar growth rate of potential output (2.7%) was indicated for 2016 Q1 by an alternative estimate using the **HP filter**.<sup>34</sup> Potential output growth should gradually reach around 3% at the forecast horizon. According to this method, the output gap was still positive (0.5% of potential output) and will remain so over the entire forecast horizon.

Stronger growth in potential output (3.4%) was recorded by the estimate using the **Kalman filter** in 2016 Q1. Potential output growth should remain close to 3% in the years ahead. The output gap according to the Kalman filter is close to zero and will fluctuate around this level in the future.

CHART III.3.13

POTENTIAL OUTPUT

The rate of growth of potential output is around 3% (annual percentage changes)

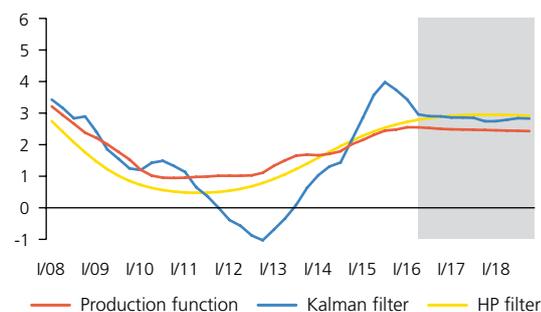
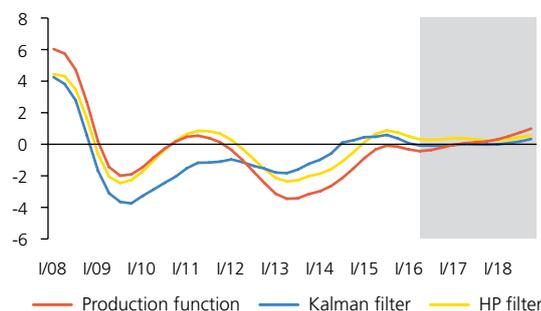


CHART III.3.14

OUTPUT GAP

The Czech economy is close to its potential output level (% of potential output)



34 The estimate using the HP filter used coefficient  $\lambda = 1,600$ .

CHART III.4.1

## LABOUR MARKET INDICATORS

Average wage growth in the business sector and growth in nominal unit wage costs picked up noticeably  
(annual percentage changes)



## III.4 THE LABOUR MARKET

The labour market situation continued to improve in 2016 Q1. Total employment and the number of employees converted into full-time equivalents rose significantly year on year. This, coupled with only a slight increase in the labour force, led to a further decline in the general unemployment rate. The share of unemployed persons declined in 2016 Q2, too. Average wage growth picked up further, while growth in whole-economy labour productivity slowed sharply, resulting in considerably higher growth in unit labour costs.

## III.4.1 Employment and unemployment

Growth in total **employment** picked up significantly further in 2016 Q1 (see Chart III.4.1). As in the previous period, the number of employees increased and the number of entrepreneurs decreased.

The **tertiary sector** was the biggest contributor to the year-on-year growth in employment. The much faster growth in employment in the service sector than in the previous quarter was due mainly to non-market services (see Chart III.4.2), reflecting renewed growth in employment in public administration and defence. Employment in market services recorded similar growth as in the previous quarter. Market services saw a significant rise in the number of people employed in transport and storage and in professional, scientific and technical activities. Conversely, growth in employment in wholesale and retail trade slowed and the decline in employment in accommodation services deepened.

The growth in employment in the **secondary sector** was a result of different developments in industry and construction. The continued rapid year-on-year increase in employment in industry, and especially in manufacturing, mainly reflected the good condition of the Czech automotive industry. According to the latest data for April and May, the registered number of employees<sup>35</sup> in industry rose further (by 3.2% and 3.0% year on year respectively). By contrast, employment in construction decreased further due to a continued adverse trend in specialised construction activities. The registered number of employees in construction continued to decline in both April and May (by 2.7% and 2.2% respectively).

The growth in employment observed in the **primary sector** in previous quarters came to a halt.

Despite a slight slowdown in economic growth, the sizeable annual growth in the **number of employees converted into full-time equivalents** continued in 2016 Q1 (see Chart III.4.3), driven exclusively by growth in the number of employees, while average hours worked per employee decreased. This reflected a strong year-on-year rise in

CHART III.4.2

## EMPLOYMENT BREAKDOWN BY BRANCHES

The biggest contributors to the growth in employment were industry followed by non-market services

(contributions in percentage points to annual change; selected branches; source: LFS)

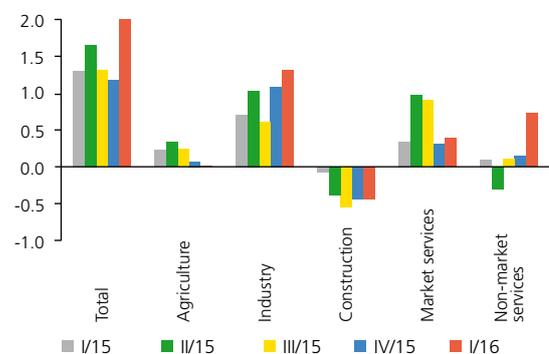
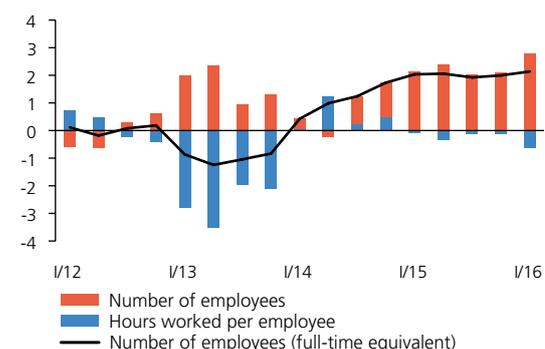


CHART III.4.3

## NUMBER OF EMPLOYEES (FULL-TIME EQUIVALENT)

Rapid growth in the number of employees was accompanied by a decrease in average hours worked per employee  
(annual percentage changes; contributions in percentage points)



35 In corporations with 50 employees or more, excluding agency workers.

the number of part-time workers, especially in wholesale and retail trade. Manufacturing accounted for the largest share of the growth in the converted number of employees.

Although total employment rose substantially faster than in the previous quarter, the **general unemployment rate**<sup>36</sup> decreased less significantly (see Chart III.4.4). This was due to an increase in the labour force and the rate of economic activity.<sup>37</sup> The latter rose to a historical high (more than 74% when seasonally adjusted), due mainly to a gradual increase in the rate of economic activity of older persons close to retirement age. According to LFS data, the decrease in the general unemployment rate amid an increasing rate of economic activity continued into April and May. The general unemployment rate dropped below its 2008 level in these months. The **share of unemployed persons**<sup>38</sup> also gradually declined further in 2016 Q2 (to 5.6% on average according to seasonally adjusted data), with the number of available job applicants registered with labour offices continuing to decline and the population in the given age group shrinking slightly.

A long-running improvement in the labour market situation is also indicated by the **Beveridge curve**. After a temporary stagnation, the number of vacancies began to rise again amid a continued decline in the number of registered unemployed persons (see Chart III.4.5). A comparison with the same phase of the previous labour market cycle reveals similar values of adjusted inflation excluding fuels as well.

### III.4.2 Wages and productivity

Growth in the **average nominal and real wage** increased further in 2016 Q1, due to faster wage growth in both the business and non-business sectors (see Chart III.4.6 and Table III.4.1).

The average nominal and real wage in the **business sector** went up significantly faster than at the end of 2015 (see Table III.4.1). The biggest contributor to the growth in wages was manufacturing, followed by wholesale and retail trade and health and social care. The highest wage growth was recorded in the low-weight sector of culture, in accommodation and food services activities and in administration and supporting services, probably due in part to another increase in the minimum wage from CZK 9,200 to CZK 9,900 in January 2016. Wages picked up significantly in manufacturing (to 4.5%). However, the current data for April and May suggest that wage growth in industry will be more moderate in 2016 Q2.

36 The general unemployment rate covers the 15–64 age group (as measured by the ILO methodology, seasonally adjusted). 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.  
 37 The rate of economic activity is the ratio of the sum of employed and unemployed persons to the population in each age category.  
 38 The share of unemployed persons is the ratio of available job applicants aged 15–64 to the population of the same age.

CHART III.4.4

#### UNEMPLOYMENT INDICATORS

The general unemployment rate and the share of unemployed persons both decreased further (percentages; seasonally adjusted data; source: MLSA, CZSO)

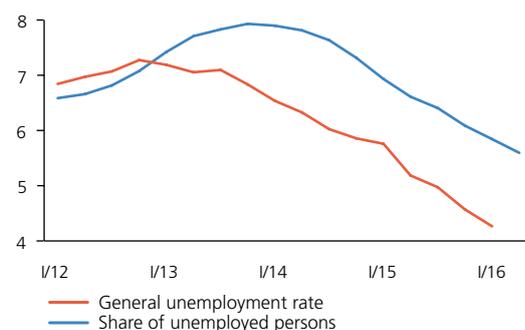


CHART III.4.5

#### BEVERIDGE CURVE

The number of unemployed persons continued to decline steadily, while the number of vacancies increased only slightly (numbers in thousands; seasonally adjusted data; annual percentage changes for adjusted inflation; source: MLSA, CZSO)

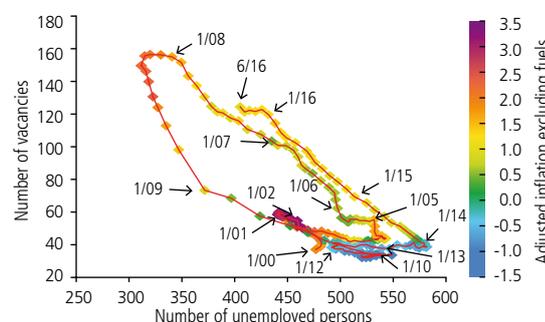


CHART III.4.6

#### AVERAGE WAGE AND WHOLE-ECONOMY LABOUR PRODUCTIVITY

Labour productivity growth lagged significantly behind real wage growth (annual percentage changes)

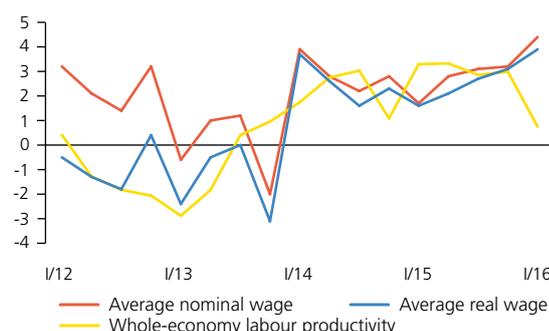


TABLE III.4.1

**WAGES, PRODUCTIVITY, UNIT LABOUR COSTS**

**Average wage growth in the business sector increased markedly; this was reflected in growth in nominal unit labour costs**

(annual percentage changes)

	II/15	III/15	IV/15	I/16
Average wage in Czech Republic				
nominal	2.8	3.1	3.2	4.4
real	2.1	2.7	3.1	3.9
Average wage in business sector				
nominal	2.4	3.0	3.1	4.5
real	1.7	2.6	3.0	4.0
Average wage in non-business sector				
nominal	4.3	3.5	3.8	4.1
real	3.6	3.1	3.7	3.6
Whole-economy labour productivity	3.3	2.9	3.0	0.7
Nominal unit labour costs	-0.4	0.5	0.4	2.9

CHART III.4.7

**PRODUCTIVITY IN BRANCHES**

**Labour productivity decreased in industry and newly also in non-market services, while growth in labour productivity slowed in construction and market services**

(annual percentage changes)

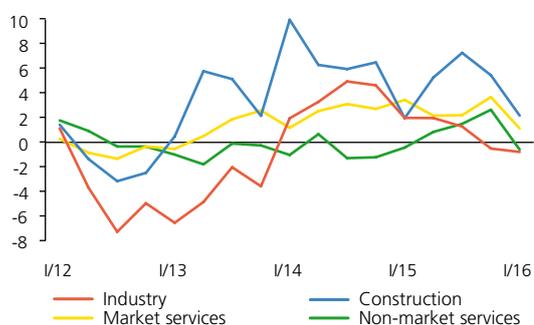
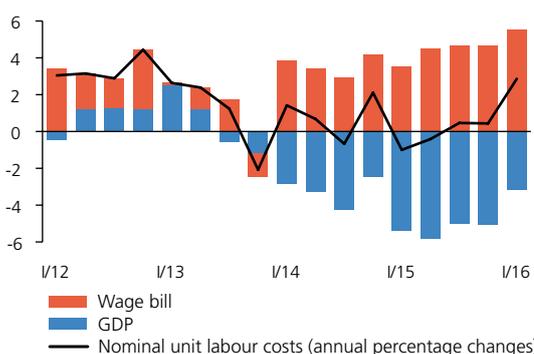


CHART III.4.8

**UNIT LABOUR COSTS**

**Slower economic growth and a faster increase in the wage bill fostered more rapid growth in nominal unit labour costs**

(annual percentage changes; contributions in percentage points)



Nominal wages in the **non-business sector** also rose more significantly in 2016 Q1 than at the end of 2015, but grew rather more slowly than those in the business sector. Average wage growth in real terms stayed just above 3.5% in this sector (see Table III.4.1). The growth in the average wage in the non-business sector was due most of all to 6% wage growth in public administration and defence and only slightly lower wage growth in health care. By contrast, wage growth in education has long been lagging behind average wage growth in the non-business sector, specifically since the start of 2014.

Annual growth in **whole-economy labour productivity**<sup>39</sup> slowed significantly in 2016 Q1 (see Table III.4.1). In addition to slower growth in economic activity, this was due to a faster rise in employment. Despite slowing sharply, labour productivity in construction rose the fastest of the monitored sectors. Only a slight increase in value added in this sector was accompanied by a continued decline in employment. The growth rate of labour productivity in market services was only one-third of that observed at the end of 2015. Labour productivity in non-market services switched to a year-on-year decline after three quarters of growth, while that in industry decreased for the second consecutive quarter (see Chart III.4.7). Annual growth in **hourly labour productivity** switched to a slight year-on-year decline in 2016 Q1.

Slower annual growth in economic activity<sup>40</sup> (compared to the previous quarter), coupled with a faster increase in the wage bill, resulted in more rapid growth in **nominal unit labour costs** in 2016 Q1 (see Chart III.4.8). They increased mainly in industry and non-market services.

<sup>39</sup> Total whole-economy productivity is calculated as the ratio of 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).

<sup>40</sup> According to seasonally unadjusted data.

**III.5 FINANCIAL AND MONETARY DEVELOPMENTS**

M3 growth stabilised close to 10%. The money growth reflected fast growth in domestic loans, which is still being fostered by the easing of credit conditions, and an increased inflow of foreign capital. Growth in loans to non-financial corporations slowed, while growth in loans to households accelerated. Growth in loans for house purchase remained high, accompanied by record-low interest rates and a rise in residential property prices. Transaction prices of dwellings increased further in 2016 Q1 and asking prices of apartments rose even faster. Despite falling input prices, the financial results of non-financial corporations worsened slightly due to stronger growth in personnel costs. Financial market interest rates remain low. The positive differentials against euro rates increased slightly. The koruna appreciated modestly year on year against the euro in 2016 Q2, remaining only just above the level of the CNB's exchange rate commitment, and appreciated more strongly against the dollar.

**III.5.1 Money**

The marked pick-up in **M3 growth** halted at relatively high rates. The annual growth rate of M3 amounted to 9.7% in May, close to the level observed at the start of 2016 (see Chart III.5.1). The M3 growth is due predominantly to an acceleration in M1 as a result of continued growth in highly liquid overnight deposits. Other short-term deposits continued to decline. Household deposits are a significant driver of the M3 growth. The growth rate of deposits of non-financial corporations, which contributed to a significant upswing in M3 growth last year, has slowed this year (see Chart III.5.2), in line with the acid-test ratio of corporations. Nevertheless, growth in corporate deposits picked up again in May. M3 growth remains well above the euro area level.

M3 has been growing at a much faster pace than nominal GDP. This was reflected in a year-on-year deepening of the decline in the **velocity of money** in 2016 Q1. The ratio of M3 to nominal GDP rose further to around 80%. Turning to the **creation of money**, the M3 growth reflects high growth in domestic loans accompanied by a continued rise in net external assets. Their growth reflects the trade surplus and capital inflows associated with purchases of domestic koruna government bonds by non-residents.

