# INFLATION REPORT / I

2017

CZECH NATIONAL BANK

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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 9 February 2017 and contains the information available as of 20 January 2017. 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.

## I. SUMMARY

*At the close of 2016, inflation rose sharply and returned to the CNB's 2% target. Following a temporary slowdown last year, GDP growth will increase this year and the next, averaging 2.8%. The economy will be supported by continued growth in external demand, a gradual renewal of growth in government investment co-financed from EU funds and still easy monetary conditions. However, the monetary conditions will start to shift towards a neutral effect following the discontinuation of the CNB's exchange rate commitment. The continued economic growth will lead to a further increase in wage growth amid an only slight decrease in the unemployment rate. Growth in total costs and hence also in consumer prices will be fostered by renewed growth in foreign producer prices and by growth of the domestic economy, including wage growth. Inflation will thus increase further above the 2% target and return to it from above at the monetary policy horizon. 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 1.9% **in 2016 Q3**, owing mainly to a lower contribution of net exports. However, the economy continues to be supported by easy domestic monetary conditions via the weakened koruna and exceptionally low interest rates. Economic growth is also being fostered by rising external demand, although its rate of growth slowed temporarily. The forecast expects domestic GDP growth to accelerate slightly in Q4.

**In 2016 Q4, both headline and monetary policy-relevant inflation** rose sharply and returned to the tolerance band around the CNB's target (see Charts I.1 and I.2). In December, headline inflation hit the 2% target following four years of exceptionally low values. This was due to a rapid recovery in food price growth and a rise in adjusted inflation excluding fuels. Its evolution reflected growth in the domestic economy and wages. It was also affected by an increase in prices linked with the launch of the first phase of electronic sales registration. The year-on-year decline in fuel prices meanwhile dissipated.

Growth in economic activity in the **effective euro area** will slow further at the start of this year and then accelerate towards 2%. The effect of falling energy commodity prices in previous years has now disappeared. Euro area producer prices will therefore return to positive year-on-year growth at the start of this year and, along with consumer prices, will keep rising as a result of continued economic growth. This will also be fostered by the ECB's easy monetary policy, including quantitative easing, which the forecast assumes will last until the end of this year. ECB monetary policy is reflected in the outlook for 3M EURIBOR market interest rates, which is negative until the end of 2018, and in a weakening of the euro against the dollar. The Brent crude oil price is expected to remain stable.

**CHART I.1**

**HEADLINE INFLATION FORECAST**

**Headline inflation will increase further and converge to the 2% target from above at the monetary policy horizon**
(year on year in %)

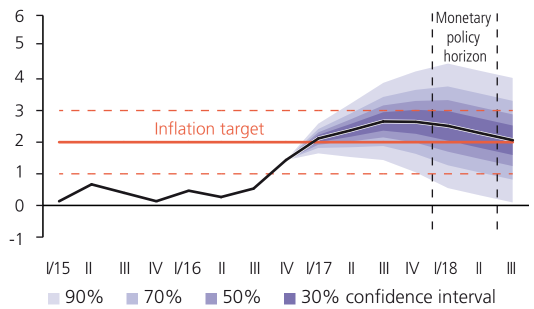
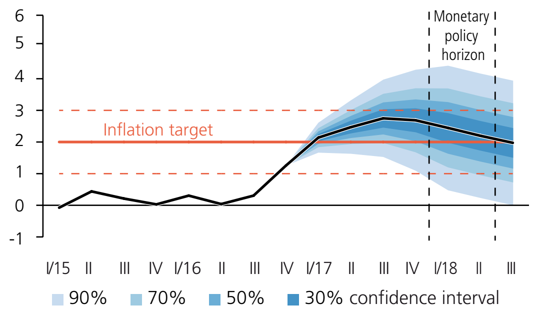



**CHART I.2**

**MONETARY POLICY-RELEVANT INFLATION FORECAST**

**Monetary policy-relevant inflation will increase further into the upper half of the tolerance band around the target and return to the target from above at the monetary policy horizon**
(year on year in %)



According to the **forecast, both headline and monetary policy-relevant inflation** will increase further into the upper half of the tolerance band around the CNB's target. They will return to the 2% target from above at the monetary policy horizon (see Charts I.1 and I.2). Domestic costs will continue to rise apace over the entire forecast horizon due to rising wages and price of capital amid solid growth in economic activity. Coupled with renewed growth in industrial producer prices in the euro area, this will lead to a further increase in adjusted inflation excluding fuels. Counteracting this will be a strengthening of the koruna from mid-2017 onwards. Food price growth will accelerate further in the quarters ahead and then moderate again. Fuel prices will also record a temporary strong increase owing to year-on-year growth in global oil prices. Administered prices will rise only slightly overall this year and their growth will pick up pace next year.

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 at CZK 27 to the euro until mid-2017. The conditions for sustainable fulfilment of the 2% inflation target in the future, after the return to the conventional monetary policy regime, will be met from around mid-2017 onwards. The subsequent appreciation of the exchange rate will be dampened among other things by the fact that the weaker exchange rate of the koruna has been passing through to the price level and other nominal variables in the period since the exchange rate commitment was introduced. Nevertheless, a positive interest rate differential against the euro and the effect of the ECB's quantitative easing will manifest themselves. 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. 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. According to the forecast, the exchange rate will continue to appreciate slightly in 2018.

The **growth of the Czech economy** will reach 2.8% in 2017 and 2018 (see Chart I.4) owing to renewed growth in fixed investment, within which government investment co-financed from EU funds will recover in particular, amid steady growth in household consumption. The economy will also be supported by an acceleration in export growth from its current subdued pace. The monetary conditions remain easy and will start to shift towards a neutral effect following the discontinuation of the CNB's exchange rate commitment. The

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 %)

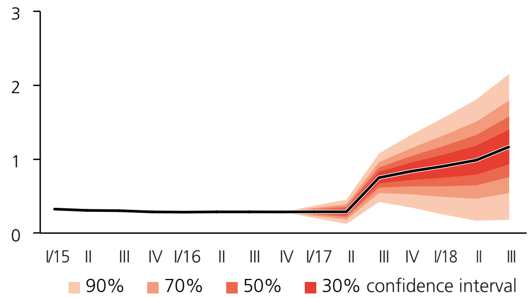
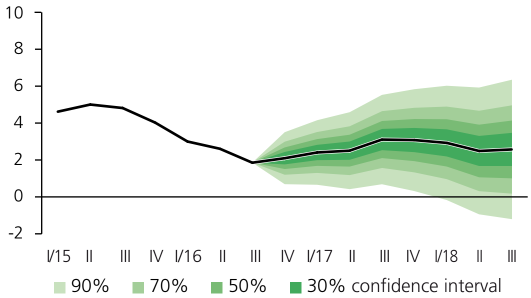



CHART I.4

GDP GROWTH FORECAST

**The economy will grow at an average rate of just under 3%**
(annual percentage changes; seasonally adjusted)



rising economic activity will manifest itself in the **labour market** in a further increase in wage growth and an only slight decrease in the unemployment rate.

At its monetary policy meeting on 2 February 2017, 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 to the current extent persists. The Bank Board assessed the risks to the forecast at the monetary policy horizon as being balanced. The main uncertainty is the evolution of the koruna exchange rate following the exit from the exchange rate commitment, which may fluctuate in either direction in the short term. The CNB will stand ready to use its instruments to mitigate potential excessive exchange rate fluctuations following the exit from the commitment. The Bank Board stated again that the CNB would not discontinue the use of the exchange rate as a monetary policy instrument before 2017 Q2. The Bank Board still considers it likely that the commitment will be discontinued around the middle of 2017.

## II. THE FORECAST, ITS CHANGES AND RISKS

### II.1 EXTERNAL ASSUMPTIONS OF THE FORECAST

*The growth rate of external economic activity will slow further at the start of this year and will then return gradually to around 2%. The decline in industrial producer prices, which has been going for several years, will fade away in early 2017. These prices will then rise at a pace of just over 2%. Consumer price inflation will go up owing to rising demand and the unwinding of the effect of low energy prices, but will stay below 2% until the end of 2018. The outlook for 3M EURIBOR market interest rates is negative over the entire horizon, reflecting continued easy monetary policy of the ECB. The ECB's policy is also reflected in a weakening of the euro against the US dollar. The outlook for the Brent crude oil price foresees stability close to the current level.*

The outlook for the **effective indicator of euro area GDP** foresees that the slowdown observed during 2016 will continue in the near future. However, the trend will reverse from 2017 Q2 onwards, as suggested by improving leading indicators for the euro area. Growth in economic activity will continue to be fostered by easy monetary conditions. Economic growth is expected to reach 1.5% in 2017 as a whole and increase to almost 2% in 2018 (see Chart II.1.1).[1] The outlook is thus slightly lower at the shorter end of the horizon compared to the assumptions of the previous forecast. This mainly reflects developments observed in 2016 Q3.

The **effective indicator of industrial producer prices in the euro area** will return to positive year-on-year growth at the start of this year (see Chart II.1.2), as the effect of falling energy commodity prices in previous years has now disappeared. The recovery in price growth will also be due to year-on-year depreciation of the euro against the dollar. Producer prices will increase by 2.1% on average this year and the next.[2] Compared to the previous forecast, the outlook for this year is 0.5 percentage point higher on average owing to currently slightly higher oil prices and an unexpectedly rapid renewal of growth in producer prices during 2016 Q4. The outlook for 2018 is unchanged.

1 The outlooks for euro area GDP, PPI and CPI and the dollar-euro exchange rate are based on the January Consensus Forecasts (CF). The outlooks for the 3M EURIBOR and the Brent crude oil price are derived from prices of market contracts as of 9 January 2017. The outlook is indicated by the grey areas in the charts. This convention is used throughout this Report. The differences between the previous and new forecast in the past are due above all to revisions; the weights of individual countries in Czech exports have been updated at the same time.

2 Expected industrial producer price inflation in the effective euro area this year has undergone an upward expert adjustment of 0.5 percentage point relative to the January CF outlook, as the increase in energy commodity prices and their observed faster pass-through to producer prices (see Box 1 in Inflation Report III/2016) has yet to be taken sufficiently into account (by the CF analysts).

CHART II.1.1

**EFFECTIVE GDP IN THE EURO AREA**

**Growth in external economic activity will slow further at the start of this year and then increase towards 2%**

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

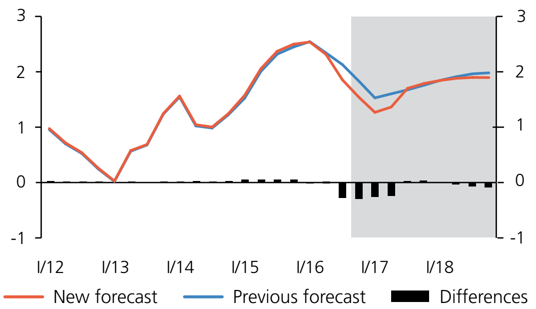



CHART II.1.2

**EFFECTIVE PPI IN THE EURO AREA**

**Industrial producer prices are returning to growth, the pace of which will fluctuate just above 2% this year and the next**

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

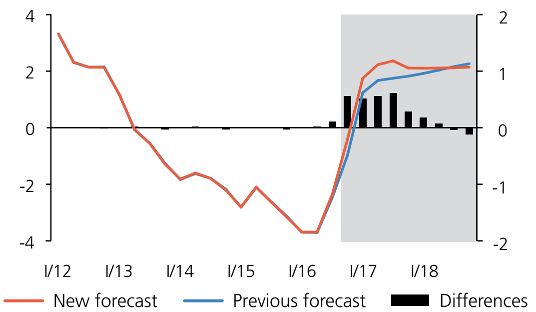



CHART II.1.3

**EFFECTIVE CPI IN THE EURO AREA**

**Consumer price inflation will continue to increase, but will stay below 2% over the entire forecast horizon**

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

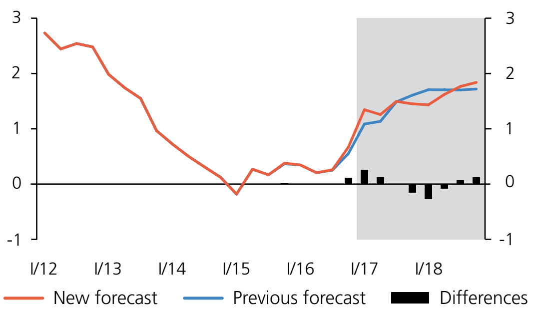


CHART II.1.4

**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**

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

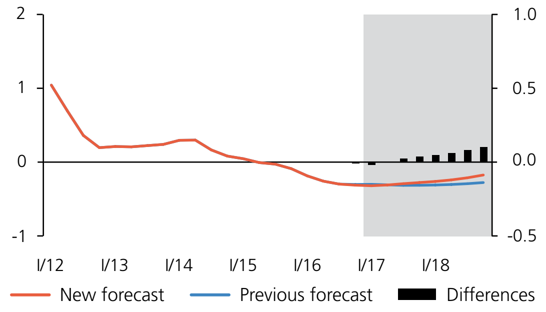



CHART II.1.5

**EURO-DOLLAR EXCHANGE RATE**

**The euro-dollar exchange rate is expected to stay close to its current weakened level**

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

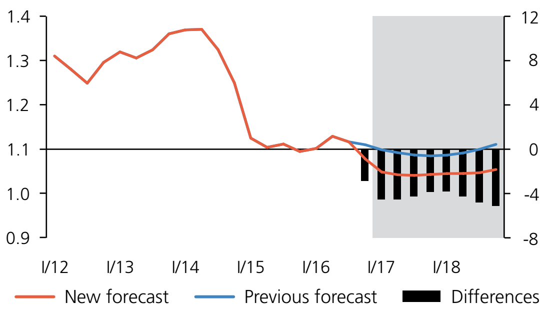
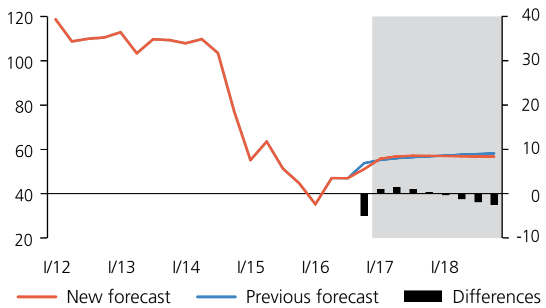



CHART II.1.6

**PRICE OF BRENT CRUDE OIL**

**The market outlook for the crude oil price expects stability just below USD 60 a barrel**

(USD/barrel; differences in % – right-hand scale)




The outlook for the **effective indicator of consumer prices in the euro area** foresees faster growth in this indicator this year owing to the unwinding of the decline in energy prices for households. In 2017 as a whole, consumer prices are expected to increase by 1.4% on average (see Chart II.1.3). Consumer prices are projected to go up by 1.7% on average next year as growth in economic activity accelerates. The expected figures are almost unchanged compared to the previous forecast.

**3M EURIBOR market interest rates** are expected to remain negative over the entire forecast horizon (see Chart II.1.4), reflecting continued easy monetary policy of the ECB. In contrast to the previous forecast, however, the 3M EURIBOR path has shifted slightly higher at the longer end. This reflects the ECB's December decision to lower its asset purchases from EUR 80 billion to EUR 60 billion a month as from April 2017 and extend the programme until the end of this year.[3] 3M EURIBOR rates will average -0.3% in 2017 and -0.2% in 2018. The market outlook for foreign interest rates is in line with the expectations of the analysts surveyed in the January CF, who also expect the 3M EURIBOR to be -0.3% at both the 3-month and 12-month horizons.

The outlook for the **euro-dollar exchange rate** reflects the further weakening of the euro observed at the close of last year. Compared to the previous prediction, it has thus shifted to a markedly weaker euro over the entire forecast horizon (see Chart II.1.5). This primarily reflects the different monetary policy stances of the ECB and the Fed. At its December monetary policy meeting, the Fed decided in line with market expectations to increase its policy rate further. The euro-dollar exchange rate is expected to average USD 1.04 to the euro this year and USD 1.05 in 2018.

The market outlook for the **Brent crude oil price** this year and the next foresees stability at roughly USD 57 a barrel (see Chart II.1.6). Compared to the previous forecast, this represents a shift to a marginally higher level at the shorter horizon and a slightly lower level in the longer term. An excess supply of oil persists on the market, but this should decrease further if the agreement by OPEC and other countries to curb production continues to be implemented. The analysts surveyed in the January CF expect the Brent crude oil price to be around USD 56 a barrel at the 12-month horizon, i.e. close to the market outlooks.

3 As in the previous forecasts, this prediction takes into account the ECB's asset purchase programme through expert adjustments using shadow interest rates. Given the ECB's decision to extend its asset purchase programme and lower its monthly asset purchases, shadow rates are about one percentage point more negative than the market rate outlook from 2017 Q2 to the end of the year. They then gradually return to it.

## II.2 THE FORECAST

*At the close of 2016, both headline and monetary policy-relevant inflation rose sharply and returned to the CNB's 2% target. They will go up further this year and return to the target from above as from late 2017, i.e. including at the monetary policy horizon. Growth in total costs and hence also in consumer prices will be fostered by a slightly inflationary effect of import prices in the first half of this year and by growth of the domestic economy, including wage growth, over the entire forecast horizon. Following a temporary slowdown last year, GDP growth will increase this year and the next, averaging 2.8%. The economy will be supported by continued growth in external demand and a gradual renewal of growth in government investment co-financed from EU funds. The monetary conditions remain easy and will start to shift towards a neutral effect following the discontinuation of the CNB's exchange rate commitment. The economic growth will manifest itself in the labour market in a further increase in wage growth and an only slight decrease in the unemployment rate. 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** rose sharply to 1.4% on average in 2016 Q4. In December, following four years of exceptionally low inflation, it hit the 2% target. Inflation will rise further in the period ahead. This will be fostered by slightly inflationary import prices and persisting inflation pressures from the domestic economy, mainly reflecting the domestic labour market situation. Headline inflation will slightly exceed the 2% inflation target in 2017 Q1 (see Chart II.2.1), despite a modest decline in administered prices, and then go up further. It will fluctuate above 2% over almost the entire horizon, i.e. including the monetary policy horizon, and return to the target from above during 2018 in an environment of a gradually strengthening koruna and rising interest rates. The forecast assumes that the CNB's exchange rate commitment will be discontinued in mid-2017 after the condition of sustainable fulfilment of the inflation target following the return to conventional monetary policy is met.

**Monetary policy-relevant inflation**, i.e. inflation adjusted for the first-round effects of changes to indirect taxes, was 1.3% on average in 2016 Q4. It thus returned to the tolerance band around the inflation target for the first time in three years. In December 2016, it was already only slightly below the 2% target. Over the forecast horizon, it will differ only marginally from headline inflation. The assumed overall impact of indirect tax changes is marginally negative for this year but slightly positive for 2018. Monetary policy-relevant inflation will thus be slightly above headline inflation this year and slightly below it in 2018 (see Chart II.2.1). It, too, will therefore exceed the target and then gradually return to it from above.

CHART II.2.1

**HEADLINE INFLATION AND MONETARY POLICY-RELEVANT INFLATION**

**Both headline and monetary policy-relevant inflation will rise further and slightly exceed the 2% target at the monetary policy horizon**

(year on year in %)

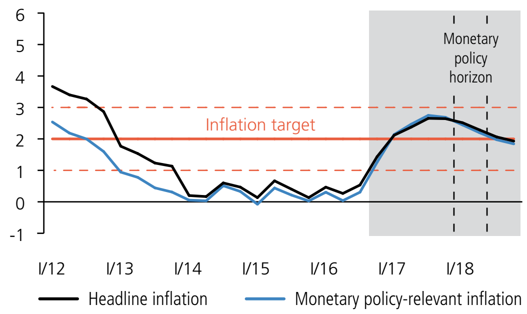


**Chart II.2.2**

## ADMINISTERED PRICES

**Administered prices will be almost unchanged on average this year and will rise moderately after the fall in natural gas prices fades out**

(annual percentage changes; contributions in percentage points)

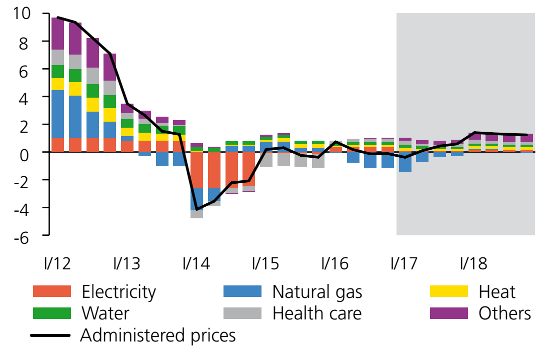



**Table II.2.1**

## 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)

| | 2016 actual | | 2017 forecast | | 2018 forecast | |
|---|---|---|---|---|---|---|
| Administered prices – total[a] | 0.2 | 0.03 | 0.2 | 0.03 | 1.3 | 0.22 |
| of which (main changes): | | | | | | |
| electricity | 1.2 | 0.06 | 0.2 | 0.01 | 0.4 | 0.02 |
| natural gas | -4.7 | -0.13 | -4.3 | -0.12 | 0.1 | 0.00 |
| heat | 1.0 | 0.02 | 1.2 | 0.03 | 2.0 | 0.04 |
| water | 1.4 | 0.01 | 2.0 | 0.02 | 2.0 | 0.02 |
| health care | 3.6 | 0.04 | 3.0 | 0.03 | 3.3 | 0.04 |
| First-round impacts of indirect tax changes in non-administered prices | | 0.20 | | -0.04 | | 0.08 |

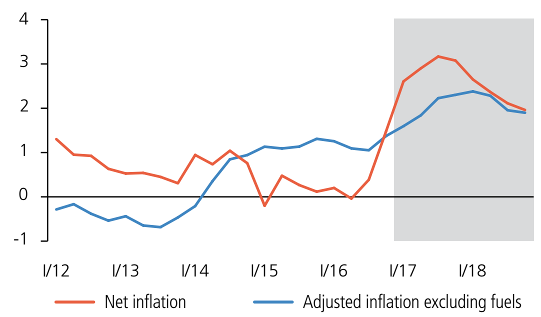
a) Including effects of indirect tax changes

**Chart II.2.3**

## NET INFLATION AND ADJUSTED INFLATION EXCLUDING FUELS

**The measures of market and core inflation will increase further as a result of continuing wage growth and renewed growth in foreign prices; they will fall back slightly after the exit from the CNB's exchange rate commitment**

(year on year in %)




The contribution of changes to **indirect taxes** to annual headline inflation was 0.2 percentage point in 2016 Q4. This was due, on the one hand, to the January 2016 harmonisation adjustment made to excise duty on cigarettes and tobacco, and, on the other hand, to a reduction in the VAT rate applying to restaurants and other catering facilities (except on alcoholic beverages) from 21% to 15% effective from 1 December 2016. The forecast assumes further increases in excise duty on tobacco products at the start of both 2017 and 2018. The estimated impact of these changes on headline inflation is 0.1 percentage point in both cases. The forecast also incorporates a decrease in the VAT rate on newspapers and magazines from the current 15% to 10% with an estimated first-round effect on headline inflation of -0.02 percentage point. This change is expected to take effect on 1 March 2017.

**Administered prices** fell slightly year on year in 2016 Q4. This was due mainly to a decrease in gas prices for households. The forecast expects the decline in gas prices to deepen further at the start of this year. The Energy Regulatory Office announced a reduction in international gas transit fees, which will affect the administered component of gas prices. In addition, the largest gas suppliers announced further cuts in the price of the commodity component (accounting for almost 80% of the total price) in January and February. The forecast predicts continued growth in the price of heat for households of just above 1%. Only slight year-on-year growth is expected for electricity, due to a rise in the administered component amid broadly flat electricity generation prices. Water supply and sewerage collection charges and prices of other services will rise by around 2%. Overall, administered prices are expected to rise by just 0.2% this year, with the decline in gas prices being broadly offset by higher prices of other items (see Chart II.2.2). Growth in administered prices will accelerate next year, reaching 1.3% on average. This will be due to renewed growth in natural gas prices owing to expected growth in prices on world markets amid still positive contributions from all other major administered items (see Table II.2.1).

Annual **net inflation** increased to 1.5% on average in 2016 Q4 (see Chart II.2.3). This was due chiefly to a marked increase in food price inflation and to a lesser extent to a rise in adjusted inflation excluding fuels and the fade-out of the drop in fuel prices. In the period ahead, the forecast expects a further increase in net inflation connected with strengthening cost pressures from the labour market and renewed growth in foreign producer prices and prices of energy and agricultural commodities. In the second half of this year, net inflation will fluctuate just above 3%. In 2018, it will return to 2% from above as a result of appreciation of the koruna following the assumed exit from the use of the exchange rate as a monetary policy instrument and an unwinding of the rapid increase in food prices recorded in late 2016 and early 2017.

Annual **adjusted inflation excluding fuels** increased gradually in 2016 Q4, averaging 1.4%. Growth in non-tradables prices accelerated, while growth in tradables prices was broadly flat on average. The forecast expects a further increase in adjusted inflation excluding fuels to 2.3% at the end of 2017, owing to continued cost pressures from the domestic economy in conditions of rapid wage growth coupled with renewed growth in producer prices in the euro area (see Chart II.2.3). In 2018, adjusted inflation will gradually slow to just below 2%, mainly as a result of the expected appreciation of the koruna following the exit from the CNB's exchange rate commitment.

**Food prices** increased by 1.8% year on year in 2016 Q4. This was due to a rapid unwinding of extraordinary factors that had previously dampened food price inflation (the embargo on food imports to Russia and the abolition of EU milk quotas). Food price growth will continue to rise this year owing to expected growth in agricultural commodity prices and a continuing inflationary effect of the domestic economy. Food price growth is therefore expected to gradually approach 4% (see Chart II.2.4). In 2018, the forecast expects food price growth to go down slowly owing to falling growth in agricultural commodity prices. In addition to dissipating base effects, exchange rate appreciation will play a role.

The year-on-year decline in **fuel prices** gradually slowed in 2016 Q4, switching to year-on-year growth in December (of 4.3%; see Chart II.2.5). With a small lag, they thus copied prices of Brent crude oil and petrol on foreign markets, which also switched to year-on-year growth in Q4. According to available indicators,[4] fuel prices rose further in January. Annual fuel price growth is expected to keep rising owing to year-on-year growth in global oil and petrol prices related to base effects. However, it will subsequently go down in 2017 H2. Fuel prices are expected to decline again slightly in 2018 (by 1.7% year on year on average) due to expected appreciation of the koruna against the dollar amid a broadly flat dollar price of oil.

Domestic money market **interest rates** remained at historical lows in 2016 Q4. The forecast expects short-term 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). However, the speed of this rise in the forecast does not reflect additional monetary policy considerations and the related probable delay of interest rate increases after the exit from the exchange rate commitment.

The **exchange rate of the koruna against the euro** remained very close to the exchange rate commitment of CZK 27 to the euro in 2016 Q4. The forecast assumes that the exchange rate will be used as a monetary policy instrument until mid-2017 and will remain at this

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

CHART II.2.4

**FOOD PRICES AND AGRICULTURAL PRODUCER PRICES**

**Food price inflation will accelerate due to the evolution of agricultural commodity prices and the fading of extraordinary anti-inflationary factors observed last year**
(annual percentage changes)

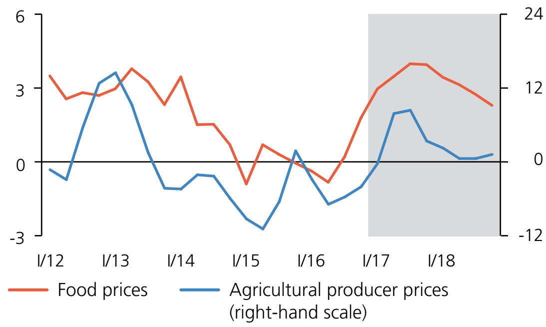



CHART II.2.5

**FUEL PRICES AND THE OIL PRICE**

**Fuel prices will rise sharply year on year in the near future in line with world prices of oil**
(annual percentage changes)

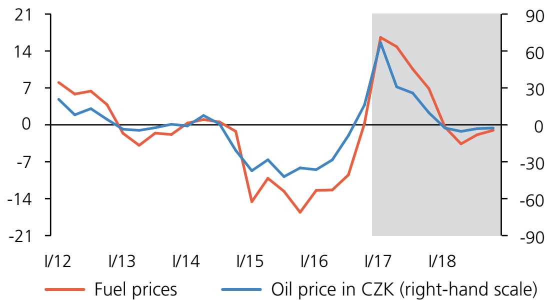
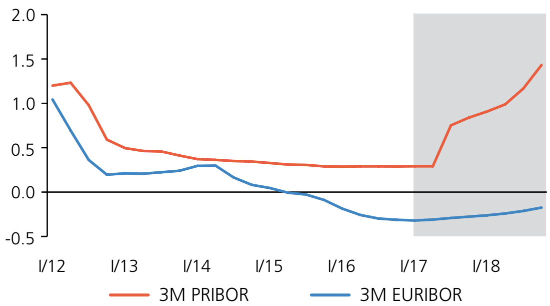



CHART II.2.6

**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)



level in this period. The conditions for sustainable fulfilment of the 2% inflation target in the future, after the return to the conventional monetary policy regime, will be met from around mid-2017 onwards. The subsequent appreciation of the exchange rate will be dampened among other things by the fact that the weaker exchange rate of the koruna has been passing through to the price level and other nominal variables in the period since the exchange rate commitment was introduced. Nevertheless, a positive interest rate differential against the euro[5] and the effect of the ECB's quantitative easing, which the forecast assumes will last until the end of 2017, will manifest themselves. 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. However, the forecast does not take into account that the appreciation of the koruna may be strongly 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. According to the forecast, the exchange rate will continue to appreciate slightly in 2018 – at a rate slower than its assumed equilibrium rate (which is 1.5% a year in real terms). In light of the CF outlook for the exchange rate of the euro against the dollar (see section II.1), this implies broad stability of the koruna-dollar exchange rate around the current level until mid-2017. The koruna will subsequently appreciate against the dollar.

