

Macroeconomic Forecast of the Czech Republic

January 2018

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The Macroeconomic Forecast is prepared by the Economic Policy Department of the Czech Ministry of Finance. It contains a forecast for the current and the following year (i.e. until 2019) and for certain indicators an outlook for another 2 years (i.e. until 2021). It is published on a quarterly basis (usually in January, April, July and November) and is also available on the website of the Ministry of Finance at:

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List of Abbreviations

const.pr.....	constant prices
CNB.....	Czech National Bank
CPI.....	consumer price index
CR.....	Czech Republic
curr.pr.....	current prices
CZSO.....	Czech Statistical Office
EA19.....	euro zone consisting of 19 countries
EC.....	European Commission
ECB.....	European Central Bank
ESI.....	Economic Sentiment Indicator
EU28.....	European Union consisting of 28 countries
Fed.....	Federal Reserve System
GDP.....	gross domestic product
GVA.....	gross value added
IMF.....	International Monetary Fund
LFS.....	Labour Force Survey
MFI.....	monetary financial institutions
MoF.....	Ministry of Finance
pp.....	percentage points
rev.....	revisions
TFP.....	total factor productivity
VAT.....	value added tax

Basic Terms

Prelim. (preliminary data)	data from quarterly national accounts, released by the CZSO, as yet unverified by annual national accounts
Estimate	data for past period that were unavailable as of the cut-off date
Forecast	forecast of future numbers, using expert and mathematical methods
Outlook	projection of more distant future numbers, using mainly extrapolation methods

Symbols Used in Tables

-	A dash in place of a number indicates that the phenomenon did not occur.
.	A dot in place of a number indicates that we do not forecast that variable, or the figure is unavailable or unreliable.
x, (space)	A cross or space in place of a number indicates that no entry is possible for logical reasons.

Cut-off Date for Data Sources

The forecast was made on the basis of data known as of **15 January 2018**.

Notes

All data in the Macroeconomic Forecast are unadjusted for seasonal and calendar effects, unless stated otherwise. Published aggregate data may not match sums of individual items to the last decimal place due to rounding.

Data from the previous forecast (November 2017) are indicated by italics. Data relating to the years 2020 and 2021 are an extrapolation scenario that indicates only the direction of possible developments, and as such are not commented upon in the following text.

Summary of the Forecast

The growth of the global economy is exceeding previous expectations. In 2017 the economies of the Euro Area and the EU as a whole probably reached the highest rate of economic growth in a decade. It takes advantage of the improving labour market situation, an unprecedented high level of confidence of economic agents and the resulting robust household consumption. The US and Chinese economies have also achieved very good results. Although a moderate slowdown in dynamics is expected for this year in most cases, growth prospects remain very promising.

Favourable developments of the main trading partners and a stable situation within the Czech economy, characterized by increased confidence, create conditions for further successful continuation of the economic boom in the Czech Republic. It is positive that the dynamic growth takes place in the conditions of a surplus of the general government balance and the current account of the balance payments. We consider the situation in the labour market, which shows signs of overheating, to be the main barrier for a higher growth of the Czech economy.

The real **gross domestic product increased by 4.7% YoY** in the third quarter of 2017, at the highest rate since the fourth quarter of 2015. At that time, however, the economy was greatly stimulated by the end of the EU projects' previous financial perspective. After seasonal and calendar adjustment (the third quarter 2017 had 1 working day more YoY), the growth was even 5.0%, though in comparison with the previous record-breaking quarter it slowed down to **0.5%**.

Traditionally, the most significant component of use was **household consumption**. It increased by 4.1% YoY, not only due to high dynamics of the wage bill, but also to declining savings rate, which reflects situation in the labour market, low interest rates and high consumer confidence in future developments. The economy was also supported by a YoY increase in the general government consumption by 1.2%.

Growth of **investment in fixed capital**, which accelerated to 6.3% in the third quarter, was mostly driven by investment in machinery, equipment (excluding transport), and information and communication technologies. The greatest dynamic (10.9%) was recorded in investment in housing, which reflects the high demand. In sectoral terms, the investment activity was driven by private investment. Investment by the general government sector was stagnant.

The contribution of **foreign trade** to economic growth slightly decreased to 0.4 pp. Net exports were supported by increasing external demand on the one hand, but also reflected a high import intensity of investment.

The positive economic situation should continue also in **2018**. Growth should still be driven by household consumption, reflecting the dynamics of wages against the background of an extremely low unemployment rate, high participation rate and record-breaking number of job vacancies. Household consumption will be further supported by an increase in salaries in the general government sector, reduced tax burden on families with children, and growth in social security spending. Investment should be stimulated not only by the European Structural and Investment Funds but also by decreasing relative cost of capital to the cost of labour at still low real interest rates.

The very good condition of the Czech economy and of the external environment leads to **an increase in the estimate of gross domestic product growth in 2017 from 4.1% to 4.3% and the forecast for 2018 from 3.3% to 3.4%**. Due to the assumed marginal weakening of economic growth in the Euro Area, tighter monetary conditions and the situation in the labour market, real GDP growth should slow down to **2.6% in 2019**.

Since the end of 2016, the YoY growth in **consumer prices** hovers, with a few exceptions, in the upper half of the tolerance band of the Czech National Bank's inflation target. We expect that inflation will be above 2% also this year and for the most part of the next year. Pro-inflationary effects of higher crude oil prices, wage increases and a positive output gap should outweigh anti-inflationary effects stemming from the expected tightening of monetary conditions.

The average **inflation rate** in 2017 was 2.5%. We are increasing our forecast for 2018 from 2.4% to 2.6%, and we expect an average consumer prices growth of 2.1% in 2019.

A high employment growth, which has steadily exceeded 1% since the end of 2014, exhausts unused resources in the **labour market**. The seasonally adjusted unemployment rate decreased further to 2.5% in November 2017. Lack of employees is thus becoming a barrier for an extensive production growth, which motivates companies for investment increasing labour productivity.

The room for a further reduction in the unemployment rate is apparently highly limited, but based on the estimate of the level reached in 2017 (2.9%) we are lowering the forecast for the average **unemployment rate** in 2018 from 2.8% to 2.4%. We expect an unemployment rate around 2.3% in 2019.

The **current account of the balance of payments** had a surplus of 0.6% of GDP in the third quarter of 2017. The positive balances of goods and services exceed the deficit of primary income, which is mostly influenced by an outflow of income from foreign direct investment in the form of dividends and reinvested earnings. The current account surplus has tended to decline since mid-2016,

mainly due to higher domestic demand for imports generated by growing consumption and investment.

The forecast for the **current account surplus** (after estimated 0.5% for 2017) is lowered for 2018 from 0.5% of GDP to an almost balanced level of 0.1% of GDP, which should be achieved also in 2019.

We keep the estimate for the **general government balance** in 2017 unchanged at 1.1% of GDP. Surplus cash performance of local government budgets and health insurance companies contributed positively to the over-

all result. There was also a significant YoY improvement at the level of the state budget, whose cash balance adjusted for the impact of EU projects and financial mechanisms was better by CZK 12.3 billion in comparison with 2016, and therefore almost balanced. The forecast for the general government surplus in 2018 remains at the level of 1.3% of GDP. The debt of the general government sector should decrease to 34.6% of GDP at the end of 2017, and continue in this declining trend also in 2018, to 33.1% of GDP.