**III.5.2 Credit**

**Credit growth** remains high. The annual growth rate of loans edged up in May and was driven by corporate demand for long-term investment loans and household demand for loans for house purchase and consumption (see Chart III.5.3). However, growth in loans to non-financial corporations has slowed recently, while growth in loans to households has picked up. The non-performing loan ratios decreased further.

CHART III.5.1

**MONETARY AGGREGATES AND LOANS**

**Money aggregate growth remains high**

(annual percentage rates of growth)

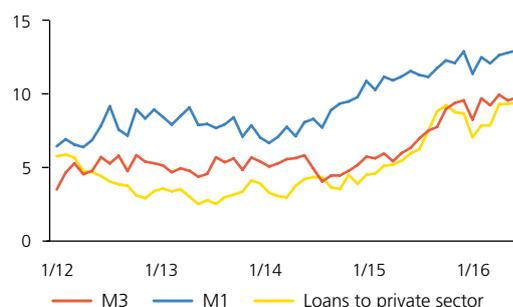


CHART III.5.2

**DEPOSIT STRUCTURE OF M3**

**The growth in M3 was fostered most of all by household deposits; the contribution of deposits of non-financial corporations increased in May following a decline**

(contributions in percentage points; annual percentage rates of growth)

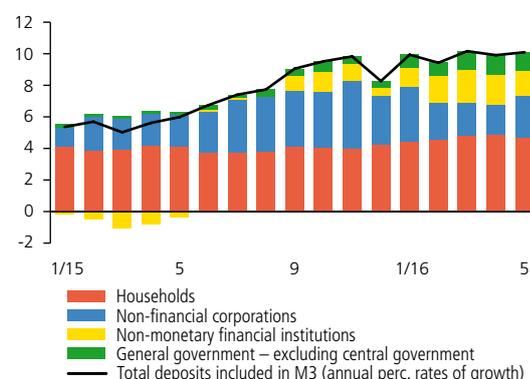


CHART III.5.3

**LOANS TO THE PRIVATE SECTOR**

**Credit growth remains high**

(contributions in percentage points; annual percentage rates of growth)

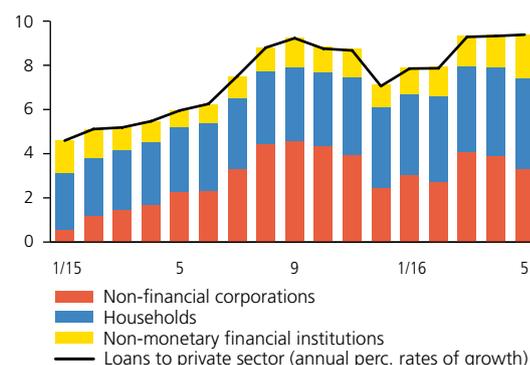
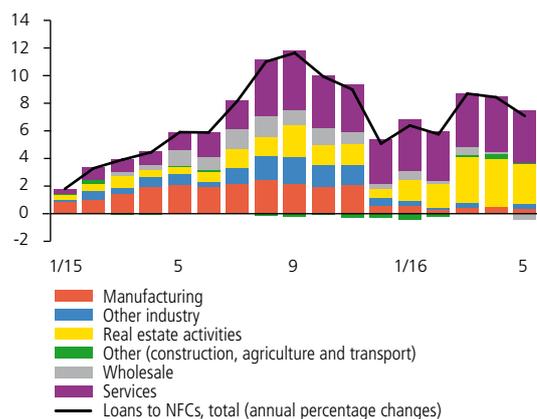


CHART III.5.4

## LOANS TO NON-FINANCIAL CORPORATIONS ACCORDING TO SECTOR OF ACTIVITY

The growth in loans is concentrated in services and real estate activities

(contributions in percentage points; annual percentage changes)



Credit growth continues to be fostered by the easing of **credit conditions**.<sup>41</sup> According to the July bank lending survey, credit standards eased further for corporate loans and consumer credit to households. Standards applying to loans for house purchase were almost unchanged. Demand for loans rose in all segments of the credit market, being positively affected by low interest rates and favourable consumer confidence and a renewed need of corporations to finance fixed investment. However, almost a quarter of the banking market expects credit standards for loans for house purchase to tighten in 2016 Q3, due to new legislative and regulatory measures.

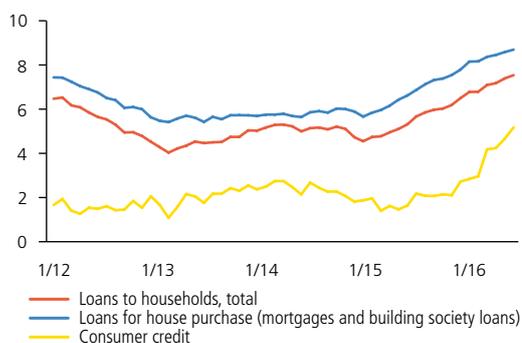
Growth in **loans to non-financial corporations**, driven by long-term loans, slowed. Growth in corporate loans is concentrated in commercial services and real estate services (see Chart III.5.4). This has recently been reflected in increased growth of foreign currency loans, which account for around 24% of total loans. Growth in loans to manufacturing has been subdued this year. Loans to wholesale and retail trade recorded a decline. Growth in investment loans stabilised at around 17%, while operating loans decreased in all sectors. The ratio of corporate debt to nominal GDP edged down to 58% in 2016 Q1 (the ratio of loans to GDP was 51% and that of issued bonds was 7%).

CHART III.5.5

## LOANS TO HOUSEHOLDS

Growth in loans to households increased further as a result of faster growth in loans for house purchase and consumer credit

(annual percentage rates of growth)



Growth in **loans to households** picked up further, reaching 7.5% in May (see Chart III.5.5). The increase in loans is due largely to **loans for house purchase**. The growth rate of new mortgage loans (adjusted for refinancing and refixation) rose to 34% in May, but moderated to 21% in June. Monthly volumes of new mortgages were at historical highs amid record-low interest rates. According to current Fincentrum Hypoindex data, the volumes and numbers of new mortgages increased by around 20% and 14% year on year respectively in June 2016, but their annual growth slowed by comparison with May. According to the bank lending survey, demand for loans increased due to low interest rates, expectations of continued growth in property prices and favourable consumer confidence. **Consumer credit**, which is contributing partially to the financing of growth in household consumption, is also continuing to accelerate. This is also being fostered by improved consumer confidence and more favourable credit conditions in an environment of falling interest rates.

**Total household debt** increased further to around 65% of annual aggregate nominal disposable income in 2016 Q1, due to higher growth in loans than income. The rise in debt combined with a decline in interest income on deposits is reflected in an increase in net interest paid by households to banks (to 2.2%).

The debt burden (the ratio of interest and principal to income) in the individual **household income groups** was virtually unchanged in 2015 compared to a year earlier (see Chart III.5.6).

41 The results of the July bank lending survey are available on the CNB website.

The consumption-to-income ratio was slightly lower than in 2014 in all household income groups except for the sixth and tenth deciles, reflecting more moderate growth in consumption than income. In 2015, the majority of households thus had a slightly larger proportion of their income left after covering consumption and loan repayments than in 2014.

### III.5.3 Interest rates

#### Monetary policy interest rates

The **monetary policy decision-making** of the CNB Bank Board in 2016 Q2 was based on the macroeconomic forecast published in the previous Inflation Report. The forecast assumed that market interest rates would be flat at their very low level and the exchange rate would be used as a monetary policy instrument until mid-2017. Consistent with the forecast was an increase in market interest rates thereafter.

At its **May and June meetings**, the Bank Board of the Czech National Bank decided unanimously to keep key interest rates unchanged at their current level, i.e. at technical zero<sup>42</sup> (see Chart III.5.7). The Board also decided to continue using the exchange rate as an additional instrument for easing the monetary conditions. It also confirmed the CNB's commitment to intervene on the foreign exchange market if needed to weaken the koruna against the euro so that the exchange rate of the koruna is kept close to CZK 27 to the euro. At both meetings, the Bank Board assessed the risks to the forecast at the monetary policy horizon as being slightly anti-inflationary, due mainly to industrial producer inflation in the euro area. In addition, the risk of undesirable second-round effects of foreign cost factors is rising as the duration of the period of very low inflation increases. In this context, the Bank Board pointed out that the CNB stands ready to shift the exchange rate commitment to a weaker level if there were to be a systematic decrease in inflation expectations manifesting itself in nominal variables, especially wages. The Bank Board stated at both meetings that the CNB would not discontinue the use of the exchange rate as a monetary policy instrument before 2017. The Bank Board considered it likely that the commitment would be discontinued in mid-2017.

At its **monetary policy meeting on 4 August 2016**, the Bank Board decided unanimously to keep interest rates unchanged at technical zero. The Bank Board also decided to continue using the exchange rate as an additional instrument for easing the monetary conditions and confirmed the CNB's commitment to intervene on the foreign exchange market if needed to weaken the koruna against the euro so that the exchange rate of the koruna is kept close to CZK 27 to the euro. A need to maintain expansionary monetary conditions at least to the current extent persists. The Bank Board assessed the risks to the forecast at the

CHART III.5.6

#### HOUSEHOLD INCOME BURDEN BY CONSUMER EXPENDITURES AND LOAN REPAYMENTS

**In 2015, the majority of households had a slightly larger proportion of their income left after covering consumption and loan repayments than in 2014**

(percentage ratios to net money income)

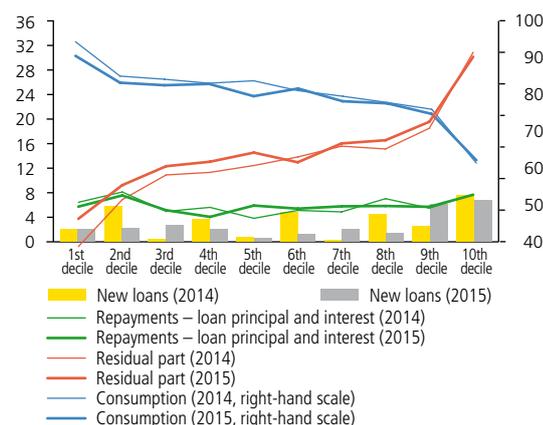
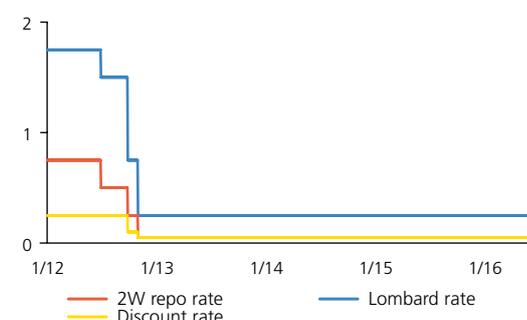


CHART III.5.7

#### CNB KEY RATES

**The CNB left its key interest rates at technical zero in 2016 Q2**

(percentages)



<sup>42</sup> The two-week repo rate and the discount rate were thus set at 0.05% and the Lombard rate at 0.25% with effect from 2 November 2012.

CHART III.5.8

## MARKET INTEREST RATES

Money market interest rates stayed at historical lows, while IRS rates with longer maturities mostly went down (percentages)

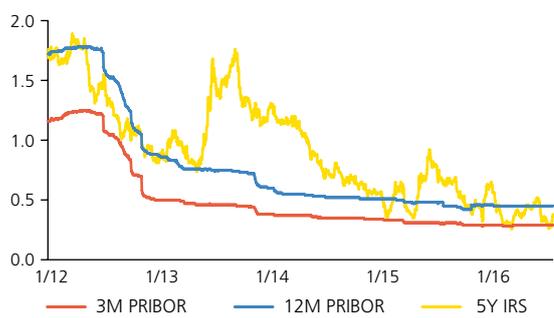
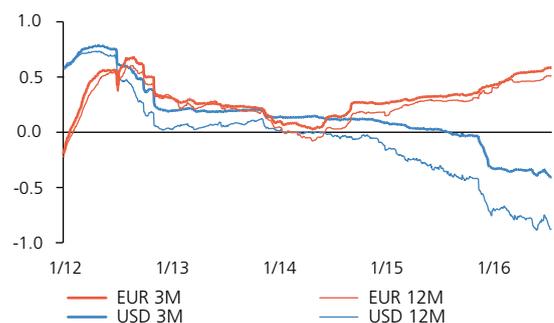


CHART III.5.9

## INTEREST RATE DIFFERENTIALS

The positive interest rate differentials vis-à-vis the euro increased marginally, while the negative differentials vis-à-vis the dollar were almost unchanged (percentage points)



monetary policy horizon as being balanced. The main uncertainties of the forecast include the impacts of the outcome of the UK referendum on external demand, the effect of the domestic election cycle on public expenditure growth and the depth of the fall in government investment this year. At the same time, the uncertainty surrounding the impact of the long-lasting low inflation on the anchoring of inflation expectations has declined somewhat. In this context, however, the CNB still stands ready to shift the exchange rate commitment to a weaker level if there were to be a systematic decrease in inflation expectations manifesting itself in nominal variables, especially wages. At the same time, the Bank Board stated that the CNB would not discontinue the use of the exchange rate as a monetary policy instrument before 2017. The Bank Board still considers it likely that the commitment will be discontinued in mid-2017.

**Financial market interest rates**

**PRIBOR rates** remained at historical lows in all maturities in 2016 Q2 (see Chart III.5.8). They thus reflected the setting of the CNB's key interest rates at technical zero. The average 3M PRIBOR remained stable at 0.3% in line with the assumption of the previous forecast. The money market premium, as measured by the spread between the 3M PRIBOR and the 2W repo rate, remained at just below 0.3 percentage point.

**FRA derivative rates** were rising slowly until the start of June. Later they reversed the previous gradual increase, probably in response to the low May inflation figures. The result of the Brexit referendum was published at the end of June. The initial reaction was a further decrease in domestic (and foreign) FRA rates in expectation that central banks would try to mitigate the negative impacts of the referendum result with easier monetary policy. In the days that followed, however, a partial upward correction occurred. Overall, FRA rates were almost unchanged in 2016 Q2. The market outlook for 3M rates according to end-July FRA quotations implies a decline in 3M PRIBOR rates of around 0.1 percentage point at the one-year horizon. The expected market rates are thus slightly below the interest rate path assumed in the new CNB forecast over this entire horizon (see section II).

Short-term **interest rate differentials** vis-à-vis both major world currencies (PRIBOR/CZK-EURIBOR/EUR and LIBOR/USD) reflected opposite movements in money markets in the euro area and the USA (due to opposite monetary policy developments or expectations in these economies) amid interest rate stability in the Czech Republic. The positive differentials vis-à-vis euro rates increased marginally, while the negative differentials vis-à-vis the dollar remained approximately stable (see Chart III.5.9). The 3M PRIBOR–3M EURIBOR differential was 0.6 percentage point on average in 2016 Q2 and was at the same level at the end of July.

Domestic **interest rates with longer maturities** moved mostly in line with foreign rates. The latter initially increased, but global financial markets were later hit by nervousness connected with the

approaching Brexit referendum and by falling expectations of a rate hike in the USA in the near future. Rates were also affected by a rise in the ECB's monthly government bond purchases from EUR 60 billion to EUR 80 billion (in April) and by the launch of corporate bond purchases under the asset purchase programme (on 8 June). The outcome of the UK referendum in late June surprised the markets and caused a strong reaction in the form of sales of risky assets, a decline in yields on "safe" government bonds and a fall in stock indices. Speculation that Brexit might lead to a slowdown in the global economic recovery also had a negative effect on commodity prices. Later, however, a partial reversal was seen in all segments of financial market. Overall, domestic IRS rates thus declined by as much as 0.1–0.2 percentage point compared to the start of April (see Chart III.5.8). They attacked historical lows at all maturities and dropped below 1% even at the longest maturities (20Y). The extent of the decline was similar for government bond yields. The domestic government bond yield curve is slightly negative for maturities of up to four years (see Chart III.5.10).

Twelve auctions of fixed coupon bonds were held on the primary **government bond market** in 2016 Q2. The total volume of bonds issued was CZK 40.7 billion.<sup>43</sup> Demand exceeded supply in all the auctions; the average bid-to-cover ratio was 2.6. The Ministry of Finance took advantage of the favourable market conditions and sold bonds at shorter maturities with a slightly negative yield. Demand from foreign investors in the auctions remained high and was focused mainly on bonds with shorter maturities. The share of non-residents in total holdings of medium- and long-term government bonds thus increased to around 26% at the end of June 2016.