Total **nominal marginal costs in the consumer goods sector** increased in 2016 owing to the rapid dissipation of the anti-inflationary effect of import prices coupled with a major contribution from domestic cost pressures. The anti-inflationary effect of import prices faded out entirely at the end of 2016 and their contribution started to have an upward effect on costs (see Chart II.2.7), owing mainly to higher oil prices. Estimated growth in export-specific technology, linked to different productivity growth in tradables and non-tradables (the Balassa-Samuelson effect), has been contributing to the growth in total costs for more than two years now. Growth in total costs in the consumer sector will peak at the start of 2017. This will reflect higher growth in domestic wages, supported by an increase in the minimum wage in January 2017, and continued growth in foreign producer prices. Growth in total costs will weaken roughly in mid-2017, i.e. after the assumed exit from the use of the exchange rate as a monetary policy instrument. Import prices will have a slight anti-inflationary effect again (with appreciation of the koruna outweighing continued growth in euro area producer prices) and intermediate goods price inflation will also fall back from its previous relatively high levels. Growth in the total costs of the consumer sector will then

CHART II.2.7

**COSTS IN THE CONSUMER SECTOR**

**The high growth in costs this year will reflect the still growing domestic economy and wages; their growth will slow after the exit from the exchange rate commitment**

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

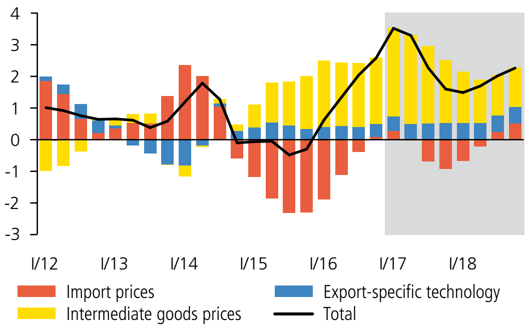
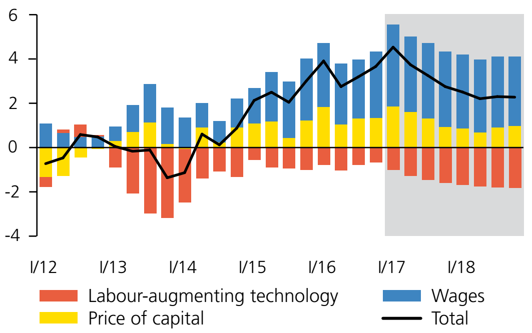



CHART II.2.8

**COSTS IN THE INTERMEDIATE GOODS SECTOR**

**Domestic costs will rise on the back of wage growth and a rising price of capital; rising productivity growth will act in the opposite direction**

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




5 However, the forecast routinely attaches only a partial 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.

fluctuate around 2% in 2018, amid a renewed slightly inflationary effect of import prices.

**Nominal marginal costs in the intermediate goods sector** recorded an upswing in growth in late 2016 (see Chart II.2.8). This was due mainly to continued growth in nominal wages in the business sector coupled with a slowdown in labour productivity growth. The price of capital also continued to make a positive contribution to the growth in marginal costs, reflecting continuing growth in overall economic activity and external demand. Growth in domestic nominal costs will keep accelerating at the start of 2017, aided by continued wage growth supported by a further increase in the minimum wage. Later on, however, it will slow due to appreciation of the koruna in 2017 H2. The positive contributions of the price of capital and, to a lesser extent, wages will therefore decrease amid a renewed upswing in growth in labour productivity. The growth rate of domestic costs will stabilise at just above 2% in 2018.

The gap in **profit mark-ups in the consumer goods sector** will open further into negative values, with growth in costs (stemming from the slightly inflationary effect of import prices, wage growth and a recent slowdown in labour productivity) outpacing inflation. The gap in profit mark-ups will start to close quickly in mid-2017 (see Chart II.2.9) due to appreciation of the koruna, which will reduce importers' costs, and slackening growth in domestic costs amid continued growth in prices. The gap in profit mark-ups will be approximately closed in the following year.

Annual growth in **whole-economy labour productivity** stopped temporarily in 2016 Q3, but was renewed at the end of the year. Labour productivity growth will rise this year. As from the second half of the year, it will fluctuate around 2.5% due to faster economic growth and slower employment growth.

The average nominal **wage in the business sector** rose by 4.4% year on year (seasonally adjusted) in 2016 Q3. The forecast expects wage growth to increase gradually in the coming quarters as well (see Chart II.2.10). In addition to solid economic growth, rising consumer prices and continued strong demand for labour, this will be fostered by a further rise in the minimum wage, which went up from CZK 9,900 to CZK 11,000 in January 2017.[6] Wage growth will thus gradually pick up to 5.5% in 2017 Q3. It will then slow slightly to its long-run equilibrium level after the koruna appreciates and inflation approaches the target from above. Overall, wage growth will fluctuate just above the 5% level in 2017 and 2018 (following an increase of 4.3% last year). The real wage in the business sector increased by 3.7% last year and will slow to just under 3% in the next two years due to higher inflation.

6 The impact of this increase on average wage growth in the business sector is estimated at 0.3 percentage point.

CHART II.2.9

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

**The gap in profit mark-ups will turn more negative in the near future and will start to close in mid-2017**
(percentages)

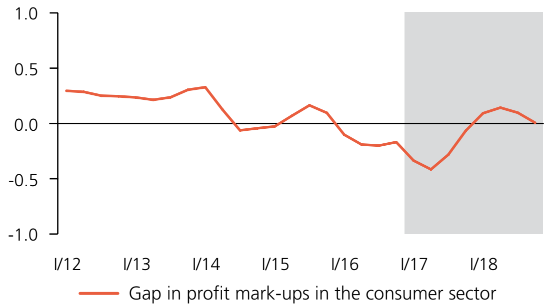



CHART II.2.10

**AVERAGE NOMINAL WAGE**

**Wage growth will pick up further this year**
(annual percentage changes; business sector – seasonally adjusted; non-business sector – seasonally unadjusted)

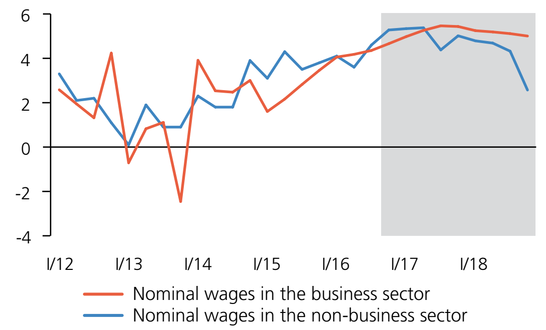



CHART II.2.11

**ANNUAL GDP GROWTH STRUCTURE**

**Household consumption will be a stable contributor to GDP growth, and investment will also start to rise again**
(annual percentage changes; contributions in percentage points; seasonally adjusted)

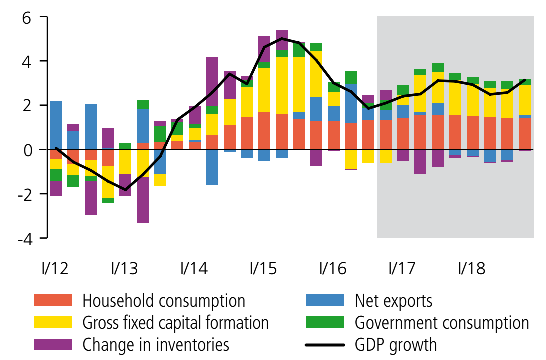


**Chart II.2.12**

**NUMBER OF EMPLOYEES (FULL-TIME EQUIVALENT)**

**Growth in the converted number of employees will slow amid an increasing shortage of available labour force**
(annual percentage changes; contributions in percentage points)

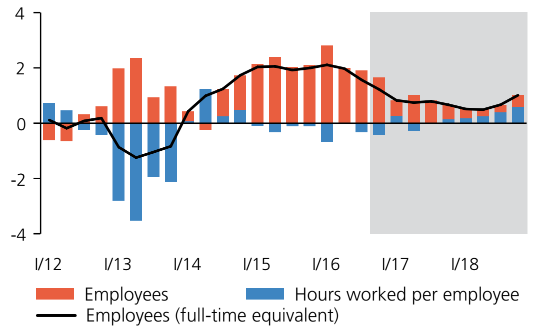



**Chart II.2.13**

**LABOUR MARKET FORECAST**

**Growth in total employment will ease up, while the decline in the unemployment rate will slow**
(annual percentage changes in employment; general unemployment rate in percentages; seasonally adjusted)

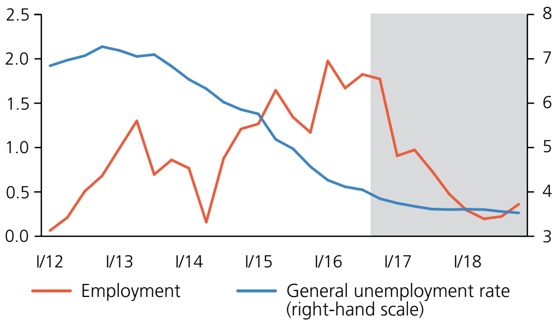
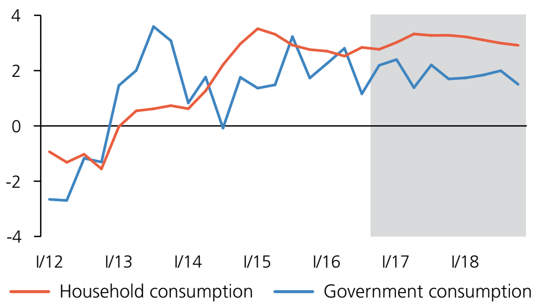



**Chart II.2.14**

**REAL HOUSEHOLD AND GOVERNMENT CONSUMPTION**

**Household consumption will outpace real government consumption**
(annual percentage changes; seasonally adjusted)




The forecast expects wage growth to increase further in the **non-business sector**, too (see Chart II.2.10). This reflects the November rise in wages in selected government sector professions. Annual wage growth in this sector was 4.4% last year. The forecast predicts that wages will accelerate to 5% this year. In addition to the plans already implemented or announced by the government, this reflects expected positive developments in government finances and an assumption that the wage increase in the non-business sector will again be brought forward to autumn 2017. In 2018, wage growth in this sector will slow to 4%.

**Real GDP growth** slowed further to 1.9% year on year **in 2016 Q3**. All components of demand except fixed investment made positive contributions to this growth. However, the positive contribution of net exports declined significantly. This was related to an – only temporary according to the forecast – decline in export growth in the automotive industry (for details see Box 3 in section III.3). According to the forecast, similar developments were recorded in Q4. Overall, **GDP growth** slowed to 2.4% **in 2016**, mainly because of a decline in gross capital formation due to a fall in government investment and subdued corporate fixed 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, made positive contributions to GDP growth (see Chart II.2.11).

GDP growth will accelerate to 2.8% **in 2017**, mainly because of renewed growth in fixed investment connected with a gradual recovery in both its government and private components. Growth in household consumption will also rise slightly. Slower growth in external demand in 2017 H1 and later on less easy monetary conditions after the assumed exit from the CNB's exchange rate commitment will act in the opposite direction. GDP will remain at the same level on average **in 2018** as this year.

The growth rate of the **number of employees converted into full-time equivalents** will slacken further in the coming quarters. The converted number of employees will initially rise almost exclusively through a further rise in the number of employees. From the end of 2017, it will also be fostered by growth in average hours worked owing to an increasing shortage of available labour force with appropriate qualifications (see Chart II.2.12). The forecast also expects annual growth in **total employment** to slow. This slowdown will be visible mainly at the start of this year, reflecting an increasing barrier of a shortage of available labour force in addition to the unwinding of the effect of the surge in employment observed in early 2016. That barrier will also be apparent next year, when total employment growth will stay low (see Chart II.2.13).

The seasonally adjusted **general unemployment rate** dropped below 4% in 2016 Q4. It will decrease only gradually in the period ahead. With growth in employment slowing, this will reflect a further rise in the labour force, which is being fostered by a gradual raising of the retirement age. The general unemployment rate will be close to 3.5% at the end of 2018 (see Chart II.2.13). The forecast expects similar developments for the seasonally adjusted **share of unemployed persons, as determined by the MLSA**, which will drop from 5.1% at the end of 2016 to 4.6% at the end of 2018, assuming a continued slight decline in the population aged 15–64.

Year-on-year growth in real **household consumption** edged up to 2.8% in 2016 Q3 (see Chart II.2.14). According to the forecast, it stayed at the same level at the end of last year. Household consumption thus increased by 2.7% in 2016 as a whole. Its significant contribution to annual growth in economic activity will increase further in 2017 and 2018, with growth in household consumption slightly exceeding 3% in both years. The growth in consumption will be fostered by rising growth in nominal disposable income, while increasing inflation will act in the opposite direction.

Growth in **gross nominal disposable income** slowed considerably in 2016 Q3 (by 2.3 percentage point to 2.1%), almost exclusively as a result of an increased negative contribution of current taxes and social contributions (see Chart II.2.15). However, year-on-year growth in disposable income will steadily strengthen over the forecast horizon, reaching 5.4% at the end of 2018, due to expected faster growth in income of entrepreneurs and property income. The contribution of wages and salaries will be constantly high, with accelerating growth in the average wage being roughly offset by slower growth in employment.

The seasonally adjusted **household saving rate** dropped below 12% in 2016 Q3. Over the forecast horizon, the saving rate will continue to drop to levels of around 10.5%, 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** slowed significantly to 1.2% in 2016 Q3 due to a decline in intermediate consumption by central government. The forecast expects annual government consumption growth to return above 2% in Q4 on the back of an increase in wages of public sector employees; it amounted to 2.1% on average in 2016 as a whole. The forecast expects slightly lower, but still considerably positive growth in government consumption in the coming two years as well (see Chart II.2.14). It will be driven mainly by an expected sizeable increase in compensation of public employees and health care expenditure.

**Gross capital formation** decreased again year on year in 2016 Q3, although noticeably less than in the previous quarter (see Chart II.2.17). This was due mainly to higher additions to inventories, while fixed investment continued to fall significantly. The forecast expects that gross fixed capital formation made a negative contribution to annual GDP growth at the end of 2016, too – amid an only gradual start to the drawdown of EU funds in the new programme period and a one-off negative base effect relating to the extension of the lease of

CHART II.2.15

## NOMINAL DISPOSABLE INCOME

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

(annual percentage changes; contributions in percentage points)

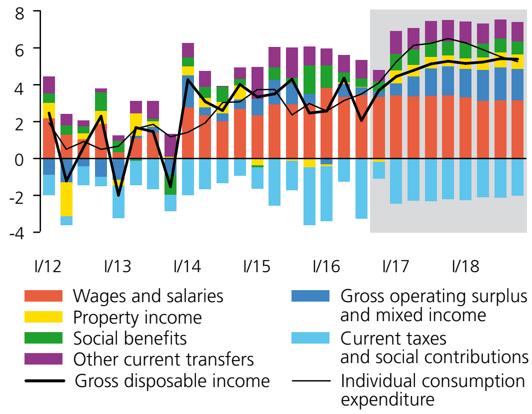



CHART II.2.16

## HOUSEHOLD SAVING RATE

**The household saving rate will decline slightly**

(percentages)

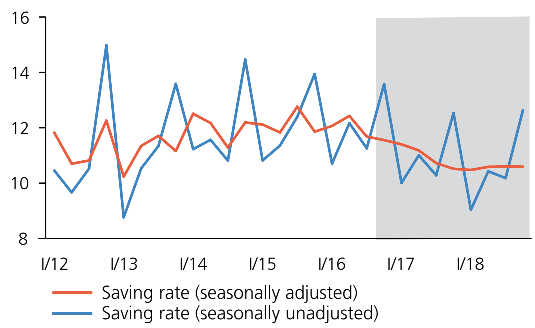



CHART II.2.17

## GROSS CAPITAL FORMATION

**Gross capital formation will start rising again this year as the drop in fixed investment co-financed from EU funds fades away**

(annual percentage changes; seasonally adjusted)

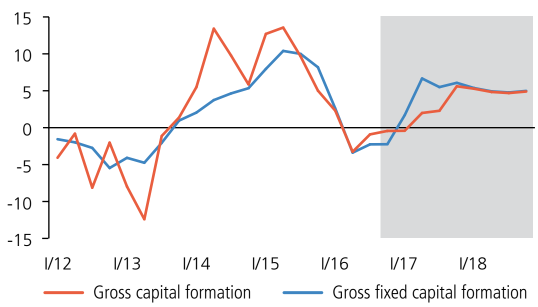


Chart II.2.18

## INVESTMENT DECOMPOSITION

**The positive contributions of private investment will be joined at the forecast horizon by public investment**

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

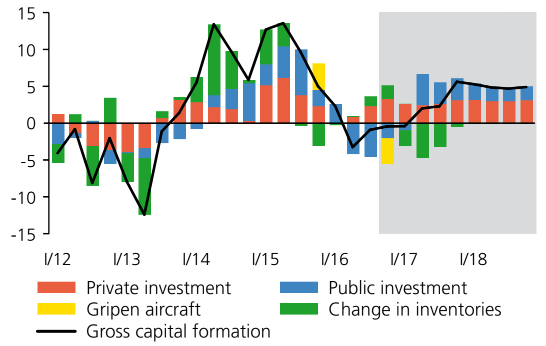



Chart II.2.19

## REAL EXPORTS AND IMPORTS

**Growth in both exports and imports will increase from low initial levels**

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

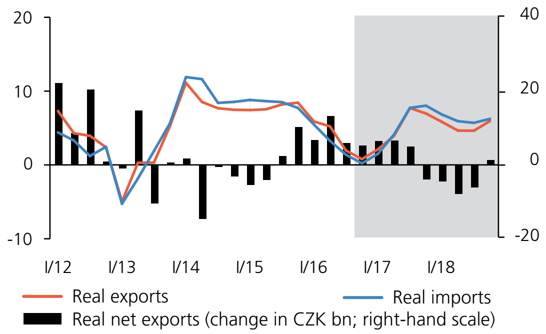



Table II.2.2

## FORECASTS OF SELECTED VARIABLES

**Real disposable income will continue to rise amid high wage growth and faster growth in labour productivity**

(annual percentage changes unless otherwise indicated)

| | 2015 actual | 2016 forecast | 2017 forecast | 2018 forecast |
|---|---|---|---|---|
| Real gross disposable income of households | 3.3 | 2.6 | 2.1 | 2.6 |
| Total employment | 1.4 | 1.8 | 0.8 | 0.3 |
| Unemployment rate (in per cent)[a)] | 5.1 | 4.1 | 3.7 | 3.6 |
| Labour productivity | 3.1 | 0.7 | 2.0 | 2.5 |
| Average nominal wage | 2.7 | 4.4 | 5.2 | 4.9 |
| Average nominal wage in business sector | 2.5 | 4.4 | 5.3 | 5.1 |
| Average real wage | 2.4 | 3.7 | 2.8 | 2.7 |
| Current account balance (ratio to GDP in per cent) | 0.9 | 2.0 | 1.3 | 1.5 |
| M3 | 7.3 | 9.2 | 8.3 | 7.2 |

a) ILO methodology, 15–64 years

Gripen aircraft at the end of 2015. Annual growth in fixed investment will turn positive at the start of 2017, with already recovering private investment being joined by renewed growth in public investment (see Chart II.2.18). A temporary fall in inventories will act in the opposite direction. Total investment growth will thus increase to 2.4% in 2017 and pick up further in 2018.

Annual growth in real **exports of goods and services** slowed considerably to 2% in 2016 Q3 (see Chart II.2.19). Slower growth in effective external demand explains only part of this slowdown. A temporary decline in export growth was observed in the automotive industry in Q3 and at the start of Q4 (see Box 3 in section III.3). The effect of this observed development on annual export growth will also be apparent in the coming quarters. Export growth thus slowed to 3.4% in 2016 as a whole. However, it will start to pick up gradually in early 2017. Although a dampening effect of appreciation of the koruna will be visible after the exit from the exchange rate commitment, exports of goods and services will record an overall increase of 5.2% this year. They will grow at a similar average pace in 2018.

Real annual growth in **imports of goods and services** also slowed in 2016 Q3 (to 1.4%), mainly reflecting lower export growth amid still declining gross capital formation. According to the forecast, this trend continued into Q4. Imports of goods and services thus increased by only 2.6% overall last year. Import growth will pick up to 5.3% in 2017 and 6.2% in 2018, reflecting a recovery in growth in both exports and investment, taking their traditionally high import intensity into account.

The contribution of **net exports** to annual GDP growth was positive in 2016 Q3 (0.6 percentage points). The forecast expects the contributions of net exports to have been slightly lower but still strongly positive in Q4, due mainly to a continued import-dampening decline in fixed investment. Net exports thus made a contribution of less than 1 percentage point to annual GDP growth in 2016 as a whole. As a result of a recovery in import-intensive investment, the positive contribution of net exports will be considerably smaller in 2017 (0.3 percentage point) and will turn negative in 2018.

The **balance of payments** forecast expects the current account surplus to increase substantially to 2% of GDP in 2016 (from 0.9% in 2015) and to fall back below 2% in 2017 and 2018 (see Table II.2.3).

The substantial increase in the **current account surplus in 2016** was due to several factors. The main factor was a major improvement in the trade balance[7] as a result of a year-on-year decrease in energy

7 The trade balance recorded a major improvement amid a slight nominal decline in total exports – despite relatively favourable economic developments in most major trading partner countries. The exception was Russia, where the rouble depreciated sharply due to a fall in energy commodity prices and Czech exports to the country dropped by almost 40% in two years as a result of a sizeable decline in demand for foreign goods. However, a reversal in trade has been visible since October 2016 due to the appreciating rouble.

commodity prices and, to a lesser extent, a full-year increase in exports of cars. Another important factor was a relatively marked increase in the services surplus – about two-thirds of it due to an increase in the transport surplus. Other major items of the services balance also recorded improvements, although to a much smaller extent. The increase in the current account surplus was also fostered by a smaller primary income deficit due to a decrease in the investment income deficit and rise in the surplus on compensation of employees. By contrast, the current account surplus was dampened in the area of secondary income, where the Czech Republic's income from EU funds decreased year on year and other (private) transfers abroad increased.

The **current account** surplus will decrease significantly **in 2017** compared to last year. This decrease will be fostered by a drop in the trade surplus (a combination of slower growth in external demand, faster growth in domestic demand, predicted appreciation of the koruna after the exit from the CNB's exchange rate commitment and a year-on-year increase in energy commodity prices) and an increase in the primary income deficit (due solely to a rise in the direct investment income deficit). The services and secondary income surpluses will be unchanged compared to 2016.

The forecast for the **current account for 2018** expects the trade surplus to rise again (mainly due to a recovery in external demand). At the same time, net drawdown of funds under secondary income will increase (higher net drawdown of EU funds). The improvement in these two component balances will outweigh the expected deterioration in the primary income balance (a further increase in the direct investment income deficit). The services surplus will remain at the level of the previous two years.

The **capital account** surplus dropped sharply last year. This was linked with a year-on-year decline in drawdown of EU funds. This will continue into 2017 owing to an only gradual start to the drawdown of funds from the new programme period; the forecast expects this process to accelerate in 2018.

The financial account saw a renewed net inflow of **direct investment** into the Czech Republic in 2016. It consisted mainly of financial and accounting operations, only a small proportion of which were linked with real investment activities. Reinvested earnings, which were broadly flat year on year, thus de facto continued to be of key importance within direct investment. Direct investment continued to reflect the limited need for new production capacity in Europe, limited labour force availability in the Czech Republic, low incentives compared to other Central European countries and the growing financial strength of some domestic investors enabling them to expand abroad. The extraordinary factors that affected direct investment last year will disappear in 2017. The net inflow will also still be due to a new investment of more than CZK 20 billion by Nexen in the Czech Republic (to be made mostly in 2016 and 2017 and completed in early 2018). However, the forecast predicts that direct investment in the

### TABLE II.2.3

**BALANCE OF PAYMENTS FORECAST**

**A record current account surplus was achieved in 2016, mainly as a result of a goods surplus; the current account surplus will subsequently decrease**
(CZK billions)

| | 2015 actual | 2016 exp. outcome | 2017 forecast | 2018 forecast |
|---|---|---|---|---|
| A. CURRENT ACCOUNT | 41.4 | 95.0 | 65.0 | 80.0 |
| Goods | 210.7 | 265.0 | 245.0 | 255.0 |
| Services | 75.0 | 95.0 | 95.0 | 95.0 |
| Primary income | -243.5 | -235.0 | -245.0 | -260.0 |
| Secondary income | -0.9 | -30.0 | -30.0 | -10.0 |
| B. CAPITAL ACCOUNT | 106.1 | 55.0 | 20.0 | 35.0 |
| C. FINANCIAL ACCOUNT[a)] | 193.8 | 550.0 | -15.0 | 40.0 |
| Direct investment | 26.6 | -130.0 | -50.0 | -50.0 |
| Portfolio investment | -164.1 | -80.0 | -40.0 | 40.0 |
| Financial derivatives | -4.8 | | | |
| Other investment | -15.2 | 110.0 | 75.0 | 50.0 |
| Reserve assets | 351.3 | 650.0 | | |

a) forecast excluding operations of banking sector, financial derivatives and reserve assets

Czech Republic will still primarily take the form of reinvested earnings. According to the forecast, the net direct investment inflow in 2018 will be the same as in 2017, with a modest increase in the reinvested earnings surplus offsetting the unwinding of the effect of the Nexen investment.

As for **portfolio investment**, only very limited interest in non-debt assets among both residents and non-residents was observed in 2016. In the area of debt capital, non-residents' investments in koruna bonds with short maturities increased markedly, while residents' interest in foreign debt investments fell significantly. In 2017, portfolio investment will be affected most of all 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 negative interest rate on bonds with short maturities (roughly of up to five years) to cut the cost of government debt financing. However, the situation in this area may change significantly after the expected exit from the CNB's exchange rate commitment. The total net inflow of capital will be dampened by marked annual growth in residents' interest in investing abroad. The forecast expects that investment abroad by domestic entities will rise modestly again in 2018, while non-residents' interest in domestic koruna government bonds will drop sharply from the whole-year perspective. The portfolio investment flows will therefore reverse and the net outflow of capital will head abroad.

With regard to **other investment** (excluding banking sector operations), the forecast predicts a gradual moderation of the previous strong net outflow of capital from the corporate sector, due among other things to an expected gradual rise in investment activity in the Czech Republic.

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

The favourable economic developments in **2016** led to a slight general government surplus of 0.1% of GDP according to a CNB estimate. On the expenditure side, this was aided by a drop in debt service costs resulting from a further reduction in the effective interest rate on government debt owing to financial market developments and positive perceptions of the Czech Republic. A drop in capital expenditure, due mainly to the European funding cycle, also made itself felt last year. However, the total general government balance was affected solely by the related drop in expenditure on co-financing European projects from national sources.[8] Counteracting this was an increase in subsidies for renewable resources, an extraordinary benefit payment

Table II.2.4

**FISCAL FORECAST**

**Starting in 2016, the general government balance switched into surpluses, which will grow over the forecast horizon**
(% of nominal GDP)

| | 2015 actual | 2016 exp. outcome | 2017 forec. | 2018 forec. |
|---|---|---|---|---|
| Government revenue | 41.3 | 40.5 | 41.0 | 41.0 |
| Government expenditure | 42.0 | 40.5 | 40.6 | 40.2 |
| of which: interest payments | 1.1 | 0.9 | 0.8 | 0.7 |
| GOVERNMENT BUDGET BALANCE | -0.6 | 0.1 | 0.4 | 0.8 |
| of which: | | | | |
| primary balance[a)] | 0.4 | 1.0 | 1.2 | 1.4 |
| one-off measures[b)] | -0.1 | 0.1 | 0.1 | 0.1 |
| ADJUSTED BUDGET BALANCE[c)] | -0.5 | 0.0 | 0.3 | 0.7 |
| Cyclical component (ESCB method)[d)] | -0.2 | 0.2 | 0.1 | 0.0 |
| Structural balance (ESCB method)[d)] | -0.3 | -0.2 | 0.2 | 0.7 |
| Fiscal stance in pp (ESCB method)[e)] | 0.3 | 0.1 | 0.4 | 0.5 |
| Cyclical component (EC method)[d)] | -0.1 | -0.1 | 0.0 | 0.0 |
| Structural balance (EC method)[d)] | -0.4 | 0.1 | 0.4 | 0.7 |
| Fiscal stance in pp (EC method)[e)] | 0.2 | 0.5 | 0.2 | 0.4 |
| Government debt | 40.3 | 37.6 | 36.3 | 34.5 |

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, guarantees, 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

8 Payments from EU funds co-financing government institutions' investment activities in accrual terms will be reflected in government finance to the same extent on the revenue and expenditure sides.

to pensioners and the bringing-forward of the increase in public sector wages. The general government revenue side was bolstered last year by a further increase in excise duty on tobacco products, a rise in the rate of tax on lotteries and other similar games and additional revenues from the introduction of VAT control statements.[9] Fiscal policy had a significantly restrictive effect overall last year, making a contribution to economic growth of around -0.7 percentage point (see Table II.2.5), primarily due to a decrease in government investment co-financed from EU funds.

The general government surplus can be expected to rise in **2017**, due mainly to continued economic growth. Moreover, the revenue side is expected to be positively affected by the gradual introduction of electronic sales registration (ESR)[10] and a further increase in excise duty on tobacco products. Counteracting this will be the ESR-related transfer of restaurant services to a reduced VAT rate as from December 2016 and a cut in the VAT rate on newspapers and magazines this year. An extension of the possibility to use "green diesel" to farmers involved in livestock production, an increase in the tax discount for dependent children, a tax exemption on annuities and an increase in the tax discount for savings in pension funds will act in the same direction. On the expenditure side, a continued acceleration of wage growth in the government sector, higher expenditure on pensions and health care and expected renewed growth in government investment are expected. The acceleration in government expenditure will be slightly dampened by a drop in some one-off expenditure measures taken last year and a further decline in debt service costs. The effect of fiscal policy on top of the continued buoyant growth in government consumption will be moderately expansionary in 2017, making a contribution to economic activity of around 0.3 percentage point. It will be related mainly to the aforementioned renewed growth in government investment.

The general government budget will post a surplus of 0.8% of GDP in **2018** due to the positive effect of economic growth. The revenue side will be further bolstered by additional revenues from the extension of the range of business entities obliged to register their sales online and a further increase in excise duty on tobacco. Government investment will continue to rise. The effect of fiscal policy on top of continued growth in government consumption will be roughly neutral in 2018.

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

**Table II.2.5**

**FISCAL IMPULSE**

**The fiscal impulse was markedly negative in 2016, mainly as a result of a drop in government investment; it will be slightly positive this year and neutral next year**
(contributions to GDP growth in percentage points)

| | 2015 actual | 2016 exp. outcome | 2017 forecast | 2018 forecast |
|---|---|---|---|---|
| Fiscal impulse | 0.8 | -0.7 | 0.3 | 0.0 |
| of which impact through: | | | | |
| private consumption | 0.2 | 0.0 | 0.1 | -0.1 |
| private investment | 0.1 | -0.1 | -0.1 | 0.0 |
| government investment, domestic | 0.1 | 0.0 | 0.1 | 0.0 |
| government investment, EU funded | 0.4 | -0.6 | 0.2 | 0.1 |

9 The impact on VAT revenue of 0.2% of GDP is based on a conservative Ministry of Finance 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.

10 The Ministry of Finance's November 2016 fiscal outlook estimates the positive impact of ESR in 2017 at approximately 0.3% of GDP.

The forecast predicts a decrease in **government debt** to 34.5% of GDP in 2018 (from 40.3% of GDP in 2015) owing to the favourable evolution of the general government budget (i.e. increasing primary surpluses) and accelerating growth in nominal GDP. At the same time, this outlook takes into account the evolution of government debt to date and the debt management strategy declared by the Ministry of Finance.

The **uncertainties** of the fiscal forecast include fulfilment of the government investment outlook, the actual impact of anti-tax evasion measures and the evolution of public sector wages.