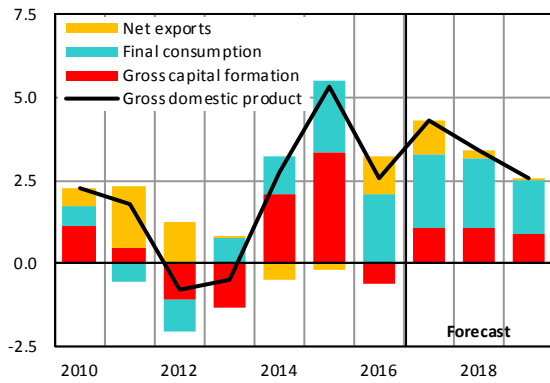
Table: Main Macroeconomic Indicators

		2013	2014	2015	2016	2017	2018	2019	2017	2018
		Current forecast							Previous forecast	
Gross domestic product	<i>bill. CZK</i>	4 098	4 314	4 596	4 773	5 042	5 304	5 530	5 024	5 299
Gross domestic product	<i>real growth in %</i>	-0.5	2.7	5.3	2.6	4.3	3.4	2.6	4.1	3.3
Consumption of households	<i>real growth in %</i>	0.5	1.8	3.7	3.6	4.0	3.7	2.7	3.9	3.5
Consumption of government	<i>real growth in %</i>	2.5	1.1	1.9	2.0	1.9	1.8	1.5	1.9	1.7
Gross fixed capital formation	<i>real growth in %</i>	-2.5	3.9	10.2	-2.3	5.6	4.1	3.4	6.2	4.1
Net exports	<i>contr. to GDP growth, pp</i>	0.1	-0.5	-0.2	1.2	1.0	0.2	0.1	0.9	0.3
Change in inventories	<i>contr. to GDP growth, pp</i>	-0.7	1.1	0.8	0.0	-0.3	0.0	0.0	-0.5	0.0
GDP deflator	<i>growth in %</i>	1.4	2.5	1.2	1.2	1.3	1.8	1.7	1.1	2.1
Average inflation rate	<i>%</i>	1.4	0.4	0.3	0.7	2.5	2.6	2.1	2.4	2.4
Employment (LFS)	<i>growth in %</i>	1.0	0.8	1.4	1.9	1.6	0.6	0.2	1.4	0.4
Unemployment rate (LFS)	<i>average in %</i>	7.0	6.1	5.1	4.0	2.9	2.4	2.3	3.0	2.8
Wage bill (domestic concept)	<i>growth in %</i>	0.5	3.6	4.8	5.8	7.9	7.7	4.9	7.4	7.6
Current account balance	<i>% of GDP</i>	-0.5	0.2	0.2	1.1	0.5	0.1	0.1	0.6	0.5
General government balance	<i>% of GDP</i>	-1.2	-1.9	-0.6	0.7	1.1	1.3	.	1.1	1.3
Assumptions:										
Exchange rate CZK/EUR		26.0	27.5	27.3	27.0	26.3	25.4	25.0	26.4	25.5
Long-term interest rates	<i>% p.a.</i>	2.1	1.6	0.6	0.4	1.0	1.7	2.0	0.9	1.5
Crude oil Brent	<i>USD/barrel</i>	109	99	52	44	54	68	64	53	55
GDP in Eurozone	<i>real growth in %</i>	-0.2	1.3	2.1	1.8	2.4	2.3	1.9	2.1	2.0

Source: CNB, CZSO, Eurostat, U. S. Energy Information Administration. Calculations of the MoF.

Domestic demand should be the main driver of growth

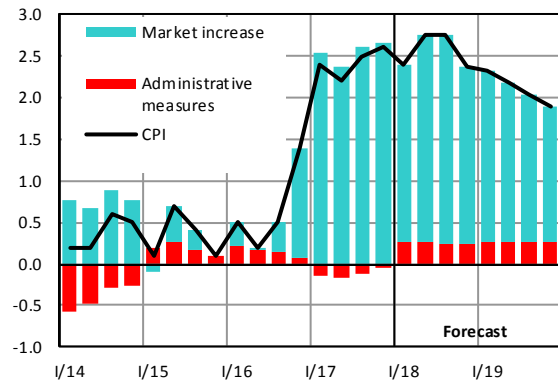
YoY growth rate of real GDP in %, contributions of individual expenditure components in percentage points



Source: CZSO. Calculations of the MoF.

Inflation should stay above the 2% target of the CNB

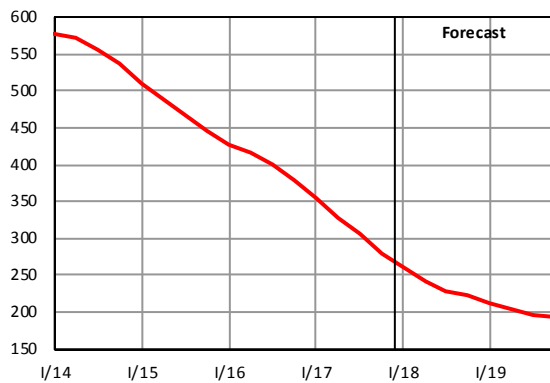
decomposition of YoY growth of CPI, contributions in pp



Source: CZSO. Calculations of the MoF.

Unemployment should continue to decline further

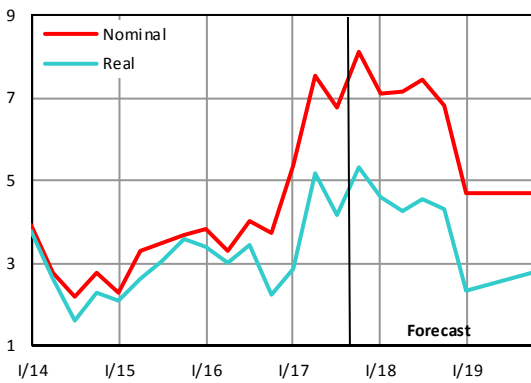
registered unemployment, in thous. of persons, seasonally adjusted



Source: Ministry of Labour and Social Affairs. Calculations of the MoF.

Dynamic growth of wages should continue

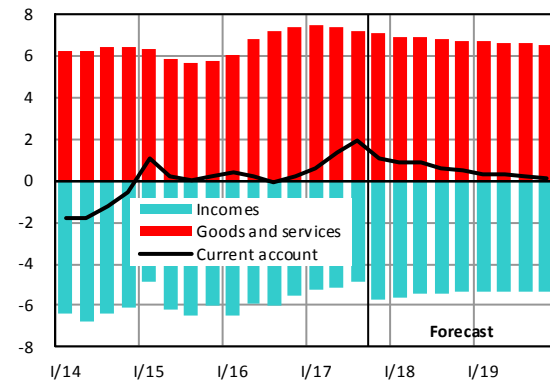
average gross monthly wage, YoY growth rate, in %



Source: CZSO. Calculations of the MoF.

Current account balance should remain slightly positive

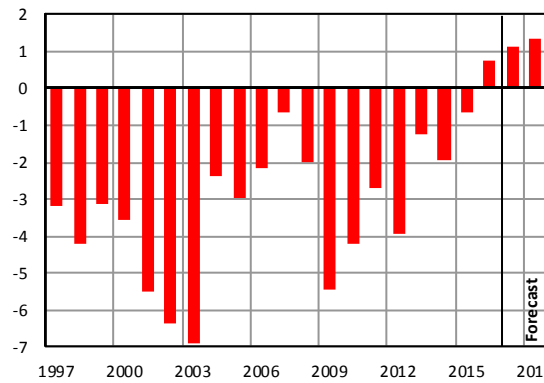
in % of GDP (yearly moving sums)



Source: CNB, CZSO. Calculations of the MoF.

Surplus of the general government sector should grow

in % of GDP



Source: CZSO. Calculations of the MoF.

Forecast Risks and Uncertainty

The macroeconomic forecast is subject to a number of positive and negative risks. Although unfavourable factors dominate in the list below, if we take into account the probability of their fulfilment, in summary we consider the **forecast risks** to be **balanced**.

Prospects of economies of our main trading partners continue to improve. In the Euro Area as a whole as well as in the largest economies of the monetary union, a number of soft indicators achieve historical or at least multi-year highs. The economic development in the Euro Area could thus be even more favourable than expected, in which case the strongly export-oriented Czech economy would benefit considerably. In addition to the **growth in foreign demand**, the Czech economy could be affected through foreign trade also unfavourably, especially if the future **relationships between the UK and the EU** significantly increased barriers to international trade. However, given the information available and the progress made in negotiations in late 2017, potential materialization of this risk would impact the Czech economy at the end of the outlook horizon. We continue to expect that both parties to the negotiations will be interested in minimizing the impact of the United Kingdom's withdrawal from the EU.