#### Client interest rates

**Client interest rates** remained close to record-low levels in 2016 Q2 (see Chart III.5.11), reflecting competition, high liquidity and low bank financing costs. Rates on loans to households for house purchase and on corporate loans have fallen by 0.6 and 0.3 percentage point respectively since the start of 2015. This is more than the decrease recorded by financial market reference rates. Rates with longer fixation periods dropped the most. The average deposit interest rate declined to 0.3% (see Chart III.5.12), reflecting a drop in rates on most bank deposit products. The average deposit rate has declined by 0.3 percentage point since the start of 2015.

The **interest rate on corporate loans** remains close to 2% on average, decreasing after a modest increase in May due to a fall in the rate on large loans. The rate on corporate loans reflects the recently slightly deteriorated risk perceptions regarding the outlook for the economic situation accompanied by competitive pressure on banks in the segment of large corporations.

<sup>43</sup> The Czech Republic's Funding and Debt Management Strategy for 2016 assumes issues of medium- and long-term government bonds of at least CZK 150 billion.

CHART III.5.10

#### GOVERNMENT BOND YIELD CURVE

**Government bond yields are at slightly negative levels at the shorter end of the curve**

(percentages)

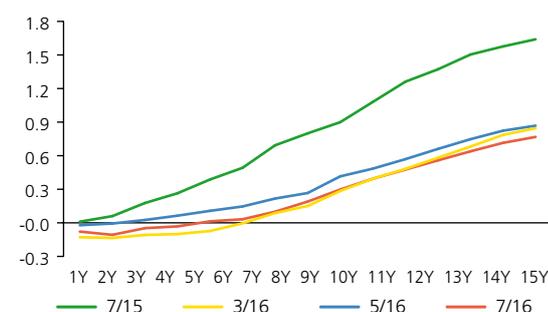


CHART III.5.11

#### CLIENT INTEREST RATES IN THE CZECH REPUBLIC AND THE EURO AREA

**Interest rates on loans to non-financial corporations and loans to households for house purchase are at record lows in both the Czech Republic and the euro area**

(cost of borrowing indicators; new business; percentages)

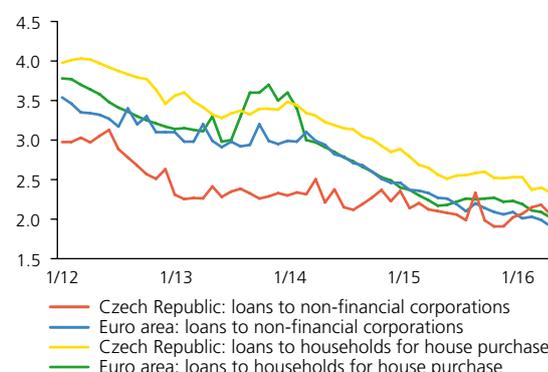


CHART III.5.12

#### INTEREST RATE ON CLIENT DEPOSITS

**The average interest rate on bank deposits declined to a new historical low**

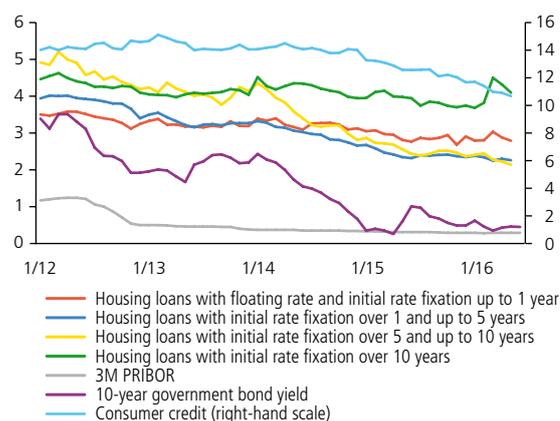
(percentages)



CHART III.5.13

## INTEREST RATES ON LOANS TO HOUSEHOLDS

Interest rates on loans to households for house purchase and consumption went down further  
(new business; percentages)



**Interest rates on loans to households** for house purchase and consumption went down further. In May, the rate on house purchase loans was 2.3%, the mortgage rate was 2.1% and the consumer credit rate was 10.7%. The rate on house purchase loans is currently lowest for fixation periods of over five years and up to ten years (see Chart III.5.13). This is being accompanied by a further increase in the share of loans with this fixation to around 30%. This reflects, among other things, growing competition before the new Consumer Credit Act enters into effect. The new law will facilitate early mortgage repayment, so the fixation period length plays an important role for banks. As a result, almost a quarter of the banking market expects credit standards applying to house purchase loans to be tightened in 2016 Q3.

**Real client interest rates**<sup>44</sup> on loans remained at 0.8% amid broadly constant expected inflation. The real interest rate on corporate loans has recently edged up to 0.4%, while that on house purchase loans for households has edged down to 0.6%. Real rates on time deposits fell to more negative levels (-1.4%).

## III.5.4 The exchange rate

The **exchange rate of the koruna against the euro** fluctuated mostly just above the level of the CNB's exchange rate commitment in 2016 Q2 (and the first half of July). The only exception was a brief period in late June and early July, when the koruna temporarily weakened slightly (to CZK 27.16 to the euro). The average exchange rate was CZK 27.04 to the euro. This represented a year-on-year appreciation of 1.2% (see Chart III.5.14).

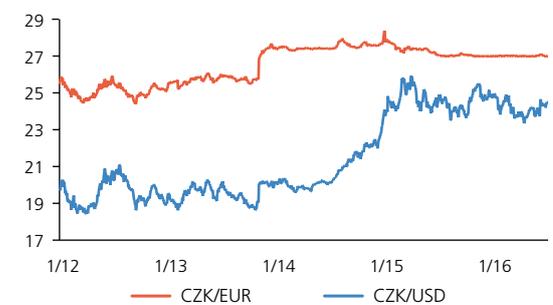
With occasional interruptions (in October 2015 and March 2016), the koruna has been under appreciation pressure for a year now. These pressures are related to the better economic situation in the Czech Republic than in the euro area and to the ECB's easy monetary policy. The unexpected outcome of the EU referendum in the UK fostered a brief break in the appreciation pressure on the koruna and a slight depreciation in late June. However, the koruna returned to the CNB's exchange rate commitment level within two weeks. The exchange rate was not visibly affected by new data from the domestic economy in 2016 Q2, as the new figures did not differ significantly from the markets' expectations. Nevertheless, the postponement of the market-expected date of exit from the CNB's exchange rate commitment and the limited supply of government bonds helped eliminate the inflow of short-term capital. Thanks to this, the size of the **interventions made by the CNB** in defence of its exchange rate commitment decreased significantly compared to the previous three quarters (to less than CZK 35 billion).

<sup>44</sup> Ex ante real interest rates: nominal interest rates are deflated by the consumer price inflation expected by financial market analysts at the one-year horizon.

CHART III.5.14

## CZK/EUR AND CZK/USD EXCHANGE RATES

The koruna remained only just above the CNB's exchange rate commitment level in 2016 Q2; against the dollar it appreciated year on year



The average **exchange rate of the koruna against the dollar** was CZK 23.9 in 2016 Q2, representing a year-on-year appreciation of 3.4%. This appreciation reflected a slight depreciation of the dollar on world markets due to a moderation of financial market expectations regarding US economic growth (at the start of the year markets were expecting growth to accelerate, whereas now they expect it to slow) and an upward outlook for the Fed's monetary policy rates. In late July, the koruna-dollar exchange rate was around CZK 24.5 to the dollar. This slight appreciation of the dollar was due to negative information from Europe.

The **nominal effective exchange rate**<sup>45</sup> (see Chart III.5.15) appreciated by 3.9% year on year in 2016 Q2. The much stronger appreciation of the NEER than the koruna against the euro was due to appreciation of the koruna against all the currencies in the basket (except for the Japanese yen). The koruna strengthened very sharply against the Russian rouble (by almost a quarter) and the British pound (by almost 10%<sup>46</sup>). The koruna's appreciation against the Polish zloty, the Swiss franc, the Hungarian forint and the US dollar was also several times stronger than its appreciation against the euro.

### III.5.5 Economic results of non-financial corporations

The **financial results of non-financial corporations with 50 employees or more** (around 9,200 entities) were favourably affected by still falling input prices in 2016 Q1. Overall, however, gross operating surplus recorded a slight decline (of 0.4%), due mainly to a sizeable upswing in personnel costs. Corporations' output<sup>47</sup> was flat year on year (see Chart III.5.16 and Table III.5.1). Growth in gross operating surplus was subdued in all major sectors (see Chart III.5.17).

The non-financial corporations sector was affected by broad-based growth in the average wage and, in some industries, by growth in employment, which was reflected in an increase in the personnel cost-output ratio.<sup>48</sup> Annual growth in total **personnel costs** amounted to 7.8% in Q1, the highest figure in the entire period under review. The wage bill grew the fastest in services, wholesale and retail trade, transport, food services and manufacturing. In addition to an increase in the average wage, services, wholesale and retail trade, transport and food services recorded a visible upswing in year-on-year employment growth.

45 The NEER indicates the change in the exchange rate of the national currency against a basket of currencies of the most important trading partners in terms of their share in trade turnover.

46 The pound depreciated sharply after the results of the referendum on the exit of the UK from the EU were announced. It was more than 5% weaker in mid-July than the 2016 Q2 average.

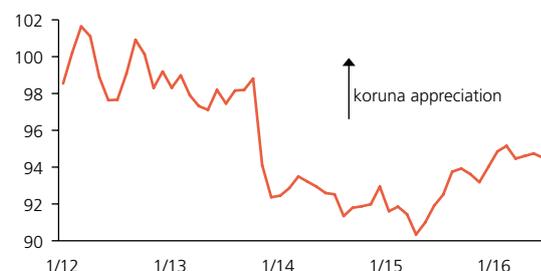
47 Output also includes margins on sales. Its growth is determined primarily by sales.

48 The personnel cost-output ratio is the ratio of total personnel costs to output.

CHART III.5.15

#### NOMINAL EFFECTIVE KORUNA EXCHANGE RATE

The nominal effective exchange rate appreciated year on year (basic index; year 2010 = 100)



Note: This is a basket of 13 currencies where the euro has the largest share (more than 65%). The Chinese renminbi, the Polish zloty, the Russian rouble, the British pound, the US dollar and the Hungarian forint have other major shares.

CHART III.5.16

#### KEY FINANCIAL INDICATORS

The financial results of non-financial corporations were affected by accelerating growth in personnel costs in 2016 Q1 (annual percentage changes)

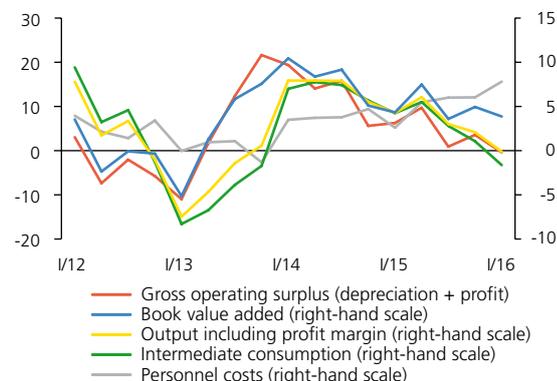


TABLE III.5.1

#### PERFORMANCE INDICATORS OF NON-FINANCIAL CORPORATIONS

The material cost-output ratio fell year on year, while the personnel cost-output ratio continued to rise

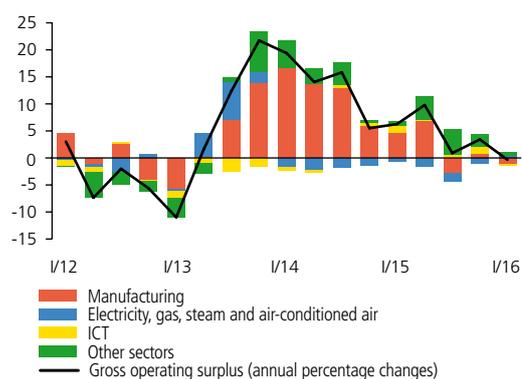
	2015 Q1 CZK billions	2016 Q1 CZK billions	Annual percentage changes
Sales	1,940.2	1,924.3	-0.8
Output incl. profit margin	1,465.5	1,463.9	-0.1
Intermediate consumption	1,060.2	1,042.9	-1.6
Book value added	405.3	421.0	3.9
Personnel costs	210.0	226.4	7.8
Gross operating surplus	195.3	194.6	-0.4
	%	%	Annual changes in pp
Material cost-output ratio	72.3	71.2	-1.1
Ratio of book value added to output	27.7	28.8	1.1
Personnel cost-output ratio	14.3	15.5	1.1
Ratio of personnel costs to book value added	51.8	53.8	2.0
Ratio of gross operating surplus to book value added	48.2	46.2	-2.0

CHART III.5.17

## OPERATING PROFIT BY SECTOR

Growth in the overall gross operating surplus halted because of subdued developments in all major sectors

(annual percentage changes; contributions in percentage points)



**Output** showed very mixed trends across economic sectors, but output as a whole was flat. The largest decreases in output were recorded by mining and energy, followed by construction. Manufacturing recorded a positive increase in output, although a slightly smaller one than in the previous quarter. This was due exclusively to a rise in output in the car industry, which offset a decline in output in the chemical, steel and electrical engineering industries. Output in services, wholesale and retail trade, transport and food services rose sharply. A year-on-year decline in intermediate consumption caused a large decrease in the material cost-output ratio<sup>49</sup> in almost all economic sectors. As a result, year-on-year growth in book value added slowed by just 1 percentage point to 3.9%.

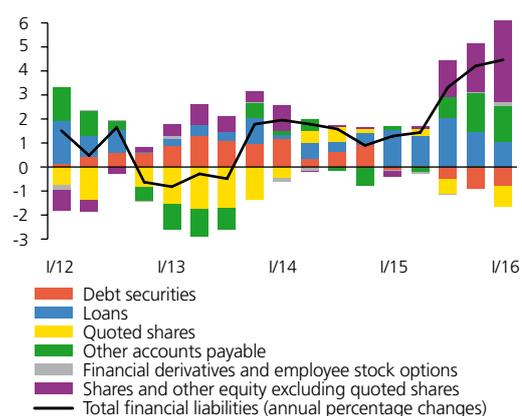
Growth in the output of **corporations with 250 employees or more** (around 1,800 entities) slowed by 2.4 percentage points to 1.1%, while their intermediate consumption was broadly flat. As in the broader category of corporations, the material cost-output ratio dropped further. Year-on-year growth in book value added in larger corporations slowed by 0.7 percentage point to 3.8%. Personnel costs recorded even faster growth (8.9%) than in the broader category, thanks to higher growth in employment. As a result, the gross operating surplus of large corporations recorded a more pronounced decline (of 1.2%).

CHART III.5.18

## FINANCIAL LIABILITIES OF NON-FINANCIAL CORPORATIONS

The further acceleration in growth in corporate financial liabilities was due mainly to shares and other equity excluding quoted shares

(annual percentage changes; contributions in percentage points)



## III.5.6 Financial position of corporations and households

Growth in the **financial liabilities of non-financial corporations** accelerated further year on year to 4.5% in 2016 Q4 (see Chart III.5.18). This was due primarily to shares and other equity excluding quoted shares, specifically unquoted shares. The contribution of loans and other liabilities was positive, although smaller than in the previous quarter. The negative contribution of debt securities decreased somewhat in this quarter. Quoted shares also made a negative contribution due to revaluation. Annual growth in the **financial assets of non-financial corporations** surged (to 7.8%). This was due to shares and other equity as well as currency and deposits. Loans maintained a positive, though smaller, contribution. Overall, the negative net financial position of corporations thus shrank in Q1.

The main **trends in the balance sheets of non-financial corporations** are reflected in their financial indicators. The acid-test ratio<sup>50</sup> of corporations decreased (to 204%), following growth in the

<sup>49</sup> The material cost-output ratio is the ratio of intermediate consumption to output.

<sup>50</sup> The acid-test ratio is a ratio with currency in circulation, transferable deposits, short-term debt securities held and short-term loans provided as the numerator and short-term debt securities issued and short-term loans accepted as the denominator.

previous quarter. The market-based financing ratio<sup>51</sup> also declined (to 7.6%), due to stagnant issuing activity. By contrast, the corporate solvency ratio<sup>52</sup> increased (to 119%).

Growth in the **net financial assets of households** rose to 8.5% year on year in 2016 Q1 (see Chart III 5.19). The growth in net financial assets relative to annual gross disposable household income was similar (11.4%). The upswing in growth in **households' financial assets** was moderate compared to the previous quarter (to 7.8%). It was due to faster growth in shares and other equity and a modest pick-up in currency and deposits. From a longer-term perspective, the growth in shares and other equity is being driven by rising investment in investment fund shares and units. Unquoted shares also contributed to the growth in shares and other equity in this quarter. Annual growth in the **financial liabilities of households** increased slightly (to 6.2%), predominantly reflecting a rise in long-term loans.