## II.3 COMPARISON WITH THE PREVIOUS FORECAST

*Compared to the previous forecast, the predictions for headline and monetary policy-relevant inflation are higher. In addition to higher observed levels and a higher short-term prediction for net inflation, this is due to higher growth in nominal wages, whereas a slightly lower outlook for administered prices acts in the opposite direction. Overall GDP growth has been revised downwards at the shorter horizon amid a lower contribution of net exports. However, the GDP forecast for this year and the next from the whole-year perspective is only negligibly lower. 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 has shifted towards slower growth compared to the previous forecast. The exchange rate strengthens somewhat faster due to the extension of the ECB's asset purchase programme. Nominal wage growth in the business sector has shifted upwards over almost the entire forecast horizon.*

The forecast for annual **headline inflation** in 2017 is higher than the previous one (see Chart II.3.1). This revision is due to a markedly higher outlook for net inflation for the next year, whereas a slightly lower outlook for administered prices acts in the opposite direction. The change in the net inflation forecast (see Chart II.3.2) is due to faster growth in food prices and adjusted inflation excluding fuels at the end of last year. The revision of the net inflation forecast also reflects higher overall cost pressures at the start of this year, which, however, will then return to the levels of the previous forecast. The faster growth in overall costs is driven by bigger contributions from all components. Compared to the previous forecast, domestic costs are rising faster in 2017 and will be roughly the same thereafter. The bigger domestic cost pressures are also due to faster observed wage growth and also temporarily more subdued growth in labour productivity. The effect of import prices will be slightly more inflationary in 2017 H1 owing to a more rapid increase in foreign producer prices. By contrast, a somewhat faster appreciation of the koruna after the expected exit from the exchange rate commitment in mid-2017 will increase the anti-inflationary effect of import prices. The outlook for growth in administered prices for the next two years has been revised downwards due to an expected drop in prices of gas for households and a less pronounced increase in electricity prices. The forecast also newly incorporates a reduction in VAT on newspapers and magazines. However, its impact is negligible. The change in the forecast for **monetary policy-relevant inflation** thus almost exclusively reflects the revision of the forecast for headline inflation.

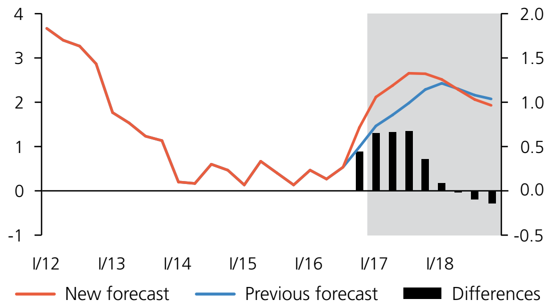
Turning to the assumptions regarding the **external environment** (see section II.1), the outlook for industrial producer prices in the effective euro area for 2017 has been increased compared to the previous forecast. Growth in external demand in 2016 H2 was lower than expected. Consistent with this, its outlook for 2017 has also been

### CHART II.3.1

**CHANGE IN THE HEADLINE INFLATION FORECAST**

**The forecast for headline inflation is higher this year; in 2018 the changes are negligible**

(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 primarily reflects unexpectedly fast growth in food prices and nominal wages**

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

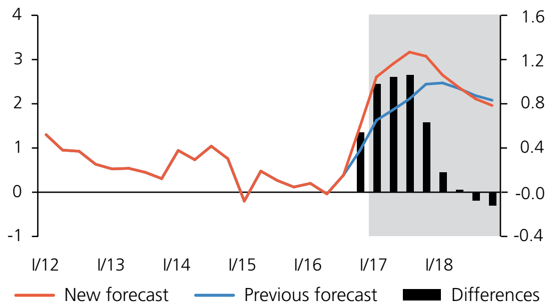


CHART II.3.3

**CHANGE IN THE INTEREST RATE PATH**

**Market interest rates will rise more slowly after the exit from the exchange rate commitment**

(3M PRIBOR in %; differences in pp – right-hand scale)

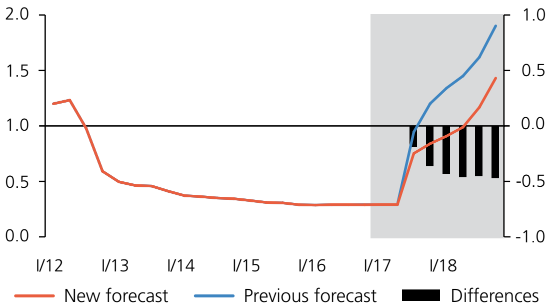



CHART II.3.4

**CHANGE IN THE GDP FORECAST**

**The GDP growth forecast is lower at the shorter end, mainly because of a smaller contribution of net exports, but is little changed overall**

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

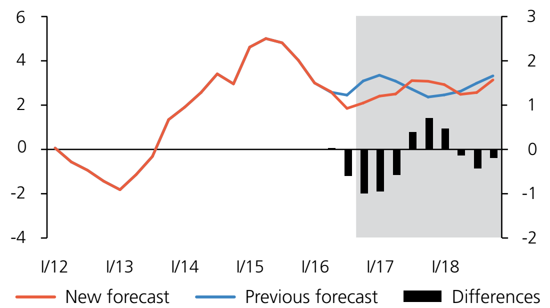
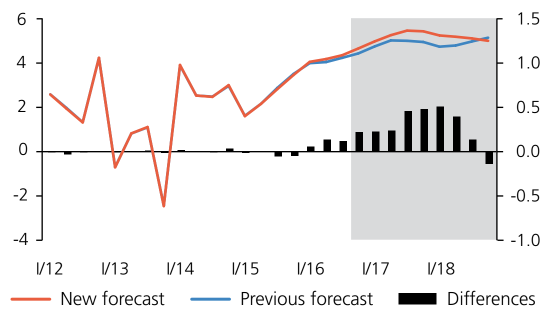



CHART II.3.5

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

**The nominal wage forecast has shifted higher**

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




revised downwards. The market outlook for 3M EURIBOR interest rates has shifted slightly higher in response to the ECB reducing its asset purchases from EUR 80 billion to EUR 60 billion a month as from April 2017. By contrast, the outlook for shadow 3M EURIBOR rates has been lowered deeper into negative territory due to the extension of the ECB's asset purchase programme until the end of this year.

The assumption of the use of the exchange rate as an additional monetary policy instrument until mid-2017 remains unchanged. As in the previous forecast, the **exchange rate of the koruna against the euro** will thus remain at the CNB commitment level until then. The exchange rate will strengthen a little faster after the exit owing to the extension of the ECB's asset purchase programme. This is reflected in slower growth in domestic market **interest rates** after the exit (see Chart II.3.3).

The forecast for annual **GDP** growth this year is lower at the start of 2017 (see Chart II.3.4) owing to lower-than-expected data for 2016 H2, when the contribution of net exports recorded an unexpected sharp fall. Its contribution will be more subdued over the entire forecast horizon due to weaker growth in exports and higher growth in import-intensive fixed investment. Overall, however, the forecast for GDP growth in 2017 and 2018 is only negligibly lower, mainly because of a stronger exchange rate. The outlook for growth in household consumption is close to that in the previous forecast in an environment of continued robust growth in wages and salaries. Gross capital formation growth is higher this year and the next. Real government consumption in 2016 Q3 lagged behind the previous forecast and is expected to continue to rise at a slightly lower rate. The predicted fiscal impulse on top of government consumption in 2017 has been revised only imperceptibly upwards.

Compared to the previous forecast, growth in the average **nominal wage** in the business sector is slightly higher over the entire horizon (see Chart II.3.5). This mainly reflects the stronger wage growth observed at the end of 2016. The higher outlook for wage growth is also due to the higher observed inflation and higher inflation forecast.

## II.4 FORECASTS BY OTHER ENTITIES

*Analysts' inflation expectations are at the CNB's target at both the one-year and three-year horizons. The indicator of inflation perceived by households is slightly negative, while the indicator of expected inflation is slightly positive. Both these indicators are rising gradually. The analysts expect the economy to grow at a rate close to 2.5% both this year and the next. According to the analysts' opinions, the koruna will appreciate below CZK 27 to the euro at the one-year horizon. Most of the analysts expect the exchange rate commitment to be discontinued in 2017 Q2. All the analysts were expecting key interest rates to be left unchanged at the CNB Bank Board's February meeting. The market outlook indicates a slight decrease in interest rates at the one-year horizon and until mid-2017 is therefore just below the interest rate level contained in the CNB forecast. Consistent with the forecast is an increase in market interest rates thereafter, which the market outlook does not expect.*

**Inflation expected by financial market analysts** has been at the CNB's 2% target at both the one-year and three-year horizons for several months now. The inflation expectations of business managers remain below the target at the one-year horizon, but are slightly above it at the three-year horizon (see Table II.4.1). The anchoring of inflation expectations is examined in Box 1.

TABLE II.4.1

EXPECTED INDICATORS OF FMIE AND CORPORATIONS

**The analysts' inflation expectations are at the CNB's target of 2% at both the one-year and three-year horizons**
(at 1Y; annual percentage changes unless otherwise indicated)

| | 9/16 | 10/16 | 11/16 | 12/16 | 1/17 |
|---|---|---|---|---|---|
| FMIE: | | | | | |
| CPI | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 |
| CPI, 3Y horizon | 2.0 | 1.9 | 2.0 | 2.0 | 2.0 |
| Real GDP in 2016 | 2.5 | 2.5 | 2.5 | 2.5 | |
| Real GDP in 2017 | 2.6 | 2.6 | 2.6 | 2.6 | 2.5 |
| Nominal wages in 2016 | 4.2 | 4.1 | 4.1 | 4.3 | |
| Nominal wages in 2017 | 4.1 | 4.2 | 4.2 | 4.4 | 4.4 |
| CZK/EUR exchange rate (level) | 26.9 | 26.7 | 26.4 | 26.2 | 26.2 |
| 2W repo rate (in per cent) | 0.05 | 0.05 | 0.05 | 0.05 | 0.08 |
| 1Y PRIBOR (in per cent) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Corporations: | | | | | |
| CPI | 1.3 | | | 1.5 | |
| CPI, 3Y horizon | 2.1 | | | 2.2 | |

**BOX 1**
**The anchoring of inflation expectations in the Czech Republic**

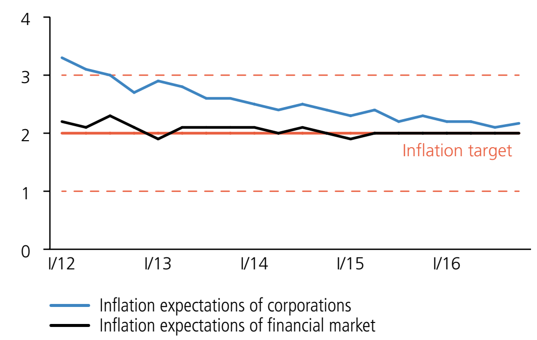
**Measuring inflation expectations** is a standard analytical approach used by central banks, particularly in the inflation targeting regime. The anchoring of inflation expectations is a key condition for successful monetary policy. The CNB obtains information about inflation expectations by means of Financial Market Inflation Expectations (FMIE) questionnaires (monthly) and a survey of business managers (quarterly).

The indicator of **financial market inflation expectations** monitors the one-year and three-year horizons. At the three-year horizon this indicator has tallied quite closely with the inflation target in recent years, whereas expectations at the one-year horizon are very close to the weighted average of current inflation and the inflation target. However, this does not necessarily mean that financial market analysts produced their inflation expectations in this way. On the contrary, it can be viewed as confirmation of the credibility of CNB monetary policy, since markets believe that the CNB is able to return inflation to the target after an inflation shock. The best inflation prediction beyond the monetary policy horizon for the financial market is therefore the inflation target itself, as is apparent from Chart 1.

CHART 1 (BOX)

INFLATION EXPECTATIONS AT THE THREE-YEAR HORIZON

**Financial market inflation expectations for the three-year horizon are anchored at the CNB's inflation target; the inflation expectations of corporations are converging to the target from above**
(year on year in %)



The **inflation expectations of corporations** have a similar profile to those of financial market analysts, but were typically higher between 2012 and 2015 – by 0.5 percentage point on average. The Czech Republic is not unique in this regard; international comparisons show that the inflation expectations of corporations and households are typically higher than financial market expectations.[11] However, the inflation expectations of corporations for the three-year horizon are close to the 2% target, which means that inflation expectations are correctly anchored at present for these entities as well.

An alternative to reported expectations is **implicit inflation expectations** derived from FMIE-based expectations of economic growth and wage growth. The difference between the two variables serves as an indicator of expected inflation for this reason: if productivity growth is mirrored with similar force in growth in real economic output and real wages, the difference between expected growth in nominal wages and real GDP reflects expected inflation. For headline inflation, this relation works quite well and the expectations derived in this way are a good indicator of future inflation at the one-year horizon. This was particularly apparent in 2014 and 2015, when implicit inflation expectations, unlike standard expectations obtained from the FMIE questionnaires, captured the low inflation, which was below the lower boundary of the tolerance band around the CNB's target. Chart 2, depicting actual inflation and implicit and standard expectations (shifted by one year), illustrates this. According to this indicator, expected inflation rises from very low levels in 2014–2015 and is inside the 2% tolerance band this year.

**Overall**, therefore, the CNB's inflation target is currently a good nominal anchor for both financial markets and corporations. The same applies to expectations implicitly derived from the expected growth of the real economy and nominal wages.

CHART 2 (BOX)

**ACTUAL INFLATION AND INFLATION EXPECTATIONS**

**Implicit inflation expectations are a good indicator of future inflation at the one-year horizon**
(year on year in %)

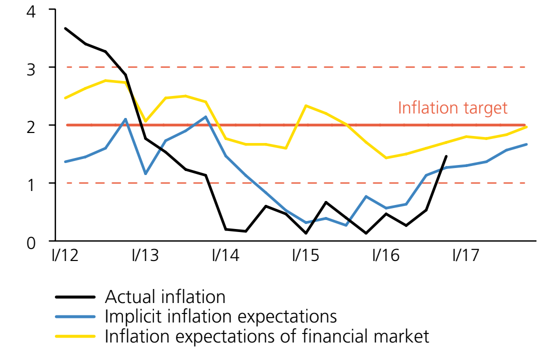
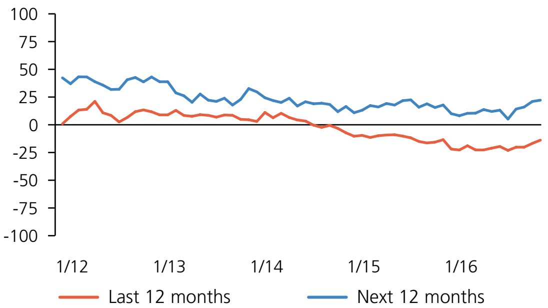



CHART II.4.1

**PERCEIVED AND EXPECTED INFLATION**

**Perceived inflation stayed negative, while expected inflation has long been slightly positive**
(balance of answers; source: European Commission Business and Consumer Survey)




The indicator of **inflation perceived by households** has been slightly negative for more than 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 increased gradually in 2016 Q4.

11 Kliesen K. L. (2015). How Accurate Are Measures of Long-Term Inflation Expectations? Economic Synopses 15/09.

**Both the FMIE and CF analysts** expect a roughly similar rate of economic growth this year as in 2016, i.e. 2.5% (see Tables II.4.1 and II.4.2). The economy is expected to maintain a similar growth rate next year. Nominal wages are expected to rise by more than 4% in both 2017 and 2018. The analysts expect the koruna to appreciate below CZK 27 to the euro at the one-year horizon.[12] In line with the communications of the CNB Bank Board, none of the analysts expects the exchange rate commitment to be discontinued before 2017 Q2. Most of the analysts expect the CNB to take this step in 2017 Q2, probably due to new information about the domestic economy, particularly inflation. A smaller proportion of them expect the exit to occur in 2017 H2. Before the Bank Board meeting in February, all sixteen FMIE analysts were expecting no changes in key interest rates at this meeting. All but two of 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 slightly lower growth of real GDP and nominal wages both this year and the next **compared to the CNB's new forecast**. Inflation expected by the analysts at the one-year horizon is also below the CNB forecast. The analysts' expectations regarding the 2W repo rate and market rates are in line with the 3M PRIBOR level contained in the CNB forecast until mid-2017.

Chart II.4.2 provides a **comparison of expected 3M market rates** derived from FRA quotations and the interest rate level assumed by the CNB forecast. The current market outlook for 3M rates implies a slight decrease at the one-year horizon. It is therefore just below the interest rate level assumed in the CNB forecast until mid-2017. Consistent with the forecast is an increase in market interest rates as from 2017 Q3, which the market outlook does not expect.

12 The predicted range is relatively wide: CZK 25.3-26.7/EUR in the FMIE survey and CZK 25.0–27.4/EUR in the CF survey.

### Table II.4.2

### CF EXPECTED INDICATORS

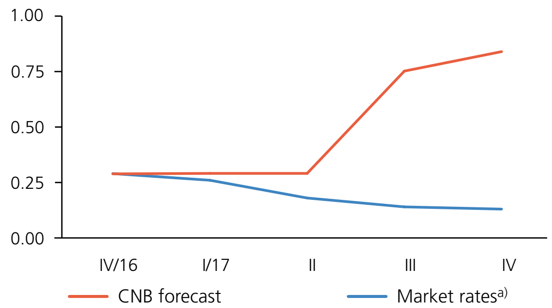
**The CF analysts expect the economy to grow at a rate of 2.5% this year**
(at 1Y; annual percentage changes unless otherwise indicated)

| | 9/16 | 10/16 | 11/16 | 12/16 | 1/17 |
|---|---|---|---|---|---|
| Real GDP in 2016 | 2.5 | 2.5 | 2.5 | 2.4 | |
| Real GDP in 2017 | 2.5 | 2.5 | 2.4 | 2.5 | 2.5 |
| Nominal wages in 2016 | 4.2 | 4.2 | 4.2 | 4.2 | |
| Nominal wages in 2017 | 4.1 | 4.2 | 4.3 | 4.4 | 4.7 |
| CZK/EUR exchange rate (level) | 26.8 | 26.7 | 26.7 | 26.5 | 26.4 |
| 3M PRIBOR (in per cent) | 0.4 | 0.3 | 0.3 | 0.3 | 0.4 |

### Chart II.4.2

### FRA RATES VERSUS THE CNB FORECAST

**Consistent with the CNB's new forecast is an increase in market interest rates as from 2017 Q3, which the market outlook does not expect**
(percentages)




a) for 2016 Q4 and 2017 Q1 the 3M PRIBOR and for 2017 Q2–2017 Q4 the average values of the FRA 3*6, 6*9 and 9*12 rates for the last 10 trading days as of 20 January 2017

# III. CURRENT ECONOMIC DEVELOPMENTS

## III.1 INFLATION

*Headline inflation rose sharply in 2016 Q4, averaging 1.4%. In December it returned to the CNB's 2% target for the first time in four years. This was due to a marked recovery in food price inflation and an increase in adjusted inflation excluding fuels, with growth in non-tradables prices rising in particular. This reflected continued growth in domestic economic activity and buoyant growth in wage costs. In December, the rise in adjusted inflation was due additionally to a surge in restaurant prices linked with the introduction of electronic sales registration, although inflation increased in other services as well. The rise in headline inflation at the close of the year was also due to the unwinding of the year-on-year fall in fuel prices, which made a positive contribution to headline inflation for the first time since December 2014. Monetary policy-relevant inflation moved closer to headline inflation in December, the impacts of the increase in excise duty on cigarettes and tobacco in January 2016 being counteracted by a decrease in VAT rates applying to restaurant services.*

### III.1.1 Fulfilment of the inflation target

In 2016 Q4, both headline inflation and monetary policy-relevant inflation were on average in the lower half of the tolerance band around the CNB's target, i.e. below the **forecast published in Inflation Report III/2015** (see Chart III.1.1).[13] 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 rise in 2015 H2 and then fluctuate just below the 2% target throughout 2016. The anti-inflationary effect of import prices – resulting from falling producer prices in the euro area and energy commodity prices – was expected to dissipate gradually. Continued growth in domestic economic activity and accelerating wage growth were expected to foster growth in prices over the entire forecast horizon.

CHART III.1.1

FORECAST VERSUS ACTUAL HEADLINE INFLATION

**Inflation was below the IR III/2015 forecast in 2016 Q4 and therefore below the CNB's 2% target, although it was converging rapidly towards the target**
(year on year in %)

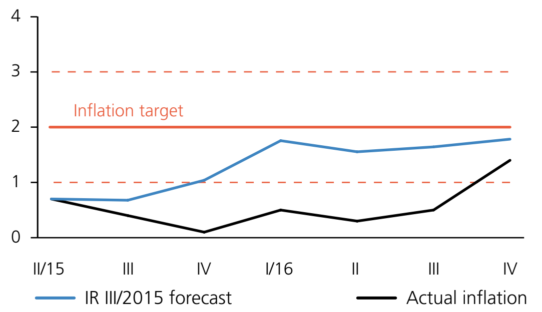



TABLE III.1.1

FULFILMENT OF THE INFLATION FORECAST

**The deviations of the components of inflation from the forecast were not significant in terms of their contributions**
(annual percentage changes; contributions in percentage points)

| | IR III/2015 forecast | 2016 Q4 outturn | Contribution to total difference |
|---|---|---|---|
| CONSUMER PRICES | 1.8 | 1.4 | -0.4 |
| Breakdown into contributions: | | | |
| administered prices | 0.2 | -0.1 | -0.1 |
| first-round impacts of changes to indirect taxes[a)] | 0.2 | 0.2 | 0.0 |
| food prices[b)] | 1.9 | 1.8 | 0.0 |
| fuel prices[b)] | 4.3 | 0.2 | -0.1 |
| adjusted inflation excl. fuels[b)] | 1.6 | 1.4 | -0.2 |

a) impact in non-administered prices on total inflation
b) excluding the first-round effects of changes to indirect taxes

13 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 Q4, we have to examine the period from April 2015 to September 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 fulfilment of the forecasts is limited here to a comparison of Inflation Report III/2015 with subsequent inflation.

Headline **inflation in reality** was below the forecast over the entire period. However, the gap between actual inflation and the forecast narrowed visibly in late 2016, reaching -0.4 percentage point in 2016 Q4 (see Table III.1.1). Adjusted inflation excluding fuels made the biggest contribution to the deviation from the forecast, owing mainly to a persisting decline in producer prices in the euro area. To a lesser extent, the deviation was also due to fuel prices and more subdued administered price inflation. The forecast for food prices materialised almost exactly.

The lower-than-forecasted domestic inflation was due mainly to **external economic factors**. The biggest deviation was recorded by foreign production prices (more than 5 percentage points in 2016 H1), which did not record the expected return to growth and on the contrary continued to show strongly negative year-on-year dynamics (see Table III.1.2). An unexpected further fall in oil prices in late 2015 and early 2016 contributed substantially to these developments. However, this factor was already fading in late 2016. 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 economy, i.e. they acted towards a need for 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 close to the commitment announced by the CNB. Although they were weak enough from the current perspective to offset the deflationary pressures from abroad, they were not sufficient to deliver a return of inflation to the target earlier than at the very end of 2016. 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** in 2015 was markedly higher than the forecast under review. Besides a strong effect of revisions of historical data, this difference was due to an unexpectedly strong rise in investment as a result of drawdown of EU funds. In 2016, by contrast, GDP growth was lower than forecasted, mainly as a result of a decline in gross capital formation connected with an only gradual start to the drawdown of EU funds in the new programme period. In the second half of the year, growth was also affected by a lower contribution of net exports. Actual growth in nominal wages in the period under review was somewhat lower on average.

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 lower global prices of energy

TABLE III.1.2

## FULFILMENT OF THE EXTERNAL ASSUMPTIONS

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

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

| | | III/15 | IV/15 | I/16 | II/16 | III/16 | IV/16 |
|---|---|---|---|---|---|---|---|
| GDP in euro area[a), b), c)] | p | 2.2 | 2.3 | 2.3 | 2.1 | 2.0 | 2.0 |
| | o | 2.4 | 2.5 | 2.5 | 2.3 | 1.9 | - |
| PPI in euro area[b), c)] | p | -1.6 | -0.6 | 1.4 | 1.4 | 1.4 | 1.4 |
| | o | -2.6 | -3.2 | -3.7 | -3.7 | -2.4 | - |
| 3M EURIBOR | p | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| (percentages) | o | 0.0 | -0.1 | -0.2 | -0.3 | -0.3 | -0.3 |
| USD/EUR exchange rate | p | 1.09 | 1.07 | 1.06 | 1.06 | 1.06 | 1.05 |
| (levels) | o | 1.11 | 1.09 | 1.10 | 1.13 | 1.12 | 1.08 |
| Brent crude oil price | p | 58.4 | 59.7 | 61.1 | 62.4 | 63.4 | 64.4 |
| (USD/barrel) | o | 51.3 | 44.7 | 35.2 | 47.0 | 47.0 | 51.1 |

a) at constant prices
b) seasonally adjusted
c) IR III/2015 outlook for effective indicator

TABLE III.1.3

## FULFILMENT OF THE FORECAST FOR DOMESTIC VARIABLES

**Actual domestic GDP growth was higher than forecasted in 2015, but lower than forecasted in 2016**

p – prediction, o – outturn

| | | III/15 | IV/15 | I/16 | II/16 | III/16 | IV/16 |
|---|---|---|---|---|---|---|---|
| Consumer Price Index | p | 0.7 | 1.0 | 1.8 | 1.6 | 1.6 | 1.8 |
| (annual perc. changes) | o | 0.4 | 0.1 | 0.5 | 0.3 | 0.5 | 1.4 |
| 3M PRIBOR | p | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| (percentages) | o | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| CZK/EUR exchange rate | p | ER commitment: close to CZK 27 to the euro | | | | | |
| (levels) | o | 27.1 | 27.1 | 27.0 | 27.0 | 27.0 | 27.0 |
| Real GDP[a)] | p | 3.7 | 4.0 | 2.0 | 3.0 | 2.9 | 3.2 |
| (annual perc. changes) | o | 4.8 | 4.0 | 3.0 | 2.6 | 1.9 | - |
| Nominal wages[b)] | p | 3.0 | 3.7 | 4.3 | 4.7 | 4.7 | 4.7 |
| (annual perc. changes) | o | 3.0 | 3.1 | 4.5 | 3.9 | 4.5 | - |

a) seasonally adjusted
b) in the business sector

CHART III.1.2

## INFLATION

**Inflation accelerated sharply in 2016 Q4**

(annual percentage changes)

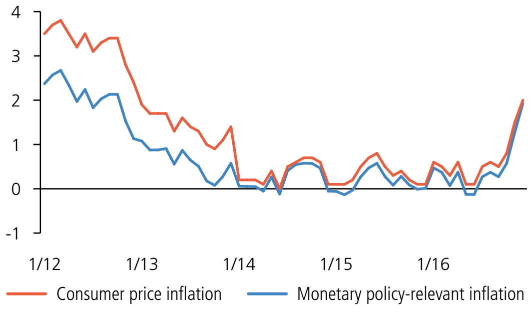


CHART III.1.3

STRUCTURE OF INFLATION

**Inflation increased owing mainly to growth in food prices and adjusted inflation excluding fuels**

(annual percentage changes; contributions in percentage points)

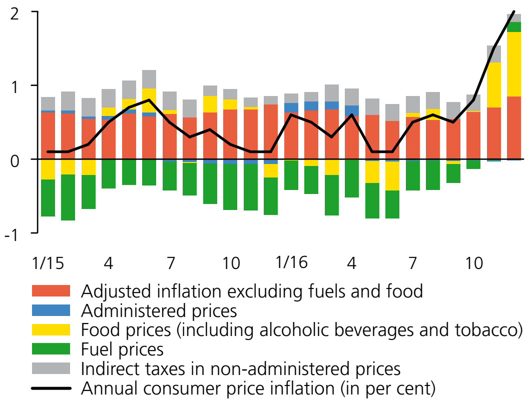



CHART III.1.4

INFLATION COMPONENTS

**Fuel prices switched to year-on-year growth in December for the first time in a long time**

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

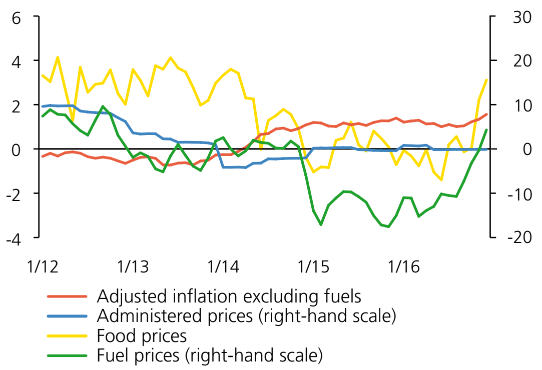
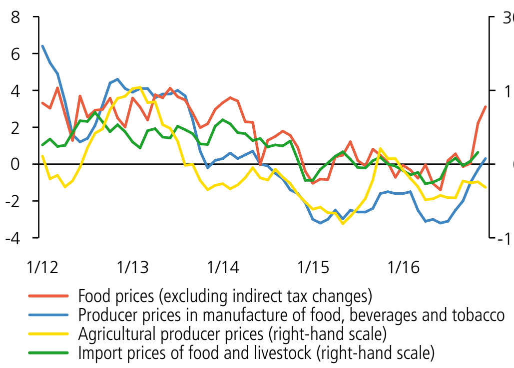



CHART III.1.5

FOOD PRICES

**Consumer prices of food, beverages and tobacco went up quickly in 2016 Q4 despite a persisting decline in agricultural producer prices**

(annual percentage changes)




and food commodities) clearly prevailing overall. On average, inflation returned to the lower half of the tolerance band around the CNB's 2% target in 2016 Q4. However, it remained below the target. The undershooting of the target can be partly explained by the ex-ante escape clause of the first-round effects of the marked drop in oil prices, which was identified and communicated as a favourable supply/cost shock. In addition, inflation returned to the CNB's 2% target at the very close of the year after having fluctuated below it for four years. From this perspective, based on current knowledge, it seems that the monetary policy pursued between April 2015 and September 2016 was roughly appropriate.

### III.1.2 Current inflation

**Annual inflation** was 1.4% on average in 2016 Q4, up by 0.9 percentage point compared to the previous quarter. Following a modest increase in October, consumer price inflation accelerated sharply in November and December (see Chart III.1.2). Inflation thus returned to the CNB's 2% target in December for the first time in four years. The rise in inflation was due primarily to food prices together with adjusted inflation excluding fuels (see Chart III.1.3), which rose at the end of the year on account of an increase in prices linked with the launch of electronic sales registration. Moreover, fuel prices went up in December for the first time in a long time. By contrast, the contribution of administered prices to headline inflation was slightly negative.

The contribution of indirect tax changes to inflation, linked with the impact of the harmonisation adjustment made to excise duty on cigarettes and tobacco in January 2016, amounted to 0.2 percentage point. A decrease in the VAT rate applying to restaurants and other catering facilities from 21% to 15% acted in the opposite direction from December. Its first-round effect was -0.15 percentage point. **Monetary policy-relevant inflation**[14] thus averaged 1.3% in 2016 Q4 and was in the lower half of the tolerance band around the CNB's inflation target. It stood at 1.9% in December.