Another negative risk is the possibility of a **sharp slowdown in the growth of China**. Furthermore, the Czech economy could be adversely influenced by an escalation of **problems of the Italian banking sector** as well as by some **geopolitical factors**.

The Czech economy shows marked signs of overheating, which are particularly noticeable in the labour market. Strong economic growth in the conditions of a positive output gap led, among other things, to acceleration in the core inflation above 2%. In terms of the **cyclical development of the economy**, one cannot rule out the possibility that the economy would enter the downward phase of the business cycle in the forecast horizon if some of the risks materialized.

The lack of adequately skilled employees is increasingly seen by companies as a barrier to raising their produc-

tion. A key factor for the continuation of economic growth, especially in the medium and long-run horizons, will be the increase in **labour productivity**, considering the current labour market situation and anticipated demographic developments. As a result of lower investment growth, however, productivity growth could fall behind expectations, which would negatively affect the pace of economic growth. In the short term, imbalances in the labour market create a **strong pressure on wage growth**, which results in an increase in unit labour costs. The competitiveness of some companies may thus be affected negatively; on the other hand, this factor also strongly supports the growth in disposable income of households. The impact on household consumption, however, would also depend on the future path of the savings rate.

In the case of **investment**, the recovery of the investment cycle linked to the EU programming period for the years 2014–2020 will be crucial. In the longer term, the gap due to the discontinuation of the United Kingdom's payment to the EU budget will be significant, as well as the new allocation associated with higher relative development level of regions of the Czech Republic and possible redirection of funds in the EU budget to other priorities.

The cyclical development of the economy in connection with low interest rates led to an increased dynamics of mortgage loans. Together with the factors limiting the supply of residential real estate (some of which are Prague-specific), this development has contributed to the growth in offer prices of flats. Continued **rapid growth in housing loans and property prices** could pose macroeconomic risks in the future as some households might not be able to repay their loans in the case of worsening economic situation or increase in market rates, which would also have an impact on financial stability. The dynamics of housing loans, however, started slowly decreasing in mid-2017 and the CZSO's data about residential construction and issued building permits suggest that the supply of residential real estate should increase in the future.

1 Forecast Assumptions

1.1 External Environment

Global economic growth has already recovered and is gradually starting to accelerate slightly. In the third quarter of 2017, economic growth in the USA and Western Europe maintained its dynamics. The Chinese economy also recorded a robust growth rate again, although it was largely supported by fiscal stimuli. A number of other large emerging economies succeeded in overcoming the economic recession and returning to the trajectory of economic growth.

1.1.1 United States of America

In the third quarter of 2017, the US economy maintained its dynamics; the QoQ real GDP growth was 0.8%, equally to the previous quarter (*versus 0.6%*). All components of use contributed positively to growth, the dominant ones being household consumption expenditures again, although their growth rate slightly decreased as a result of devastating September hurricanes. Gross fixed capital formation grew mainly due to business investment in machinery and equipment and intellectual property assets, reflecting confidence in domestic economy and a recovery in global demand. The foreign trade balance also contributed positively to the economic performance, as exports increased, while imports of goods and services decreased slightly in comparison to the previous quarter.

In reaction to the continued growth of the US economy, job creation and the outlook for inflation, the Fed further raised interest rates by 0.25 pp to 1.25–1.50% in December 2017. In this context, it anticipated that it is going to increase interest rates three times in 2018. In October 2017, the Fed started to sell assets in the monthly volume of USD 10 billion. The volume was doubled in January 2018 and it will be increased further by USD 10 billion every three months during 2018 to a monthly total of, for the time being, USD 50 billion. The inflation rate started to grow slightly again in July 2017, reaching 2.1% in December 2017. The Fed expects, however, that the inflation rate will be slightly below 2% in the short term, and it will stabilize at the level of the 2% target only in the medium term.

We expect that the economy will maintain its growth momentum also in the coming years and that household consumption will remain the key growth driver. It is supported by good situation in the labour market, where the YoY wage growth reached 2.7% in the third quarter of 2017, and the unemployment rate was only 4.1% in December 2017, which is the lowest value since December 2000. There is already some labour force shortage in the labour market; however, a more dynamic wage growth is still hampered by a relatively high number of involuntary part-time workers or a low employment rate,

which has not yet reached the pre-crisis level. It is expected that household consumption as well as corporate investment will also be stimulated by an approved tax reform, which, inter alia, dramatically reduces the corporate income tax rate from 35% to 21%. The economy should also benefit from infrastructure investments; however, no details on the amount and timing of this fiscal stimulus are known, for the time being. A dynamic growth of the main stock index Dow Jones, which exceeded 25,000 points at the beginning of 2018, reflects good results of US companies, the approved tax reform as well as favourable growth of the global economy. However, the YoY increase in the index in 2017 by approximately 25% with a very low volatility at the same time poses questions regarding investors' excessive optimism.

We estimate that GDP increased by 2.3% in 2017 (*versus 2.1%*). With regard to the effects of the tax reform, we therefore increase the forecast for economic growth in 2018 to 2.6% (*versus 2.4%*); in the following year we expect a slowdown to 2.2%.

1.1.2 China

Economic growth of China is slowing down in the long run but it is still high and China thus remains the main driver of the global economy. The QoQ real GDP growth was 1.7% in the third quarter of 2017. The core of economic expansion has been gradually shifting from investments and exports to household consumption, as evidenced by a dynamic growth in retail sales and the accelerating growth of imports of goods. Investment growth has been gradually slowing down as a result of a number of government measures aiming to restrict the increasing housing prices and higher-risk loans. However, the government investment growth remains strong, mainly in infrastructure. In October 2017, the Chinese government set its priorities for the next five-year term; it decided to stop accentuating economic growth and shift emphasis to the balance of the economy and strengthening China's role abroad.

We expect that the economic growth rate will slow down very gradually in the coming years. The development of "soft indicators" remains promising, particularly in the case of consumer confidence, which has reached the highest values since 1993. The financial market situation is stabilized, and foreign exchange reserves have been increasing since the beginning of 2017 after a decline in 2014–2016. However, a high public and private sector debt and the share of non-performing loans cause major concerns as they could threaten the stability of the economy in the case of a major slowdown in eco-

conomic growth. From the long-term perspective, a major risk is mainly the demographic development.

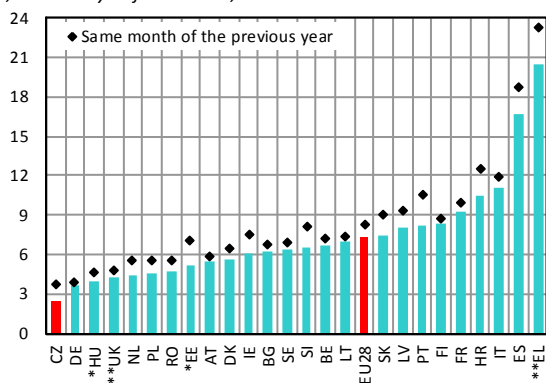
1.1.3 European Union

Economic growth in the European Union has been maintaining its dynamics. QoQ GDP growth in the third quarter of 2017 reached 0.6% in the EU28 (*in line with the estimate*) and EA19 (*versus 0.5%*). In a YoY comparison, GDP increased by 2.6% in the EU28 (*versus 2.5%*) as well as in the EA19 (*versus 2.4%*). Economic growth was recorded in all EU28 economies except Denmark; however, marked differences remain among individual countries. In a number of these economies a more significant recovery is still being hampered by structural problems, loss of competitiveness or high indebtedness of the government and private sectors.