### III.5.7 The property market

**Transaction prices of apartments** continued to rise in 2016 Q1. According to the CZSO House Price Index, their year-on-year growth rate remained at 4.5% (see Chart III.5.20).

According to CZSO survey estimates, **transaction prices of older apartments** rose by 8.4% in the same period. Their growth rate increased significantly outside Prague (to 9.3%) and to a lesser extent in the capital (to 5.7%). Since their last cyclical trough, these prices have gone up by 13.5% in Prague and 15.7% in the rest of the Czech Republic.<sup>53</sup> An acceleration of growth in transaction prices of apartments is confirmed by CZSO estimates based on tax returns, which are considered to be the most representative source of data on transaction prices. In 2015 Q4, the most recent period for which these estimates are available, apartment prices accelerated slightly to 5.1% in Prague and 5.4% in the rest of the Czech Republic.

**Asking prices of apartments** continued to rise faster than transaction prices in 2016 Q1, especially in Prague, according to CZSO data. Growth in asking prices did not accelerate markedly further in 2016 Q2, staying close to the 10% level in Prague and in the rest of the Czech Republic.

The growth in apartment prices in 2016 Q2 was reflected in a further deterioration of the **indicators of affordability and the perceived profitability of purchasing an apartment**<sup>54</sup> (see Chart III.5.21).

51 The ratio of bonds and quoted shares issued to total liabilities.  
 52 The ratio of total financial assets to liabilities excluding shares and other equity.  
 53 Transaction prices in Prague and in the rest of the Czech Republic last reached historical lows in 2012 Q3 and 2013 Q4 respectively.  
 54 To calculate these indicators, apartment prices are approximated by tax return and survey-based transaction prices and by asking prices, depending on availability.

CHART III.5.19

#### STRUCTURE OF HOUSEHOLD FINANCIAL ASSETS

The upswing in growth in households' financial assets was due mainly to shares and other equities

(contributions in percentage points; annual percentage changes and percentage ratios)

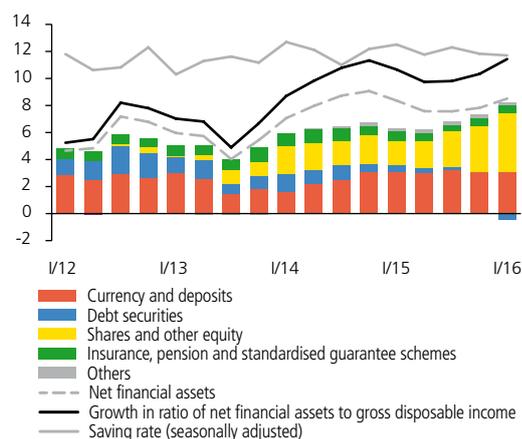


CHART III.5.20

#### TRANSACTION AND ASKING PRICES OF HOUSING

Asking prices are continuing to rise faster than transaction prices

(annual percentage changes)

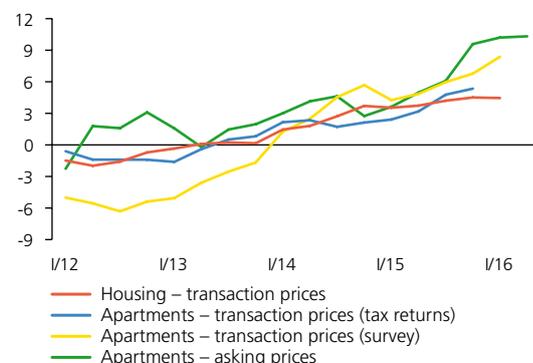
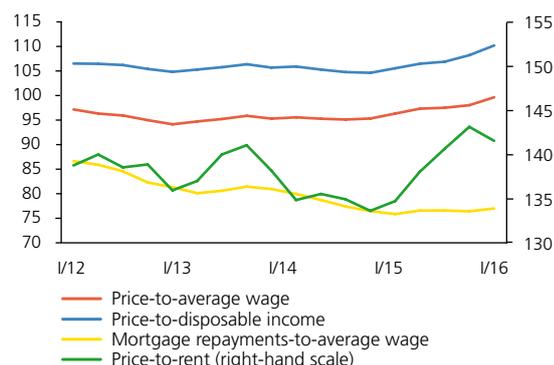


CHART III.5.21

#### APARTMENT PRICE SUSTAINABILITY INDICATORS

The indicators of affordability and the perceived profitability of buying an apartment are continuing to deteriorate

(average for 2000–2007 = 100%; source: CZSO, CNB, Institute for Regional Information)



a) For the mortgage repayments-to-average wage ratio 2004–2007 = 100 due to limited availability of data on interest rates on new loans for house purchase.

According to estimates, the price-to-average wage ratio and the price-to-disposable income ratio rose by 3.4% and 4.4% year on year respectively. According to IRI data, the price-to-rent ratio increased by 5.1%. The mortgage repayments-to-average wage ratio<sup>55</sup> recorded a modest increase of 1.5% despite a further drop in interest rates on new loans for house purchase.

<sup>55</sup> A mortgage with fixed parameters of an LTV of 65% and a maturity of 20 years for the purchase of an apartment of a standard size of 68 m<sup>2</sup> was considered in the calculation of this indicator. The data available for the first two months of the quarter were taken as the interest rates on new loans for house purchase in 2016 Q2.

### III.6 THE BALANCE OF PAYMENTS

The balance of payments in 2016 Q1 was characterised by a large current account surplus stemming from a goods and services surplus. The capital account also ended in a surplus owing to drawdown of EU funds. The largest financial account item was growth in reserve assets, linked with foreign exchange interventions and conversions of EU funds. The net inflow of portfolio investment – related to purchases of domestic government bonds by non-residents – continued at the same time.

#### III.6.1 The current account

The **current account** recorded a surplus of CZK 113.8 billion in 2016 Q1. This represented a year-on-year increase of almost CZK 22 billion. The surplus exceeded CZK 100 billion for the first time in the Czech Republic's history. The main contributors to the growth in the overall surplus were a rise in the goods surplus and a fall in the primary income deficit (see Chart III.6.1). The ratio of the annual moving current account surplus to GDP increased further (to 1.4%) compared to the previous quarter.

The current account was affected the most in Q1 by the **goods** surplus (CZK 90.3 billion), which increased in year-on-year terms for the second consecutive quarter (by more than CZK 13 billion). The increase was due in roughly equal measure to developments in real terms and a price effect associated with a positive year-on-year change in the terms of trade. Turning to the commodity structure, an increase in the machinery and transport equipment surplus was the biggest contributor to the year-on-year rise in the overall surplus (see Chart III.6.2). Exports in this category thus continued to show high competitiveness; however, the outcome of the UK referendum represents a downward risk for them going forward (see Box 3). Annual growth in nominal trade turnover nonetheless slowed sharply compared to the previous quarter (by 5.4 percentage points to 0.9%). This was mainly due to stagnation of goods imports, which was significantly affected by a deepening of the decline in import prices (including exchange rate effects) in virtually all trade categories. Slower growth in domestic demand and weaker demand for collaboration imports for export production also contributed to the stagnation. Goods exports, whose growth slowed to 1.7% despite a slight strengthening in demand in the euro area, were also affected by a relatively significant drop in prices. The year-on-year growth in the overall surplus further accelerated in 2016 Q2, reaching almost CZK 19 billion in April–May.

The goods and services surplus was also due to a CZK 20.1 billion surplus on **services** in 2016 Q1 (see Chart III.6.3). The services surplus increased in year-on-year terms for the fourth consecutive quarter, this time by more than CZK 2 billion. The largest contributor to the overall surplus was a surplus on manufacturing and repair services

CHART III.6.1

#### CURRENT ACCOUNT

The year-on-year growth in the current account surplus in 2016 Q1 was due to an increase in the goods and services surplus and a reduction in the primary income deficit (CZK billions)

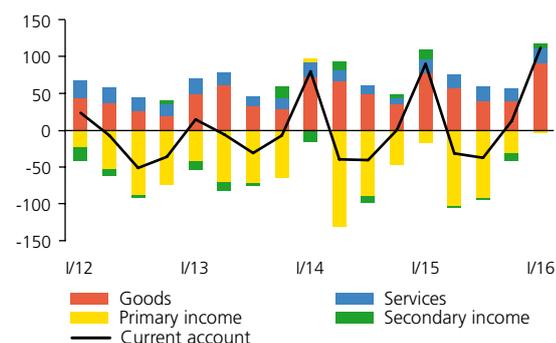


CHART III.6.2

#### EXTERNAL TRADE IN GOODS BY SITC

An increase in the machinery surplus was the biggest contributor to the year-on-year rise in the trade surplus (Q1 of relevant year in CZK billions; national concept)

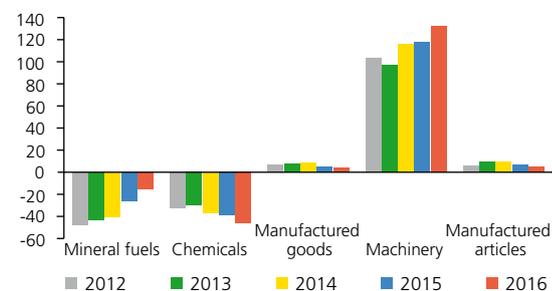


CHART III.6.3

#### SERVICES

All components contributed to the services surplus (CZK billions)

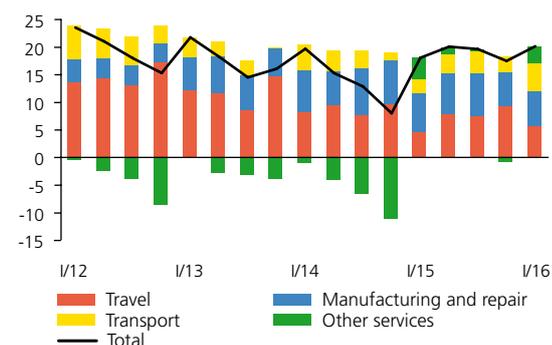
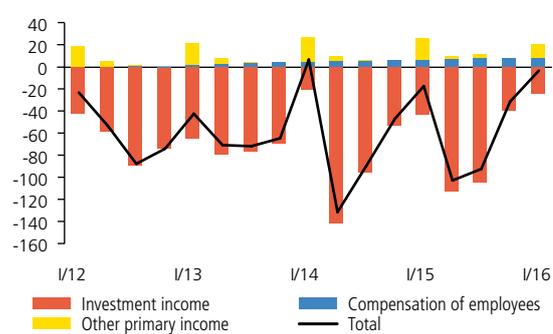


CHART III.6.4

## PRIMARY INCOME

The primary income deficit narrowed year on year due to a decrease in the investment income deficit

(CZK billions)



of CZK 6.4 billion, which, however, decreased slightly year on year. The other three component balances also recorded moderate surpluses. The annual growth in the overall surplus was mainly due to the transport balance as a result of growth in its credits.

In contrast to the large goods and services surplus, **primary income** ended in a small deficit of CZK 3.3 billion. The deficit narrowed by almost CZK 14 billion year on year. As in the previous quarter, the decline in the overall deficit was due most of all to a year-on-year decrease in direct investment income in the form of dividends paid to non-residents. However, the largest component of the overall balance was still the investment income deficit (see Chart III.6.4) stemming from a direct investment income deficit of CZK 33 billion. However, this deficit was almost fully offset by surpluses on the other component balances in this quarter. It was significantly corrected by a surplus on other primary income (of CZK 12.8 billion), which includes net income from the EU budget, and by surpluses on compensation of employees and income on reserve assets.

By contrast, **secondary income** recorded a surplus of CZK 6.8 billion. However, this surplus decreased by more than CZK 7 billion year on year. Its biggest component was net income on current international cooperation, which exceeded CZK 23 billion and consisted mainly of income from the EU budget. However, it was largely offset by deficits on most other items, above all VAT- and GNI-based payments to the EU budget. Net drawdown of funds from the EU recorded under secondary income totalled CZK 13.8 billion, down by more than CZK 6 billion year on year. The year-on-year change in secondary income was thus linked mainly with a fall in income from the EU budget.

## BOX 3

## The Czech Republic's trade relations with the UK

The unexpected **outcome of the referendum** on the exit of the United Kingdom (UK) from the EU led to an immediate weakening of the pound and the euro, a fall in stock markets and a rise in yields on bonds of euro area periphery countries. In the short term, there was an increase in uncertainty that will affect investment activity and consequently also GDP growth, particularly in the UK.<sup>56</sup> The negative impact of the UK's exit from the EU as such will be reflected in their mutual trade in goods and services only at a longer horizon of several years.<sup>57</sup>

<sup>56</sup> CF revised the UK's GDP growth outlook for 2017 downwards by 1.4 percentage point to 0.7%. According to the IMF, the UK's economic growth will slow by 0.9 percentage point to 1.3% next year. According to the European Commission's simulations, GDP growth in the UK could show a cumulative drop of between 0.9 and 2.7 percentage points by the end of 2017 compared to the baseline scenario.

<sup>57</sup> Moreover, its extent will very much depend on what exit terms are negotiated.

The new forecast includes updated outlooks for the Czech Republic's external demand and other foreign variables, which already incorporate the expected impacts of Brexit. The aim of this box is to present the direct trade links between the Czech Republic and the UK. **Trade in goods** between the Czech Republic and the UK reached CZK 227.7 billion in 2015,<sup>58</sup> accounting for 3.7% of total Czech trade turnover. Exports to the UK made up 5.1% of the Czech Republic's total goods exports. The UK was thus the Czech Republic's fourth largest trading partner in terms of exports.<sup>59</sup> By contrast, imports from the UK accounted for only 2.1% of total Czech goods imports. The trade balance thus ended in a large surplus for the Czech Republic in 2015 (see Chart 1).

As regards the **commodity structure**,<sup>60</sup> the most important item of both exports and imports was machinery and transport equipment. Machinery exports made up almost 70% of total exports of goods to the UK, with passenger cars accounting for almost one-third of this amount (CZK 48 billion in absolute terms). The machinery and transport equipment category also recorded the highest surplus of all the trade categories (see Table 1). One-half of this surplus was due to a surplus on road vehicles. Only chemicals recorded a deficit.

**Trade in services** between the Czech Republic and the UK reached CZK 56.7 billion in 2015, accounting for 5.4% of total Czech trade turnover. Services exports to the UK accounted for 5.9% of Czech exports and services imports from the UK for 4.9% of Czech imports. The services balance thus ended 2015 in a modest surplus (CZK 8.9 billion). The biggest contributor to the overall surplus was the surplus on transport, which reached almost CZK 6 billion.

The UK thus represents a relatively large export market for Czech engineering products, especially in the automotive industry. Nevertheless, the direct **impacts of the economic slowdown in the UK** on the Czech economy will be relatively moderate. A slowdown in British demand of 1.5 percentage points will reduce growth in Czech exports to the UK by about 5 percentage points in 2017 (reducing the goods and services surplus by about CZK 10 billion).

CHART 1 (BOX)

## CZECH TRADE IN GOODS WITH THE UK

Trade with the UK is characterised by large surpluses  
(CZK billions; balance of payments methodology)



TABLE 1 (BOX)

## STRUCTURE OF THE CZECH TRADE BALANCE WITH THE UK IN 2015

The biggest export and import item was machinery and transport equipment

(CZK billions; cross-border statistics)

SITC		Exports	Imports	Balance
0	Food and live animals	4.0	3.0	1.0
1	Beverages and tobacco	1.3	0.8	0.4
2	Crude materials, inedible, except fuels	0.9	0.7	0.2
3	Mineral fuels, lubricants and related materials	1.8	1.3	0.6
4	Animal and vegetable oils, fats and waxes	0.4	0.0	0.4
5	Chemicals and related products	5.8	14.7	-8.9
6	Manufactured goods classified chiefly by material	23.5	11.5	12.0
7	Machinery and transport equipment	143.0	35.1	107.9
8	Miscellaneous manufactured articles	25.6	6.1	19.5
9	Commodities and transactions not classified elsewhere	0.2	0.2	0.0
	Total	206.6	73.4	133.1

58 The aggregate figure is based on balance of payments methodology data.

59 The Czech Republic's largest trading partner in terms of goods exports in 2015 was Germany, which accounted for 31.3% of total Czech exports. It was followed some way behind by Slovakia (10.7%) and Poland (6.4%).