**Administered prices** fell only slightly in 2016 Q4 (see Chart III.1.4). However, their individual components recorded mixed developments. The fall in administered prices was fostered by a decrease in gas prices for households introduced by the largest suppliers from May 2016. Transport prices also recorded a negative contribution as a result of the previous fall in fuel prices. By contrast, water supply and sewerage collection charges increased. Prices of electricity and heat for households maintained stable growth slightly above 1%.

14 Inflation excluding the first-round effects of indirect tax changes.

Annual **market price inflation**,[15] as measured by net inflation, averaged 1.5% in 2016 Q4. Its increase was due chiefly to higher food price inflation and adjusted inflation excluding fuels. The unwinding of the decline and subsequent renewal of growth in fuel prices also played a role.

**Prices of food, beverages and tobacco** were still flat year on year in October, but in November and December their annual growth rose quickly to 3.1% (see Chart III.1.5). This sharp increase reflected a rapid unwinding of extraordinary effects which had previously dampened food price inflation. Despite a persisting decline in agricultural producer prices, most food items recorded faster growth or an unwinding of previous declines during 2016 Q4. Prices of bread, dairy products, eggs, vegetables and sugar recorded particularly rapid growth. The contributions of prices of alcoholic beverages and tobacco were also positive. Fruit prices were the only item to keep declining year on year (see Chart III.1.6).

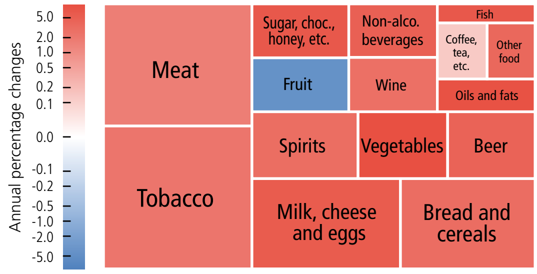
The deep year-on-year decline in **fuel prices** dissipated rapidly during 2016 Q4 and these prices rose in year-on-year terms in December (by 4.3%; see Chart III.1.4). They thus followed world prices of oil and petrol, which started to rise year on year in October. The higher price dynamics were also fostered by a weaker exchange rate of the koruna against the US dollar.

**Adjusted inflation excluding fuels** gradually increased during 2016 Q4, reaching 1.6% (see Chart III.1.7). This rise was due mainly to an upswing in prices of non-tradables,[16] which continued to reflect ongoing growth in domestic economic activity, especially in the service sector, and faster growth in wage costs (see Box 2 in Inflation Report III/2016). In December, the rapid acceleration of adjusted inflation was due additionally to a surge in restaurant prices linked with the introduction of electronic sales registration. In addition, increases were recorded by prices of cultural and recreational services, rents, prices of services connected with the operation of personal transport equipment, insurance prices and prices of services connected with personal care. Only post and telecommunications prices and package holiday prices declined. Growth in prices of tradables[17] was broadly flat compared to Q3. This muted trend mainly reflected the fading anti-inflationary effect of foreign prices.

### CHART III.1.6

### STRUCTURE OF FOOD, ALCOHOL AND TOBACCO PRICE INFLATION IN DECEMBER 2016

**With the exception of fruit, food price inflation was flat**
(size of tile – relative weight in consumer basket; colour of tile – annual percentage changes)

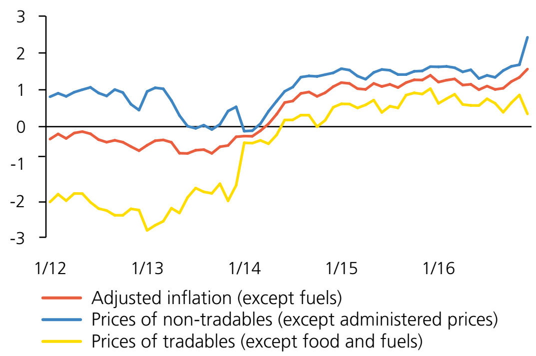



Note: Adjusted for the effect of changes to indirect taxes, tobacco product prices would have increased by 6.5% year on year.

### CHART III.1.7

### ADJUSTED INFLATION EXCLUDING FUELS

**Adjusted inflation increased at the close of last year**
(annual percentage changes)




15 The following text describes the evolution of the individual categories of market prices adjusted for the first-round effects of tax changes.

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

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

CHART III.2.1

**IMPORT PRICES AND PRODUCER PRICES**

**The declines in import prices and industrial producer prices moderated**
(annual percentage changes)

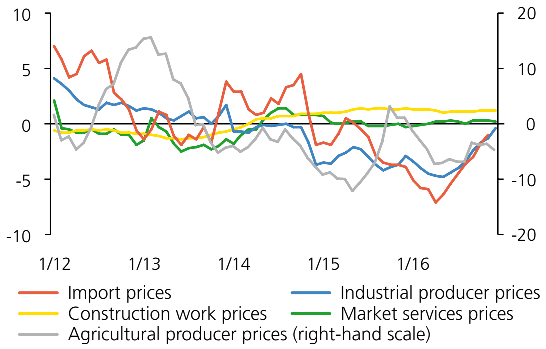



CHART III.2.2

**IMPORT PRICES**

**The negative contribution of prices of mineral fuels has gradually been fading recently, as have the contributions of semi-finished products and commodities with a high degree of processing**
(annual percentage changes; contributions in percentage points)

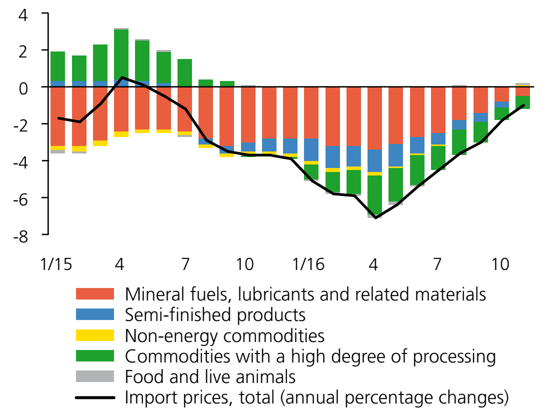
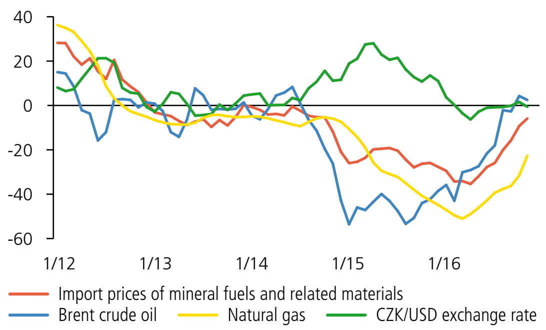



CHART III.2.3

**MINERAL FUELS AND LUBRICANTS**

**Prices of imported mineral fuels reflected the switch of global oil prices to positive year-on-year growth**
(annual percentage changes)




## III.2 IMPORT PRICES AND PRODUCER PRICES

*The annual decline in import prices moderated further in 2016 Q4, mainly because of a decreasing negative contribution from energy commodity prices. Slower price declines in the other components acted in the same direction. This trend was also reflected in industrial producer prices. The decline in agricultural producer prices continued at a roughly unchanged pace. Prices of market services and construction work prices continued to rise modestly.*

### III.2.1 Import prices

The deep year-on-year decline in **import prices** moderated steadily from April 2016 onwards (to 1% in November; see Chart III.2.1). All components of import prices recorded month-on-month increases in October. Similar developments were observed in November, when, however, food import prices declined year on year. For the first time in two years, the biggest contributor to the year-on-year change in import prices was not the decline in import prices of energy commodities, which faded faster in Q4 than the decline in import prices of semi-finished products and commodities with a high degree of processing (see Chart III.2.2). However, their year-on-year decline, which started in mid-2016, is weakening gradually as well.

The negative contribution of prices of **mineral fuels** moderated significantly further during 2016 Q4 (see Chart III.2.2). This was driven by the Brent crude oil price switching to year-on-year growth (of 2.5% in November). The year-on-year decline in global natural gas prices also slowed (to 22.7%), but remained strong (see Chart III.2.3), as gas prices usually follow oil prices with a lag of roughly six months.

The year-on-year decline in import prices in the category of **semi-finished products** also dissipated, mainly because of a strong month-on-month increase in November 2016. Import prices of **non-energy commodities** and **food, tobacco and beverages** switched to moderate year-on-year growth. This was due to year-on-year developments in all the main components of these import price categories.

The year-on-year fall in **import prices of commodities with a high degree of processing** also moderated during 2016 Q4 in the categories of both imported machinery and transport equipment and miscellaneous manufactured articles (to 1.2% and 0.8% respectively in November). However, import prices in the former category continued to show mixed trends. Import prices of machinery and equipment used in industry again rose moderately year on year, while import prices of road vehicles continued to decline.

### III.2.2 Producer prices

***Industrial producer prices***

The long-running marked year-on-year decline in **industrial producer prices** almost disappeared during 2016 Q4 (see Chart III.2.4). This was due mainly to a halt in the decline in prices of imported commodities and semi-finished products and to a sharp slowdown in the decline in energy import prices.

The gradual unwinding of the year-on-year decline in industrial producer prices was due most of all to the **composite indicator of energy producer prices and prices of water-related services** (see Chart III.2.4). The significant reduction in the negative contribution of this indicator was a result of different price developments in its different components. On the one hand, producer prices in mining and quarrying continued to decline considerably. Prices of electricity, gas, steam and air-conditioned air also fell at a steady rate. On the other hand, prices continued to rise in water supply and sewerage-related services, accompanied after a long period of decline by a sizeable price increase in manufacture of coke and refined petroleum products. In the classification by main industrial groupings, this led to a moderation of the decline in energy prices. This decline almost disappeared at the close of 2016 Q4 (see Chart III.2.5).

Prices in the food industry switched to modest annual growth at the end of 2016 Q4 and a similar trend was observed for producer prices in manufacture of basic metals and fabricated metal products. By contrast, producer prices of transport equipment continued to fall year on year, albeit at a slower pace than in the previous quarter. Overall, the long-running decline in producer prices in **manufacturing** gradually disappeared and these prices recorded a slight year-on-year increase at the end of the year.

***Agricultural producer prices***

The decline in **agricultural producer prices** deepened slightly during 2016 Q4 compared to the end of the previous quarter (to 4.7% in December; see Chart III.2.6). However, mixed trends were observed across the main categories. The fall in livestock product prices gradually slowed, switching to modest annual growth at the end of the year for the first time in more than two years. The decline in milk and egg prices weakened noticeably and growth in prices of pigs accelerated. By contrast, the decline in crop product prices deepened at the close of 2016, mainly as a result of a drop in prices of fresh vegetables and potatoes. The decrease in prices in the highest-weight category – grain – was unchanged from the previous quarter.

The continuing decline in agricultural producer prices at the end of last year was affected by two main contrary **factors**. On the one hand, the effect of the liberalisation of the EU milk market in 2015 and the retaliatory trade sanctions imposed by Russia on the EU – which had mainly lowered milk and pork prices – disappeared. On the other hand, grain prices continued to fall due to good foreign and domestic

CHART III.2.4

**INDUSTRIAL PRODUCER PRICES**

**The decline in industrial producer prices moderated sharply in 2016 Q4, with all the main industries contributing**

(annual percentage changes; contributions in percentage points)

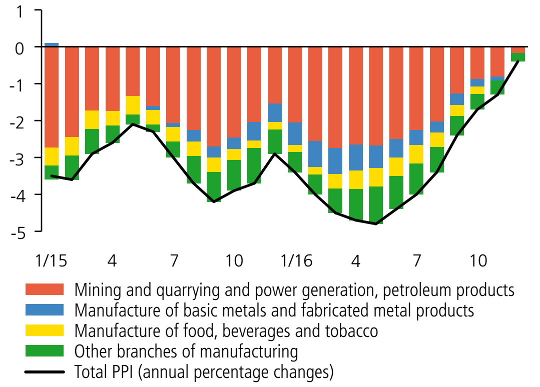



CHART III.2.5

**PRODUCER PRICES BY MAIN INDUSTRIAL GROUPINGS**

**All the main industrial groupings, and especially energy, contributed to the moderation of the decline in industrial producer prices**

(annual percentage changes)

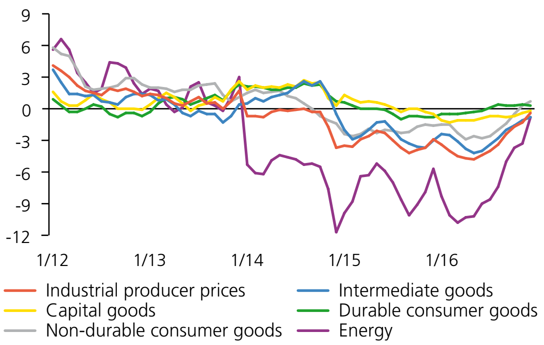



CHART III.2.6

**AGRICULTURAL PRODUCER PRICES**

**The decline in agricultural producer prices persists**

(annual percentage changes)

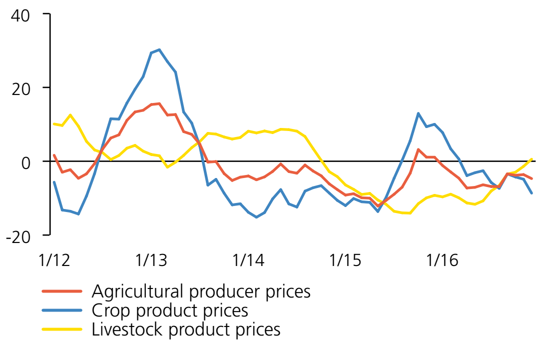
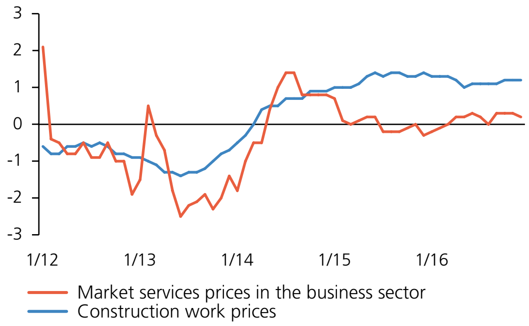


**Chart III.2.7**

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

**Market services prices rose only slightly, while growth in construction work prices fluctuated just above 1%**
(annual percentage changes)




harvests in recent years, which, coupled with a slight decrease in global consumption, led to a rise in stocks.

***Other producer prices***

Annual growth in **prices of market services for the business sector** was little changed overall in 2016 Q4 – prices in this segment continued to rise moderately (see Chart III.2.7). Only postal and courier services recorded price growth exceeding 2%.

The dynamics of **construction work prices** also remained stable, slightly exceeding 1% (see Chart III.2.7). So far, not even the renewed modest growth in prices of materials and products used in the construction industry has led to any upswing in construction work prices.

## III.3 DEMAND AND OUTPUT

*Economic growth slowed to just below 2% in 2016 Q3. Household consumption was the biggest contributor to the annual GDP growth. The contribution of net exports was also positive, although less so than in the previous quarter, amid a significant deceleration in foreign trade turnover. The EU funding cycle was reflected in a continued decline in government fixed investment, while investment by non-financial corporations increased slightly year on year. On the supply side, growth in value added slowed in manufacturing and market services. The economy was still close to its potential output level.*

### III.3.1 Domestic demand

In 2016 Q3, annual GDP growth (see Chart III.3.1) was driven most of all by household consumption. The total contribution of **domestic demand** increased, with fixed investment recording a slower decline and government consumption conversely showing lower growth.

***Final consumption***
Growth in seasonally adjusted household consumption accelerated somewhat in 2016 Q3. Stronger dynamics were also recorded for seasonally unadjusted growth in the nominal **final consumption expenditure of households** (see Chart III.3.2). Conversely, gross disposable income growth slowed, leading to a decrease in the saving rate compared to a year earlier.

Annual growth in nominal **gross disposable income**, which is the main source of financing of households' consumption expenditure, slowed markedly (to 2.1%; see Chart III.3.2). The sharp recovery in the household consumption deflator further lowered growth in households' real purchasing power to 1.2%. The observed slowdown in annual growth in gross disposable income was due chiefly to a further increase in the traditionally negative contribution of payments of taxes and social contributions. By contrast, wages and salaries had an upward effect on disposable income growth, as their growth accelerated towards 6%.

**Household consumption expenditure** rose further in all the monitored categories (see Chart III.3.3). As in previous quarters, short-term consumption was the biggest contributor to household consumption growth. According to the latest available monthly indicators, annual growth in retail sales remained strong in October and November, driven by sales of non-food goods and fuels.

The **consumer confidence indicator** increased again in 2016 Q4 and is nearing the historical highs observed early last year (see Chart III.3.4). This was aided by improving consumer perceptions of the economic and financial situation and by an expected decline in unemployment.

CHART III.3.1

**GROSS DOMESTIC PRODUCT**

**GDP growth slowed further, mainly due to a decrease in export growth and government consumption growth; household consumption was the main driver of economic growth**
(contributions in percentage points to annual percentage change; seasonally adjusted data)

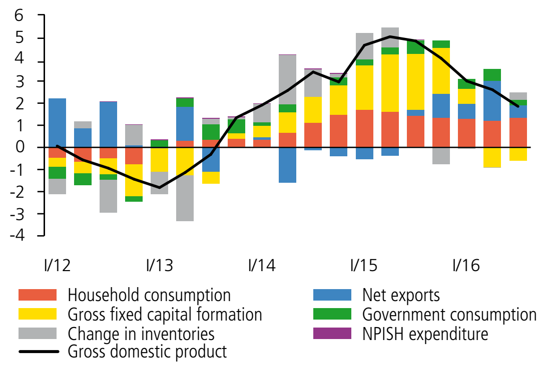



CHART III.3.2

**DISPOSABLE INCOME**

**Disposable income growth went down due to an increase in the negative contribution of taxes and social contributions**
(annual percentage changes; contributions in percentage points; current prices; seasonally unadjusted data)

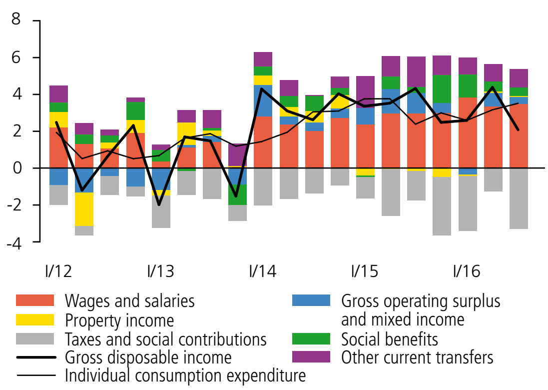



CHART III.3.3

**HOUSEHOLD CONSUMPTION**

**Household consumption expenditure increased in all categories, with expenditure on non-durable goods again recording the largest contribution**
(annual percentage changes; contributions in percentage points; constant prices; seasonally unadjusted data)

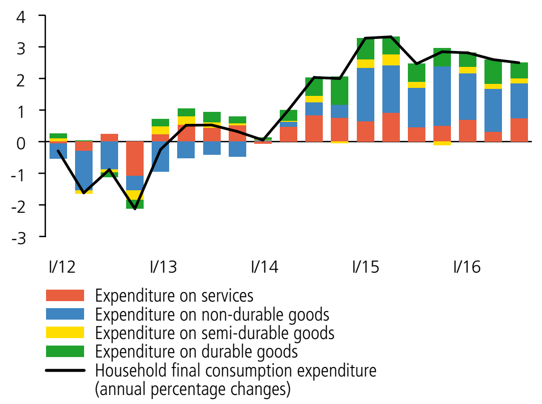


**Chart III.3.4**

**CONFIDENCE INDICATORS**

**Consumer confidence was heading back towards historical highs**
(2005 average = 100)

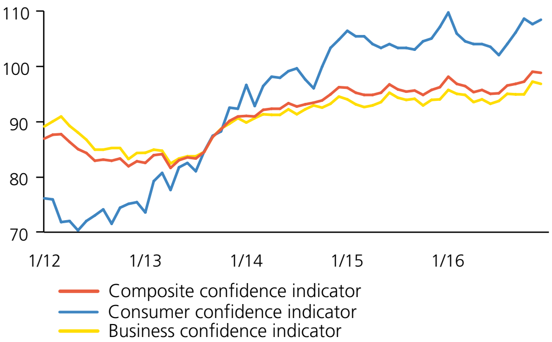



**Chart III.3.5**

**INVESTMENT BY SECTOR**

**Fixed investment fell further as a result of a continued decline in government investment**
(annual percentage changes; contributions in percentage points; constant prices; seasonally unadjusted data)

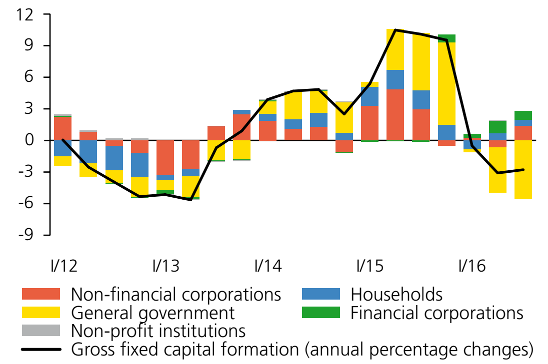
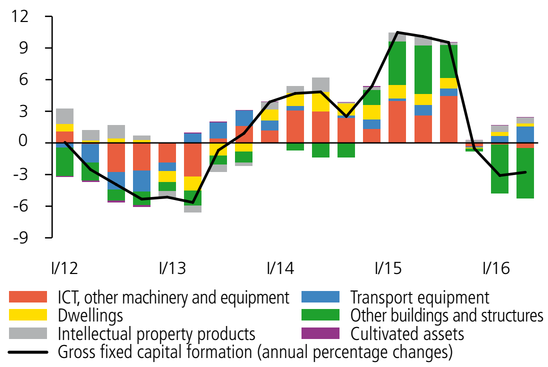



**Chart III.3.6**

**INVESTMENT BY TYPE**

**The decline in gross fixed capital formation was driven mainly by investment in buildings and structures**
(annual percentage changes; contributions in percentage points; constant prices; seasonally unadjusted data)




Growth in real **government final consumption expenditure** slowed considerably in 2016 Q3 (to 1.2%). The positive contribution of government consumption to annual GDP growth thus stood at 0.2 percentage point (see Chart III.3.1).

***Investment***

**Fixed investment** continued to decline year on year in 2016 Q3 (by 2.3%;[18] see Chart III.3.5). This was due predominantly to a continued sizeable decline in fixed investment by the **government sector** (of 28.7%[19]), which was reflected in a noticeable drop in investment in buildings and structures (see Chart III.3.6). The strong drawdown of EU structural funds from the previous programme period in 2015 was followed by an only very gradual start to drawdown from the new programme period, among other things as a result of problems with environmental impact assessments of large infrastructure projects.

Following subdued developments in the previous three quarters, investment in the **non-financial corporations sector** increased in year-on-year terms (see Chart III.3.6). Investment by non-financial corporations co-financed from EU funds probably recorded unwinding of base effects, and other investment continued to rise. This is consistent with the CZSO's business survey results, according to which industrial firms view future demand for their products as stable in the long run. In addition, according to the results of the latest business survey conducted by the CNB and the Confederation of Industry for 2016 Q4, non-financial corporations are expecting a slight increase in investment expenditure. These and many other factors affecting private investment in the long run are analysed in Box 2.

**BOX 2**
**Private investment – an analysis of individual data on non-financial corporations**

The Czech economy has been strongly affected in recent years by swings in investment activity. While government investment has mainly followed the EU funding cycle, **private investment** has been affected by a larger number of factors. This box aims to identify those factors and determine the direction in which they have acted and their significance. The analysis draws on quarterly individual data on the financial results of non-financial corporations with 50 employees or more in 2008–2015.[20] From the methodological perspective, Bayesian VAR models are used. Individual data are an alternative to aggregate data from the CZSO's national accounts. Moreover, their nature enables us to estimate impulse responses at the industry level.

18 According to seasonally adjusted data at constant prices.
19 According to seasonally unadjusted data at constant prices.
20 On average, the sample contains 9,200 firms in the period under review.

Given the degree of openness of the Czech economy, it is reasonable to assume that a large proportion of private investment can be explained by changes in **external demand**. Derived impulse responses confirm this assumption (see Chart 1). Taking into account the sizes of the different shocks, it is clear that external demand is the main driver of private investment. An increase in external demand leads to growth in private investment in all major sectors of the Czech economy. The biggest responses were recorded in manufacturing (especially the automotive and electrical engineering industries) and tourism (see Chart 2). As investment decisions tend to have long-term consequences for firms, they are planned carefully and **expectations of future developments** play a significant role in them. The analysis reveals that private investment is directly proportional to economic sentiment in the EU, which captures such expectations. However, the magnitude of the response to a 1% shock is smaller by comparison with actually observed external demand.

Fluctuations in the **drawdown of EU funds** by the corporate sector affect its investment in the same direction (see Chart 1 and also Box 1 in Inflation Report IV/2016). This is confirmed by an analysis of government capital transfers to non-financial corporations linked with co-financing of investment from EU funds. A direct analysis of individual data on the acquisition of tangible and intangible assets by non-financial corporations arrives at the same conclusions. An increase in the drawdown of EU funds for private firms has a positive effect on investment above all in manufacturing, especially in the automotive, chemicals, electrical engineering and metallurgy industries, and also in the heavy engineering and other means of transport industries.

At the same time, the impulse responses point to a negative **effect of government investment**[21] on the investment behaviour of private firms. This can be explained by the crowding-out effect whereby a rise in government investment is accompanied by a rise in the real interest rate. The crowding-out effect is most visible in manufacturing and agriculture (see Chart 3). By contrast, the construction industry, which implements most government investment, responds positively to a rise in government investment. When compared with the importance of external demand for private investment, however, the effect of drawdown of EU funds by the corporate sector, and partly also the effect of government investment, can be considered marginal in the long run. In a situation of significant swings in the drawdown of EU funds in the short run, however, their effect on private investment can be crucial.

21 Government investment includes EU funds drawn by the government sector but excludes those drawn by the corporate sector.

CHART 1 (BOX)

IMPULSE RESPONSES OF PRIVATE INVESTMENT TO DIFFERENT SHOCKS

**Private investment records the biggest positive response to an increase in external demand**

(responses in % to a shock of 1%, or 1 pp in the case of the real interest rate; horizontal axis – number of quarters)

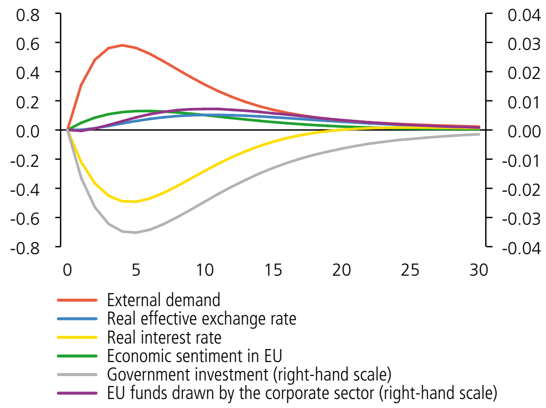



CHART 2 (BOX)

IMPULSE RESPONSES OF PRIVATE INVESTMENT IN SELECTED INDUSTRIES TO AN INCREASE IN EXTERNAL DEMAND

**An increase in external demand leads to growth in investment activity above all in manufacturing and tourism**

(responses in % to a shock of 1%; horizontal axis – number of quarters)

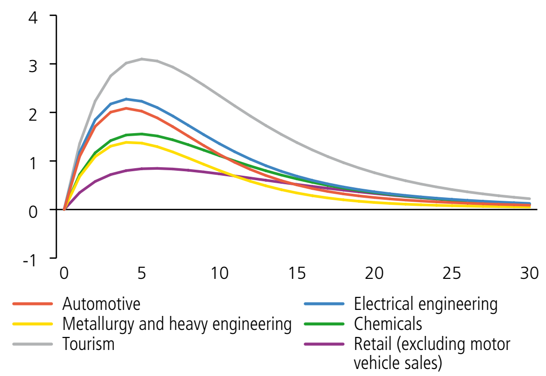



CHART 3 (BOX)

IMPULSE RESPONSES OF PRIVATE INVESTMENT IN SELECTED INDUSTRIES TO AN INCREASE IN GOVERNMENT INVESTMENT

**Government investment partially crowds out private investment, especially in manufacturing and agriculture, but supports investment in construction**

(responses in % to a shock of 1%; horizontal axis – number of quarters)

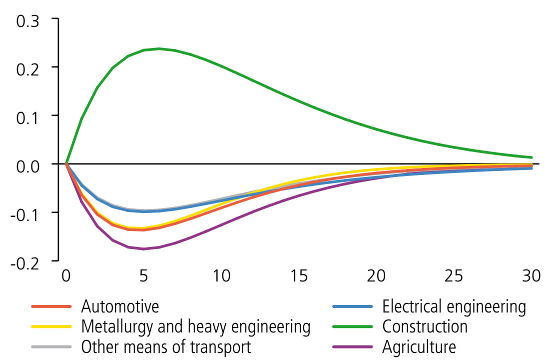
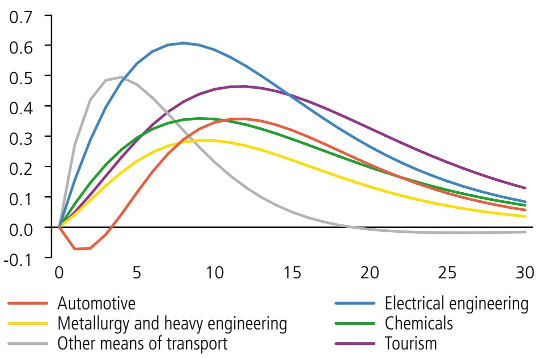


**CHART 4 (BOX)**

**IMPULSE RESPONSES OF PRIVATE INVESTMENT IN SELECTED INDUSTRIES TO A WEAKENING OF THE REAL EXCHANGE RATE**

**A weakening of the real effective exchange rate of the koruna has a positive effect on investment growth in export-oriented manufacturing industries and tourism**

(responses in % to a shock of 1%; horizontal axis – number of quarters)




The monetary conditions are the final category of factors affecting private investment. As expected, an increase in the **real interest rate** has a negative impact on private investment in most of the industries monitored.[22] A weakening of the **real effective exchange rate of the koruna** is one of the most important factors and has a positive effect on private investment. Export-oriented industries and tourism respond particularly strongly in this way (see Chart 4). With regard to private investment, the increase in price competitiveness of exporters thus outweighs the effect of higher prices of imported capital goods as a result of exchange rate depreciation.