Since the beginning of 2017, the price level growth in the EA19 has been slowing down slightly, with the inflation rate reaching only 1.4% in December 2017. The ECB has been keeping the main refinancing rate at 0.00% and the deposit rate at -0.40% since March 2016. It also assumes that benchmark interest rates remain at the current or lower levels for a long time, definitely beyond the horizon of net asset purchases. Monthly purchases of assets worth 30 billion EUR should take place until September 2018 or even longer if necessary, and in any case until the Governing Council records a sustainable correction of the inflation development in line with the ECB's inflation target. The aim of the eased monetary conditions is to increase credit activity and ensure that inflation, through an increase in investment and consumption, returns to the inflation target (inflation below, but close to, 2%).

Graph 1.1.1: Unemployment rate in the EU in November 2017

in %, seasonally adjusted data, LFS



Note: *) October 2017. **) September 2017.

Source: Eurostat.

Based on the economic recovery, the labour market situation has also been improving gradually; in many countries, however, there is a shortage of skilled workers. The unemployment rate in the EU28 has been decreasing since mid-2013, reaching 7.3% in November 2017 (YoY decrease of 1.0 pp). However, enormous differences still persist among individual economies. The worst situation

is still in Greece, where the unemployment rate stood at 20.5% in September 2017. In the EU28 countries for which data for November 2017 was available as of the cut-off date, the unemployment rate exceeded 10% in Spain (16.7%), Cyprus and Italy (both 11.0%) and Croatia (10.4%). The lowest rates were recorded in the Czech Republic (2.5%) and Germany (3.6%).

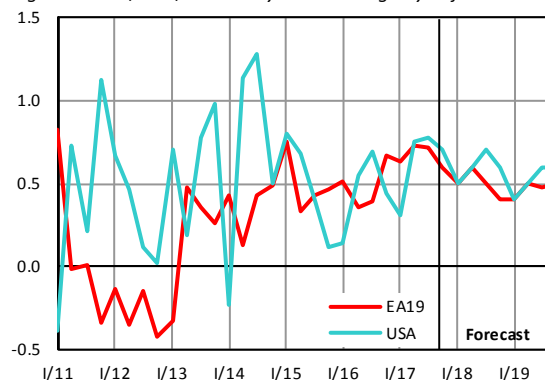
The excellent condition of the Euro Area is also confirmed by "soft indicators". In December 2017, the Business Climate Indicator (monitored since 1985), and the Purchasing Managers' Index in industry (monitored since 1997) reached their historical highs. The Purchasing Managers' Index in services is also developing favourably, reaching its six-year high in December 2017. Consumer confidence in the Euro Area was the highest since 2001.

We expect the economic growth to be driven mainly by domestic demand in the coming years. Household consumption will remain the main driver of the economy's growth, supported by low interest rates in the short term. The improving labour market situation, and related gradual increase in the wage growth rate, will have more permanent effects. Investments, which will continue to be supported by the eased monetary policy of the ECB, will be negatively affected by the uncertainty associated with the United Kingdom's decision to withdraw from the EU because the future trade relations between the EU and the United Kingdom have not yet been set up. However, the United Kingdom should have access, as part of the transition period, to the EU single market and remain in the customs union until the end of 2020. The economic growth in the Euro Area will probably continue to be hampered by persisting problems in the banking sector in the Euro Area or high indebtedness of some economies. Exports should also slowly gain momentum in connection with the global growth acceleration.

We estimate that real GDP growth in the Euro Area was 2.3% in 2017 (*versus 2.1%*). We expect that the economic growth in the coming years will slow down only slightly, to 2.2% (*versus 2.0%*) in 2018 and 1.9% in the following year.

Graph 1.1.2: Growth of GDP in the EA19 and in the USA

QoQ growth rate, in %, seasonally and working day adjusted



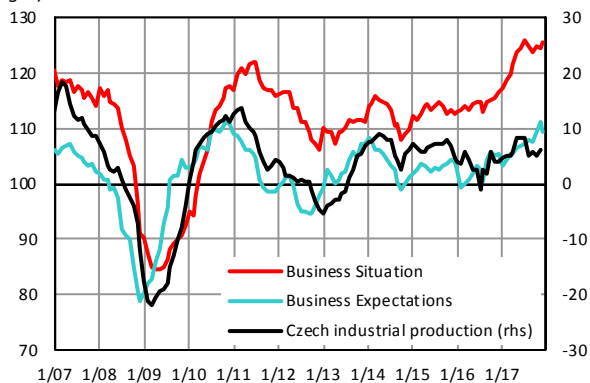
Source: Eurostat. Calculations of the MoF.

The QoQ growth of the **German** economy slightly accelerated to 0.8% (*versus 0.6%*) in the third quarter of 2017. The economic growth was driven by foreign demand as the German economy fully benefits from the global economic growth. Gross capital formation also significantly contributed to GDP growth. However, its dominant component was the change in inventories, while investments in fixed capital slowed down significantly in comparison with the previous quarter. Government expenditures on consumption stagnated and household consumption even declined slightly, despite the high level of consumer confidence and a very good labour market situation.

The labour market is probably close to the state of full employment. In November 2017, the unemployment rate continued to decrease slightly to 3.6%, and employment and the number of job vacancies reached the highest values since German reunification. Although shortage of employees has been increasingly evident in the labour market, the wage growth remains moderate. Soft indicators have been developing very favourably. In December 2017, despite a slight decline in the Ifo indicator, business confidence was at the highest values since 1991 since when the indicator has been monitored. The Purchasing Managers' Index in industry then reached its historically highest value since 1996. Last but not least, the development of the Consumer Confidence Index (GfK), which reached its highest values since 2001, has been very promising.

Graph 1.1.3: Ifo (Germany) and Czech manufacturing production

2005=100 (Ifo), seasonally adjusted index of industrial production in the Czech manufacturing, YoY growth in % (from quarterly moving averages)



Source: CESifo, CZSO.

We expect that economic growth will be driven by both domestic and foreign demand. Households' consumption expenditures will be supported mainly by the labour market situation and the related anticipated real wage growth. A more dynamic growth in business investment can be expected due to a relatively high capacity utilization. Corporate investment and exports will be favourably influenced by the continued growth of global activity and also an emerging agreement on the government coalition. However, the United Kingdom's withdrawal from the EU could be a risk factor, as the UK's share in the to-

tal exports was 8.0% (3.7% of the German GDP) in 2016. We estimate that economic growth was 2.4% in 2017 (*versus 2.0%*). This year the economy could grow at the same rate (*versus 1.9%*), before slowing down to 2.1% in 2019.

The growth of the **French** economy maintains its dynamics, with the QoQ GDP growth reaching 0.6% (*versus 0.5%*) in the third quarter, equally to the two previous quarters. The economic growth was driven exclusively by domestic demand. The increase in household consumption expenditures was due to improving labour market situation, strong consumer confidence and higher energy expenditure due to unusually cold weather in September 2017. A moderate slowdown in the investment growth rate reflects the effect of the higher comparison base in the construction industry. Conversely, net exports hampered economic growth as the growth rate of imports exceeded the growth rate of exports as a result of a decline in demand for transport facilities. The labour market situation has started improving very slowly. In November 2017, the unemployment rate declined to 9.2% (YoY decline by 0.8 pp), and a reform of the Labour Code could help make the labour market more flexible. In the short term, soft indicators point to some improvement in economic developments, as many of them show an upward trend. The industrial confidence index and the consumer confidence indicator have reached their 10-year highs. Also, the Purchasing Managers' Indexes in manufacturing and services indicate more dynamic economic growth. A faster recovery, however, will be hampered by the long-term problems of the French economy – low competitiveness and the associated declining share in export markets or high and ever increasing government and private sector debts. We estimate that GDP growth was 1.8% in 2017 (*versus 1.7%*). We expect that the performance of the French economy will slightly fall behind the performance of the EA19 also in the following years, and the economic growth will thus reach 1.9% in 2018 (*versus 1.7%*) and 1.6% in the following year.