60 The commodity structure analysis is based on cross-border statistics data.

CHART III.6.5

## FINANCIAL ACCOUNT

Reserve assets recorded sizeable growth, while the inflow of portfolio investment continued  
(CZK billions)

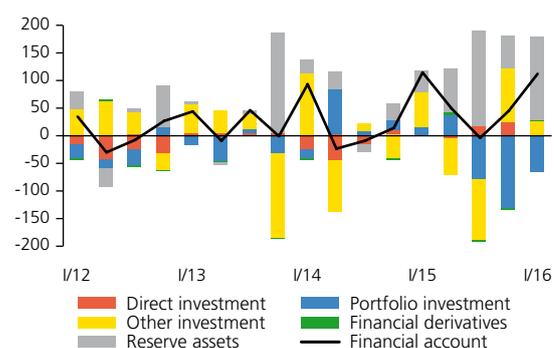


CHART III.6.6

## DIRECT INVESTMENT

Direct investment ended as balanced as a result of a net inflow of reinvested earnings and a net outflow under shares and other equity and under debt instruments  
(CZK billions)

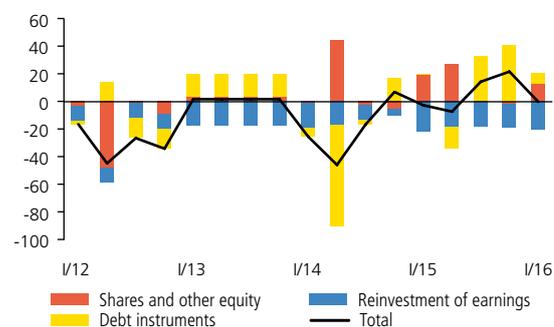
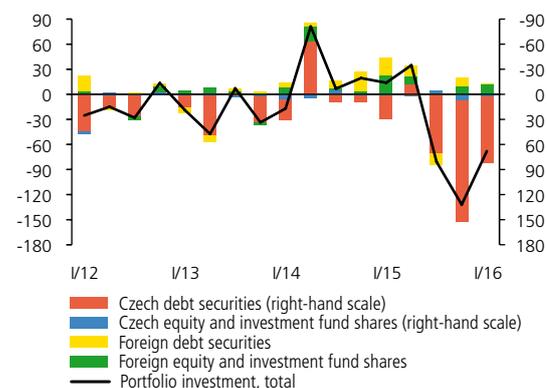


CHART III.6.7

## PORTFOLIO INVESTMENT

Portfolio investment recorded a net inflow as a result of purchases of domestic government bonds by non-residents  
(CZK billions)



## III.6.2 The capital account

The **capital account** recorded a surplus (of CZK 18.4 billion), related almost entirely to drawdown of funds from the EU budget totalling CZK 17.9 billion. The year-on-year decline in the surplus of more than CZK 12 billion was also primarily the result of lower drawdown of EU funds.

## III.6.3 The financial account

The **financial account** recorded net lending abroad (a net outflow) of CZK 109.1 billion in 2016 Q1. This was linked with growth in reserve assets and a net outflow of other investment. However, those were partly offset by a net inflow of portfolio investment (see Chart III.6.5).

The **direct investment** balance was balanced following two quarters of net outflow (see Chart III.6.6). The inflow of foreign investment into the Czech Republic and the growth in Czech investment abroad both reached CZK 22.2 billion. The growth in investment on both the asset and liability side was related to reinvestment of earnings and the predominance of lending in debt instruments. By contrast, an outflow of funds prevailed under shares and other equity. The year-on-year shift of direct investment from a small net inflow to a balanced position was mainly a result of a change in credit relations.

As in the previous two quarters, **portfolio investment** recorded net borrowing from abroad (a net inflow) of CZK 68 billion in Q1 (see Chart III.6.7). The biggest transactions were purchases of domestic government bonds by non-residents. The year-on-year change in portfolio investment flows of almost CZK 82 billion was also due mainly to purchases of domestic debt securities. Holdings of equity securities by foreign investors rose only very moderately. Overall, the inflow of portfolio investment exceeded CZK 81 billion. Purchases also dominated domestic investors' transactions in foreign securities. They were related mainly to growth in holdings of foreign equity and investment fund shares.

By contrast, settlement of **financial derivatives and employee stock options** led to net lending abroad (a net outflow) of CZK 1.6 billion amid a moderate year-on-year change in flows.

**Other investment** recorded net lending abroad (a net outflow) of CZK 24.7 billion. This was due mainly to a net outflow via the corporate sector exceeding CZK 72 billion. It was linked with growth in deposits and provision of trade credits abroad and the concurrent repayment of trade credits and loans to non-residents. However, about two-thirds of the outflow was offset by a net inflow in the banking sector, including the CNB, associated with a rise in short-term deposits in domestic banks. The year-on-year drop in the net outflow of other investment of more than CZK 38 billion was also related mainly to growth in deposits in domestic banks.

**Reserve assets** increased for the sixth consecutive quarter. Their growth reached CZK 150.9 billion in 2016 Q1 due to the CNB's foreign exchange interventions and conversions of funds from the EU budget (see Chart III.6.8).

CHART III.6.8

**RESERVE ASSETS**

**Reserve assets increased again, due above all to the CNB's foreign exchange interventions and conversions of EU funds**  
(changes in CZK billions)

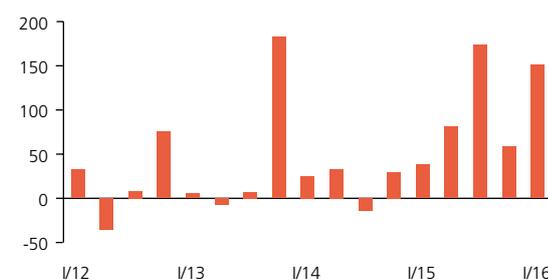


CHART III.7.1

## GDP IN THE EURO AREA

## Household consumption and investment remained the main sources of growth in 2016 Q1

(annual percentage changes; contributions in percentage points; seasonally adjusted; source: Datastream, CNB calculation)

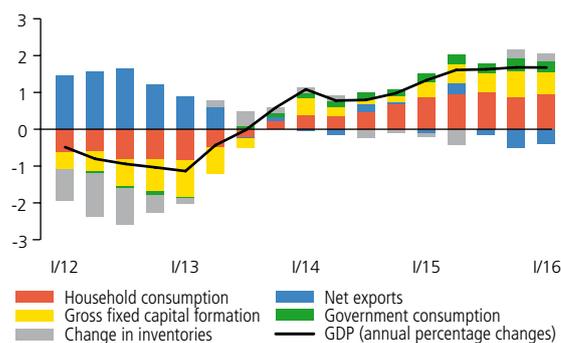
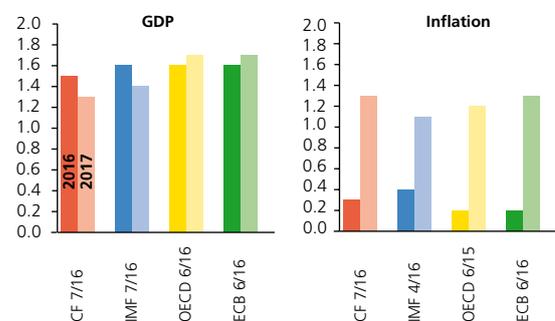


CHART III.7.2

## EURO AREA GDP AND HICP INFLATION OUTLOOKS

## Euro area GDP growth is expected to slow slightly in the coming years, mainly due to the expected impacts of Brexit, while inflation will not rise significantly until 2017

(annual percentage changes; source: CF, IMF, OECD, ECB)



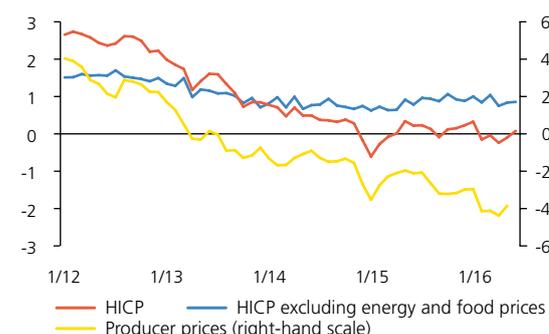
Note: Horizontal axis shows most recent forecast data in format "Source month/year of publication". Midpoint of range for ECB.

CHART III.7.3

## INFLATION AND PRODUCER PRICES IN THE EURO AREA

## The decline in energy prices slowed, and inflation and industrial producer prices therefore swung upwards

(annual percentage changes; source: Datastream)



## III.7 THE EXTERNAL ENVIRONMENT

Annual economic growth in the euro area maintained a stable level in 2016 Q1. Growth in the USA accelerated slightly after a previous slowdown. Inflation was higher in the USA than in the euro area, where it fluctuated around zero. Inflation is expected to accelerate in both economies in 2017. The appreciation trend of the euro against the dollar reversed at the end of April. The referendum result in the UK also contributed to the weakening of the euro against the dollar. Oil and food commodity prices increased in 2016 Q2, but the market outlook indicates that they will be virtually flat in the future.

## III.7.1 The euro area

Annual **GDP growth in euro area** remained at 1.7% in 2016 Q1 (see Chart III.7.1). The biggest contributors to the growth in the first three months of the year were household consumption and private investment. Net exports made a negative contribution to the overall growth again. The fastest growing economies in the euro area were those of Malta, Luxembourg, Spain and Slovakia. Greece was the only member state to record a contraction of its economy, doing so for the third consecutive quarter.

**Economic developments in the euro area** so far confirm a gradual recovery of the economy. The PMI leading indicator in manufacturing increased further in June thanks to expansion in all countries except France, which has been recording a drop in output, new orders and employment for several months now. Industrial production declined in almost all euro area countries in May, in line with expectations. By contrast, growth in retail sales accelerated again in May following several months of decline, in line with falling unemployment and rising household consumption. However, the GDP growth forecasts for the euro area were revised downwards following the outcome of the referendum on the UK's exit from the EU<sup>61</sup> (see Chart III.7.2). Consistent with this, the PMI indicator also declined in July, mainly because of expected weaker growth in exports to the UK.

**Consumer prices** switched from deflation to very weak growth (of 0.1%) in June. This was due mainly to continued moderation of the fall in energy prices and growth in the prices of other consumer basket items. CF slightly raised its inflation outlook for this year (see Chart III.7.2). Core inflation continued to increase gradually in June (to 0.9%). The annual decline in industrial producer prices slowed in May, mainly because of a slowdown of the drop in prices in the energy sector (see Chart III.7.3).

<sup>61</sup> The July CF lowered its outlook for euro area GDP growth for this year and the next by 0.1 and 0.3 percentage point respectively compared to the June forecast. Although the IMF slightly increased its outlook for euro area GDP growth in 2016 (by 0.1 percentage point), it lowered its growth projection for 2017 due to Brexit (by 0.2 percentage point). The IMF said that if the referendum outcome had been the opposite and the UK had opted to remain in the EU, the IMF would have slightly increased its economic growth forecast for 2017 as well.

According to the **ECB**, the risks to growth remain negative and include the impacts of the Brexit decision, developments in the world economy and other geopolitical factors. Monetary policy is unchanged since March this year. The ECB confirmed at its meeting in July that its bond purchase programme would continue until the end of March 2017, or beyond, if necessary. The 3M EURIBOR remains at negative levels, where it should stay in the quarters ahead.

**Economic growth in Germany** accelerated markedly in 2016 Q1 (to 1.6%; see Chart III.7.4). The growth was driven mainly by household consumption, backed by growth in real disposable income as a result of a significant increase in wages and employment coupled with very low inflation. The favourable economic developments also led to a further drop in unemployment (to 4.2% in May). Government consumption also increased considerably due to the inflow of refugees. Buoyant growth in capacity utilisation (the highest since 2012) was also reflected in an upward tendency in investment, supported among other things by the ECB's very easy monetary policy. A decrease in the negative contribution of net exports, due to renewed growth in exports to China and partly also Russia, acted in the same direction. The decline in inventories slowed.

**According to a Bundesbank estimate**, economic growth can be expected to slow significantly in 2016 Q2. This is confirmed by data on slower growth in industrial and construction output, retail turnover and disposable income for April and May. The Bundesbank expects the economy to start growing strongly again in 2016 Q3. This is suggested by leading indicators, which mostly increased in June. The exception is the ZEW index, which decreased markedly in July due mainly to the referendum on the UK's exit from the EU. Following the referendum, the July CF also slightly lowered its outlook for the German economy (by 0.1 percentage point to 1.6% for this year and by 0.2 percentage point to 1.3% for 2017). The Bundesbank expects the impact of the vote to be limited in the short run.

**Inflation in Germany** rose by 0.2 percentage point to 0.3% in June as a result of a milder decline in energy prices and slightly faster growth in food and services prices (see Chart III.7.5). CF left its consumer price inflation estimate for 2016 at 0.4% and lowered its forecast for next year to 1.5%.

**Economic growth in Slovakia** slowed slightly in 2016 Q1 compared to the previous quarter (from 4% to 3.7%). However, it remained high,<sup>62</sup> ranking Slovakia among the fastest-growing euro area economies. This positive trend is still being supported by domestic demand (particularly household consumption and growth in inventories), whose growth is being partly offset by a drop in net exports. The strong economic growth is reflected in rising employment and a continued fall in the

CHART III.7.4

**GDP IN GERMANY**

**Annual GDP growth increased in 2016 Q1 as a result of faster growth in domestic demand**

(annual percentage changes; contributions in percentage points; seasonally adjusted; source: Datastream, CNB calculation)

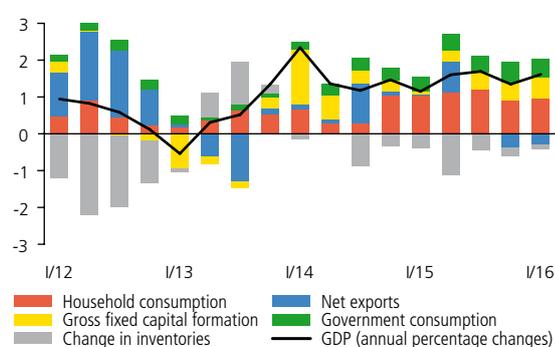
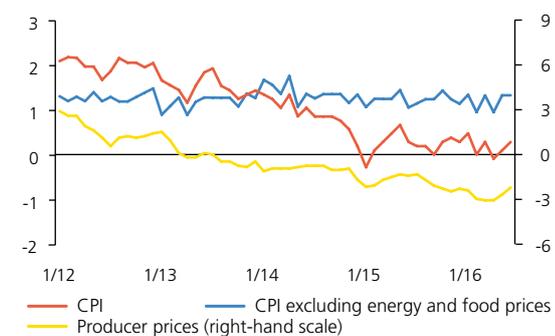


CHART III.7.5

**INFLATION AND PRODUCER PRICES IN GERMANY**

**In June, inflation increased while the decline in industrial producer prices moderated**

(annual percentage changes; source: Datastream)



62 The very high growth of the Slovak economy in 2015 H2 was supported by drawdown of EU funds from the previous programme period.

unemployment rate (by 1.5 percentage point year on year to 10%). However, unemployment has still not returned to the level observed before the crisis in 2008.

**According to an NBS estimate**, the economy continued to grow in 2016 Q2 at a similar rate as in the previous quarter. The July CF expects GDP growth of 3.1% this year (i.e. 0.5 percentage point lower than last year) and roughly the same rate of growth in 2017.

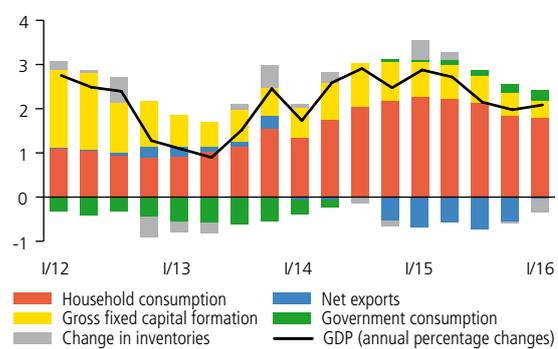
**Slovak deflation** slowed somewhat in June (by 0.1 percentage point to 0.8%) as a result of a slower drop in energy and food prices and continued growth in services prices. The July CF expects deflation to continue at a rate of 0.2% this year. This is virtually in line with the NBS forecast. CF expects prices to return to growth of 1.5% in 2017.