Investment by the **household sector** continued to increase in 2016 Q3 (see Chart III.3.5), in line with the observed growth in investment in dwellings (see Chart III.3.6). Selected indicators suggest that household investment will continue to rise. Households' confidence in favourable future evolution of the economy and employment again approached historical highs during 2016 Q4. Financing conditions for investment in dwellings tightened, but interest rates on loans for house purchase remain very low and are being accompanied by strong growth in new mortgage loans (see section III.5.2) and property prices (see section III.5.7). The numbers of apartment starts and completions went up as well.

**Change in inventories** made a positive contribution to GDP growth in 2016 Q3 (0.3 percentage point), partly offsetting the negative effect of gross capital formation (see Chart III.3.1).

### III.3.2 Net external demand

**Net exports of goods and services**[23] have been rising in year-on-year terms for more than a year now (see Chart III.3.7), thereby contributing to GDP growth. However, in contrast to the previous quarter, when net exports had been the main driver of GDP growth, their contribution shrank significantly in 2016 Q3 (to 0.6 percentage point; see Chart III.3.1). The services balance and above all the goods balance continued to foster growth in net exports. By contrast, year-on-year growth in total trade turnover slowed for the fourth consecutive quarter (this time by 2.6 percentage points).

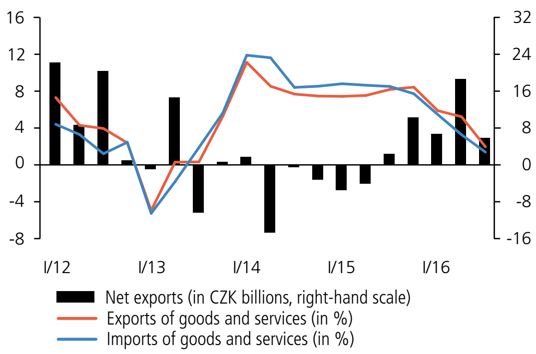
**Total exports** rose by 2% on a year earlier. Compared to the previous quarter, their growth slowed by more than 3 percentage points, even though the decrease in external demand growth in the Czech

**CHART III.3.7**

**EXPORTS AND IMPORTS**

**Net export growth slowed sharply compared to the previous quarter amid subdued trade turnover growth**

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




22 However, a comparison with the effects of other variables must take into account the fact that an interest rate increase of one percentage point, not 1%, is considered.

23 At 2010 prices, seasonally adjusted.

Republic's major trading partner countries was only moderate. The slowdown in total export growth was due mainly to lower goods export growth, but growth in services exports also moderated. Box 3 examines the causes of the lower export growth in the second half of 2016 in more detail.

**BOX 3**
**The causes of the observed slowdown in export growth**

According to the national accounts, year-on-year **growth in exports of goods and services slowed sharply in 2016 Q3**. It was not only well below the forecast, but also below the estimate of effective external demand growth, which determines the export forecast from the long-term perspective. The gap between the year-on-year dynamics of exports and effective external demand had already started to grow considerably at the beginning of 2016 and widened further in Q3 (see Chart 1).

Monthly data from the foreign trade database reveal that – like industrial production – the year-on-year dynamics of goods exports were unusually volatile during 2016 Q3, owing mainly to **developments in the automotive industry**. This sector was initially affected by a change in the usual timing of company holidays (from August to July), which caused an extraordinary swing in transport equipment exports in this period (see Chart 2). A similar pattern was observed for exports of machinery and electrical equipment,[24] which are produced partially for the automotive industry. Although the July decline in exports was more than offset in August, exports fell again in September. By comparison with previous quarters, transport equipment exports increased only marginally and exports of machinery and electrical equipment switched to a year-on-year decline. The October data showed a continued year-on-year decline in exports, with transport equipment exports also switching to negative figures and the decline in exports of machinery and electrical equipment deepening further. Exports in these categories returned to year-on-year growth in November, but the rate of growth was much lower than it had been in 2016 H1.

A territorial breakdown reveals that the main factor was an unwinding of growth, followed by a decline, in automotive exports to Western Europe. This is confirmed by individual data on industrial production in this sector, which indicate a marked slowdown in year-on-year growth in revenues from exports of own products to euro area countries in September

24 Among other things, this category includes engines, clutches, gearboxes and electric wiring.

**CHART 1 (BOX)**

**EXPORTS AND EFFECTIVE EXTERNAL DEMAND**

**The gap between the dynamics of exports and external demand widened significantly in 2016 Q3**
(annual percentage changes; constant prices; seasonally adjusted data)


**CHART 2 (BOX)**

**STRUCTURE OF EXPORTS**

**The slowdown in export growth was driven by exports in the automotive industry**
(annual percentage changes; current prices; contributions in percentage points)

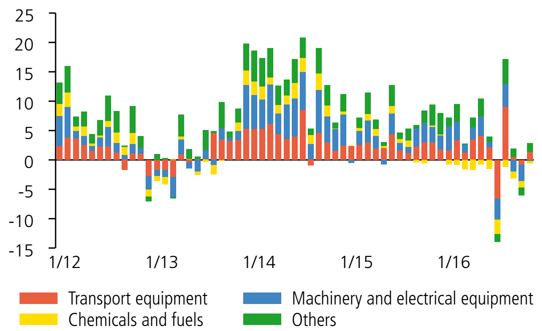
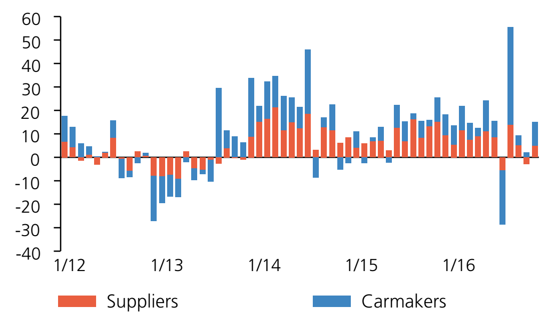



**CHART 3 (BOX)**

**AUTOMOTIVE INDUSTRY REVENUES FROM EXPORTS TO EURO AREA COUNTRIES**

**Growth in revenues from exports of both cars and car parts slowed**
(annual percentage changes; current prices; contributions in percentage points)



(see Chart 3). A **slowdown in year-on-year growth in revenues of exporters of parts** for the automotive industry had a dominant effect. However, the major domestic carmakers also recorded lower growth in overall export revenues in September. There were significant differences between them as regards revenues and growth in the numbers of cars produced and exported. During 2016 Q4, overall growth in carmakers' sales returned to the levels observed in 2016 H1, but growth in revenues from exports of parts for the automotive industry remained sluggish.

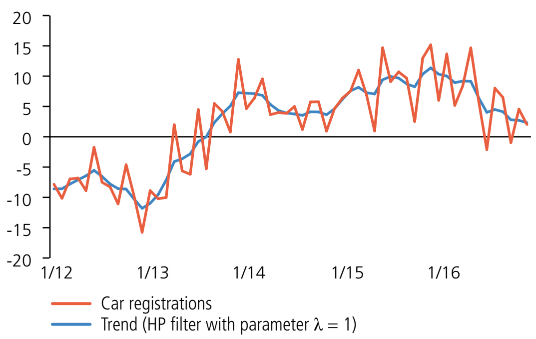
Data on external trade and industrial production therefore suggest that the marked slowdown in exports in 2016 Q3 was due to developments in the automotive industry. Domestic car production recovered quickly following the short-lived decline in Q3, but exports of parts for the automotive industry remained subdued in the first two months of Q4. This is probably connected with **demand for new cars in Western Europe**, which can be proxied by statistics on new passenger car registrations. Data from the European Automobile Manufacturers' Association show that year-on-year growth in new passenger car registrations peaked in 2016 H1. In 2016 H2, however, the observed growth in registrations was less than one-half of that in H1 and continued to follow a downward trend (see Chart 4).[25] By comparison with H1, the output of the automotive industry, which is mostly exported, was therefore unable to outweigh as strongly the persisting fall in exports of chemical products, fuels and electricity caused by shortfalls in domestic production last year.

CHART 4 (BOX)

CAR REGISTRATIONS IN WESTERN EUROPE

**Year-on-year growth in new car registrations in Western Europe slowed markedly**

(annual percentage changes)



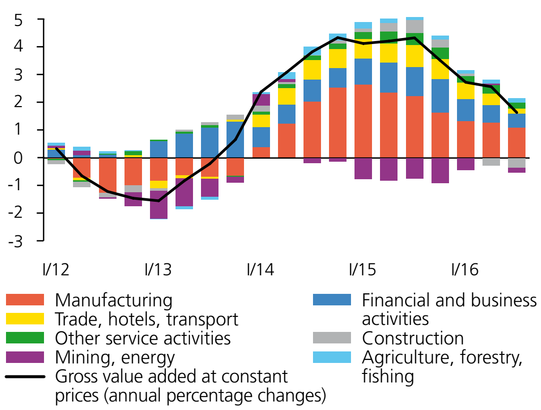

Owing to the high import intensity of exports, growth in **total imports** also slowed considerably (to 1.4%). As in the case of exports, this was due mainly to a slowdown in goods import growth. Within goods imports, imports for final consumption continued to rise apace, while imports for investment and intermediate consumption were subdued. Services imports fell slightly year on year.

CHART III.3.8

CONTRIBUTIONS OF BRANCHES TO GVA GROWTH

**Year-on-year growth in gross value added slowed further**

(annual percentage changes; contributions in percentage points)




### III.3.3 Output

Growth in **gross value added** slowed to 1.6% in 2016 Q3 (see Chart III.3.8).[26] Lower contributions to growth in gross value added were recorded mainly by manufacturing and market services. Mining and the energy sector saw declines in value added, as did construction.

25 This was confirmed by recent December data, according to which new passenger car registrations in Western Europe rose by just 2% year on year.

26 At constant prices, seasonally adjusted.

Growth in **industrial production**[27] also slowed (to 0.9% in 2016 Q3; see Chart III.3.9), due mainly to lower growth in production in the highest-weight manufacturing sector. Production declined in mining and quarrying and in the electricity, gas, heat and air-conditioned air supply industry. New industrial orders were very subdued in 2016 Q3, rising in value by only 1.3%. Only foreign orders rose in value, while the value of domestic orders recorded a year-on-year decline. In terms of use, production for investment and for long-term consumption increased, with exports accounting for a large share. The latest available monthly indicators suggest renewed growth in both industrial production and new industrial orders.

According to the January results of the CZSO's business survey, firms still consider insufficient demand to be the main barrier to growth. However, a shortage of employees is increasingly making itself felt; its significance as a **barrier to growth** is currently at its highest level since 2005 (see Chart III.3.10). The proportion of businesses which see no barriers to their future growth declined significantly. Capacity utilisation in industry remained at around 85%.

**Construction output** continued to follow a downward trend, falling by almost 10% year on year in 2016 Q3.[28] Output fell particularly sharply in civil engineering. The decline in output in building construction was more moderate than in the previous quarter. Although the number of building permits issued increased (by 2.8%), their total value was unchanged. The decline in building output gradually slowed in October and November 2016. This was aided by building construction output switching to year-on-year growth. The number and value of new building permits also surged in November (by 5.7% and 18.3% respectively).

### III.3.4 Estimate of the cyclical position of the economy and potential output

The **output gap** according to the Kalman filter remained open at slightly positive levels in 2016 Q3 (see Chart III.3.11). Together with the easy monetary conditions, this was due mainly to growth in both domestic and external demand, which also affected the labour market. The effect of the expected tightening of the monetary conditions following the exit from the exchange rate commitment will be felt over the forecast horizon, while renewed growth in government investment will act in the opposite direction. The output gap will thus remain only slightly positive.

**Potential output** according to the Kalman filter increased by 2.6% year on year in 2016 Q3 (see Chart III.3.12). Its growth will fluctuate around this level over the entire forecast horizon.

27 At constant prices, seasonally adjusted.

28 At constant prices, seasonally adjusted.

CHART III.3.9

**INDUSTRIAL PRODUCTION AND NEW ORDERS IN INDUSTRY**

**The November data indicate renewed growth in both industrial production and new industrial orders**

(annual percentage changes)

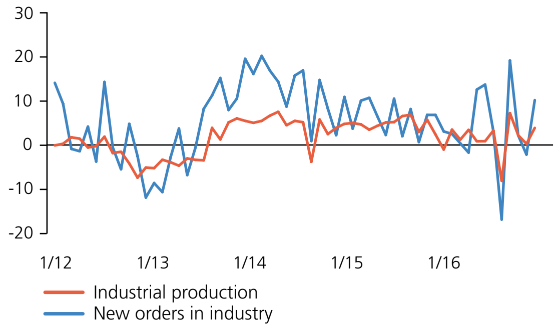



CHART III.3.10

**BARRIERS TO GROWTH IN INDUSTRY**

**The significance of labour shortages as a barrier to growth for industrial firms is increasing**

(percentages)

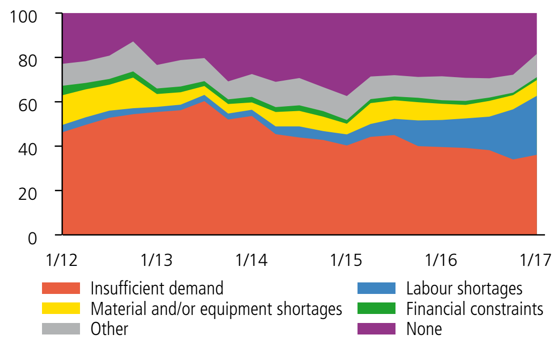



CHART III.3.11

**OUTPUT GAP**

**The Czech economy is close to its potential output level, where it will stay over the next two years**

(% of potential output)

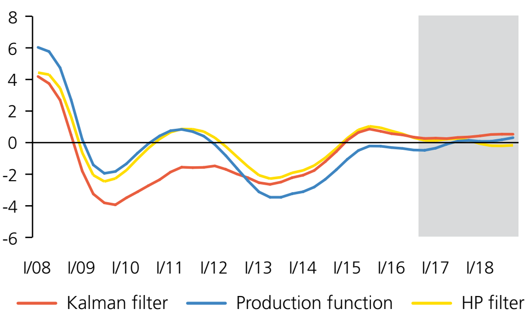
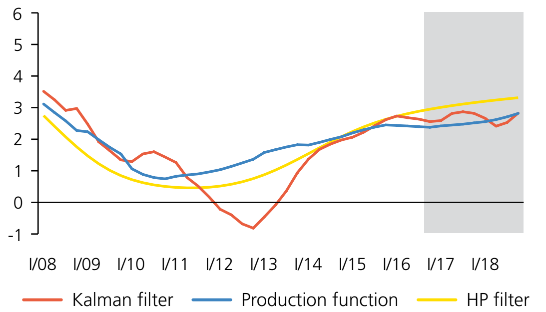


CHART III.3.12

POTENTIAL OUTPUT

**The rate of growth of potential output is around 2.5%**
(annual percentage changes)




**Alternative calculations** of the cyclical position of the economy using the HP filter[29] and the Cobb-Douglas production function provide slightly lower figures for the output gap. The values for annual growth in potential output are slightly higher for the HP filter and slightly lower for the production function on average.

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

## III.4 THE LABOUR MARKET

*The labour market situation in 2016 Q3 was consistent with the recent growth in economic activity. 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 Q4, too. Average wage growth picked up, and according to monthly data for industry the buoyant wage growth is set to continue. The slowdown in economic activity was reflected in a slight decline in whole-economy labour productivity and faster growth in nominal unit labour costs.*

### III.4.1 Employment and unemployment

**Total employment** grew at a rapid pace in 2016 Q3 (of just under 2%; see Chart III.4.1). This was due mainly to an increase in the number of employees. However, the number of entrepreneurs also rose significantly for the first time since the start of 2015.

The growth in employment was largely due to the **secondary sector** (see Chart III.4.2), which saw continued strong employment growth in industry. As usual, manufacturing absorbed the most new employees. The long-running decline in employment in construction almost halted in 2016 Q3. According to the October and November data, growth in the registered number of employees[30] in industry slowed slightly, while the decline in the registered number of employees in construction deepened again.

The fast growth in employment in the **tertiary sector** observed in 2016 Q2 slowed significantly, with the number of people employed in market services even recording a year-on-year decrease. The decrease in employment in market services was due mainly to a large fall in employment in wholesale and retail trade, despite continued good retail performance. There were also fewer persons employed in accommodation and food service activities in year-on-year comparison. The lower employment in these branches was partly offset by a sizeable increase in the number of people employed in transportation and storage, which, as a related branch, is profiting from the good performance of industry. The growth in employment in non-market services continued to be broad-based. It was due most of all to a rise in the number of people employed in education.

Growth in the number of employees working part-time accounted for around one-third of the year-on-year growth in employment. This was reflected in a modest year-on-year decrease in average hours worked per employee. The **number of employees converted into**

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

CHART III.4.1

**LABOUR MARKET INDICATORS**

**Average wage growth in the business sector and growth in nominal unit labour costs both picked up again**

(annual percentage changes)


CHART III.4.2

**EMPLOYMENT BREAKDOWN BY BRANCHES**

**Industry and non-market services were the biggest contributors to the growth in employment**

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

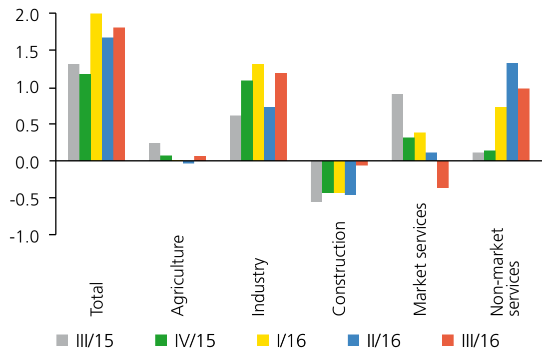



CHART III.4.3

**NUMBER OF EMPLOYEES (FULL-TIME EQUIVALENT)**

**A decrease in average hours worked fostered a slight slowdown in growth in the number of employees converted into full-time equivalents**

(annual percentage changes; contributions in percentage points)

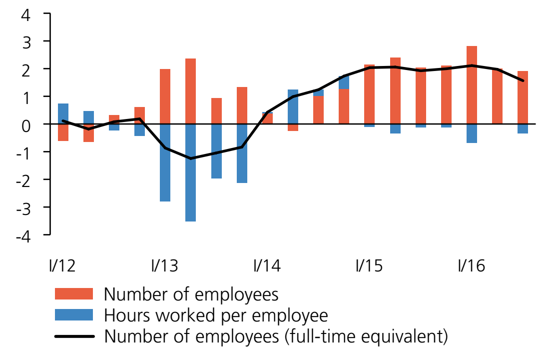


CHART III.4.4

**UNEMPLOYMENT INDICATORS**

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

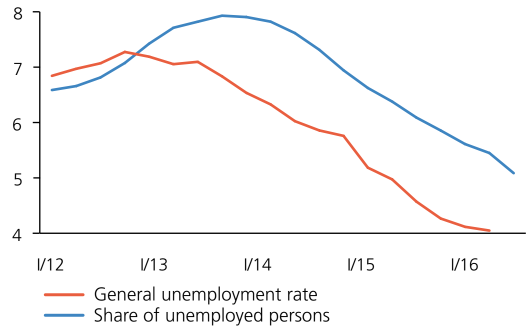



CHART III.4.5

**BEVERIDGE CURVE**

**The number of vacancies increased slightly further and the labour market neared its 2008 peak**
(numbers in thousands; seasonally adjusted data; annual percentage changes for adjusted inflation; source: MLSA, CZSO)

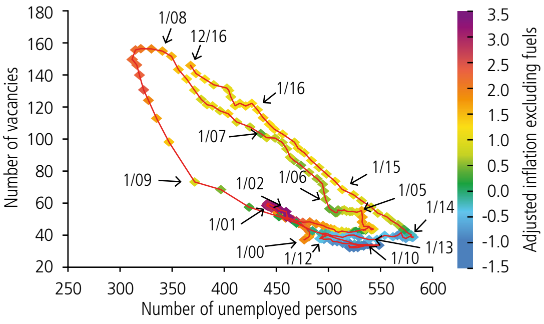
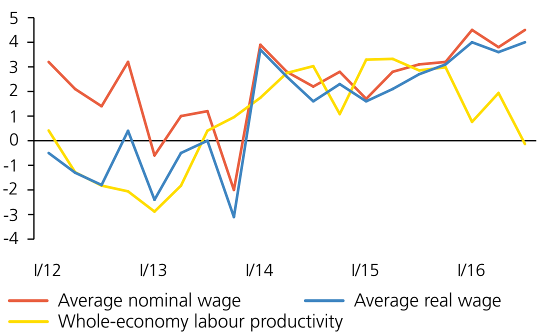



CHART III.4.6

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

**Wage growth significantly outpaced labour productivity growth, which halted – probably temporarily – in 2016 Q3**
(annual percentage changes)




**full-time equivalents** grew more slowly, though still significantly (see Chart III.4.3). The highest-weight category of manufacturing accounted for the largest share – about one third – of the increase in this indicator.

The continuing strong year-on-year growth in employment led to a further decline in the **general unemployment rate**[31] in 2016 Q3 (see Chart III.4.4). It remained the lowest in the EU. The more moderate decline in unemployment relative to employment reflected persisting growth in the labour force. It rose mainly in the oldest age category (over 60 years). This was related to the gradually increasing retirement age. The growth in the labour force coupled with the long-running decline in the population aged 15–64 led to an increase in the rate of economic activity, which moved to a new historical high (of just above 75% when seasonally adjusted). According to LFS data, the general unemployment rate continued to fall in October and November amid an increasing rate of economic activity. The **share of unemployed persons**[32] also gradually fell further in 2016 Q4, with the number of available job applicants registered with labour offices continuing to decline and the population in the given age group shrinking slightly.

From the long-term perspective, the labour market viewed in terms of the **Beveridge curve** is very near to the peak observed at the start of 2008. The number of vacancies registered at labour offices increased further in 2016 Q4, amid a still falling number of unemployed persons (see Chart III.4.5). Owing to the recent growth of the Czech economy, their number decreased mainly among job applicants registered for one year or more. 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

The labour market developments in 2016 Q3 led to faster growth in the **average nominal and real wage** (see Chart III.4.6). This was a result of stronger wage growth in both the business and non-business sectors.

In the **business sector**, the average wage rose by more than 4% in most industries. It grew the fastest in the low-weight sector of culture and also in accommodation and food service activities, where the January 2016 rise in the minimum wage (from CZK 9,200 to 9,900) had a more pronounced effect due to a low wage level. Following a temporary slowdown in the previous quarter, wages in the

31 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.

32 The share of unemployed persons is the ratio of available job applicants aged 15–64 to the population of the same age. The data are seasonally adjusted.

highest-weight sector of manufacturing followed their previous trend and increased by 4.6%. Data for October and November indicate that wages remained at similar levels in the final quarter of 2016.

The faster growth in the average wage in the **non-business sector** was due mainly to faster wage growth in education. However, despite the September increase in teachers' pay, wage growth in education still lagged behind the non-business sector average. Wages in public administration and defence and in health care also grew faster than in Q2.

**Whole-economy labour productivity**[33] recorded a slight decrease of 0.1% year on year in 2016 Q3. With employment continuing to increase sharply, this was a result of slower (seasonally unadjusted) growth in economic activity, due in part to a lower number of working days compared to the previous year. Of the sectors under review, only non-market services saw continued labour productivity growth. Productivity in the other parts of the economy either switched to a decline (industry and market services) or recorded a deeper decline (construction) (see Chart III.4.7). With employment growth broadly flat, this was due to slower growth in gross value added in industry and market services and to a deeper decline in value added in construction. Despite the above-mentioned economic slowdown, a year-on-year decrease in the number of hours worked – which to some extent reflected the lower number of working days in 2016 Q3 – resulted in renewed year-on-year growth in **hourly labour productivity**. It rose by almost 2%, and at about twice that rate in manufacturing.

The slight year-on-year decrease in labour productivity coupled with the sizeable rise in the wage bill resulted in a marked pick-up in growth in **nominal unit labour costs** in 2016 Q3 (see Chart III.4.8). The growth in nominal unit labour costs was broadly even across the economy, amounting to around 4% in almost all sectors. The only exception was construction, where nominal unit labour costs rose by almost double that figure due to a deeper decline in gross value added resulting from the EU funding cycle.

CHART III.4.7

PRODUCTIVITY BY SECTOR

**Labour productivity increased only in non-market services**
(annual percentage changes)

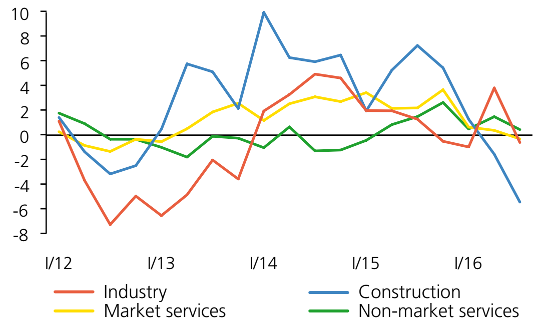
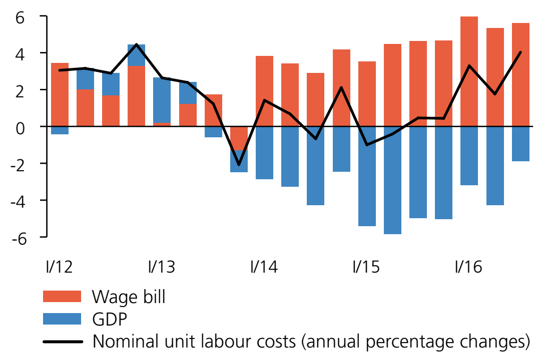



CHART III.4.8

UNIT LABOUR COSTS

**The faster nominal unit labour cost growth was fostered mainly by slower economic growth**
(annual percentage changes; contributions in percentage points)




33 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).

## III.5 FINANCIAL AND MONETARY DEVELOPMENTS

*M3 growth remains high. Monetary developments continued to reflect fast growth in domestic loans and net foreign assets. Loan growth was fostered by a further rise in demand in all credit segments in 2016 Q4 in an environment of record-low interest rates and continued economic growth. Bank lending conditions for loans to households tightened due to legislative changes and CNB recommendations, while the conditions for corporate loans eased further in part of the banking market. Growth in loans for house purchase picked up. This was accompanied by a continued increase in residential property prices. Corporate long-term loans continued to rise, especially in services, real estate activities and manufacture of motor vehicles. With input prices falling, the profitability of corporations was adversely affected by growth in wage costs and weak growth in output. Long-term government bond yields edged up due to developments abroad in late 2016 and early 2017, while yields at shorter maturities became more negative due to an inflow of speculative foreign capital. The positive interest rate differentials vis-à-vis euro rates were unchanged. The koruna remained just above the CNB's exchange rate commitment and depreciated against the dollar.*

### III.5.1 Money

**M3 growth** was high in 2016 in an environment of still easy monetary conditions. However, annual M3 growth slowed at the end of 2016 (see Chart III.5.1). The M3 growth was due mainly to overnight deposits included in M1. Other short-term deposits continued to decline, due among other things to a continued decrease in interest paid on them. In terms of money-holding sectors, the contribution of deposits of households increased further due to households' growing income. Gradually increasing tension on the labour market had an adverse effect on the profitability of non-financial corporations. This has recently been reflected in slower growth in their deposits. M3 continued to grow at a much higher pace than nominal GDP. The share of foreign currency deposits remained at around 10%. Turning to the creation of money, the M3 growth reflected high growth in domestic credit and inflows of capital from abroad, which is leading to growth in the net foreign assets of the banking sector (see Chart III.5.2). A decline in the central government's debt to domestic banks and, in net terms, also other domestic sources of money creation acted in the opposite direction.

### III.5.2 Credit

Growth in **loans to the private sector** remains high due to low interest rates and continued economic growth. This was fostered by loans to both households and non-financial corporations (see Chart III.5.3). The low financial market interest rates were reflected in client interest rates and supported credit growth. Like euro area banks, Czech banks reduced their holdings of private debt securities.

CHART III.5.1

MONETARY AGGREGATES AND LOANS

**Money aggregate growth slowed at the end of 2016, but remained high**

(annual percentage rates of growth)

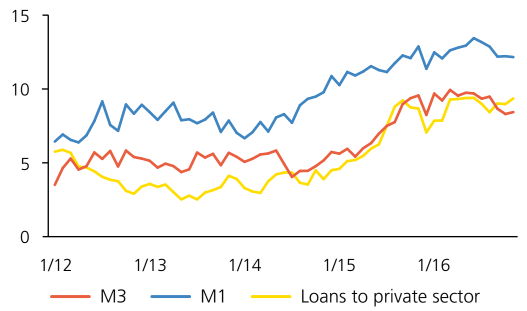
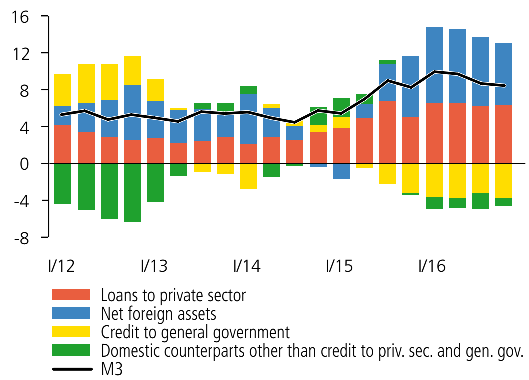



CHART III.5.2

M3 AND ITS COUNTERPARTS

**M3 growth is being fostered by domestic loans to the private sector and inflows of capital from abroad**

(contributions in percentage points; annual percentage changes; end-of-quarter data, most recent data are for November 2016)



The fast credit growth was supported by growth in demand in all segments of the credit market. According to the bank lending survey, however, **credit standards** for loans to households tightened in 2016 Q4 (see Chart III.5.4). This was due to legislative changes (a new Consumer Credit Act) and to the CNB's macroprudential recommendations for mortgages. An increase in bank financing costs, due to growth in long-term financial market rates, and banks' risk perceptions stemming from expected property market developments had a similar effect. Banks tightened their credit conditions for house purchase loans by lowering the LTV ratio. Standards for corporate loans eased further in part of the banking market. This easing was fostered by the good liquidity situation of banks, competition and favourable risk perceptions. Banks also reduced their average interest margins (the spreads between client rates and their reference rates). A further tightening of standards for loans to households is expected in 2017 Q1. According to banks, standards for corporate loans will ease further in part of the market.

The growth in loans to the private sector in an environment of record-low interest rates was due mostly to **loans to households for house purchase** (see Chart III.5.5). Mortgage growth rose to 9%, fostering growth in household investment in housing. The high demand for housing loans was due to very low interest rates, expected growth in property prices, favourable household sentiment and the approaching date of effect of the new Consumer Credit Act, which significantly affected market conditions in December 2016. New house purchase loans (adjusted for refinancing and refixation) recorded much faster year-on-year growth and their November monthly volumes reached historical highs. According to banks' perceptions, demand will start to decline gradually in 2017 Q1 due to a further reduction in the availability of mortgages.

**Consumer credit** growth continued to increase gradually (see Chart III.5.5). Demand was affected both by favourable consumer confidence and by growth in household consumption expenditure in an environment of sharply falling interest rates in this credit market segment. Similar demand developments are expected at the start of this year. Banks are indicating a continued tightening of credit standards for these loans as well, due to the said legislative changes.