The QoQ growth of the **Polish** economy slightly accelerated to 1.2% (*versus 0.9%*) in the third quarter of 2017. Domestic and also foreign demand contributed to the economic growth. Household consumption was mainly supported by a good labour market situation and strong consumer confidence, which has been reaching the highest values in the history of measurement since 2000. The gross fixed capital formation growth rate remains low despite a slight acceleration. While the growth of government sector investment has been accelerating due to the start of projects from the new financial perspective of the EU, private investment has repeatedly shown decline. The outcome of net exports has been mainly due to strong demand from EU countries. The contribution of a change in inventories was the only component to weigh on economic growth. In the coming years the growth should be driven mainly by household

consumption, although its pace is likely to slow down as the effects of a sharp rise in social benefits start to fade in the second half of 2017. However, household consumption will be stimulated by low interest rates, high consumer confidence and improving labour market situation (the unemployment rate reached its historical low of 4.5% in November 2017) and the associated growth in households' disposable income. Investment growth should gradually resume with the start of projects of the 2014–2020 financial perspective; however, lower predictability of government policies is a risk. In terms of long-term sustainability of public finances a substantial risk results also from the abrupt decrease of the statutory retirement age. We estimate that GDP increased by 4.4% in 2017 (*versus* 4.2%). We expect that economic growth will decelerate to 3.6% (*versus* 3.4%) in 2018 and to 3.3% in 2019.

The **Slovak** economy recorded GDP growth of 0.8% QoQ (*in line with the estimate*) in the third quarter of 2017. Growth was driven exclusively by domestic demand, namely gross fixed capital formation and household consumption expenditures. The high contribution of investment, which was influenced mainly by the transition between the financial perspectives of the EU, was, however, fully compensated by a negative contribution of the change in inventories. Household consumption benefited in particular from improving labour market situation and high level of consumer confidence. Net exports then weighed on economic growth, as the growth rate of imports exceeded the growth rate of exports due to strong domestic demand and high import intensity of investments. Domestic demand should remain the driver of economic growth also in the following years. Household consumption will be supported by a high level of consumer confidence, low interest rates and, most importantly, constantly improving labour market situation. In November 2017, the unemployment rate declined to 7.5% (the historical low since 1998, YoY decline by 1.5 pp), and wage growth accelerated to 5.2% in the third quarter. An increase in the minimum wage by 10.3% and growing salaries in the general government sector will contribute to disposable income growth in 2018. Recovery of investment activity will be due to the automotive industry and government investment in infrastructure. Start of production of the Volkswagen and Jaguar Land Rover car factories should significantly contribute to an acceleration of exports in 2018 and 2019. Economic growth will also be supported by a reduction in the tax burden of companies and entrepreneurs. We estimate that GDP growth was 3.4% in 2017 (*versus* 3.2%). The economic growth in the coming years should gradually accelerate, to 3.7% (*versus* 3.6%) in 2018 and 3.9% in the following year.

1.1.4 Commodity Prices

In the fourth quarter of 2017, the average price of Brent crude oil reached USD 61.4/barrel (*versus* USD 56 per barrel). It increased by 18% QoQ and even 25% YoY. In

mid-January 2018, it hovered around USD 70/barrel. In 2017, the average annual price of crude oil increased for the first time since 2012.

Rising probability that the agreement of the Organization of the Petroleum Exporting Countries and some other countries (particularly Russia) to limit production would be prolonged contributed to the price increase at the beginning of the fourth quarter of 2017. That eventually happened in late November 2017. The limitation of production is now applicable until the end of 2018, and the agreement may be revised in June depending on the market situation. The agreement now also applies to members of the Organization of the Petroleum Exporting Countries that had been exempted from it (Libya, Nigeria).

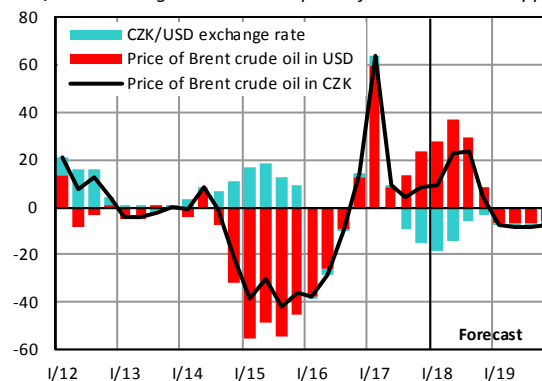
The agreement on the limitation of production has been adhered to, which helped, together with growing demand for crude oil driven by the global economic growth, eliminate oil surpluses in the global market. According to the estimates of the International Energy Agency and the U.S. Energy Information Administration, the crude oil market should be more or less balanced in 2018. On the supply side, production increase in the USA should act against the restricted production in Organization of the Petroleum Exporting Countries.

Further projected development in Brent crude oil prices reflects the declining curve of the futures prices. The average price should reach USD 68/barrel in 2018 (*versus* USD 55/barrel), and we expect an average price of USD 64/barrel in 2019. The higher forecast price is due to an increase in the curve of futures prices in all delivery dates. We consider the risks of the forecast for crude oil price to be balanced.

In koruna terms, the Brent oil price increased less, compared to the previous forecast, than the dollar price as we expect the koruna to be stronger against the dollar. According to our estimates, the increase in the koruna price should be approximately 14% in 2018 (see also Graph 1.1.4).

Graph 1.1.4: Koruna Price of Brent Crude Oil

YoY change of the koruna price of Brent crude oil in %, contributions of the CZK/USD exchange rate and USD price of Brent crude oil in pp



Source: CNB, U. S. Energy Inf. Administration. Calculations of the MoF.

Table 1.1.1: Gross Domestic Product – yearly

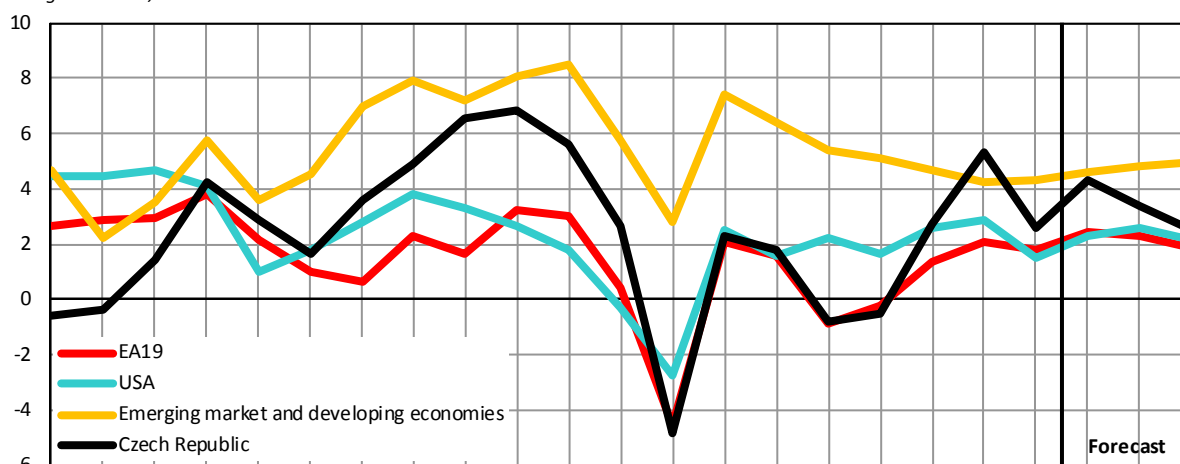
YoY real growth rate, in %

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
								Estimate	Forecast	Forecast
World	5.4	4.3	3.5	3.5	3.6	3.4	3.2	3.6	3.7	3.7
USA	2.5	1.6	2.2	1.7	2.6	2.9	1.5	2.3	2.6	2.2
China	10.6	9.5	7.9	7.8	7.3	6.9	6.7	6.8	6.6	6.5
EU28	2.1	1.7	-0.4	0.3	1.8	2.3	2.0	2.5	2.3	1.9
EA19	2.1	1.6	-0.9	-0.2	1.3	2.1	1.8	2.4	2.3	1.9
Germany	4.1	3.7	0.5	0.5	1.9	1.7	1.9	2.4	2.4	2.1
France	2.0	2.1	0.2	0.6	0.9	1.1	1.2	1.8	1.9	1.6
United Kingdom	1.7	1.5	1.5	2.1	3.1	2.3	1.9	1.8	1.3	1.3
Austria	1.8	2.9	0.7	0.0	0.8	1.1	1.5	3.2	2.5	1.8
Hungary	0.7	1.7	-1.6	2.1	4.2	3.4	2.2	3.7	3.5	3.0
Poland	3.7	5.0	1.6	1.4	3.3	3.8	2.9	4.4	3.6	3.3
Slovakia	5.0	2.8	1.7	1.5	2.8	3.9	3.3	3.4	3.7	3.9
Czech Republic	2.3	1.8	-0.8	-0.5	2.7	5.3	2.6	4.3	3.4	2.6

Source: CZSO, Eurostat, IMF, NBS China. Calculations of the MoF.