CHART III.7.6

## GDP IN THE USA

## The US economy accelerated slightly in 2016 Q1

(annual percentage changes; contributions in percentage points; seasonally adjusted; source: Datastream, CNB calculation)



## III.7.2 The United States

Annual **GDP growth in the USA** reached 2.1% in Q1 (see Chart III.7.6). Compared to the end of 2015, the US economy accelerated slightly in year-on-year terms. Household consumption and fixed investment again made the biggest positive contributions to the annual GDP growth. The contribution of net exports, which was negative last year, was zero in 2016 Q1.

Based on the available data, it can be assumed that the US economy continued to expand in **2016 Q2**, owing chiefly to strong domestic demand. Growth in non-farm payrolls was only 11,000 in May, but in June it far exceeded the market outlook (287,000 versus an expected 180,000). The unemployment rate is still at a historical low (5%). According to the Conference Board survey, consumer confidence reached an eight-month high in June. Retail sales increased by more than 2% year on year in Q2. The situation in industry is also improving. The ISM PMI has been indicating an expansion in manufacturing for four months in a row now, with a decline being apparent only for inventories. Coupled with a drop in wholesale inventories in May, this indicates that the contribution of inventories to growth will be negative again in 2016 Q2. The year-on-year decline in industrial production slowed in June, due mainly to higher output in the automotive industry. According to the monitored outlooks (see Chart III.7.7), GDP will grow by between 1.8% and 2.2% in 2016. The growth is expected to accelerate slightly further in 2017.

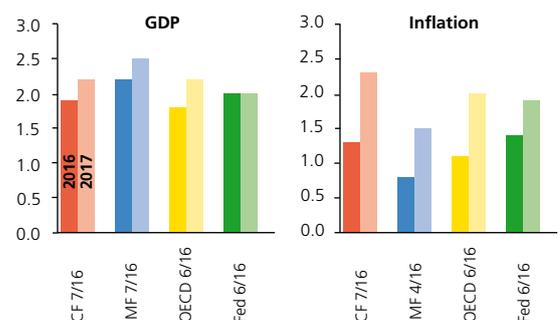
**Prices** were stable in 2016 Q2, with annual headline inflation running at 1.1% in all three months (see Chart III.7.8). Inflation excluding energy and food prices has been fluctuating between 2.1% and 2.3% since December 2015. Producer prices have been virtually flat since the start of the year except for a slight rise in June (0.3%). The inflation outlooks for 2016 from the monitored institutions (see Chart III.7.7) range between 0.8% and 1.4%. Inflation in the USA is expected to rise in 2017.

CHART III.7.7

## US GDP AND INFLATION OUTLOOKS

## Economic growth will fluctuate around 2%, while inflation is expected to rise in 2017

(annual percentage changes; source: CF, IMF, OECD, Fed)



Note: Horizontal axis shows most recent forecast data in format "Source month/year of publication". Midpoint of range for Fed.

The **Fed's monetary policy** was unchanged in the period under review. Although the Fed members' comments had originally indicated some monetary policy tightening, low growth in new jobs in May (see above) and later the unclear impact of new risks on the US economy (the Brexit referendum result and the subsequent financial market turmoil) put off this step. However, data from the economy have recently renewed financial market expectations that the Fed will increase its key rate at least once by the year-end.

### III.7.3 The exchange rate of the euro against the dollar and other major currencies

The **exchange rate of the euro against the dollar** continued to appreciate until the end of April in line with the trend that started in December last year, reaching its strongest values since August 2015 (see Chart III.7.9). This trend was interrupted by favourable data from the US economy, which led to a strengthening of the dollar. In early June, however, surprisingly unfavourable data from the US labour market were published and the trend reversed again. The appreciation of the euro was also simultaneously fostered by the outcome of the ECB monetary policy meeting, which did not ease monetary policy further despite market expectations. However, the euro lost 2.1% against the dollar on the first day after the result of the Brexit referendum was announced.

The long-running appreciation of the euro against the **pound** was interrupted in early April. This was due mainly to the pound strengthening against the dollar in mid-April. With a brief exception in late April and early May, when it hit the above-mentioned highs against the dollar, the euro weakened against the pound for almost two months. However, concerns about the potential result of the Brexit referendum started to weigh significantly on the pound a month before the vote as an increasing number of public opinion polls indicated that UK citizens would vote to leave the EU. Although market expectations turned around once again for a while a few days before the vote, the pound fell sharply after the results were released. The pound lost 6.4% against the euro in a single day.<sup>63</sup>

By contrast, the euro continued its year-long depreciation trend against the **Japanese yen** throughout 2016 Q2. The yen weakened slightly ahead of the BoJ meeting in the second half of April, but monetary policy was not eased despite market expectations and the yen sharply erased its previous small gains. The yen weakened moderately against the euro during May,<sup>64</sup> but the BoJ then once again disappointed markets with its inactivity at its June meeting and

CHART III.7.8

#### INFLATION AND PRODUCER PRICES IN THE USA

**Inflation was stable in 2016 Q2**

(annual percentage changes; source: Datastream)

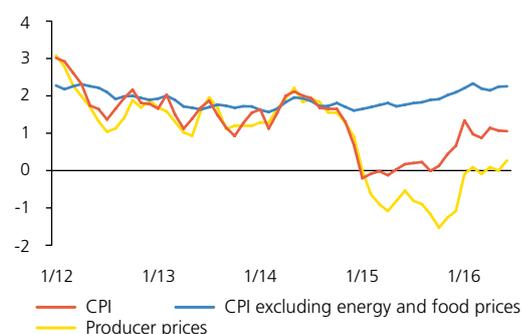
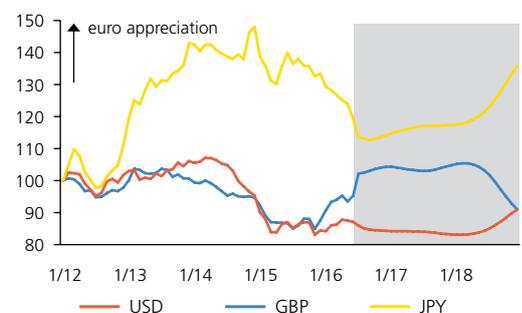


CHART III.7.9

#### EURO EXCHANGE RATE AGAINST MAJOR CURRENCIES

**The euro depreciated against the dollar and the yen in 2016 Q2, but appreciated against the pound following the referendum**

(January 2012 = 100; source: Datastream; outlook from Consensus Forecasts; CNB calculation)



<sup>63</sup> The pound weakened against the dollar by 8% between 23 June and 24 June. This took it close to a 31-year low, around which it fluctuated until mid-July.

<sup>64</sup> The euro and the yen were weakening at roughly the same rate against the dollar at that time.

the yen strengthened sharply again. A week later, the yen (seen as a “safe asset” by the markets) appreciated even more in response to the outcome of the Brexit referendum, reaching its strongest level against the euro since December 2012.

**In the first half of July**, the euro fluctuated against the dollar with no clear trend and then weakened slightly. Against the pound it started to depreciate gradually as the political situation calmed in the UK following the appointment of a new prime minister. By contrast, the euro strengthened against the yen after the coalition led by Prime Minister Abe won the elections, which boosted market expectations that the BoJ would further ease monetary policy. According to the July CF, the euro will depreciate by 1.9% against the dollar (to USD 1.08) and appreciate by 0.7% and 2.6% against the pound and the yen respectively at the one-year horizon.

#### III.7.4 Prices of oil and other commodities

According to the IEA, the oil market became unexpectedly almost balanced in 2016 Q2, following a large excess of supply over demand in Q1. This was due mainly to large output outages in both OPEC countries (Libya, Nigeria and Venezuela) and non-OPEC ones (Canada). Supply was also reduced by an accelerating decline in shale extraction in the USA, while demand was boosted by high activity at refineries around the world, which reacted to fast-growing petrol consumption in China, India and the USA. The **price of Brent crude oil** thus increased from USD 40 a barrel towards USD 50 a barrel in April and the first half of May. The upward trend, which had lasted for almost four months, then slowed sharply and halted completely in June (see Chart III.7.10). Since then, the Brent crude oil price has been fluctuating between USD 46 and USD 51 a barrel.<sup>65</sup>

The **slowdown in oil price growth in the second half of May** was due, among other things, to an appreciating dollar and weakening speculative activity by investors, who do not see much room for further oil price growth at a price above USD 50 a barrel, since investment activity will probably recover and the drop in shale extraction in the USA is likely to slow. The swings in oil price in June reflected increased uncertainty stemming from the approaching referendum on the UK’s membership in the EU. The oil price also responded to the related changes in the dollar exchange rate. The slump in oil prices following the announcement of the referendum result was only temporary, as a continuing decline in US oil stocks helped prices rise back towards USD 50 a barrel. Concerns emerged in early July that petrol consumption in the USA had not been as strong in 2016 Q2 as preliminary data had suggested. This, together with a return of Canadian oil to the market, sent oil prices about USD 3 a barrel lower.

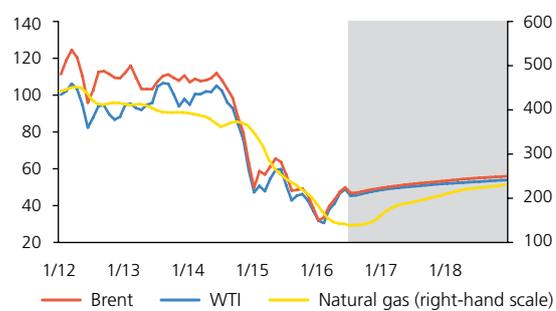
<sup>65</sup> However, it fell below USD 45 a barrel at the end of July on rising concerns about high petrol stocks and related high speculative activity by investors, who expect the price to drop even lower. The fall was also fostered by a further appreciation of the dollar.

CHART III.7.10

#### OIL AND NATURAL GAS PRICES IN USD

**Following five months of growth, the crude oil price fell slightly in the first half of July; the outlook up to the end of 2018 is only gradually rising**

(oil in USD/barrel; natural gas [Russian in Germany] in USD/1,000 m<sup>3</sup> – right-hand scale; source: IMF, Bloomberg, CNB calculation)



Refineries in all regions of the world took advantage of high margins (caused by low oil prices and high demand for petrol) and maximised petrol production in the first half of this year. However, **increasing global stocks of refined products** are giving rise to concerns that part of the fundamental imbalance has probably only shifted from the oil market to the market for products. Some refineries are now curbing production, which is temporarily putting downward pressure on oil prices. Although the oil market is probably now heading towards fundamental equilibrium,<sup>66</sup> short-term imbalances will continue to exist and spill between markets. This will increase the volatility of oil prices.

The **koruna price of oil** is expected to switch from a more than two-year-long annual decline to growth at the end of this year, owing mainly to changes in the dollar price (see Chart III.7.11).

Despite the current considerable uncertainty about future developments, the forecasts of the monitored institutions do not differ much from the market futures curve of 11 July, which implies an average Brent price of USD 44.5 a barrel this year and USD 51.7 next year. The EIA expects virtually the same figures and the July CF forecast for one year ahead is less than one dollar above the market curve (USD 52.8 a barrel). The **risks to the future evolution of oil prices** may be on the downside in the short run (a calming of the political situation in Libya and Nigeria, weaker-than-expected growth in demand), although the market curve remains relatively flat (albeit still rising) for the time being. This supports the view that supply and demand have converged. In the longer run, however, growth in oil prices may accelerate. The EIA forecast expects a decline in global oil stocks as from 2017 Q3 and an acceleration of that decline in 2018. The oil price is expected to respond by accelerating to an average of USD 58 a barrel in 2017 Q4 and by rising further in 2018. By then, it may start to reflect the fall in investment in conventional extraction, which is currently raising the oil supply owing to projects commenced at times of high oil prices.

Compared to the previous quarter, the **upward trend in the non-energy commodity price index** accelerated in 2016 Q2 due to a similar trend in the agricultural commodity price index (see Chart III.7.12). Prices of soy, maize, sugar and rice went up in response to unfavourable weather in the main agricultural regions. In the second half of June, the weather improved and grain prices lost some of their previous gains (the price of wheat even dropped to a ten-year low). The industrial metals index was broadly flat in 2016 Q2, affected by contrary factors. Rising oil prices generally fostered growth in metals prices, whereas increased uncertainty after the UK referendum and the strong dollar acted in the opposite direction. The outlook for industry (based on the PMI) improved in the USA but worsened in China. Prices of basic metals were boosted in part by an upturn in the Chinese property market. According to market outlooks, all three non-energy indices monitored will be virtually flat.

66 In their July reports, the IEA, the EIA and OPEC expect oil supply to come into equilibrium with demand in 2017 H2.

CHART III.7.11

DECOMPOSITION OF KORUNA OIL PRICE GROWTH

The koruna price of oil will start to rise year on year at the end of this year; the key factor will be the dollar price (Brent crude oil in CZK/litre – annual percentage changes; contributions of dollar price of Brent crude oil and CZK/USD exchange rate in percentage points; source: Bloomberg, CNB calculation)

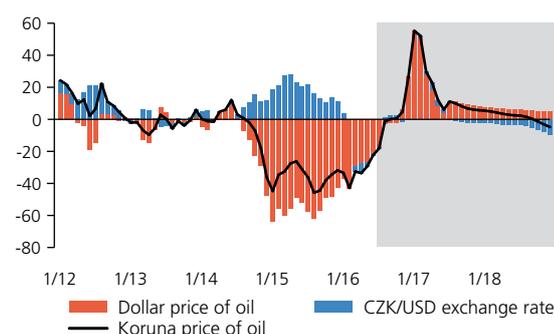
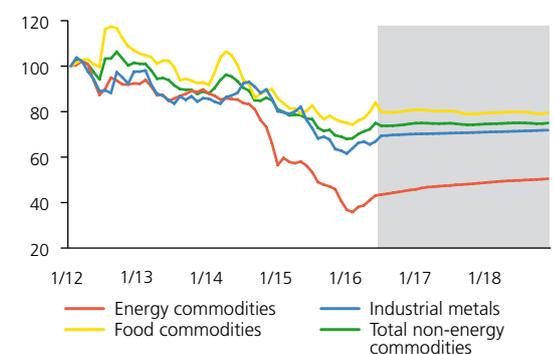


CHART III.7.12

COMMODITY PRICES

The non-energy and food commodity price indices rose in 2016 Q2, while the industrial metals index was flat; the outlooks for all three indices are virtually flat (January 2012 = 100; source: Bloomberg, CNB calculation)



Note: The structure of the non-energy commodity indices corresponds to the composition of the Economist's commodity indices; the energy commodity index consists of Brent crude oil (0.4), coal (0.4) and natural gas (0.2).