The **total indebtedness of households** increased faster than their income. This was reflected in an increase in the ratio of loans to aggregate annual nominal disposable income to around 66% in 2016 Q3. However, Czech households remain significantly less indebted than the euro area average (around 100%). The decline in interest rates was reflected in a decrease in debt-servicing costs, but households also saw a decline in interest income on deposits, so the overall net interest effect on household consumption has recently been insignificant. On the other hand, the relatively high level of financial assets of households, held mainly in the form of highly liquid and low-interest overnight deposits, and expectations of higher income are creating room for growth in household expenditure.

CHART III.5.3

**LOANS TO THE PRIVATE SECTOR**

**Loans continued to grow quickly in all segments of the market**
(annual percentage rates of growth)

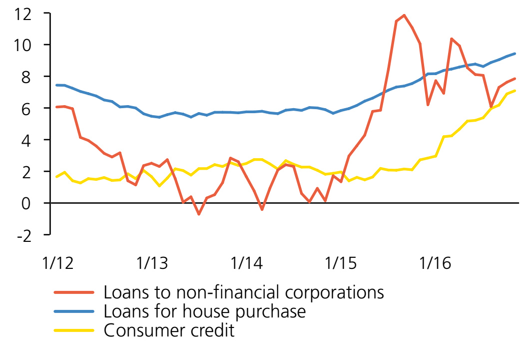



CHART III.5.4

**CHANGES IN CREDIT STANDARDS**

**Credit standards for loans to households tightened in 2016 Q4, while those for corporate loans eased further in part of the banking market**
(net percentages of banking market; positive value = tightening, negative value = easing)

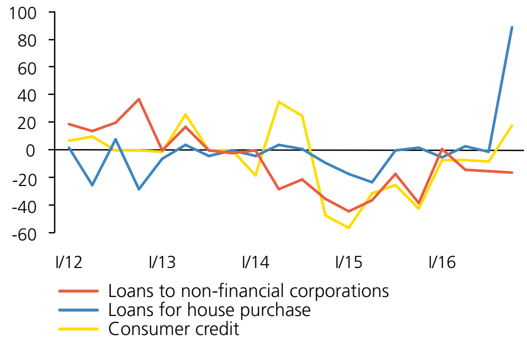



CHART III.5.5

**LOANS TO HOUSEHOLDS**

**Loans for house purchase and consumer credit both contributed to the increase in growth in loans to households**
(contributions in percentage points to annual percentage changes; end-of-quarter data; most recent data are for November 2016)

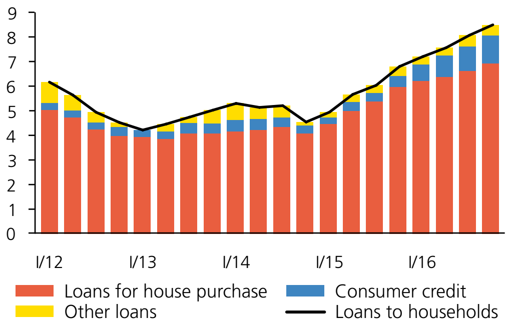


**Chart III.5.6**

**LOANS TO NON-FINANCIAL CORPORATIONS**

**Growth in loans to non-financial corporations was driven by long-term loans**
(contributions in percentage points to annual percentage changes; end-of-quarter data; most recent data are for November 2016)

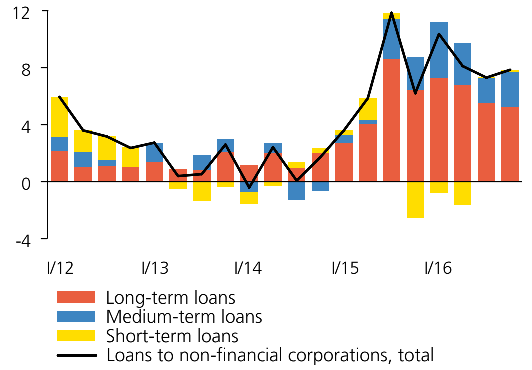
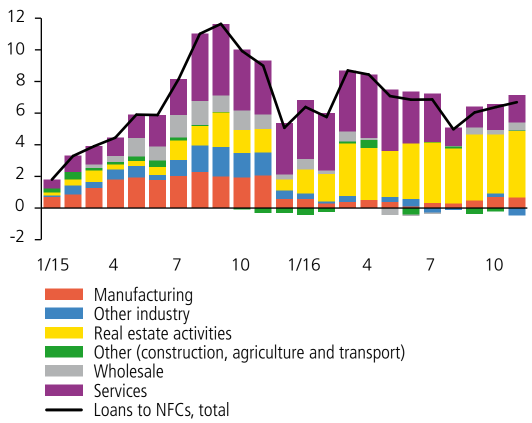



**Chart III.5.7**

**LOANS TO NON-FINANCIAL CORPORATIONS BY SECTOR OF ACTIVITY**

**Corporate loans are mainly used to finance real estate activities, market services and, within manufacturing, manufacture of motor vehicles**
(contributions in percentage points; annual percentage changes)




**Loans to non-financial corporations** continued to rise, mainly as a result of growth in long-term loans (see Chart III.5.6). Corporations' demand for loans rose further due to financing of fixed investment, working capital, mergers and acquisitions and business and debt restructuring in an environment of low interest rates. The rate on koruna loans of up to CZK 30 million reached 2.4% and that on large loans 1.8%. The interest rate on loans with long fixation periods stood at around 2% and, unlike in the past, was similar to that on loans with short fixation periods. According to banks' perceptions, demand for loans will rise in 2017 Q1, too. The overall credit conditions are supporting the financing of investment expenditure by corporations.

However, the increase in corporate loans was not broad-based. It was driven mostly by **real estate activities and the services sector** (see Chart III.5.7). Loans rose further in the manufacture of motor vehicles, trailers and semi-trailers, where they picked up pace after a previous slowdown. By contrast, loans in other industrial sectors and in construction decreased amid falling output. Year-on-year growth in **foreign currency loans** (especially euro-denominated loans) continued to surge (to 27%). Such loans are used among other things by exporters as a natural hedge against exchange rate risk. The share of these loans in the total reached a historical high (also 27%). **Total external financing of corporations** as a percentage of GDP increased to around 59% in Q3. It was dominated by loans, while issues of debt securities and quoted corporate shares declined.

### III.5.3 Interest rates

***Monetary policy interest rates***

The **monetary policy decision-making** of the CNB Bank Board in 2016 Q4 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.

At its **November and December 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[34] (see Chart III.5.8). 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 balanced. The Bank Board also stated at both meetings that the CNB would

34 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.

not discontinue the use of the exchange rate as a monetary policy instrument before 2017 Q2. The Bank Board still considered it likely that the commitment would be discontinued in mid-2017.

At its **monetary policy meeting on 2 February 2017**, 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 to the current extent persists. The Bank Board assessed the risks to the forecast at the monetary policy horizon as being balanced. The main uncertainty is the evolution of the koruna exchange rate following the exit from the exchange rate commitment, which may fluctuate in either direction in the short term. The CNB will stand ready to use its instruments to mitigate potential excessive exchange rate fluctuations following the exit from the commitment. The Bank Board stated again that the CNB would not discontinue the use of the exchange rate as a monetary policy instrument before 2017 Q2. The Bank Board still considers it likely that the commitment will be discontinued around the middle of 2017.

***Financial market interest rates***

**PRIBOR rates** remained at historical lows at all maturities in 2016 Q4 (see Chart III.5.9). 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 around 0.25 percentage point.

**FRA derivative rates** saw minimal movements in 2016 Q4 as a whole. In late 2016 and early 2017 they fell by about 0.10–0.15 percentage point, probably due to speculation in part of the market on the introduction of negative interest rates by the CNB. New labour market data and rising inflation intensified expectations in part of the market that the CNB would exit its exchange rate commitment before mid-2017 (and even before Q2 according to a small part of the market) and that it would use negative rates to prevent additional inflows of speculative capital in the period around the exit. The market outlook for 3M rates according to end-January FRA quotations implies a slight decline in the 3M PRIBOR at the one-year horizon. It will be just below the interest rate level contained in the CNB forecast until mid-2017. The market outlook is significantly lower thereafter, as consistent with the CNB forecast is an increase in market interest rates from 2017 Q3 onwards, which the FRA outlook does not expect (see section II).

Short-term **interest rate differentials** vis-à-vis both major world currencies (PRIBOR/CZK-EURIBOR/EUR and LIBOR/USD) reflected different movements in money markets in the euro area and the USA (due to opposite expectations regarding their future monetary

CHART III.5.8

**CNB KEY RATES**

**The CNB left its key interest rates at technical zero**
(percentages)

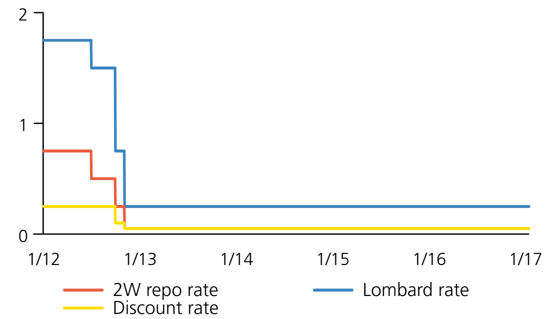



CHART III.5.9

**MARKET INTEREST RATES**

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

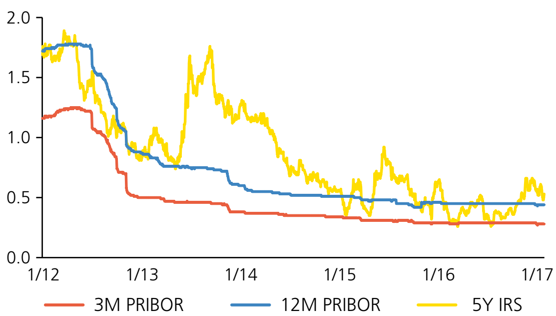


**Chart III.5.10**

**INTEREST RATE DIFFERENTIALS**

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

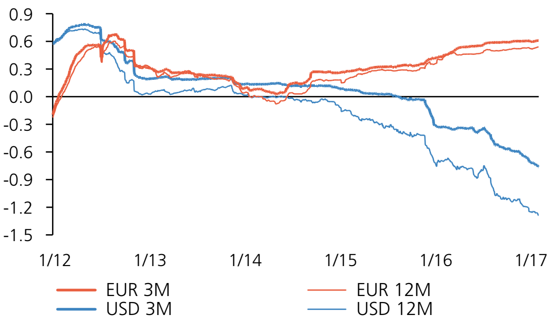
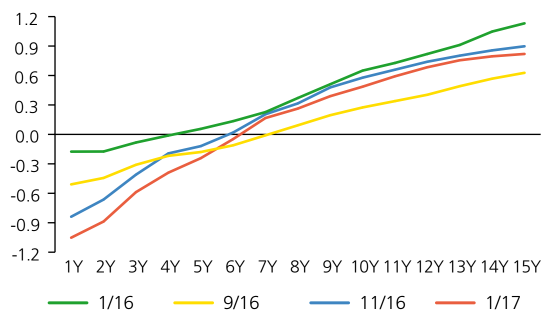



**Chart III.5.11**

**GOVERNMENT BOND YIELD CURVE**

**Government bond yields were at noticeably negative levels at the shorter end of the curve**
(percentages)




policy stances – see below) amid market interest rate stability in the Czech Republic. The positive differentials vis-à-vis euro rates remained stable, while the negative differentials vis-à-vis the dollar widened (see Chart III.5.10). The 3M PRIBOR-3M EURIBOR differential was 0.6 percentage point on average in 2016 Q4 and was at the same level at the end of January.

Domestic **interest rates with longer maturities** (IRS) moved mostly in line with foreign rates. Several factors were reflected in global financial markets. The most important one was different expectations regarding the monetary policy stances in the euro area and the USA. Expectations of a rate hike at the Fed's December meeting intensified, while most of the market was expecting the ECB to extend its asset purchase programme, change the parameters of the programme or even change its volume of securities purchases at its meeting. The Fed met the expectations and raised its rates and additionally indicated that they would continue to go up. The market response to the outcome of the ECB's December meeting (see section III.7 for details) was mixed. Yields with shorter maturities declined immediately after its publication (probably because of the lifting of the restriction that the yield on purchased assets must not be below the deposit rate), while yields at the longer end of the curve increased (probably in response to the announced reduction in purchases after March 2017). In the days that followed, however, a correction occurred. As for the other factors, foreign interest rates were also affected (upwards) by the OPEC agreement to curb oil extraction, which fostered an increase in inflation expectations worldwide. Overall, domestic IRS rates have increased by as much as 0.4 percentage point since the start of October (see Chart III.5.9). Domestic government bond yields have risen to a similar extent, but only at the medium and longer ends of the yield curve. Conversely, the negative yields at the shortest maturities have deepened, as growing demand for Czech government bonds stemming from market expectations of appreciation of the koruna after the exit from the CNB's exchange rate commitment and the related building of positions by foreign investors has persisted. The domestic government bond yield curve was thus negative up to 6Y maturity (see Chart III.5.11).

Fifteen auctions of fixed coupon bonds and one auction of variable coupon bonds were held on the primary **government bond market** in 2016 Q4. The total volume of bonds issued was CZK 61.7 billion.[35] Demand exceeded supply in almost all the auctions; the average bid-to-cover ratio was 1.8. Another three auctions totalling CZK 18.4 billion were held in January 2017.[36] The Ministry of Finance again took advantage of the favourable market conditions and sold bonds at

35 The total volume of bonds issued in 2016 was CZK 191.9 billion; the Czech Republic's updated Funding and Debt Management Strategy for 2016 assumed issues of medium- and long-term government bonds of at least CZK 150 billion.

36 The strategy for this year assumes issues of medium- and long-term government bonds in the domestic market of at least CZK 150 billion.

shorter maturities with a negative yield.[37] It meanwhile continued to implement its previous strategy of limiting the issuance of T-bills with maturities of up to 1Y and replacing them with zero-coupon bonds. 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 exceeded 30% at the end 2016.

### *Client interest rates*

**Client interest rates** on loans to households edged down further, while those on corporate loans were close to historical lows (see Chart III.5.12). Client interest rates on loans have been falling faster than financial market reference rates for some time, i.e. since the end of 2014. This is due in part to favourable risk perceptions in a situation of high bank liquidity. Rates with longer fixation periods dropped the most. Moreover, the deepening negative yields on five-year government bonds were reflected in part of the costs relating to the issuance of bank mortgage bonds and also affected client rates in addition to long-term bonds.

The **interest rate on corporate loans** in the domestic currency, tied mostly to the 3M PRIBOR, fluctuated just below 2% (the rate on foreign currency loans was similar). It reflected the stability of the 3M PRIBOR at historical lows due to the setting of the CNB's key interest rate at technical zero. By contrast, the **interest rate on loans to households** for house purchase and consumption continued to decline modestly as a result of a previous fall in the ten-year government bond yield (see Chart III.5.13). The rate on mortgages with fixation periods of over five years and up to ten years edged down further to 1.7% in November. However, the rate on house purchase loans was affected in late 2016 and early 2017 by the coming into effect of new legislation (on 1 December), which affected market conditions. According to partial information, some mortgage market players raised their mortgage rates slightly due to the new legislation facilitating early mortgage payment and to the increase in long-term financial market rates recorded since early October. The ten-year government bond yield, which most interest rates on loans to households are tied to, increased slightly (the pass-through time of changes to client rates is around three months for house purchase loans). The consumer credit rate was around 10%.

The **spread between rates in the Czech Republic and the euro area** is almost zero for corporate loans and 0.3 pp for house purchase loans. Conversely, despite a steady decline, it is still almost 5 percentage points for consumer credit.

37 A record-low yield of -1.72% was achieved in the January auction of a bond with a residual maturity of one year.

CHART III.5.12

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

**Interest rates on loans to households for house purchase in the Czech Republic and the euro area continued to fall moderately; the differences between them are negligible**
(cost of borrowing indicators; percentages)

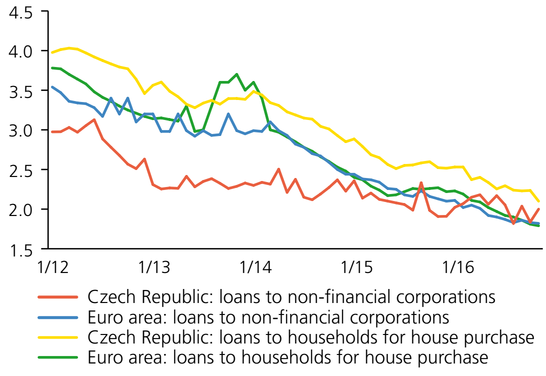
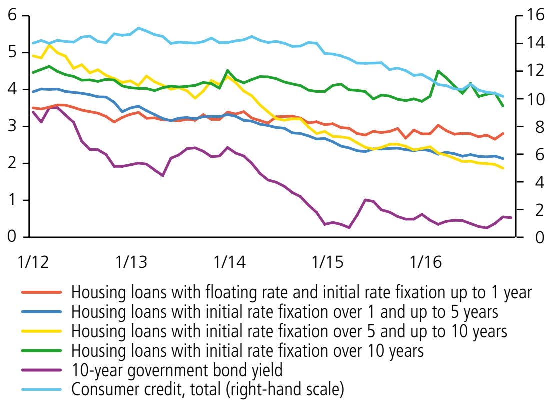



CHART III.5.13

**INTEREST RATES ON LOANS TO HOUSEHOLDS**

**Interest rates on loans for house purchase with long fixation periods fell slightly further, while the consumer credit rate was close to 10% after having fallen recently**
(new business; percentages)



**Real client interest rates on loans** to corporations and mortgages to households in the Czech Republic turned negative amid an increase in inflation expectations to the inflation target level. In the case of mortgages, they reached -0.1% for the first time since 2004.

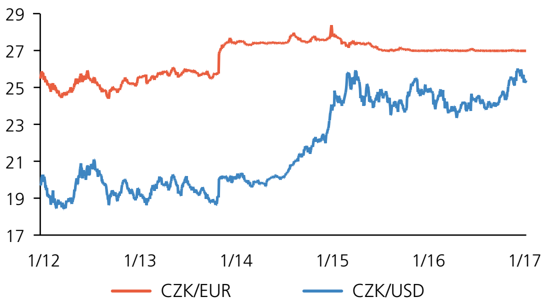
**Bank financing costs** remained low, but long-term costs rose due to the above-mentioned increase in long-term financial market rates. Following a previous decline, the average rate on resident deposits (banks' main balance sheet liability item) remained at a historically very low level in Q4. Unlike in the past, rates on short-term and long-term time deposits differed little (at close to 1%). To some extent, this reflected the very low spread between long-term government bond yields and money market rates.

### III.5.4 The exchange rate

CHART III.5.14

CZK/EUR AND CZK/USD EXCHANGE RATES

**The koruna remained just above the CNB's exchange rate commitment level in 2016 Q4; against the dollar it weakened**




The average **exchange rate of the koruna against the euro** was CZK 27.03 in 2016 Q4. This represented only a slight year-on-year appreciation (see Chart III.5.14). The koruna fluctuated within a narrow range just above the CNB's exchange rate commitment, i.e. CZK 27 to the euro, in the period under review. It stayed there during January.

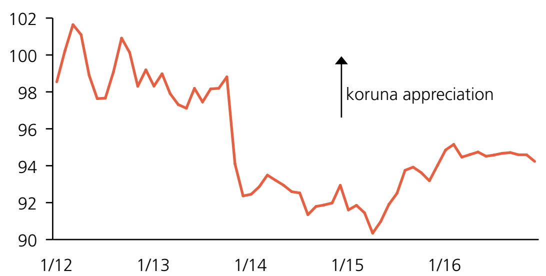
The **appreciation pressures on the koruna** (observed with temporary interruptions since July 2015) grew further in 2016 Q4. They were again related to the different economic situations in the Czech Republic and the euro area, the positive interest rate differential between the koruna and the euro and, above all, to the approaching expected exit from the exchange rate commitment. Neither an increase in the attractiveness of the dollar due to the rate hike in December nor the indication of further growth in rates in 2017 helped ease the appreciation pressures on the koruna. Statistical data on developments in the Czech Republic in 2016 Q4 (a rise in inflation and a further decline in unemployment) bolstered the financial markets' expectations of an early exit from the CNB's exchange rate commitment. Conversely, the escalating problems of the Italian banking sector tended to strengthen market expectations that the ECB's monetary policy would not change in the foreseeable future despite rising inflation in the euro area. The CNB's interventions to maintain the exchange rate commitment amounted to almost CZK 210 billion in 2016 Q4.

CHART III.5.15

NOMINAL EFFECTIVE KORUNA EXCHANGE RATE

**The koruna appreciated modestly year on year in effective terms, most of all against the British pound**

(basic index; year 2010 = 100)




The average **exchange rate of the koruna against the dollar** was CZK 25.1 in 2016 Q4. This represented a year-on-year depreciation of 1.6% and a quarter-on-quarter depreciation of 3.7%. The koruna weakened against the dollar from around CZK 24 to about CZK 26 at the end of the period under review. In mid-January the koruna was at slightly stronger levels of around CZK 25.5. These movements of the koruna-dollar rate in 2016 Q4 were caused by the dollar's appreciation on global markets related to financial market expectations of a rate hike by the Fed. This hike subsequently occurred at the December meeting. The dollar thus benefited from being the only reserve currency with positive and, moreover, rising interest rates.

The **nominal effective exchange rate** (NEER) of the koruna strengthened by 0.9% year on year in 2016 Q4 (see Chart III.5.15). This was due to the koruna appreciating mainly against the pound (by 16.9%) and to a lesser extent (around 5%) against the renminbi and the Swedish krona. The strengthening of the koruna NEER was partly dampened by the koruna weakening by 12.7% against the Japanese yen and 6.3% against the Russian rouble. The changes in the koruna's rate against the other currencies in the basket were insignificant. The koruna's sharp appreciation against the pound may have negative impacts on Czech exports, for which the UK is the fourth-largest market. By contrast, appreciation of the rouble (linked with growth in oil prices on global markets) is likely to lead to a halt in the previous sharp fall, or to a gradual renewal of growth, in Czech exports to Russia and the countries tied to it economically (such exports have dropped to around 60% of the 2014 level).

### 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 affected in 2016 Q3 by still falling input prices (see Chart III.5.16 and Table III.5.1). Despite this, growth in their book value added slowed slightly to 4.1%. This was due mainly to a year-on-year decline in output (of 1.7%). The profitability of non-financial corporations was reduced by continued sharp growth in wage costs (of 7.5%). As a result, their gross operating surplus rose only slightly year on year (by 0.2%).

The drop in output and weak growth in the gross operating surplus of non-financial corporations was due mainly to **manufacturing** (see Chart III.5.17), whose contribution to output growth was negative for the first time in a long time. Growth in output in the automotive industry slowed significantly (see Box 3 in section III.3.2). Output in other manufacturing sectors dropped year on year. Output in mining, energy and construction continues to fall.

**Large non-financial corporations** with 250 employees or more (around 1,800 entities) recorded a drop in gross operating surplus of 1.5% in 2016 Q3. Although the fall in the intermediate consumption of large corporations was bigger than that in the broader category of non-financial corporations, it was insufficient to offset a sharper drop in their output (of 3%) and faster growth in employment and related wage costs (of 8.5%).

### III.5.6 Financial position of corporations and households

Growth in the **financial liabilities of non-financial corporations** slowed year on year to 1.2% in 2016 Q3 (see Chart III.5.18). This was due primarily to shares and other equity excluding quoted shares, whereas growth in loans accelerated. The negative contribution of debt securities decreased slightly again in this quarter. The negative

CHART III.5.16

**KEY FINANCIAL INDICATORS**

**The gross operating surplus was broadly flat year on year**
(annual percentage changes)

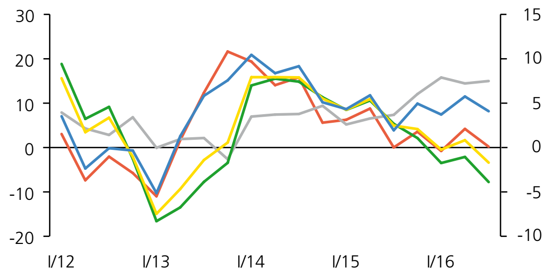



TABLE III.5.1

**PERFORMANCE INDICATORS OF NON-FINANCIAL CORPORATIONS**

**The material cost-output ratio decreased again year on year, while the personnel cost-output ratio rose further**

| | 2015 Q3 CZK billions | 2016 Q3 CZK billions | Annual percentage changes |
|---|---|---|---|
| Sales | 2,007.9 | 1,970.6 | -1.9 |
| Output incl. profit margin | 1,507.5 | 1,481.9 | -1.7 |
| Intermediate consumption | 1,094.5 | 1,052.0 | -3.9 |
| Book value added | 413.0 | 429.9 | 4.1 |
| Personnel costs | 220.6 | 237.1 | 7.5 |
| Gross operating surplus | 192.5 | 192.8 | 0.2 |
| | **%** | **%** | **Annual changes in pp** |
| Material cost-output ratio | 72.6 | 71.0 | -1.6 |
| Ratio of book value added to output | 27.4 | 29.0 | 1.6 |
| Personnel cost-output ratio | 14.6 | 16.0 | 1.4 |
| Ratio of personnel costs to value added | 53.4 | 55.1 | 1.7 |
| Ratio of gross operating surplus to value added | 46.6 | 44.9 | -1.7 |

CHART III.5.17

**OPERATING PROFIT BY SECTOR**

**Gross operating surplus growth was subdued in all sectors**
(annual percentage changes; contributions in percentage points)

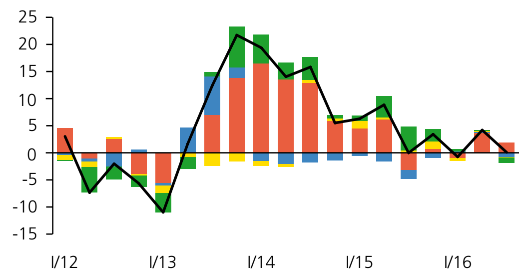


**CHART III.5.18**

**FINANCIAL LIABILITIES OF NON-FINANCIAL CORPORATIONS**

**The slowdown in growth in corporate financial liabilities was due mainly to shares and other equity excluding quoted shares**
(annual percentage changes; contributions in percentage points)

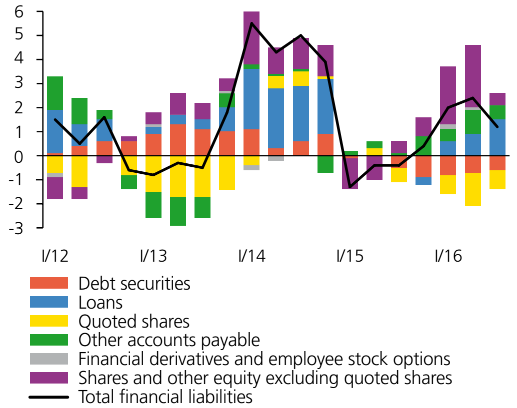



**CHART III.5.19**

**STRUCTURE OF HOUSEHOLD FINANCIAL ASSETS**

**The slowdown in growth in households' net financial assets was due mainly to a decrease in the contribution of shares and other equity**
(contributions in percentage points; annual percentage changes and percentage ratios)

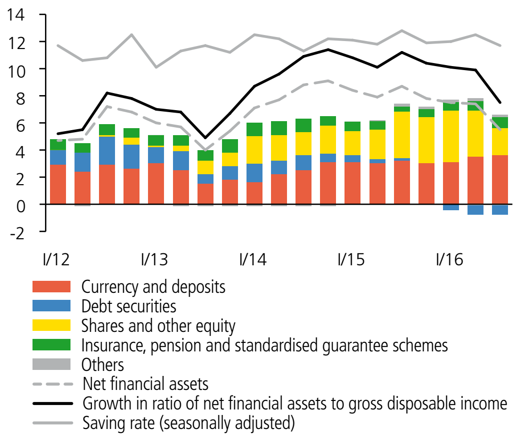
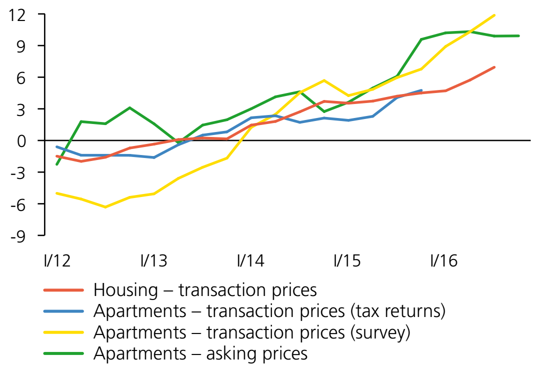



**CHART III.5.20**

**TRANSACTION AND ASKING PRICES OF HOUSING**

**Growth in apartment prices accelerated further**
(annual percentage changes)




contribution of quoted shares also shrank due to revaluation. Annual growth in the **financial assets of non-financial corporations** slowed (to 3.1%) due to shares and currency and deposits. Overall, the negative net financial position of corporations decreased.

The main **trends in the balance sheets of non-financial corporations** are reflected in their financial indicators. The acid-test ratio[38] of corporations decreased for the third consecutive quarter (to 183%) and was also lower in year-on-year terms for the first time ever. The corporate solvency ratio[39] also decreased slightly compared to the previous quarter (to 116%). The market-based financing ratio[40] has been flat at around 7.7% for almost a year now, showing no clear trend. This is due mainly to subdued issuing activity by non-financial corporations.

Growth in the **net financial assets of households** slowed to 5.5% year on year in 2016 Q3 (see Chart III 5.19). Growth in net financial assets relative to annual gross disposable household income showed a similar pattern, falling by 7.5%. Growth in **households' financial assets** also slowed significantly compared to the previous quarter (below 6%). This was due to shares, most notably unquoted shares and other equity. From the long-term perspective, shares and other equity are one of the main drivers of growth in households' financial assets, mainly reflecting households' investment in investment fund shares and units. In contrast to shares, growth in currency and deposits, which currently account for more than 3.5 percentage points of the growth in household financial assets, rose slightly further. The same goes for year-on-year growth in the **financial liabilities of households** (which rose to almost 7%), which mainly reflected a rise in long-term loans.

### III.5.7 The property market

**Transaction prices of housing** rose at an increasing pace in 2016 Q3. According to the CZSO, the year-on-year growth in the house price index accelerated to 6.9% (see Chart III.5.20). According to CZSO survey estimates, **transaction prices of older apartments** rose by almost 12% in the same period. They surged to 8.3% in Prague and even more strongly to 13.1% in the rest of the Czech Republic. Growth in transaction prices of apartments outside Prague thus outpaced growth in asking prices in 2016 Q3. **Asking prices** in Prague continued to rise faster than transaction prices, so the gap between the two types of prices widened again. In 2016 Q4, growth in asking prices rose by 1.5 percentage points to 11.3% in Prague and fell by the same amount to 8.5% in the rest of the country.