Graph 1.1.5: Gross Domestic Product

YoY real growth rate, in %



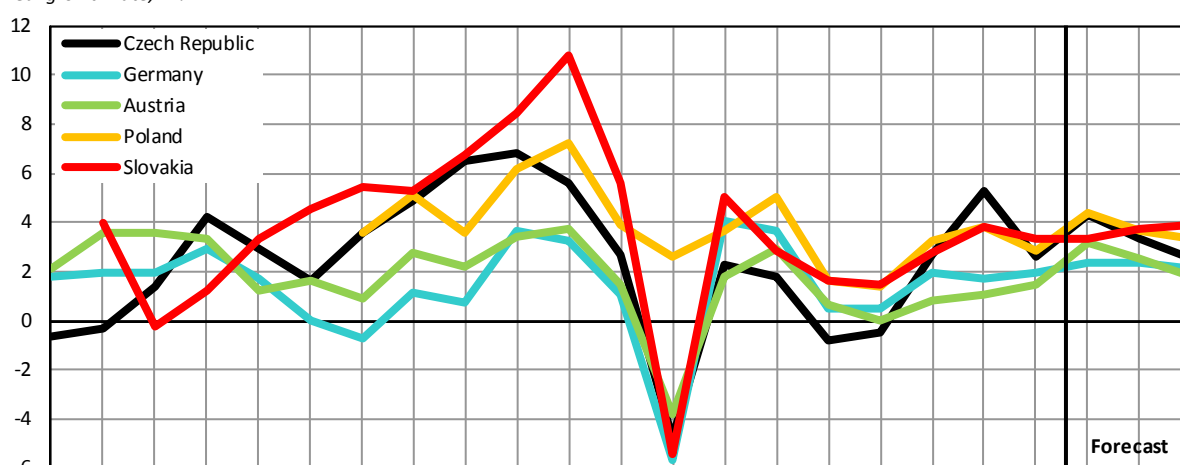
1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019

Note: Emerging market and developing economies comprising 154 countries (according to the IMF's classification)

Source: Eurostat, IMF. Calculations of the MoF.

Graph 1.1.6: Gross Domestic Product – Czech Republic and the neighbouring states

YoY real growth rate, in %



1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019

Source: Eurostat. Calculations of the MoF.

Table 1.1.2: Gross Domestic Product – quarterly

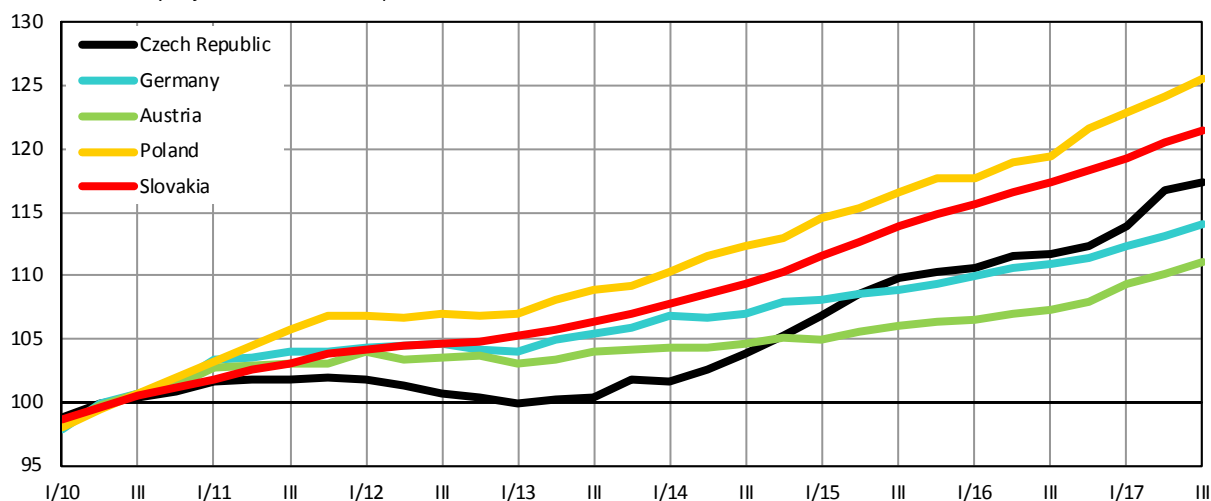
real growth rate, in %, seasonally adjusted data

		2017				2018			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
					Estimate	Forecast	Forecast	Forecast	Forecast
USA	QoQ	0.3	0.8	0.8	0.7	0.5	0.6	0.7	0.6
	YoY	2.0	2.2	2.3	2.6	2.8	2.6	2.5	2.4
China	QoQ	1.4	1.8	1.7	1.4	1.4	1.6	1.5	1.5
	YoY	6.9	6.9	6.8	6.4	6.4	6.2	6.0	6.1
EU28	QoQ	0.6	0.7	0.7	0.6	0.5	0.6	0.5	0.5
	YoY	2.2	2.5	2.8	2.6	2.5	2.4	2.2	2.1
EA19	QoQ	0.6	0.7	0.7	0.6	0.5	0.6	0.5	0.4
	YoY	2.1	2.4	2.8	2.7	2.6	2.4	2.2	2.0
Germany	QoQ	0.9	0.6	0.8	0.6	0.5	0.6	0.5	0.5
	YoY	2.1	2.3	2.8	3.0	2.6	2.5	2.2	2.1
France	QoQ	0.6	0.6	0.6	0.5	0.4	0.5	0.4	0.4
	YoY	1.2	1.8	2.3	2.3	2.1	2.0	1.8	1.7
United Kingdom	QoQ	0.3	0.3	0.4	0.3	0.3	0.4	0.3	0.3
	YoY	2.1	1.9	1.7	1.3	1.3	1.4	1.3	1.3
Austria	QoQ	1.3	0.8	0.8	0.7	0.5	0.6	0.6	0.5
	YoY	2.6	3.0	3.5	3.6	2.8	2.6	2.4	2.2
Hungary	QoQ	1.3	0.9	0.9	0.9	0.9	0.8	0.8	0.7
	YoY	3.9	3.7	4.1	4.2	3.7	3.6	3.4	3.2
Poland	QoQ	1.1	0.9	1.2	0.9	0.9	0.8	0.8	0.7
	YoY	4.4	4.3	5.2	4.2	4.0	3.9	3.4	3.2
Slovakia	QoQ	0.8	0.9	0.8	0.8	0.9	1.0	1.1	0.9
	YoY	3.1	3.4	3.5	3.4	3.5	3.6	3.9	4.0
Czech Republic	QoQ	1.5	2.5	0.5	0.7	0.9	0.8	0.6	0.6
	YoY	3.0	4.7	5.0	5.3	4.6	2.9	3.1	3.0

Source: Eurostat, NBS China. Calculations of the MoF.