Chart I.1	Headline inflation forecast	6
Chart I.2	Monetary policy-relevant inflation forecast	6
Chart I.3	Interest rate forecast	7
Chart I.4	GDP growth forecast	7
Chart II.1.1	Effective GDP in the euro area	9
Chart II.1.2	Effective PPI in the euro area	9
Chart II.1.3	Effective CPI in the euro area	11
Chart II.1.4	3M EURIBOR	12
Chart II.1.5	Euro-dollar exchange rate	12
Chart II.1.6	Price of Brent crude oil	12
Chart II.2.1	Headline inflation and monetary policy-relevant inflation	13
Chart II.2.2	Administered prices	14
Chart II.2.3	Net inflation and adjusted inflation excluding fuels	14
Chart II.2.4	Food prices and agricultural producer prices	15
Chart II.2.5	Fuel prices and the oil price	15
Chart II.2.6	Interest rate forecast	15
Chart II.2.7	Costs in the consumer sector	16
Chart II.2.8	Costs in the intermediate goods sector	18
Chart II.2.9	Gap in profit mark-ups in the consumer sector	19
Chart II.2.10	Average nominal wage	19
Chart II.2.11	Annual GDP growth structure	19
Chart II.2.12	Number of employees (full-time equivalent)	20
Chart II.2.13	Labour market forecast	20
Chart II.2.14	Real household and government consumption	20
Chart II.2.15	Nominal disposable income	21
Chart II.2.16	Household saving rate	21
Chart II.2.17	Gross capital formation	21
Chart II.2.18	Investment decomposition	22
Chart II.2.19	Real exports and imports	22
Chart II.3.1	Change in the headline inflation forecast	26
Chart II.3.2	Change in the net inflation forecast	26
Chart II.3.3	Change in the interest rate path	27
Chart II.3.4	Change in the GDP forecast	27
Chart II.3.5	Change in the forecast for nominal wages in the business sector	27
Chart II.4.1	Perceived and expected inflation	28
Chart II.4.2	FRA rates versus the CNB forecast	29
Chart III.1.1	Forecast versus actual inflation	30
Chart III.1.2	Inflation	31
Chart III.1.3	Structure of inflation	32
Chart III.1.4	Inflation components	32
Chart III.1.5	Food prices	32
Chart III.1.6	Structure of food, alcohol and tobacco price inflation in June 2016	33
Chart III.1.7	Adjusted inflation excluding fuels	33
Chart III.2.1	Import prices and producer prices	34
Chart III.2.2	Import prices	34
Chart III.2.3	Mineral fuels and lubricants	34
Chart III.2.4	Industrial producer prices	35
Chart III.2.5	Prices of energy and water-related services	35
Chart III.2.6	Producer prices by main industrial groupings	35
Chart III.2.7	Agricultural producer prices	36

Chart III.2.8	Market services prices in the business sector and construction work prices	36
Chart III.3.1	Gross domestic product	37
Chart III.3.2	Household consumption expenditure	37
Chart III.3.3	Disposable income	37
Chart III.3.4	Household consumption	36
Chart III.3.5	Confidence indicators	36
Chart III.3.6	Investment by sector	36
Chart III.3.7	Gross fixed capital formation	39
Chart III.3.8	Exports and imports	39
Chart III.3.9	Contributions of branches to GVA growth	39
Chart III.3.10	Industrial production	40
Chart III.3.11	New orders in industry	40
Chart III.3.12	Barriers to growth in industry	40
Chart III.3.13	Potential output	41
Chart III.3.14	Output gap	41
Chart III.4.1	Labour market indicators	42
Chart III.4.2	Employment breakdown by branches	42
Chart III.4.3	Number of employees (full-time equivalent)	42
Chart III.4.4	Unemployment indicators	43
Chart III.4.5	Beveridge curve	43
Chart III.4.6	Average wage and whole-economy labour productivity	43
Chart III.4.7	Productivity in branches	44
Chart III.4.8	Unit labour costs	44
Chart III.5.1	Money aggregates and loans	45
Chart III.5.2	Deposit structure of M3	45
Chart III.5.3	Loans to the private sector	45
Chart III.5.4	Loans to non-financial corporations according to sector of activity	46
Chart III.5.5	Loans to households	46
Chart III.5.6	Household income burden by consumer expenditures and loan repayments	47
Chart III.5.7	CNB key rates	47
Chart III.5.8	Market interest rates	48
Chart III.5.9	Interest rate differentials	48
Chart III.5.10	Government bond yield curve	49
Chart III.5.11	Client interest rates in the Czech Republic and the euro area	49
Chart III.5.12	Interest rate on client deposits	49
Chart III.5.13	Interest rates on loans to households	50
Chart III.5.14	CZK/EUR and CZK/USD exchange rates	50
Chart III.5.15	Nominal effective koruna exchange rate	51
Chart III.5.16	Key financial indicators	51
Chart III.5.17	Operating profit by sector	52
Chart III.5.18	Financial liabilities of non-financial corporations	52
Chart III.5.19	Structure of household financial assets	53
Chart III.5.20	Transaction and asking prices of housing	53
Chart III.5.21	Apartment price sustainability indicators	53
Chart III.6.1	Current account	55
Chart III.6.2	External trade in goods by SITC	55
Chart III.6.3	Services	55
Chart III.6.4	Primary income	56
Chart III.6.5	Financial account	58
Chart III.6.6	Direct investment	58
Chart III.6.7	Portfolio investment	58
Chart III.6.8	Reserve assets	59

Chart III.7.1	GDP in the euro area	60
Chart III.7.2	Euro area GDP and HICP inflation outlooks	60
Chart III.7.3	Inflation and producer prices in the euro area	60
Chart III.7.4	GDP in Germany	61
Chart III.7.5	Inflation and producer prices in Germany	61
Chart III.7.6	GDP in the USA	62
Chart III.7.7	US GDP and inflation outlooks	62
Chart III.7.8	Inflation and producer prices in the USA	63
Chart III.7.9	Euro exchange rate against major currencies	63
Chart III.7.10	Oil and natural gas prices in USD	64
Chart III.7.11	Decomposition of koruna oil price growth	65
Chart III.7.12	Commodity prices	65

Table II.2.1	Forecast of administrative effects	13
Table II.2.2	Forecasts of selected variables	22
Table II.2.3	Balance of payments forecast	23
Table II.2.4	Fiscal forecast	24
Table II.2.5	Fiscal impulse	24
Table II.4.1	Expected indicators of FMIE and corporations	28
Table II.4.2	CF expected indicators	28
Table III.1.1	Fulfilment of the inflation forecast	30
Table III.1.2	Fulfilment of the external assumptions	31
Table III.1.3	Fulfilment of the forecast for key variables	31
Table III.4.1	Wages, productivity, unit labour costs	44
Table III.5.1	Performance indicators of non-financial corporations	51

AEIS	Average Earnings Information System	IMF	International Monetary Fund
CEB	Czech Export Bank	IRI	Institute for Regional Information
CF	Consensus Forecasts	IRS	interest rate swap
CNB	Czech National Bank	JPY	Japanese yen
CPI	consumer price index	KZAM	employment classification (used up to 2011)
CZK	Czech koruna	LFS	Labour Force Survey
CZ-ISCO	employment classification (used since 2011)	LIBOR	London Interbank Offered Rate
CZSO	Czech Statistical Office	LTV	loan to value
ECB	European Central Bank	M1, M3	monetary aggregates
EEA	European Economic Area	MFIs	monetary financial institutions
EGAP	Export Guarantee and Insurance Company	MLSA	Ministry of Labour and Social Affairs
EIA	U.S. Energy Information Administration	NAIRU	non-accelerating inflation rate of unemployment
EIA	Environmental Impact Assessment	NBS	National Bank of Slovakia
EIU	Economist Intelligence Unit	NFCs	non-financial corporations
ESA	European System of Accounts	NPISH	non-profit institutions serving households
ESCB	European System of Central Banks	OECD	Organisation for Economic Co-operation and Development
EU	European Union	OPEC	Organization of the Petroleum Exporting Countries
EUR	euro	PMI	Purchasing Managers Index
EURIBOR	Euro Interbank Offered Rate	pp	percentage points
FDI	foreign direct investment	PPI	producer price index
Fed	US central bank	PRIBOR	Prague Interbank Offered Rate
FMIE	Financial Market Inflation Expectations	(1W, 1M, 1Y)	(one-week, one-month, one-year)
FRA	forward rate agreement	repo rate	repurchase agreement rate
GBP	pound sterling	UK	United Kingdom of Great Britain and Northern Ireland
GDP	gross domestic product	USA	United States of America
GNP	gross national product	USD	US dollar
GVA	gross value added	VAT	value added tax
HICP	harmonised index of consumer prices	WTI	West Texas Intermediate
HP filter	Hodrick-Prescott filter		
IEA	International Energy Agency		
ILO	International Labour Organization		

The pass-through of VAT to food prices at the end of 2011	(Box)	I/2012
Extraordinary revision of the quarterly national accounts	(Box)	I/2012
An analysis of the impacts of fiscal measures in the Czech Republic in 2001–2011	(Box)	I/2012
Revision of the consumer basket	(Box)	II/2012
Factors affecting retail fuel prices	(Box)	II/2012
The Bank Lending Survey	(Box)	III/2012
The CZK/USD exchange rate at a time of uncertainty	(Box)	III/2012
Easy monetary policy and commodity prices	(Box)	III/2012
The household saving rate	(Box)	IV/2012
Consumption and money savings by household income group	(Box)	IV/2012
The share of reinvested earnings in total FDI income	(Box)	IV/2012
Revision of the quarterly national accounts	(Box)	I/2013
Consumption, savings and debt burden of household income groups in 2012	(Box)	III/2013
The announced reduction of quantitative easing in the USA and its effect on yield curves	(Box)	III/2013
Using the exchange rate as an instrument to ease the monetary conditions	(Box)	IV/2013
New steady-state settings in the g3 model	(Box)	IV/2013
Comparison of corporate investment and employment from the perspective of ownership and reinvestment	(Box)	IV/2013
The impact of the growth in unconventional gas extraction on global prices of energy commodities	(Box)	IV/2013
Effects of the weakened exchange rate on consumer prices (input-output analysis)	(Box)	I/2014
Evolution and structure of shorter working hours	(Box)	II/2014
The Czech Republic's trade relations with Ukraine and Russia	(Box)	II/2014
The life cycle of foreign direct investment and its impact on the balance of payments	(Box)	III/2014
Assessment of the economic situation one year after the exchange rate commitment was adopted	(Box)	IV/2014
Revision of the national accounts following the switch to ESA 2010	(Box)	IV/2014
The impacts of the military and political crisis in Ukraine on the Czech Republic	(Box)	IV/2014
Wage growth structure in the business sector	(Box)	I/2015
Future oil supply on world markets with regard to extraction profitability in different oil plays given falling oil prices	(Box)	I/2015
Median inflation	(Box)	II/2015
Labour market developments from the perspective of the NAIRU and the cyclicity of the unemployment rate and wages	(Box)	II/2015
The monetary conditions index for the Czech Republic	(Box)	II/2015

<b>The monetary conditions index for the euro area</b>	(Box)	II/2015
<b>The pass-through of the koruna-dollar exchange rate to prices of tradable goods</b>	(Box)	III/2015
<b>The equilibrium koruna-euro exchange rate</b>	(Box)	III/2015
<b>The German economy and the dollar-euro exchange rate</b>	(Box)	III/2015
<b>Employment of foreign and agency workers and their effect on the employment statistics</b>	(Box)	IV/2015
<b>Public procurement data as a leading indicator of public investment</b>	(Box)	I/2016
<b>The changeover from national to harmonised monetary statistics</b>	(Box)	I/2016
<b>The impact of the Chinese economic slowdown on the world economy and commodity prices</b>	(Box)	I/2016
<b>Wage growth in 2015 from the CZ-ISCO skills structure perspective</b>	(Box)	II/2016
<b>The house price index and its evolution in EU countries</b>	(Box)	II/2016
<b>A model of the effective indicator of industrial producer prices in the euro area</b>	(Box)	III/2016
<b>The impact of the Balassa-Samuelson effect on prices in the domestic economy</b>	(Box)	III/2016
<b>The Czech Republic's trade relations with the UK</b>	(Box)	III/2016

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](http://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.

**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.

**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.

**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 the shares of the individual euro area countries in the Czech Republic's total exports 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 consists of direct investment, portfolio investment, financial derivatives and employee stock options, other investment and reserve assets.

**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.

**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:** Proxied in the CNB's modelling system by the real marginal cost gap in the consumer goods sector. Total inflation pressures are divided into domestic inflation pressures (in the intermediate goods sector) and imported inflation pressures (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.

**Net inflation:** Consumer price inflation net of administered prices and adjusted for the first-round effects of changes to indirect taxes. Net inflation consists of food price inflation, fuel price inflation and adjusted inflation excluding fuels. Until the end of 2001, the CNB's inflation targets were set in terms of net inflation. Since 2002, the CNB has targeted headline inflation, using net inflation for analytical purposes only.

**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 "export-specific technology", 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 and the price of capital. In addition to these components, they are determined by "labour-augmenting technology". This technology 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.

**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.

**Price-to-disposable income ratio:** The ratio of the price of an apartment to the sum of disposable income 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.

**Price-to-rent ratio:** Indicator of sustainability of apartment prices, calculated as the ratio of the price of the apartment to the annual rent. The price-to-rent ratio is the inverse of the rent return. Higher values of this indicator usually mean that apartments are overpriced. This indicator is calculated from asking rents and asking prices of apartments according to the Institute for Regional Information.

**Producers' margins:** The inverse of producers' real marginal costs in the relevant sector. Growth in producers' nominal costs without corresponding growth in the price of production causes a decline in the profit margin, i.e. an increase in real marginal costs. If prices in the sector were perfectly flexible, the price at any given moment would comprise a constant margin over marginal nominal costs. In the consumer sector, a gap in profit mark-ups represents a deviation from the long-term margin level.

**Property transaction prices:** Prices based, on the one hand, on Ministry of Finance statistics from property transfer tax returns and published by the CZSO. These prices are the closest to actual market prices in terms of methodology, but are published with a time delay. The second, alternative source of data on transaction prices is CZSO data from a survey in estate agencies, for which the time lag is considerably shorter.

**Property asking prices:** Property sale asking prices in estate agencies. Asking prices should be higher than transaction prices. Property asking prices in the Czech Republic are published, for example, by the CZSO and the Institute for Regional Information (IRI).

**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.

**Technological growth:** The situation where the volume of production rises without an increase in the production factors of labour or capital. Growth in technology thus causes the real volume of production to rise given a constant price of production, or the output price to fall relative to input prices given a constant real volume of production.