38 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.

39 The ratio of total financial assets to liabilities excluding shares and other equity.

40 The ratio of bonds and quoted shares issued to total liabilities.

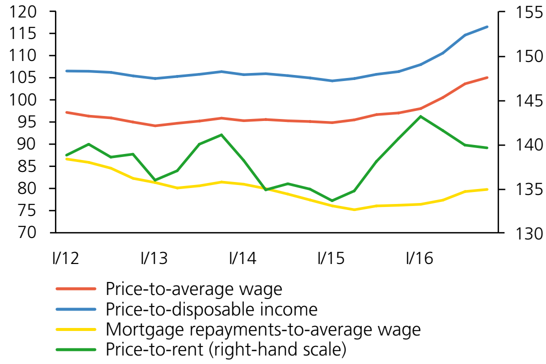
The growth in apartment prices in 2016 Q4 was reflected in a further deterioration of the **affordability indicators** (see Chart III.5.21). According to estimates, the price-to-average wage ratio and the price-to-disposable income ratio rose by 8.2% and 9.5% year on year respectively. However, both these indicators remain well below their historical highs (of 22% and 29.4% respectively) recorded in 2008. The mortgage repayments-to-average wage ratio went up by 4.7%. By contrast, the price-to-rent ratio dropped by 0.7% according to IRI data.

CHART III.5.21

APARTMENT PRICE SUSTAINABILITY INDICATORS

**The indicators of the affordability of apartments continued to deteriorate**

(average for 2000–2007 = 100[a]; 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.

CHART III.6.1

**CURRENT ACCOUNT**

**The current account deficit narrowed year on year in 2016 Q3, mainly as a result of a rise in the goods surplus**
(CZK billions)

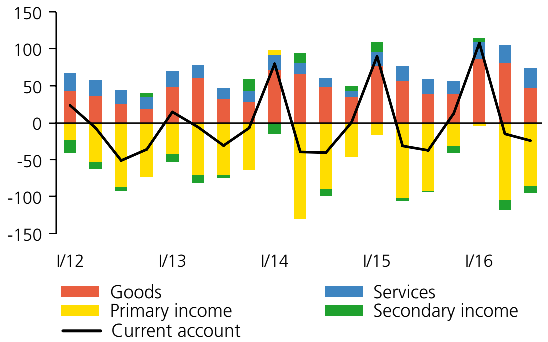



CHART III.6.2

**EXTERNAL TRADE IN GOODS BY SITC**

**A decrease in the mineral fuels deficit was the biggest contributor to the year-on-year rise in the trade surplus**
(Q3 of relevant year in CZK billions; national concept)

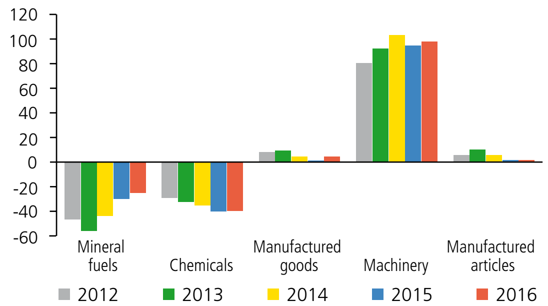
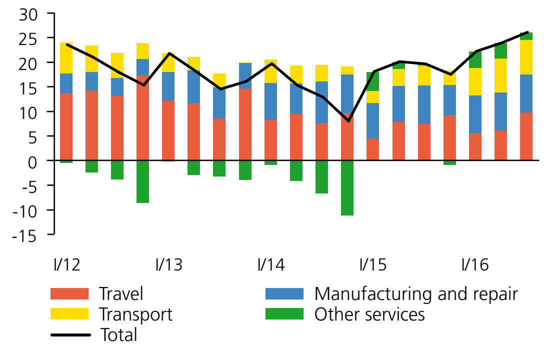



CHART III.6.3

**SERVICES**

**All components contributed to the services surplus**
(CZK billions)




## III.6 THE BALANCE OF PAYMENTS

*The balance of payments in 2016 Q3 was characterised by a high primary income deficit, linked mainly with direct investment income in the form of dividends paid to non-residents. However, its effect on the current account was largely offset by a goods and services surplus, which increased year on year. The capital account recorded a surplus, influenced by drawdown of EU funds. The largest financial account item was a sizeable rise in reserve assets, linked mainly with foreign exchange interventions by the CNB. Its counterpart was a net inflow of other investment associated with a change in the position of the banking sector vis-à-vis non-residents.*

### III.6.1 The current account

As in the previous quarter, the **current account** recorded a deficit in 2016 Q3, this time of CZK 22.4 billion. However, the deficit narrowed by more than CZK 13 billion year on year. The decline in the overall deficit was due primarily to a rise in the goods and services surplus (see Chart III.6.1). The annual moving ratio of the current account to GDP reached 1.9%, rising slightly again compared to the previous quarter. It has been non-negative for almost three years now.

The **goods** surplus continued to rise year on year for the fourth consecutive quarter in 2016 Q3. The growth in the goods surplus of more than CZK 8 billion (to CZK 47.1 billion) was due mainly to a price effect associated with a positive year-on-year change in the terms of trade. However, developments in real terms also played a role. Turning to the commodity structure, a decrease in the mineral fuels deficit was the biggest contributor to the year-on-year rise in the overall surplus in this quarter (see Chart III.6.2). The decline in nominal trade turnover, observed in 2016 Q1, was renewed in 2016 Q3 (3.5%). Goods exports at current prices fell by 2.9% after having risen slightly in 2016 Q2. In terms of commodity structure, this was linked with a sharp drop in exports of fuels (particularly gas re-exports) and generally with weaker external demand, especially for the output of some engineering sectors, including automotive industry products (see Box 3 in section III.3.2). Nominal goods imports continued to decline year on year for the third consecutive quarter, with the drop increasing to 4.2% despite a significant moderation of the decline in import prices. This was due primarily to a fall in exports and investment, which are highly import intensive. The total goods surplus continued to rise year on year during 2016 Q4, growing by almost CZK 10 billion in October to November.

The growth in the goods and services surplus was also due to a surplus on **services** (of more than CZK 6 billion). The services surplus, which reached CZK 26 billion, rose in year-on-year terms for the sixth consecutive quarter. The largest contributor to the total services surplus (see Chart III.6.3) was a travel surplus of CZK 9.8 billion, but the other three component balances also recorded surpluses. The growth in the overall surplus was mainly due to the transport balance as a result of a decline in debits.

In contrast to the goods and services balance, **primary income** posted a sizeable seasonal deficit of CZK 86.3 billion due to a high past inflow of foreign direct investment. However, the deficit narrowed by almost CZK 6 billion year on year. Lower portfolio investment income paid to non-residents was the biggest contributor to the year-on-year decline in the overall deficit in this quarter. The largest component of the overall balance, however, was still the investment income deficit (see Chart III.6.4), stemming from a direct investment income deficit of CZK 108.4 billion linked mainly with dividend payouts to non-residents.[41] By contrast, surpluses on compensation of employees and income on reserve assets were the biggest contributors to the reduction in the overall deficit.

**Secondary income** also recorded a deficit (of CZK 9.2 billion). The deficit widened by more than CZK 7 billion year on year, mainly because of higher transfers to the EU budget. Net income from the EU budget recorded under secondary income switched from a surplus to a moderate deficit of CZK 1 billion in year-on-year terms. The largest component of secondary income was thus an overall deficit on other income not connected with the EU budget, under which the largest deficit was recorded for social contributions.

### III.6.2 The capital account

By contrast, the **capital account** recorded a surplus of CZK 12.1 billion, resulting, as usual, from drawdown of funds from the EU budget (totalling almost CZK 11 billion). Its year-on-year growth of more than CZK 4 billion was also associated mainly with drawdown of EU funds.

### III.6.3 The financial account

The **financial account** recorded net lending abroad (a net outflow) of CZK 18.4 billion in 2016 Q3. Rapid growth in reserve assets and a net outflow of portfolio investment were largely offset by an overall net inflow of direct and particularly other investment (see Chart III.6.5).

**Direct investment** recorded a net inflow of CZK 51.4 billion (see Chart III.6.6). As in the previous quarter, the inflow was due to assets dropping and liabilities simultaneously rising. The determining factor of the overall net inflow was a net inflow in credit relations. However, it was not necessarily linked directly with domestic investment activities, but may have been due rather to optimisation

41 Box 2 in Inflation Report IV/2016 provides an international comparison of direct investment dividend outflows.

CHART III.6.4

**PRIMARY INCOME**

**The primary income deficit narrowed year on year due mainly to a decrease in the investment income deficit**
(CZK billions)

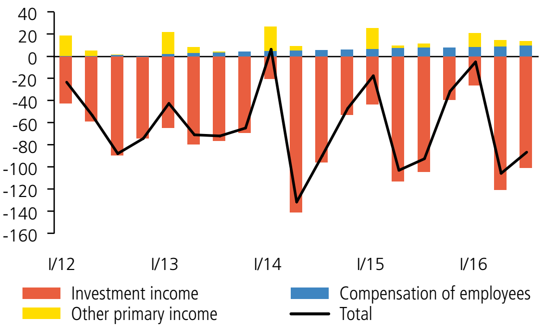



CHART III.6.5

**FINANCIAL ACCOUNT**

**Growth in reserve assets and a net outflow of portfolio investment were largely offset by an overall net inflow of direct and especially other investment**
(CZK billions)

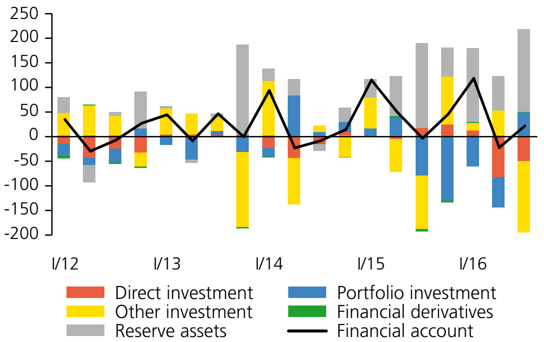



CHART III.6.6

**DIRECT INVESTMENT**

**The largest component of the net inflow of direct investment was a net inflow under debt instruments**
(CZK billions)

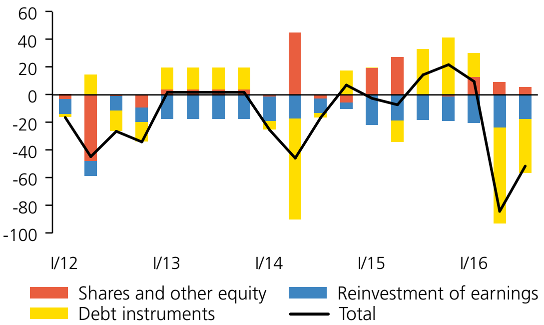


Chart III.6.7

## PORTFOLIO INVESTMENT

**Portfolio investment recorded a net outflow, primarily as a result of a decrease in liabilities under debt securities**
(CZK billions)

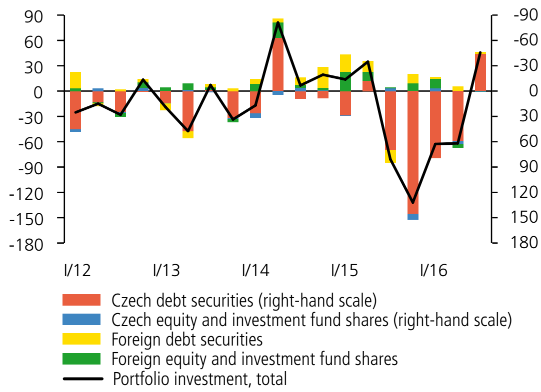
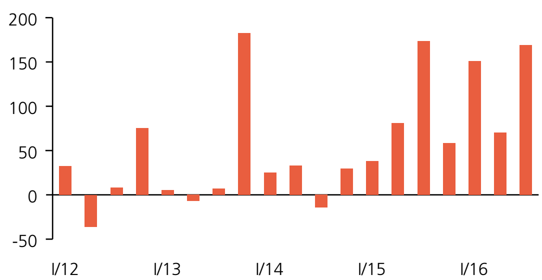



Chart III.6.8

## RESERVE ASSETS

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




of financial flows between parent companies and subsidiaries. The inflow of foreign investment into the Czech Republic amounted to almost CZK 47 billion and was associated mainly with reinvestment of earnings and a predominance of loans in debt instruments. By contrast, the decline in Czech investment abroad was due to a net reduction in assets in debt instruments. However, this was largely offset by growth in shares and other equity and reinvestment of earnings. The year-on-year change in direct investment flows of almost CZK 66 billion was also related mainly to changes in credit relations.

By contrast, **portfolio investment** recorded net lending abroad (a net outflow) of CZK 45.7 billion in 2016 Q3 following a year of net inflow (see Chart III.6.7). This figure was due primarily on the liabilities side (under debt securities) to a drop in holdings of short-term bonds by commercial banks, linked with optimisation of domestic banks' balance sheet structures. However, this was fully offset by growth in liabilities under other investment. The year-on-year change in portfolio investment flows (exceeding CZK 126 billion) was also related mainly to changes in flows of domestic debt securities. Overall, the outflow of portfolio investment by non-residents exceeded CZK 44 billion. By contrast, purchases slightly dominated domestic investors' transactions in foreign securities. They were related exclusively to growth in holdings of foreign bonds, whereas sales slightly predominated in the case of equity and investment fund shares.

Settlement of **financial derivatives and employee stock options** also led to moderate net lending abroad (a net outflow) of CZK 1.3 billion, amid a year-on-year change in flows of almost CZK 6 billion.

**Other investment** recorded sizeable net borrowing from abroad (a net inflow) of CZK 146 billion. The total net borrowing was due exclusively to a net inflow into the banking sector including the CNB (exceeding CZK 157 billion). It was associated primarily with a rise in short-term deposits at domestic banks, driven by non-residents' expectations of a future strengthening of the koruna and the aforementioned optimisation of domestic banks' balance sheet structures. The year-on-year rise in the overall net inflow of almost CZK 37 billion was also associated with developments in the banking sector. The sector's net borrowing was only slightly offset by a net outflow of funds via the corporate sector connected with short-term trade credits and loans to non-residents.

**Reserve assets** increased for the second consecutive year. Their growth reached CZK 168.8 billion in 2016 Q3, due above all to the CNB's foreign exchange interventions (see Chart III.6.8).

## III.7 THE EXTERNAL ENVIRONMENT

*GDP in the euro area continued to rise at a steady pace in 2016 Q3. However, it probably accelerated at the end of the year. The ECB extended its asset purchase programme, but announced a reduction of the volume of its monthly asset purchases. The US economy accelerated. Inflation went up on both sides of the Atlantic at the end of the year. This was largely due to prices of energy commodities, which accelerated in 2016 Q4. The non-energy commodity price index also rose moderately, owing mainly to growth in industrial metals prices. The euro depreciated to an almost 14-year low against the dollar due to continuing divergence of the ECB's and the Fed's monetary policies.*

### III.7.1 The euro area

Annual **GDP growth** in the euro area remained at 1.7% in 2016 Q3 (see Chart III.7.1) and in quarter-on-quarter terms the euro area economy grew by 0.3%. The Brexit-related uncertainty has not significantly affected the euro area's economic performance yet. As in previous quarters, the growth was driven mainly by household consumption and fixed investment. On the other hand, it was counteracted by net exports, although their negative contribution shrank.

**Monthly data** for 2016 Q4 indicate a slight pick-up in growth. Industrial production recorded solid growth in November (of 3.2% year on year), with industrial output being strong across the euro area countries. The PMI in manufacturing (54.9 in December), reflecting growth in output, new orders and employment, also suggests an economic upswing. The total unemployment rate fell below 10% in September for the first time since 2011. Along with rising consumer confidence, this fostered growth in retail sales (of 2.3% year on year in November). It thus seems that the political uncertainty (associated with Brexit, the US election results, the referendum in Italy and the upcoming elections in France and Germany) has not affected economic growth in the euro area yet. However, the related risks may cause the **growth outlooks** to be revised downwards. CF estimates euro area growth last year at 1.5%. Like the other institutions, it expects a similar figure this year and the next (see Chart III.7.2).

Headline **inflation in the euro area** rose by 0.5 pp in December compared to November, to 1.1% (see Chart III.7.3). This increase was due mainly to a positive contribution of energy prices. By contrast, core inflation increased only slightly to 0.9% in the same period. The rising energy prices also affected industrial producer prices (see Chart III.7.3), which in November went up year on year for the first time in more than three years and will thus drive consumer price inflation higher in the months to come. However, according to the monitored outlooks inflation will stay between 1.1% and 1.5% this year and the next (see Chart III.7.2), i.e. well below the ECB's target.

CHART III.7.1

**GDP IN THE EURO AREA**

**GDP in the euro area continued to rise at a steady pace and was driven mainly by household consumption and fixed investment**

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

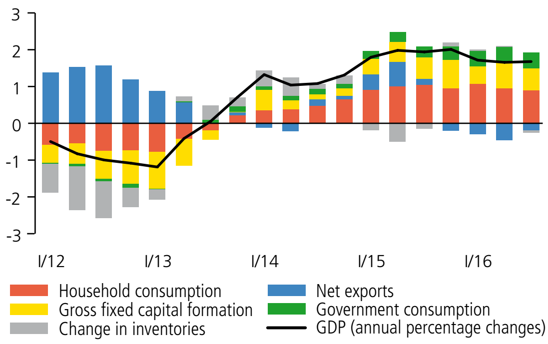
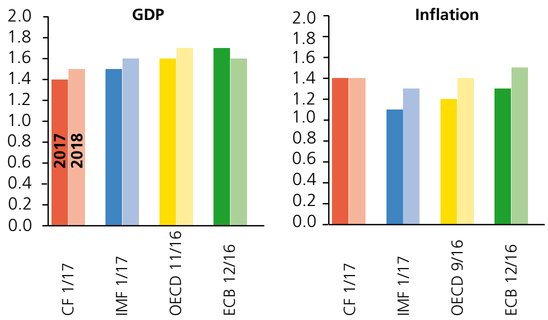



CHART III.7.2

**EURO AREA GDP AND HICP INFLATION OUTLOOKS**

**Euro area GDP growth will stay at similar level as in 2016 this year and the next, while inflation will accelerate gradually**

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



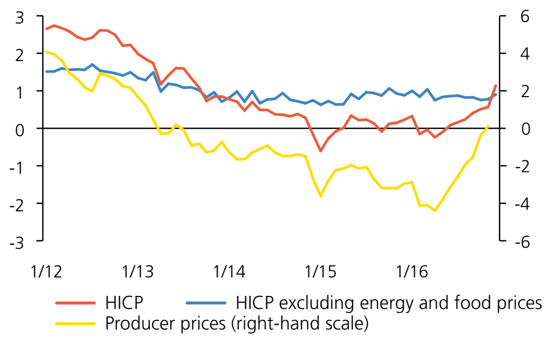

Note: Horizontal axis shows most recent forecast data in format "Source month/year of publication". Midpoint of range for ECB.

CHART III.7.3

**INFLATION AND PRODUCER PRICES IN THE EURO AREA**

**Headline inflation has been gradually increasing in recent months; industrial producer price inflation turned slightly positive in November for the first time after a long period of declines**

(annual percentage changes; source: Datastream)



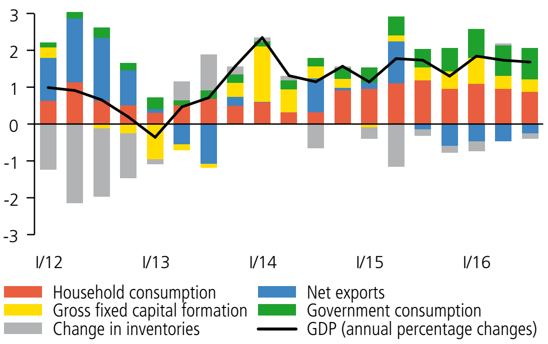
The **ECB's monetary policy** remains very accommodative. At its December meeting, the ECB extended its asset purchase programme at least until December 2017. Its monthly asset purchases will drop from the current EUR 80 billion to EUR 60 billion as from April 2017. At its January meeting, the ECB confirmed its monetary policy settings. According to the ECB, the rise in inflation at the end of last year was largely due to rising energy prices. Despite a stabilisation of growth in recent quarters, the situation in the economy continues to require significantly accommodative monetary policy to return inflation to the target. Moreover, according to the ECB the risks to the outlook are tilted to the downside and relate to global factors. The 3M EURIBOR will remain at negative levels according to market outlooks.

CHART III.7.4

GDP IN GERMANY

**Annual GDP growth maintained its stable momentum in 2016 Q3**

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




**Annual economic growth in Germany** maintained its stable momentum in 2016 Q3 (1.7%;[42] see Chart III.7.4). The ongoing relatively strong growth was driven mainly by a continuing high rate of government consumption growth. By contrast, the contributions of household consumption and investment to the overall annual growth dropped slightly compared to the previous quarter. The negative contribution of net exports continued to dampen GDP growth, albeit with less intensity than in previous quarters. Inventories also made a negative contribution to the overall growth in Q3. The favourable economic situation was accompanied by a low unemployment rate[43] (5.8% in December) and continuing, although slowing, employment growth (of 0.6% year on year in November).

The **federal budget** posted a surplus last year, although a slightly smaller one than in 2015. The German Ministry of Finance will continue to follow through on its plan not to generate new debt. The state budgets until 2020 are thus drawn up as balanced. This year, expenditure will increase particularly in the area of security. More money will also go to spending related to the integration of immigrants.

The **favourable evolution of the German economy** is expected to continue into 2016 Q4, thanks mainly to consumer demand related to positive labour market developments. Year-on-year growth in retail sales went up during Q4. The growth rate of industrial production increased and the PMI leading indicator in manufacturing also rose faster than expected. Nonetheless, German GDP growth is expected to slow in 2017. The rate of slowdown differs across the different predictions.[44] For 2018, all the monitored institutions forecast GDP growth to remain at 1.6% on average.

42 The quarter-on-quarter growth rate of the German economy slowed from 0.4% to 0.2%.

43 Despite the fact that refugees who have come to Germany in recent years are gradually joining the ranks of the unemployed.

44 CF has been expecting the lowest German economic growth rate for several quarters now, while the Bundesbank is the most optimistic.

**Inflation pressures** have started to emerge in the German economy. Year-on-year growth in industrial producer prices turned positive in November for the first time in more than three years and rose even further in December (to 1.1%; see Chart III.7.5). Consumer price inflation more than doubled to 1.7% in December. CF expects the same inflation rate for 2017 as a whole. Core inflation (excluding food and energy prices) also increased slightly.

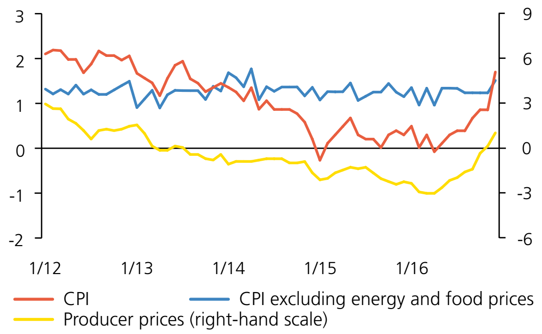
GDP **in Slovakia** increased by 3.2% year on year (and by 0.7% quarter on quarter) in 2016 Q3. The growth was mainly due to net exports and inventories, whereas investment fell sharply. The favourable growth was reflected in a further decline in the unemployment rate, which reached 8.8% in November. Industrial production was relatively favourable in October and November. Nevertheless, CF expects Slovak economic growth to slow moderately both in 2016 Q4 and for 2017 as a whole.

**Inflation in Slovakia** was 0.2% in December. Consumer prices increased, albeit marginally, for the first time in three years. The decline in industrial producer prices also slowed slightly in November. Consumer prices fell by 0.5% in 2016 as a whole. This year, CF expects them to rise by 1.2%.

CHART III.7.5

INFLATION AND PRODUCER PRICES IN GERMANY

**Inflation in Germany increased sharply**
(annual percentage changes; source: Datastream)




### III.7.2 The United States

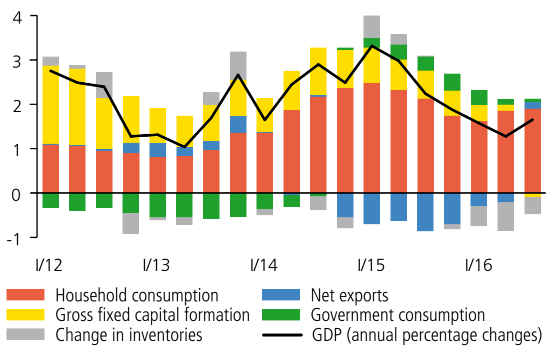
The **US economy** accelerated in year-on-year terms in 2016 Q3 for the first time in quite a while (to 1.7%; see Chart III.7.6). The growth was again due mainly to household consumption. The negative contribution of inventories decreased compared to the previous quarter, while the contribution of net exports was positive for the first time in two years.[45] The contribution of investment was negative, mainly because of lower investment in equipment.

The available data indicate continued strong growth of the US economy in **2016 Q4**. Positive developments in the labour market are reflected not only in domestic demand, but also in increasing inflationary pressures. Despite initial uncertainty, Donald Trump's victory in the presidential elections increased optimism in the economy, causing the dollar to appreciate and the stock market index to rise to a 13-year high. Non-farm payroll growth averaged 171,000 in October–November. The unemployment rate dropped to its lowest level in two years (4.6%). According to the Conference Board survey, consumer confidence grew steadily at the end of the year, particularly in the item of future expectations. Retail sales recorded their highest year-on-year growth in two years in October (4.3%). The situation in the other sectors also improved. The year-on-year slump in industrial production slowed at the end of the year and the ISM PMI leading

CHART III.7.6

GDP IN THE USA

**Annual GDP growth in the USA accelerated in 2016 Q3**
(annual percentage changes; contributions in percentage points; seasonally adjusted; source: Datastream, CNB calculation)



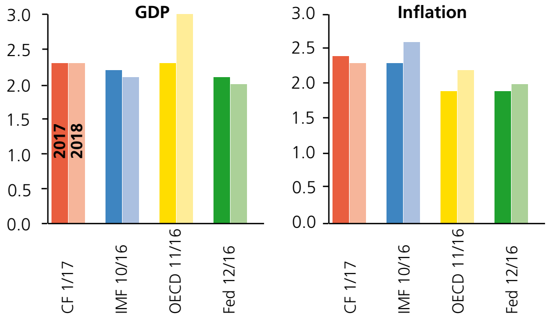

45 The main reason was a one-off rise in US soybean exports owing to lower harvests in Argentina and Brazil.

Chart III.7.7

**US GDP AND INFLATION OUTLOOKS**

**The January CF expects inflation and economic growth of more than 2% 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.

Chart III.7.8

**INFLATION AND PRODUCER PRICES IN THE USA**

**Inflation went up sharply in 2016 Q4**

(annual percentage changes; source: Datastream)

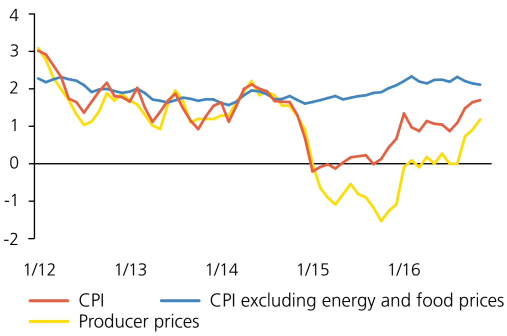
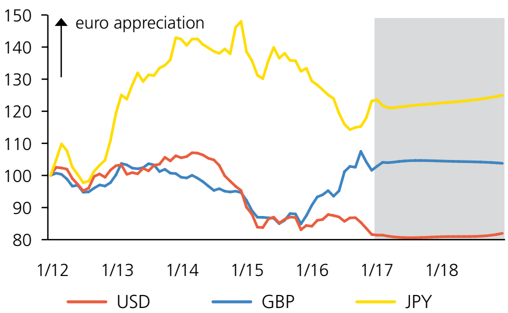



Chart III.7.9

**EURO EXCHANGE RATE AGAINST MAJOR CURRENCIES**

**The euro weakened against both the dollar and the pound in 2016 Q4, but strengthened against the yen**

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




indicator reached a two-year high in December (54.7). According to the monitored outlooks, US GDP growth will fluctuate above 2% in 2017 (see Chart III.7.7). According to most of the institutions monitored (except the OECD), the growth rate will be maintained or slacken slightly in 2018.

**Inflation in the USA** increased at the end of 2016 under pressure from higher wage costs, fuel prices and rents. Annual headline inflation increased to 1.7% in November, while inflation excluding energy and food prices dropped slightly (see Chart III.7.8). Industrial producer prices also recorded an increase of more than 1% for the first time in two years. The inflation outlooks for 2017 from the monitored institutions range between 1.8% and 2.4%. In 2018, inflation in the USA is expected to rise further (except in the CF outlook).

In line with expectations, the **Fed** raised the target range for its policy rate to 0.50%–0.75% in December. Fed Chair Janet Yellen also announced that maturing bonds will continue to be reinvested. The macroeconomic outlook for 2017 was also revised, with three rate hikes instead of two (totalling 75 basis points) now expected. However, the economic outlook may be affected by planned changes to fiscal policy after Donald Trump becomes president (in particular, higher infrastructure spending, lower taxes and changes in the area of foreign trade).

### 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** depreciated during 2016 Q4 (see Chart III.7.9) to its weakest level since January 2003. This was due to expectations of further divergence between the ECB's and Fed's monetary policies, which later materialised. The euro's depreciation trend was interrupted by just two short episodes. The first occurred before the US presidential elections, when the dollar weakened modestly due to escalated political nervousness. However, it strengthened sharply after the elections. The second occurred in late November and early December, when the dollar partly erased its previous sizeable gains. The ECB announced an extension of quantitative easing at its December meeting. A week later the Fed tightened its monetary policy, increasing rates for the second time since the crisis. Since then, the euro has been strengthening moderately against the dollar, with mostly positive economic data coming in from the euro area.

Since the Brexit referendum in June, the exchange rate of the euro against the **British pound** has been responding mainly to events and changes in sentiment in the UK. After the British prime minister disclosed more details about the planned timing of the formal request to leave the EU in early October, the euro appreciated against the pound to a more than six-year high, around which it fluctuated until the end of the month. Positive news from the UK economy then predominated, dispelling earlier concerns that the referendum would have immediate negative impacts on UK economic growth, and the pound strengthened for more than a month. This was also fostered by gradually diminishing fears of a "hard" Brexit, under which the UK would fail to negotiate the retention of a large part of the benefits it has enjoyed as an EU member after leaving the EU. However, a new wave of nervousness gradually rolled over the British Isles before Christmas as further details about the government's strategy for negotiating with the EU failed to emerge. The euro thus appreciated against the pound again until mid-January, when the UK prime minister revealed more about the government's plan for reconfiguring relations with the EU.