Graph 1.1.7: Gross Domestic Product – Czech Republic and the neighbouring states

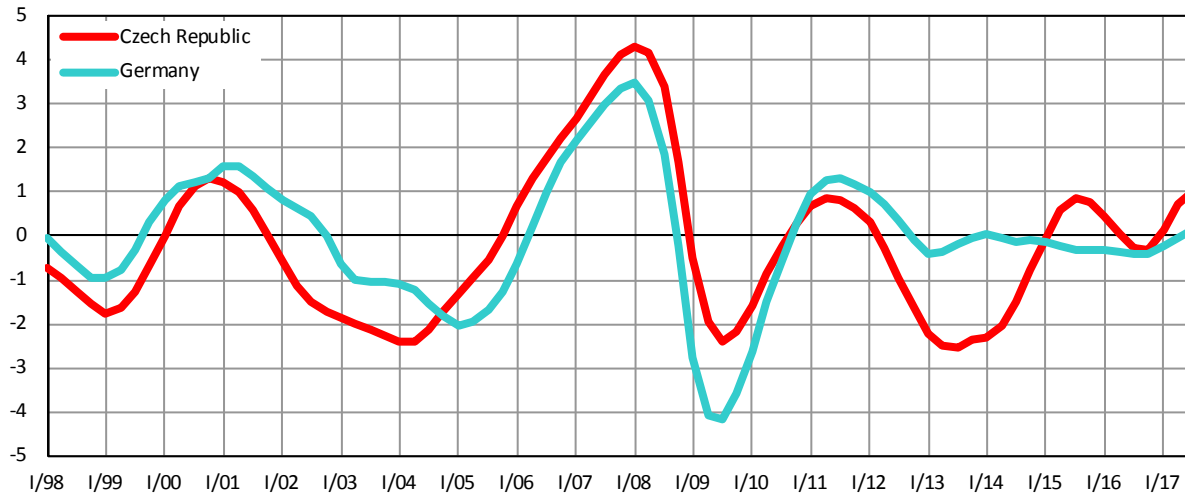
2010=100, seasonally adjusted data, constant prices



Source: Eurostat. Calculations of the MoF.

Graph 1.1.8: Cyclical Component of GDP – Czech Republic and Germany

in % of GDP, derived using the Hodrick-Prescott filter



Source: Eurostat. Calculations of the MoF.

Table 1.1.3: Prices of Selected Commodities – yearly

spot prices

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
									Forecast	Forecast	
Crude oil Brent	<i>USD/barrel</i>	79.6	111.3	111.5	108.6	99.0	52.4	43.6	54.2	68	64
	<i>growth in %</i>	29.3	39.8	0.2	-2.6	-8.8	-47.1	-16.9	24.3	26.1	-6.5
Crude oil Brent index (in CZK)	<i>2010=100</i>	100.0	129.5	143.8	139.9	134.6	85.0	70.1	83.1	95	88
	<i>growth in %</i>	31.3	29.5	11.0	-2.7	-3.8	-36.9	-17.4	18.5	14.5	-8.0
Natural gas	<i>USD/MMBtu</i>	8.3	10.5	11.5	11.8	10.1	7.3	4.6	.	.	.
	<i>growth in %</i>	-4.9	26.9	9.1	2.7	-14.7	-27.8	-37.2	.	.	.
Natural gas index (in CZK)	<i>2010=100</i>	100.0	117.9	142.2	145.9	131.7	113.0	70.6	.	.	.
	<i>growth in %</i>	-6.2	17.9	20.6	2.6	-9.8	-14.2	-37.6	.	.	.

Source: CNB, IMF, U. S. Energy Information Administration. Calculations of the MoF.

Table 1.1.4: Prices of Selected Commodities – quarterly

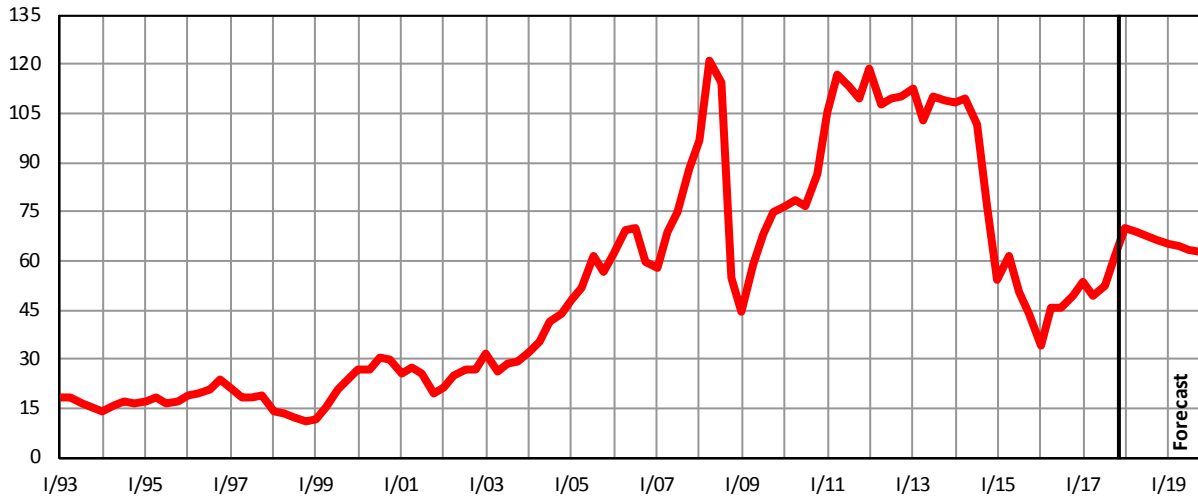
spot prices

		2017				2018			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
						Forecast	Forecast	Forecast	Forecast
Crude oil Brent	<i>USD/barrel</i>	53.6	49.6	52.1	61.4	70	69	68	67
	<i>growth in %</i>	58.6	8.8	13.8	25.1	30.4	39.1	30.2	8.4
Crude oil Brent index (in CZK)	<i>2010=100</i>	89.6	78.6	76.1	88.1	98	96	94	92
	<i>growth in %</i>	64.0	9.4	4.3	8.7	9.3	22.5	23.8	4.6
Natural gas	<i>USD/MMBtu</i>	5.7	5.3	5.3	.	.	.	.	.
	<i>growth in %</i>	17.8	30.1	21.3	.	.	.	.	.
Natural gas index (in CZK)	<i>2010=100</i>	91.5	81.2	74.9	.	.	.	.	.
	<i>growth in %</i>	21.8	30.8	11.2	.	.	.	.	.

Source: CNB, U. S. Energy Information Administration, World Bank. Calculations of the MoF.

Graph 1.1.9: Dollar Prices of Oil

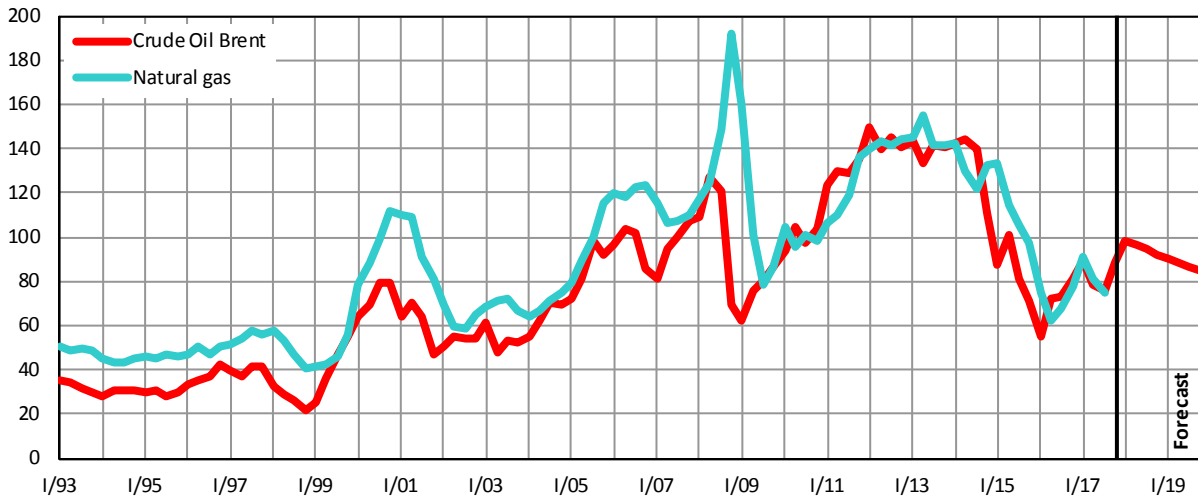
USD/barrel



Source: U. S. Energy Information Administration. Calculations of the MoF.