**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.



## KEY MACROECONOMIC INDICATORS

		years										
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>DEMAND AND SUPPLY</b>												
<i>Gross domestic product</i>												
GDP	CZK bn, constant p. of 2010, seas. adjusted	4,057.2	3,866.7	3,949.3	4,028.7	3,999.6	3,980.2	4,088.2	4,276.9	<b>4,379.5</b>	<b>4,509.7</b>	<b>4,645.0</b>
GDP	% , y-o-y, real terms, seas. adjusted	2.5	-4.7	2.1	2.0	-0.7	-0.5	2.7	4.6	<b>2.4</b>	<b>3.0</b>	<b>3.0</b>
Household consumption	% , y-o-y, real terms, seas. adjusted	2.8	-0.6	0.9	0.3	-1.2	0.5	1.8	3.1	<b>3.0</b>	<b>2.9</b>	<b>2.9</b>
Government consumption	% , y-o-y, real terms, seas. adjusted	1.1	3.0	0.4	-2.2	-2.0	2.5	1.1	2.0	<b>2.2</b>	<b>2.4</b>	<b>2.2</b>
Gross capital formation	% , y-o-y, real terms, seas. adjusted	0.8	-17.8	4.1	1.9	-3.8	-5.1	8.5	10.2	<b>-1.8</b>	<b>3.9</b>	<b>3.7</b>
Gross fixed capital formation	% , y-o-y, real terms, seas. adjusted	2.2	-9.8	1.0	0.9	-2.9	-2.5	3.9	9.1	<b>-0.3</b>	<b>4.2</b>	<b>3.8</b>
Exports of goods and services	% , y-o-y, real terms, seas. adjusted	3.8	-9.5	14.4	9.2	4.5	0.2	8.7	7.9	<b>7.8</b>	<b>7.2</b>	<b>6.9</b>
Imports of goods and services	% , y-o-y, real terms, seas. adjusted	2.8	-10.7	14.5	6.7	2.8	0.1	10.1	8.4	<b>7.1</b>	<b>7.8</b>	<b>7.2</b>
Net exports	CZK bn, constant p. of 2010, seas. adjusted	86.6	107.9	121.5	193.7	245.8	249.7	233.1	236.2	<b>279.5</b>	<b>280.7</b>	<b>289.5</b>
<i>Coincidence indicators</i>												
Industrial production	% , y-o-y, real terms	-1.8	-13.6	8.6	5.9	-0.8	-0.1	5.0	4.6	-	-	-
Construction output	% , y-o-y, real terms	0.0	-0.9	-7.4	-3.6	-7.6	-6.7	4.3	7.1	-	-	-
Receipts in retail sales	% , y-o-y, real terms	2.7	-4.7	1.5	1.7	-1.1	1.2	5.5	8.1	-	-	-
<b>PRICES</b>												
<i>Main price indicators</i>												
Inflation rate	% , end-of-period	6.4	1.1	1.5	1.9	3.3	1.4	0.4	0.3	-	-	-
Consumer Price Index	% , y-o-y, average	6.4	1.1	1.5	1.9	3.3	1.4	0.4	0.3	<b>0.6</b>	<b>2.1</b>	<b>2.3</b>
Regulated prices (18.70%)*	% , y-o-y, average	15.6	8.4	2.6	4.7	8.6	2.2	-3.0	0.0	<b>0.1</b>	<b>1.2</b>	<b>2.0</b>
Net inflation (81.30%)*	% , y-o-y, average	2.4	-0.9	0.0	1.3	0.9	0.5	0.9	0.2	<b>0.4</b>	<b>2.2</b>	<b>2.3</b>
Food prices (including alcoholic beverages and tobacco) (24.58%)*	% , y-o-y, average	3.0	-0.9	0.9	3.9	2.8	3.1	1.8	0.0	<b>0.0</b>	<b>2.3</b>	<b>2.9</b>
Adjusted inflation excluding fuels (53.32%)*	% , y-o-y, average	2.0	0.0	-1.2	-0.7	-0.4	-0.6	0.5	1.2	<b>1.1</b>	<b>1.8</b>	<b>1.9</b>
Fuel prices (3.39%)*	% , y-o-y, average	4.3	-11.1	12.8	9.9	6.0	-2.3	0.2	-13.5	<b>-7.5</b>	<b>9.3</b>	<b>2.8</b>
Monetary policy inflation (excluding tax changes)	% , y-o-y, average	4.3	0.9	0.4	1.9	2.1	0.6	0.2	0.2	<b>0.4</b>	<b>2.1</b>	<b>2.2</b>
GDP deflator	% , y-o-y, seas. adjusted	2.0	2.6	-1.4	0.0	1.5	1.4	2.5	1.0	<b>1.1</b>	<b>1.1</b>	<b>2.1</b>
<i>Partial price indicators</i>												
Industrial producer prices	% , y-o-y, average	4.5	-3.1	1.2	5.6	2.1	0.8	-0.8	-3.2	<b>-3.2</b>	<b>1.6</b>	<b>1.7</b>
Agricultural prices	% , y-o-y, average	9.3	-24.9	7.1	22.1	3.3	5.0	4.7	-6.7	<b>-5.8</b>	<b>2.5</b>	<b>2.4</b>
Construction work prices	% , y-o-y, average	4.5	1.2	-0.2	-0.5	-0.7	-1.1	0.5	1.2	-	-	-
Brent crude oil	% , y-o-y, average	35.4	-36.5	28.4	38.2	0.7	-2.6	-8.5	-46.1	<b>-17.0</b>	<b>16.1</b>	<b>6.3</b>
<b>LABOUR MARKET</b>												
Average monthly wage	% , y-o-y, nominal terms	7.8	3.3	2.2	2.5	2.5	-0.1	2.9	2.7	<b>4.4</b>	<b>5.0</b>	<b>4.8</b>
Average monthly wage	% , y-o-y, real terms	1.4	2.3	0.7	0.6	-0.8	-1.5	2.5	2.4	<b>3.8</b>	<b>3.0</b>	<b>2.5</b>
Number of employees	% , y-o-y	1.6	-2.2	-2.2	0.0	-0.1	1.6	0.6	2.2	<b>2.3</b>	<b>0.4</b>	<b>0.5</b>
Unit labour costs	% , y-o-y	4.7	3.0	-1.7	0.3	3.4	1.0	0.9	-0.1	<b>3.2</b>	<b>1.9</b>	<b>1.9</b>
Unit labour costs in industry	% , y-o-y	-1.7	3.3	-6.2	0.7	5.9	5.1	-0.4	1.8	-	-	-
Aggregate labour productivity	% , y-o-y	0.5	-3.1	3.4	2.3	-1.2	-0.8	2.2	3.1	<b>0.7</b>	<b>2.6</b>	<b>2.6</b>
ILO general unemployment rate	% , average, age 15–64	4.4	6.7	7.4	6.8	7.0	7.1	6.2	5.1	<b>4.0</b>	<b>3.8</b>	<b>3.7</b>
Share of unemployed persons (MLSA)	% , average	4.1	6.2	7.0	6.7	6.8	7.7	7.7	6.5	<b>5.6</b>	<b>5.3</b>	<b>5.0</b>
<b>PUBLIC FINANCE</b>												
Public finance deficit (ESA 2010)	CZK bn, current p.	-84.6	-216.2	-174.5	-109.9	-159.6	-51.1	-83.1	-18.7	<b>-5.5</b>	<b>3.8</b>	<b>17.7</b>
Public finance deficit / GDP**	% , nominal terms	-2.1	-5.5	-4.4	-2.7	-3.9	-1.2	-1.9	-0.4	<b>-0.1</b>	<b>0.1</b>	<b>0.3</b>
Public debt (ESA 2010)	CZK bn, current p.	1,150.7	1,335.7	1,508.5	1,606.5	1,805.4	1,840.4	1,819.1	1,836.2	<b>1,871.6</b>	<b>1,888.6</b>	<b>1,892.6</b>
Public debt / GDP**	% , nominal terms	28.7	34.1	38.2	39.8	44.5	44.9	42.2	40.3	<b>39.7</b>	<b>38.5</b>	<b>36.7</b>
<b>EXTERNAL RELATIONS</b>												
<i>Current account</i>												
Trade balance	CZK bn, current p.	-4.4	65.0	40.4	75.5	123.8	167.0	219.5	210.7	<b>275.0</b>	<b>255.0</b>	<b>270.0</b>
Trade balance / GDP	% , nominal terms	-0.1	1.7	1.0	1.9	3.0	4.1	5.1	4.6	<b>5.8</b>	<b>5.2</b>	<b>5.2</b>
Balance of services	CZK bn, current p.	89.3	81.9	78.5	81.3	77.6	70.4	55.7	75.0	<b>80.0</b>	<b>80.0</b>	<b>80.0</b>
Current account	CZK bn, current p.	-75.3	-89.2	-141.8	-84.8	-63.3	-21.8	7.5	41.4	<b>90.0</b>	<b>45.0</b>	<b>55.0</b>
Current account / GDP	% , nominal terms	-1.9	-2.3	-3.6	-2.1	-1.6	-0.5	0.2	0.9	<b>1.9</b>	<b>0.9</b>	<b>1.1</b>
<i>Foreign direct investment</i>												
Direct investment	CZK bn, current p.	-36.3	-37.7	-95.0	-46.8	-121.3	7.4	-80.4	26.6	<b>-70.0</b>	<b>-50.0</b>	<b>-50.0</b>
<i>Exchange rates</i>												
CZK/USD	average	17.1	19.1	19.1	17.7	19.6	19.6	20.8	24.6	-	-	-
CZK/EUR	average	25.0	26.5	25.3	24.6	25.1	26.0	27.5	27.3	-	-	-
CZK/EUR	% , y-o-y, real (CPI euro area), avg.	-12.6	5.3	-4.6	-2.1	1.5	3.5	6.0	-1.1	-	-	-
CZK/EUR	% , y-o-y, real (PPI euro area), avg.	-8.6	4.6	-4.1	-3.1	2.6	2.3	4.8	-0.4	-	-	-
<i>Foreign trade prices</i>												
Prices of exports of goods	% , y-o-y, average	-4.6	0.2	-1.0	1.7	2.9	1.2	3.5	-1.7	<b>-2.9</b>	<b>0.7</b>	<b>0.0</b>
Prices of imports of goods	% , y-o-y, average	-3.3	-3.5	2.0	4.3	4.2	-0.2	1.9	-1.9	<b>-4.4</b>	<b>2.0</b>	<b>0.0</b>
<b>MONEY AND INTEREST RATES</b>												
M3	% , y-o-y, average	14.2	6.5	0.2	1.0	5.1	5.1	5.1	7.3	<b>9.6</b>	<b>8.5</b>	<b>6.4</b>
2W repo rate	% , end-of-period, CNB forec. = avg.	2.25	1.00	0.75	0.75	0.05	0.05	0.05	0.05	<b>0.05</b>	<b>0.49</b>	<b>1.53</b>
3M PRIBOR	% , average	4.0	2.2	1.3	1.2	1.0	0.5	0.4	0.3	<b>0.3</b>	<b>0.7</b>	<b>1.8</b>

\* in brackets are constant weights in actual consumer basket

\*\* CNB calculation

- data are not available / forecasted / released

data in bold = CNB forecast

2014				2015				2016				2017				2018			
QI	QII	QIII	QIV																
1,006.3	1,015.9	1,027.6	1,038.4	1,052.8	1,066.7	1,077.1	1,080.2	1,084.4	1,089.1	1,098.7	1,107.3	1,116.0	1,124.8	1,131.2	1,137.7	1,147.0	1,156.4	1,166.0	1,175.6
1.9	2.6	3.4	3.0	4.6	5.0	4.8	4.0	3.0	2.1	2.0	2.5	2.9	3.3	3.0	2.7	2.8	2.8	3.1	3.3
0.6	1.3	2.2	3.0	3.5	3.3	2.9	2.8	2.9	2.9	3.2	3.1	3.1	3.0	2.8	2.8	2.8	2.8	2.9	2.9
0.8	1.8	-0.1	1.8	1.4	1.5	3.2	1.7	2.5	2.3	1.8	2.0	2.4	2.4	2.4	2.4	2.3	2.2	2.2	2.1
5.5	13.4	9.8	5.9	12.7	13.6	9.7	5.0	1.2	-5.6	-3.3	0.7	1.6	5.0	4.9	4.1	3.7	3.5	3.7	4.0
2.0	3.7	4.6	5.3	8.0	10.4	10.0	8.2	3.1	-1.8	-1.7	-0.8	2.2	5.4	5.0	4.1	3.7	3.6	3.8	4.0
11.1	8.5	7.7	7.5	7.4	7.5	8.2	8.4	6.7	7.8	8.8	7.9	8.1	7.7	6.8	6.4	6.4	6.5	7.1	7.6
11.9	11.6	8.4	8.5	8.8	8.6	8.5	7.7	6.1	6.0	8.1	7.9	8.0	8.4	7.6	7.1	7.0	6.9	7.3	7.6
62.3	56.0	58.6	56.1	56.9	52.0	61.0	66.3	65.2	71.0	72.1	71.1	70.8	71.0	69.9	69.1	70.5	71.7	73.0	74.3
6.9	6.0	4.0	3.2	5.1	5.6	4.1	3.7	2.9	-	-	-	-	-	-	-	-	-	-	-
13.3	5.6	2.9	0.7	9.5	12.3	7.3	1.5	-8.9	-	-	-	-	-	-	-	-	-	-	-
7.0	4.7	5.7	4.7	8.3	8.7	6.2	9.1	7.5	-	-	-	-	-	-	-	-	-	-	-
1.0	0.7	0.5	0.4	0.3	0.5	0.4	0.3	0.4	0.3	-	-	-	-	-	-	-	-	-	-
0.2	0.2	0.6	0.5	0.1	0.7	0.4	0.1	0.5	0.3	0.5	1.2	1.7	2.0	2.2	2.4	2.5	2.4	2.2	2.1
-4.1	-3.5	-2.2	-2.1	0.2	0.3	-0.2	-0.4	0.7	0.2	-0.3	-0.1	0.5	1.1	1.7	1.7	2.2	2.1	2.0	1.9
0.9	0.7	1.0	0.8	-0.2	0.5	0.3	0.1	0.2	0.0	0.4	1.2	2.0	2.2	2.3	2.5	2.5	2.3	2.2	2.1
3.4	1.5	1.5	0.7	-0.9	0.7	0.3	0.0	-0.4	-0.8	0.1	1.1	1.6	1.9	2.6	3.2	3.3	3.1	2.7	2.3
-0.2	0.4	0.8	0.9	1.1	1.1	1.1	1.3	1.3	1.1	1.0	1.1	1.4	1.8	1.9	1.9	1.9	1.8	1.9	2.0
0.3	1.0	0.5	-1.2	-14.6	-10.1	-12.6	-16.6	-12.4	-12.4	-7.6	2.5	14.2	10.3	7.2	5.5	4.2	3.6	2.3	0.9
0.1	0.0	0.5	0.3	-0.1	0.4	0.2	0.0	0.3	0.0	0.3	1.0	1.7	2.0	2.3	2.4	2.4	2.3	2.2	2.0
2.1	2.8	2.9	2.1	1.5	1.1	0.8	0.6	1.2	0.8	1.1	1.2	1.1	2.0	0.6	0.7	1.1	1.3	3.0	3.0
-0.7	-0.2	-0.1	-1.9	-3.3	-2.3	-3.6	-3.5	-4.0	-4.6	-2.8	-1.2	1.7	1.9	1.4	1.4	1.6	1.5	1.7	1.8
-4.4	-2.1	-2.3	-6.0	-9.3	-10.9	-6.5	1.8	-2.9	-6.9	-5.5	-7.6	-3.6	4.1	5.0	4.9	3.7	2.3	1.7	1.7
-0.3	0.5	0.7	0.9	1.0	1.3	1.4	1.3	1.3	1.1	-	-	-	-	-	-	-	-	-	-
-4.2	6.2	-5.7	-29.5	-48.9	-42.1	-50.6	-41.6	-36.3	-26.1	-7.3	10.3	44.1	9.5	10.7	8.6	7.4	6.6	5.8	5.3
3.9	2.8	2.2	2.8	1.7	2.8	3.1	3.2	4.4	4.2	4.5	4.7	5.0	5.2	5.0	5.0	4.8	4.7	4.8	4.8
3.7	2.6	1.6	2.3	1.6	2.1	2.7	3.1	3.9	3.9	4.0	3.6	3.3	3.2	2.9	2.6	2.3	2.4	2.5	2.6
0.4	-0.2	1.0	1.2	2.1	2.4	2.0	2.1	2.8	2.5	2.2	1.6	0.4	0.3	0.4	0.4	0.4	0.4	0.5	0.5
1.4	0.7	-0.7	2.1	-1.0	-0.4	0.5	0.4	2.9	3.3	3.6	2.8	2.1	1.6	1.8	2.0	2.1	2.1	1.9	1.7
2.0	0.3	-2.4	-1.6	0.3	0.9	2.3	3.8	4.1	-	-	-	-	-	-	-	-	-	-	-
1.7	2.8	3.0	1.1	3.3	3.3	2.9	3.0	0.7	0.5	0.4	1.3	2.6	2.9	2.6	2.4	2.4	2.4	2.6	2.8
6.9	6.1	6.0	5.8	6.1	5.0	4.9	4.5	4.4	3.9	3.9	3.8	3.9	3.7	3.7	3.7	3.9	3.6	3.7	3.6
8.5	7.6	7.4	7.2	7.5	6.4	6.2	6.0	6.3	5.4	5.3	5.3	5.8	5.1	5.0	5.1	5.6	4.9	4.8	4.8
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
71.5	65.2	47.7	35.1	76.9	56.0	38.9	38.9	90.3	80.0	50.0	54.7	85.0	70.0	48.0	52.0	88.0	74.0	52.0	56.0
7.2	6.1	4.3	3.1	7.3	4.9	3.3	3.3	8.3	6.8	4.2	4.4	7.5	5.6	3.9	4.0	7.4	5.7	3.9	4.1
19.6	15.2	12.8	8.0	18.0	20.0	19.6	17.4	20.1	21.0	20.0	18.9	20.0	21.0	20.0	19.0	20.0	21.0	20.0	19.0
81.7	-37.7	-38.7	2.1	91.9	-29.6	-35.5	14.6	113.8	-6.0	-42.0	24.2	105.0	-29.0	-47.0	16.0	103.0	-22.0	-46.0	20.0
8.2	-3.5	-3.5	0.2	8.7	-2.6	-3.1	1.2	10.4	-0.5	-3.5	1.9	9.2	-2.3	-3.8	1.2	8.7	-1.7	-3.5	1.5
-25.4	-45.7	-16.3	7.1	-2.5	-7.2	14.5	21.8	0.0	-	-	-	-	-	-	-	-	-	-	-
20.0	20.0	20.9	22.1	24.5	24.8	24.3	24.7	24.5	23.9	-	-	-	-	-	-	-	-	-	-
27.4	27.4	27.6	27.6	27.6	27.4	27.1	27.1	27.0	27.0	-	-	-	-	-	-	-	-	-	-
7.9	6.7	6.6	3.2	0.4	-0.7	-2.2	-1.9	-2.2	-1.3	-	-	-	-	-	-	-	-	-	-
6.1	4.7	5.1	3.2	1.2	0.0	-1.0	-1.7	-1.9	-0.6	-	-	-	-	-	-	-	-	-	-
4.1	3.4	4.7	2.0	-0.5	-0.5	-2.7	-3.3	-4.2	-4.2	-2.2	-1.0	0.9	1.8	0.3	-0.4	-0.6	-0.9	0.4	1.1
2.4	1.3	2.9	1.2	-1.5	0.0	-2.5	-3.8	-5.6	-6.3	-3.8	-1.7	2.3	3.2	1.6	0.7	0.1	-0.4	0.5	0.8
5.3	5.5	4.3	5.1	5.7	6.5	8.0	9.0	9.6	9.9	9.7	9.1	8.9	8.8	8.4	7.7	7.1	6.4	5.9	6.1
0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.0	1.3	1.6	1.7	1.8	2.0

**Issued by:**

CZECH NATIONAL BANK  
Na Příkopě 28  
115 03 Praha 1  
CZECH REPUBLIC

**Contact:**

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

<http://www.cnb.cz>

**Produced by:** Jerome s.r.o.

**Design:** Jerome s.r.o.

ISSN 1803-2419 (Print)

ISSN 1804-2465 (Online)