By contrast, the exchange rate of the **Japanese yen** is responding more to global risk perceptions and developments in the USA than to local economic fundamentals, even in its currency pair with the euro. The euro was flat at a relatively weak level against the yen in October, with both currencies depreciating at roughly the same pace against the dollar. When the global economy entered a more optimistic period after the US presidential elections, demand for safe assets, and hence also for Japanese yen, dropped sharply. The euro thus firmed against the yen to the levels observed at the end of May. The BoJ has left its monetary policy unchanged since September. Its assurance in December that the marked weakening of the yen during the last quarter is no reason for tightening monetary policy helped keep the exchange rate calm at the end of the year.

According to the **January CF**, the euro will weaken slightly against all three above-mentioned currencies over the one-year horizon – by 1% against the dollar and the yen, but only negligibly (by 0.1%) against the pound. The exchange rate of the euro against the dollar is thus expected to be USD 1.05 at the end of January 2018.

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

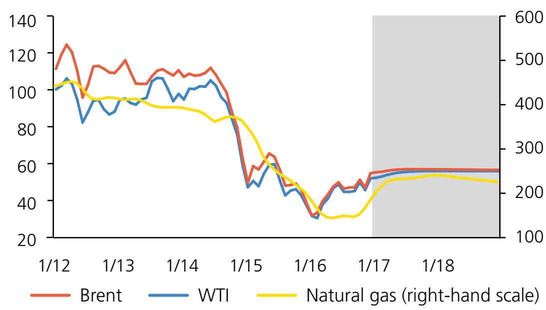
The price of **Brent crude oil** stayed above USD 50 a barrel for most of October 2016 (see Chart III.7.10) on prevailing positive market sentiment stemming from OPEC's preliminary agreement in Algiers to reduce oil production. However, the oil price fell sharply in the last week of October as concerns that the deal would fail increased. The oil price showed strong volatility in November in response to often contradictory news from meetings of experts held before the OPEC summit in Vienna. It edged up gradually as Saudi Arabia stepped up its diplomatic activity and as Iraq and Iran as well as Russia became more accommodative. On 30 November, OPEC agreed in Vienna to cut output by 1.2 million barrels a day, to which the Brent oil price responded with its biggest increase since the start of 2009 (rising by more than 18% in four days). When other large non-OPEC producers promised to reduce oil output (by 558,000 barrels a day in total) at a joint meeting a week later, the upward price trend continued until early January, when the price briefly exceeded USD 57 a barrel for the first time since June 2015. It then stabilised between USD 55 and

**CHART III.7.10**

**OIL AND NATURAL GAS PRICES IN USD**

**Expected cuts in oil output by OPEC and other large producers are keeping the oil price at its highest level since June 2015**

(oil in USD/barrel; natural gas [Russian in Germany] in USD/1,000 m³ – right-hand scale; source: IMF, Bloomberg, CNB calculation)



USD 56 a barrel until mid-January 2017. The oil price stabilisation was also due to a halt in the growth of hedge funds' long positions.

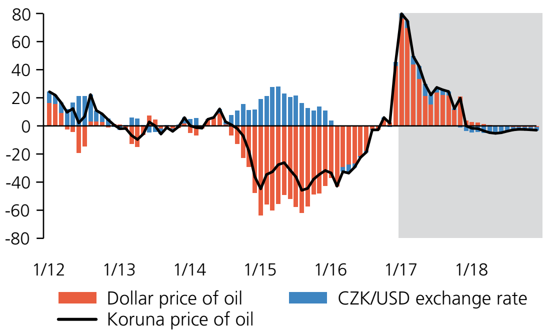
Market participants currently believe that producers will at least partly stick to the agreements to cut oil output[46] and are now awaiting new data on current output that might set the course for prices going forward. However, the **risks** are still mostly on the downside. The Brent crude oil price is currently at the level that most analysts predict as the average for 2017 as a whole. If the price rises significantly above the current level, growth in drilling activity and subsequently shale extraction in the USA[47] is expected to accelerate, sending the price back down. Moreover, some analysts believe that the agreed output limits may be insufficient given that both Russia and OPEC raised oil output to record levels before the end of last year. Another factor is a potential calming of the political situation in Libya and Nigeria. This would raise output in those countries, which is subject to no limits.

**Chart III.7.11**

**DECOMPOSITION OF KORUNA OIL PRICE GROWTH**

**The initially strong year-on-year growth in the koruna price of oil will weaken during 2017; 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)




The **koruna price of oil** will show strong growth (owing mainly to changes in the dollar price) at the start of this year after a year-on-year decline lasting more than two years. The growth will gradually weaken over the course of the year and should be slightly negative again in 2018 (see Chart III.7.11).

The **market futures curve** for the Brent crude oil price has been gradually flattening. It is slightly rising until around mid-2017 and is then almost horizontal.[48] It has moved upwards mainly at its shorter end in line with growth in spot prices. As of the January CF survey date, the futures curve thus implied an average Brent crude oil price of around USD 57 a barrel for this year and the next. The January CF expects a similar price (USD 56.1 a barrel at the one-year horizon). The latest EIA forecast expects lower average oil prices (USD 53 and USD 56 a barrel for 2017 and 2018 respectively), since it assumes that global oil stocks will continue to rise on average this year (by 0.3 million barrels a day). According to the EIA, they will not start to be drawn on constantly until mid-2018. The oil price will respond by surging to USD 59 a barrel at the end of 2018.

The **energy commodity price index** recorded an upswing in growth in 2016 Q4 (see Chart III.7.12), fostered not only by oil prices, but also by prices of natural gas and particularly coal. Electricity prices recorded a strong correction of their previous sharp growth during November, but in December they increased again. The **non-energy commodity**

46 Under the agreements, output will only be reduced in the first half of the year, when demand for oil is seasonally the lowest. Some OPEC countries have started to notify their regular customers in advance of the future reduction in supplies.

47 An upward trend in the active oil rig count in the USA has been observed since June 2016 and oil production continued to rise for the third consecutive month in December.

48 A flat or falling futures curve does not allow for profitable storage of newly extracted oil, so this state may reflect market expectations that global supply and demand will have balanced out by mid-2017 and global oil stocks will stop growing.

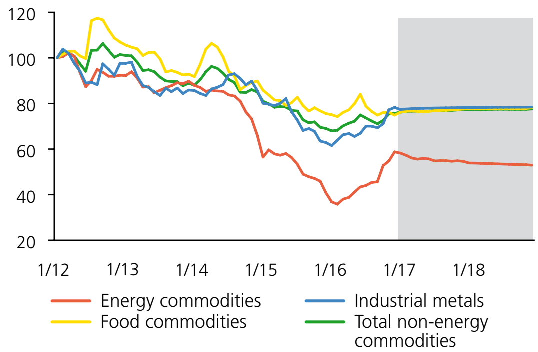
**price index** also rose during 2016 Q4, but its components showed mixed trends. The industrial metals price index moved higher in December following strong growth in November (when copper prices had surged). Although it had weakened modestly by mid-January, it remains close to an 18-month high. By contrast, the food commodity price index dropped slightly in December following two months of growth. It rose again in early January, returning to the November level, but remains close to its lowest levels since 2010 (due mainly to high stocks and hence low prices of grains). In the above period, the only items to record bigger upswings were meat prices (although the growth in pork prices was a regular seasonal increase) and, as regards non-food commodities, rubber prices. All three indices are virtually flat over the outlook horizon.

CHART III.7.12

**COMMODITY PRICES**

**The energy commodity price index recorded an upswing in growth; the non-energy commodity price index also rose slightly**

(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).

# ABBREVIATIONS

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

| | | |
|---|---|---|
| **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 cyclicality of the unemployment rate and wages** | (Box) | II/2015 |
| **The monetary conditions index for the Czech Republic** | (Box) | II/2015 |

| | | |
|---|---|---|
| **The monetary conditions index for the euro area** | (Box) | II/2015 |
| **The pass-through of the koruna-dollar exchange rate to prices of tradable goods** | (Box) | III/2015 |
| **The equilibrium koruna-euro exchange rate** | (Box) | III/2015 |
| **The German economy and the dollar-euro exchange rate** | (Box) | III/2015 |
| **Employment of foreign and agency workers and their effect on the employment statistics** | (Box) | IV/2015 |
| **Public procurement data as a leading indicator of public investment** | (Box) | I/2016 |
| **The changeover from national to harmonised monetary statistics** | (Box) | I/2016 |
| **The impact of the Chinese economic slowdown on the world economy and commodity prices** | (Box) | I/2016 |
| **Wage growth in 2015 from the CZ-ISCO skills structure perspective** | (Box) | II/2016 |
| **The house price index and its evolution in EU countries** | (Box) | II/2016 |
| **A model of the effective indicator of industrial producer prices in the euro area** | (Box) | III/2016 |
| **The impact of the Balassa-Samuelson effect on prices in the domestic economy** | (Box) | III/2016 |
| **The Czech Republic's trade relations with the UK** | (Box) | III/2016 |
| **The impact of drawdown of EU funds on investment by non-financial corporations** | (Box) | IV/2016 |
| **Comparison of dividend outflows in EU Member States** | (Box) | IV/2016 |
| **The anchoring of inflation expectations in the Czech Republic** | (Box) | I/2017 |
| **Private investment – an analysis of individual data on non-financial corporations** | (Box) | I/2017 |
| **The causes of the observed slowdown in export growth** | (Box) | I/2017 |

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

**Adjusted inflation excluding fuels:** The increase in prices of non-food items of the consumer basket excluding items with administered prices, indirect tax changes and fuels.

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

**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 consist 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 |
| **DEMAND AND SUPPLY** | | | | | | | | | | | | |
| *Gross domestic product* | | | | | | | | | | | | |
| 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 | **4,378.9** | **4,500.4** | **4,625.5** |
| GDP | %, y-o-y, real terms, seas. adjusted | 2.5 | -4.7 | 2.1 | 2.0 | -0.7 | -0.5 | 2.7 | 4.6 | **2.4** | **2.8** | **2.8** |
| 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 | **2.7** | **3.2** | **3.1** |
| 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 | **2.1** | **1.9** | **1.8** |
| 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 | **-0.6** | **2.4** | **4.9** |
| 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 | **-1.4** | **5.0** | **5.0** |
| 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 | **3.4** | **5.2** | **5.3** |
| 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 | **2.6** | **5.3** | **6.2** |
| 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 | **267.3** | **281.3** | **264.2** |
| *Coincidence indicators* | | | | | | | | | | | | |
| 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 | - | - | - |
| **PRICES** | | | | | | | | | | | | |
| *Main price indicators* | | | | | | | | | | | | |
| Inflation rate | %, end-of-period | 6.4 | 1.1 | 1.5 | 1.9 | 3.3 | 1.4 | 0.4 | 0.3 | 0.7 | - | - |
| Consumer Price Index | %, y-o-y, average | 6.4 | 1.1 | 1.5 | 1.9 | 3.3 | 1.4 | 0.4 | 0.3 | 0.7 | **2.4** | **2.2** |
| Regulated prices (18.70%)* | %, y-o-y, average | 15.6 | 8.4 | 2.6 | 4.7 | 8.6 | 2.2 | -3.0 | 0.0 | 0.2 | **0.2** | **1.3** |
| Net inflation (81.30%)* | %, y-o-y, average | 2.4 | -0.9 | 0.0 | 1.3 | 0.9 | 0.5 | 0.9 | 0.2 | 0.5 | **2.9** | **2.3** |
| 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 | 0.2 | **3.6** | **2.9** |
| 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 | 1.2 | **2.0** | **2.1** |
| Fuel prices (3.39%)* | %, y-o-y, average | 4.3 | -11.1 | 12.8 | 9.9 | 6.0 | -2.3 | 0.2 | -13.5 | -8.5 | **12.2** | **-1.7** |
| 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 | 0.5 | **2.5** | **2.1** |
| GDP deflator | %, y-o-y, seas. adjusted | 2.0 | 2.6 | -1.4 | 0.0 | 1.5 | 1.4 | 2.5 | 1.0 | **1.2** | **1.7** | **2.5** |
| *Partial price indicators* | | | | | | | | | | | | |
| Industrial producer prices | %, y-o-y, average | 4.5 | -3.1 | 1.2 | 5.6 | 2.1 | 0.8 | -0.8 | -3.2 | -3.3 | **2.4** | **1.6** |
| Agricultural prices | %, y-o-y, average | 9.3 | -24.9 | 7.1 | 22.1 | 3.3 | 5.0 | 4.7 | -6.7 | -5.1 | **4.9** | **1.1** |
| Construction work prices | %, y-o-y, average | 4.5 | 1.2 | -0.2 | -0.5 | -0.7 | -1.1 | 0.5 | 1.2 | 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 | -16.0 | **25.8** | **0.3** |
| **LABOUR MARKET** | | | | | | | | | | | | |
| Average monthly wage | %, y-o-y, nominal terms | 7.8 | 3.3 | 2.2 | 2.5 | 2.5 | -0.1 | 2.9 | 2.7 | **4.4** | **5.2** | **4.9** |
| Average monthly wage | %, y-o-y, real terms | 1.4 | 2.3 | 0.7 | 0.6 | -0.8 | -1.5 | 2.5 | 2.4 | **3.7** | **2.8** | **2.7** |
| Number of employees | %, y-o-y | 1.6 | -2.2 | -2.2 | 0.0 | -0.1 | 1.6 | 0.6 | 2.2 | **2.1** | **0.7** | **0.3** |
| Unit labour costs | %, y-o-y | 4.7 | 3.0 | -1.7 | 0.3 | 3.4 | 1.0 | 0.9 | -0.1 | **3.1** | **2.7** | **2.3** |
| 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 | **0.7** | **2.0** | **2.5** |
| ILO general unemployment rate | %, average, age 15–64 | 4.4 | 6.7 | 7.4 | 6.8 | 7.0 | 7.1 | 6.2 | 5.1 | **4.1** | **3.7** | **3.6** |
| Share of unemployed persons (MLSA) | %, average | 4.1 | 6.2 | 7.0 | 6.7 | 6.8 | 7.7 | 7.7 | 6.5 | 5.5 | **4.9** | **4.7** |
| **PUBLIC FINANCE** | | | | | | | | | | | | |
| Government budget balance (ESA2010) | CZK bn, current prices | -84.6 | -216.2 | -174.5 | -109.9 | -159.6 | -51.1 | -83.1 | -28.6 | **2.5** | **19.0** | **40.5** |
| Government budget balance / GDP** | %, nominal terms | -2.1 | -5.5 | -4.4 | -2.7 | -3.9 | -1.2 | -1.9 | -0.6 | **0.1** | **0.4** | **0.8** |
| Government debt (ESA2010) | CZK bn, current prices | 1,150.7 | 1,335.7 | 1,508.5 | 1,606.5 | 1,805.4 | 1,840.4 | 1,819.1 | 1,836.3 | **1,775.0** | **1,790.3** | **1,797.1** |
| Government debt / GDP** | %, nominal terms | 28.7 | 34.1 | 38.2 | 39.8 | 44.5 | 44.9 | 42.2 | 40.3 | **37.6** | **36.3** | **34.5** |
| **EXTERNAL RELATIONS** | | | | | | | | | | | | |
| *Current account* | | | | | | | | | | | | |
| Trade balance | CZK bn, current prices | -4.4 | 65.0 | 40.4 | 75.5 | 123.8 | 167.0 | 219.5 | 210.7 | **265.0** | **245.0** | **255.0** |
| Trade balance / GDP | %, nominal terms | -0.1 | 1.7 | 1.0 | 1.9 | 3.0 | 4.1 | 5.1 | 4.6 | **5.6** | **5.0** | **4.9** |
| Balance of services | CZK bn, current prices | 89.3 | 81.9 | 78.5 | 81.3 | 77.6 | 70.4 | 55.7 | 75.0 | **95.0** | **95.0** | **95.0** |
| Current account | CZK bn, current prices | -75.3 | -89.2 | -141.8 | -84.8 | -63.3 | -21.8 | 7.5 | 41.4 | **95.0** | **65.0** | **80.0** |
| Current account / GDP | %, nominal terms | -1.9 | -2.3 | -3.6 | -2.1 | -1.6 | -0.5 | 0.2 | 0.9 | **2.0** | **1.3** | **1.5** |
| *Foreign direct investment* | | | | | | | | | | | | |
| Direct investment | CZK bn, current prices | -36.3 | -37.7 | -95.0 | -46.8 | -121.3 | 7.4 | -80.4 | 26.6 | **-130.0** | **-50.0** | **-50.0** |
| *Exchange rates* | | | | | | | | | | | | |
| CZK/USD | average | 17.1 | 19.1 | 19.1 | 17.7 | 19.6 | 19.6 | 20.8 | 24.6 | 24.4 | - | - |
| CZK/EUR | average | 25.0 | 26.5 | 25.3 | 24.6 | 25.1 | 26.0 | 27.5 | 27.3 | 27.0 | - | - |
| 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 | -1.2 | - | - |
| 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 | -0.2 | - | - |
| *Foreign trade prices* | | | | | | | | | | | | |
| 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 | **-3.2** | **0.6** | **-0.4** |
| 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 | **-4.0** | **4.1** | **-0.9** |
| **MONEY AND INTEREST RATES** | | | | | | | | | | | | |
| M3 | %, y-o-y, average | 14.2 | 6.5 | 0.2 | 1.0 | 5.1 | 5.1 | 5.1 | 7.3 | **9.2** | **8.3** | **7.2** |
| 2W repo rate | %, end-of-period, CNB forecast = average | 2.25 | 1.00 | 0.75 | 0.75 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | **0.30** | **0.88** |
| 3M PRIBOR | %, average | 4.0 | 2.2 | 1.3 | 1.2 | 1.0 | 0.5 | 0.4 | 0.3 | 0.3 | **0.5** | **1.1** |

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

| | 2014 | | | | 2015 | | | | 2016 | | | | 2017 | | | | 2018 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | QI | QII | QIII | QIV | QI | QII | QIII | QIV | QI | QII | QIII | QIV | QI | QII | QIII | QIV | 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 | 1,094.6 | 1,097.0 | 1,102.9 | 1,110.5 | 1,122.0 | 1,131.1 | 1,136.8 | 1,143.0 | 1,149.9 | 1,160.2 | 1,172.5 |
| | 1.9 | 2.6 | 3.4 | 3.0 | 4.6 | 5.0 | 4.8 | 4.0 | 3.0 | 2.6 | 1.9 | 2.1 | 2.4 | 2.5 | 3.1 | 3.1 | 2.9 | 2.5 | 2.6 | 3.1 |
| | 0.6 | 1.3 | 2.2 | 3.0 | 3.5 | 3.3 | 2.9 | 2.8 | 2.7 | 2.5 | 2.8 | 2.8 | 3.0 | 3.3 | 3.3 | 3.3 | 3.2 | 3.1 | 3.0 | 2.9 |
| | 0.8 | 1.8 | -0.1 | 1.8 | 1.4 | 1.5 | 3.2 | 1.7 | 2.3 | 2.8 | 1.2 | 2.2 | 2.4 | 1.4 | 2.2 | 1.7 | 1.7 | 1.8 | 2.0 | 1.5 |
| | 5.5 | 13.4 | 9.8 | 5.9 | 12.7 | 13.6 | 9.7 | 5.0 | 2.3 | -3.3 | -0.9 | -0.4 | -0.4 | 2.0 | 2.3 | 5.6 | 5.3 | 4.8 | 4.7 | 4.9 |
| | 2.0 | 3.7 | 4.6 | 5.3 | 8.0 | 10.4 | 10.0 | 8.2 | 2.6 | -3.4 | -2.3 | -2.2 | 1.7 | 6.7 | 5.5 | 6.1 | 5.4 | 4.9 | 4.8 | 5.0 |
| | 11.1 | 8.5 | 7.7 | 7.5 | 7.4 | 7.5 | 8.2 | 8.4 | 5.9 | 5.2 | 2.0 | 0.8 | 2.1 | 3.9 | 7.7 | 7.0 | 5.8 | 4.6 | 4.6 | 5.9 |
| | 11.9 | 11.6 | 8.4 | 8.5 | 8.8 | 8.6 | 8.5 | 7.7 | 5.5 | 3.3 | 1.4 | 0.2 | 1.5 | 4.1 | 7.7 | 8.0 | 6.8 | 5.9 | 5.7 | 6.2 |
| | 62.3 | 56.0 | 58.6 | 56.1 | 56.9 | 52.0 | 61.0 | 66.3 | 63.6 | 65.2 | 66.8 | 71.6 | 70.0 | 71.7 | 71.7 | 67.8 | 65.6 | 63.9 | 65.6 | 69.1 |
| | | | | | | | | | | | | | | | | | | | | |
| | 6.9 | 6.0 | 4.0 | 3.2 | 5.1 | 5.6 | 4.1 | 3.7 | 2.9 | 5.7 | 0.3 | - | - | - | - | - | - | - | - | - |
| | 13.3 | 5.6 | 2.9 | 0.7 | 9.5 | 12.3 | 7.3 | 1.5 | -8.9 | -10.4 | -8.9 | - | - | - | - | - | - | - | - | - |
| | 7.0 | 4.7 | 5.7 | 4.7 | 8.3 | 8.7 | 6.2 | 9.1 | 7.5 | 8.8 | 5.1 | - | - | - | - | - | - | - | - | - |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | 1.0 | 0.7 | 0.5 | 0.4 | 0.3 | 0.5 | 0.4 | 0.3 | 0.4 | 0.3 | 0.4 | 0.7 | | | | | | | | |
| | 0.2 | 0.2 | 0.6 | 0.5 | 0.1 | 0.7 | 0.4 | 0.1 | 0.5 | 0.3 | 0.5 | 1.4 | 2.1 | 2.4 | 2.7 | 2.6 | 2.5 | 2.3 | 2.1 | 1.9 |
| | -4.1 | -3.5 | -2.2 | -2.1 | 0.2 | 0.3 | -0.2 | -0.4 | 0.7 | 0.2 | -0.1 | -0.1 | -0.4 | 0.1 | 0.4 | 0.6 | 1.4 | 1.3 | 1.3 | 1.2 |
| | 0.9 | 0.7 | 1.0 | 0.8 | -0.2 | 0.5 | 0.3 | 0.1 | 0.2 | 0.0 | 0.4 | 1.5 | 2.6 | 2.9 | 3.2 | 3.1 | 2.6 | 2.4 | 2.1 | 2.0 |
| | | | | | | | | | | | | | | | | | | | | |
| | 3.4 | 1.5 | 1.5 | 0.7 | -0.9 | 0.7 | 0.3 | 0.0 | -0.4 | -0.8 | 0.2 | 1.8 | 3.0 | 3.5 | 4.0 | 4.0 | 3.4 | 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 | 1.1 | 1.4 | 1.6 | 1.8 | 2.2 | 2.3 | 2.4 | 2.3 | 2.0 | 1.9 |
| | 0.3 | 1.0 | 0.5 | -1.2 | -14.6 | -10.1 | -12.6 | -16.6 | -12.4 | -12.4 | -9.5 | 0.2 | 16.6 | 14.8 | 10.6 | 6.9 | -0.4 | -3.6 | -1.9 | -1.0 |
| | 0.1 | 0.0 | 0.5 | 0.3 | -0.1 | 0.4 | 0.2 | 0.0 | 0.3 | 0.0 | 0.3 | 1.3 | 2.1 | 2.5 | 2.7 | 2.7 | 2.4 | 2.2 | 2.0 | 1.8 |
| | 2.1 | 2.8 | 2.9 | 2.1 | 1.5 | 1.1 | 0.8 | 0.6 | 1.3 | 0.9 | 1.3 | 1.4 | 1.2 | 2.7 | 1.2 | 1.7 | 2.0 | 1.8 | 3.4 | 2.8 |
| | | | | | | | | | | | | | | | | | | | | |
| | -0.7 | -0.2 | -0.1 | -1.9 | -3.3 | -2.3 | -3.6 | -3.5 | -4.0 | -4.6 | -3.3 | -1.1 | 2.4 | 2.7 | 2.6 | 2.0 | 1.4 | 1.4 | 1.6 | 1.7 |
| | -4.4 | -2.1 | -2.3 | -6.0 | -9.3 | -10.9 | -6.5 | 1.8 | -2.9 | -6.9 | -5.7 | -4.1 | -0.3 | 7.8 | 8.4 | 3.4 | 2.2 | 0.5 | 0.5 | 1.2 |
| | -0.3 | 0.5 | 0.7 | 0.9 | 1.0 | 1.3 | 1.4 | 1.3 | 1.3 | 1.1 | 1.1 | 1.2 | - | - | - | - | - | - | - | - |
| | -4.2 | 6.2 | -5.7 | -29.5 | -48.9 | -42.1 | -50.6 | -41.6 | -36.3 | -26.1 | -7.6 | 16.0 | 60.3 | 21.4 | 21.5 | 12.0 | 2.2 | 0.1 | -0.6 | -0.6 |
| | | | | | | | | | | | | | | | | | | | | |
| | 3.9 | 2.8 | 2.2 | 2.8 | 1.7 | 2.8 | 3.1 | 3.2 | 4.5 | 3.8 | 4.5 | 4.8 | 5.0 | 5.3 | 5.3 | 5.4 | 5.2 | 5.1 | 5.0 | 4.5 |
| | 3.7 | 2.6 | 1.6 | 2.3 | 1.6 | 2.1 | 2.7 | 3.1 | 4.0 | 3.6 | 4.0 | 3.3 | 2.9 | 2.9 | 2.6 | 2.7 | 2.7 | 2.8 | 2.9 | 2.6 |
| | 0.4 | -0.2 | 1.0 | 1.2 | 2.1 | 2.4 | 2.0 | 2.1 | 2.8 | 2.0 | 1.9 | 1.6 | 0.6 | 1.0 | 0.8 | 0.5 | 0.3 | 0.2 | 0.3 | 0.4 |
| | 1.4 | 0.7 | -0.7 | 2.1 | -1.0 | -0.4 | 0.5 | 0.4 | 3.3 | 1.8 | 4.0 | 3.4 | 3.0 | 3.0 | 2.4 | 2.4 | 2.2 | 2.6 | 2.6 | 1.9 |
| | 2.0 | 0.3 | -2.4 | -1.6 | 0.3 | 0.9 | 2.3 | 3.8 | 4.6 | -0.1 | 4.0 | - | - | - | - | - | - | - | - | - |
| | 1.7 | 2.8 | 3.0 | 1.1 | 3.3 | 3.3 | 2.9 | 3.0 | 0.8 | 1.9 | -0.1 | 0.3 | 1.5 | 1.5 | 2.4 | 2.6 | 2.6 | 2.3 | 2.3 | 2.8 |
| | 6.9 | 6.1 | 6.0 | 5.8 | 6.1 | 5.0 | 4.9 | 4.5 | 4.4 | 4.0 | 4.0 | 3.8 | 3.9 | 3.6 | 3.6 | 3.6 | 3.7 | 3.5 | 3.6 | 3.5 |
| | 8.5 | 7.6 | 7.4 | 7.2 | 7.5 | 6.4 | 6.2 | 6.0 | 6.3 | 5.4 | 5.3 | 5.0 | 5.4 | 4.7 | 4.7 | 4.8 | 5.3 | 4.6 | 4.6 | 4.5 |
| | | | | | | | | | | | | | | | | | | | | |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | 71.5 | 65.2 | 47.7 | 35.1 | 76.9 | 56.0 | 38.9 | 38.9 | 86.4 | 80.7 | 47.1 | 50.7 | 81.0 | 70.0 | 45.0 | 49.0 | 80.0 | 72.0 | 50.0 | 53.0 |
| | 7.2 | 6.1 | 4.3 | 3.1 | 7.3 | 4.9 | 3.3 | 3.3 | 7.9 | 6.8 | 3.9 | 4.1 | 7.1 | 5.6 | 3.6 | 3.8 | 6.7 | 5.5 | 3.8 | 3.9 |
| | 19.6 | 15.2 | 12.8 | 8.0 | 18.0 | 20.0 | 19.6 | 17.4 | 22.1 | 23.9 | 26.0 | 23.0 | 22.0 | 24.0 | 26.0 | 23.0 | 22.0 | 24.0 | 26.0 | 23.0 |
| | 81.7 | -37.7 | -38.7 | 2.1 | 91.9 | -29.6 | -35.5 | 14.6 | 109.8 | -13.2 | -22.4 | 20.8 | 93.0 | -16.0 | -39.0 | 27.0 | 92.0 | -11.0 | -32.0 | 31.0 |
| | 8.2 | -3.5 | -3.5 | 0.2 | 8.7 | -2.6 | -3.1 | 1.2 | 10.0 | -1.1 | -1.9 | 1.7 | 8.2 | -1.3 | -3.1 | 2.1 | 7.7 | -0.8 | -2.4 | 2.3 |
| | | | | | | | | | | | | | | | | | | | | |
| | -25.4 | -45.7 | -16.3 | 7.1 | -2.5 | -7.2 | 14.5 | 21.8 | 9.6 | -84.2 | -51.4 | - | - | - | - | - | - | - | - | - |
| | | | | | | | | | | | | | | | | | | | | |
| | 20.0 | 20.0 | 20.9 | 22.1 | 24.5 | 24.8 | 24.3 | 24.7 | 24.5 | 23.9 | 24.2 | 25.1 | - | - | - | - | - | - | - | - |
| | 27.4 | 27.4 | 27.6 | 27.6 | 27.6 | 27.4 | 27.1 | 27.1 | 27.0 | 27.0 | 27.0 | 27.0 | - | - | - | - | - | - | - | - |
| | 7.9 | 6.7 | 6.6 | 3.2 | 0.4 | -0.7 | -2.2 | -1.9 | -2.2 | -1.3 | -0.4 | -0.8 | - | - | - | - | - | - | - | - |
| | 6.2 | 4.8 | 5.1 | 3.2 | 1.2 | 0.0 | -1.0 | -1.7 | -1.8 | -0.3 | 0.8 | 0.6 | - | - | - | - | - | - | - | - |
| | | | | | | | | | | | | | | | | | | | | |
| | 4.1 | 3.4 | 4.7 | 2.0 | -0.5 | -0.5 | -2.7 | -3.3 | -4.2 | -4.3 | -2.7 | -1.4 | 0.9 | 1.9 | 0.3 | -0.6 | -1.3 | -1.5 | 0.3 | 1.1 |
| | 2.4 | 1.3 | 2.9 | 1.2 | -1.5 | 0.0 | -2.5 | -3.8 | -5.6 | -6.3 | -3.7 | -0.4 | 5.1 | 6.2 | 3.8 | 1.3 | -1.0 | -1.8 | -0.1 | 0.6 |
| | | | | | | | | | | | | | | | | | | | | |
| | 5.3 | 5.5 | 4.4 | 5.1 | 5.7 | 6.5 | 8.1 | 9.0 | 9.6 | 9.7 | 9.1 | 8.5 | 8.4 | 8.3 | 8.4 | 8.1 | 7.8 | 7.4 | 6.8 | 6.7 |
| | 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 | 0.51 | 0.60 | 0.67 | 0.75 | 0.93 | 1.19 |
| | 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 | 0.8 | 0.8 | 0.9 | 1.0 | 1.2 | 1.4 |

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