Graph 1.1.10: Koruna Indices of Prices of Selected Commodities

index 2010=100



Source: CNB, U. S. Energy Information Administration, World Bank. Calculations of the MoF.

1.2 Fiscal Policy

Based on the information we have so far, we estimate that the general government balance in **2017** ended with a surplus of 1.1% of GDP (*unchanged*), which would represent a YoY improvement by 0.4 pp. In terms of the structural balance, there should be a slight YoY decline in the surplus by 0.3 pp to 0.5% of GDP.

Since the data about the general government balance in 2017 in the ESA 2010 accrual methodology will only be available at the beginning of April this year, our estimate is mainly based on the results of the cash performance of the state budget, state funds, local budgets and of health insurance companies. Quarterly national accounts for the general government sector available for the first three quarters of the previous year were also used for the estimate.

According to the cash methodology, the state budget ended in a deficit of CZK 6.2 billion in 2017. In comparison with the result of 2016, when a surplus of CZK 61.8 billion was recorded, the balance deteriorated by CZK 67.9 billion, mainly due to a decrease in funds obtained from the EU and financial mechanisms by CZK 81.9 billion. After adjustment of both the revenue and expenditure side for these financial resources, the deficit was CZK 1.3 billion. In 2016, the thus adjusted result was a deficit of 13.6 billion CZK. The major factor driving the YoY improvement of the balance was high dynamics of tax revenues, including social security contributions. At the state budget level, they increased by approx. CZK 83 billion, and by more than CZK 100 billion at the level of the general government.

Great attention is paid mainly to the value-added tax and the impact of the measures being introduced since 2016 (mainly electronic registration of sales and electronic VAT reporting). The collection of this tax in 2017 at the general government level increased by 9.1% (after adjustment for the influence of the reduced tax rate on food services, newspapers and magazines even by 9.5%), thus significantly exceeding the growth of macroeconomic bases.

On the expenditure side of the state budget, capital expenditures decreased by 3.1%, primarily as a result of significantly lower investment transfers to local government units (a decrease of 43%). This was mainly due to a high statistical base of the first half of 2016, when local government budgets received transfers for financing last projects from operational programmes of the previous programming period 2007–2013. Preparation and implementation of investment projects in the new 2014–2020 programming period had a slower start, especially in the first half of 2017. A YoY decrease in investment transfers to local government budgets was partially offset by higher transfers to state funds, which increased by more than 28% in 2017. Almost 90% of that amount was to the State Fund for Transport Infrastructure.

As of the end of November 2017, local government budgets were in a surplus of almost CZK 41 billion (cash methodology). The long-term positive balance of local government budgets positively contributes to the overall results of the general government sector balance. Contrary to the decline in received investment transfers, described above, local government budgets received a higher YoY volume of non-investment transfers in 2017. The growth was mainly influenced by higher transfers of funds to direct costs of schools established by municipalities and regions, in particular in connection with an increase in salaries of teachers and non-teaching staff during 2017.

Together with local government units, health insurance companies also contribute to a positive balance of the general government sector. At the end of November 2017, health insurance companies recorded a cash surplus of almost CZK 7 billion, almost twice as much in a YoY comparison. The main factor of this development is, in particular, a higher growth of social security contributions.

The general government balance in the ESA 2010 accrual methodology recorded a surplus of CZK 84 billion in the first three quarters of 2017. However, the result of the last quarter has a great weight in terms of the annual balance, and it is usually negative and also relatively volatile. Therefore, we expect that the general government sector surplus will decline at the end of the year. National accounts data also point to exceptionally high tax revenues – in the first three quarters of 2017, taxes, including social security contributions, rose by CZK 98 billion. On the expenditure side, we expect a considerable increase in compensation of employees, which as of the end-September 2017 grew by 8 % YoY as a result of increases in salary scales across professions in the general government sector. There was also investment growth in the same period, by 4.4%. The predicted more than 11% nominal growth in general government investment is based on an accelerated growth of investment expenditure at the end of the year, as indicated by investment purchases undertaken by the state budget, state funds and local governments. Declining interest costs, which were lower almost by 14 % at the end of September 2017, also have a positive influence on the general government balance. This is the result of a combination of refinancing past issues in the environment of low interest rates, development of cash performance of the state budget and local government budgets, and debt portfolio management strategy.

With respect to the current estimate for the general government balance in 2017 and virtually no new approved measures or a major change in the macroeconomic environment, we leave the forecast for the balance in **2018** unchanged at 1.3% of GDP. In terms of the

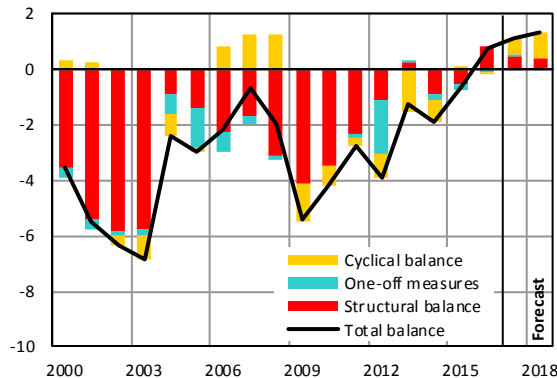
structural balance, a slight YoY decrease in the surplus by 0.1 pp to 0.4% of GDP can be expected.

The estimated decrease in the volume of debt by almost CZK 12 billion at the end of 2017 and nominal GDP growth should lead to a YoY decrease in relative indebtedness by 2.2 pp to 34.6% of GDP. A reduction in the absolute level of debt is estimated mainly on the side of local government subsector, which has now been record-

ing budget surplus for several years in a row. In contrast, the state debt at the end of 2017 recorded a YoY increase by more than CZK 11 billion and amounted to CZK 1,624.7 billion, which is 32.2% of GDP. However, more than 15% of this debt is debt with zero or negative yield. A further decrease in the general government sector debt is expected also in 2018, when the debt level should fall to 33.1 % of GDP.

Graph 1.2.1: Decomposition of the Government Balance

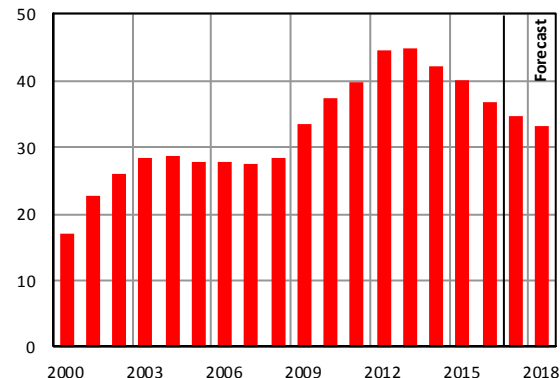
in % of GDP



Source: CZSO. Calculations of the MoF.

Graph 1.2.2: General Government Debt

in % of GDP



Source: CZSO. Calculations of the MoF.

Table 1.2.1: Net Lending/Borrowing and Debt

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
											Estimate	Forecast
General government balance	% GDP	-5.5	-4.2	-2.7	-3.9	-1.2	-1.9	-0.6	0.7	1.1	1.3	
	bill. CZK	-214	-166	-110	-160	-51	-83	-29	35	57	71	
Cyclical balance	% GDP	-1.4	-0.7	-0.3	-0.9	-1.5	-0.8	0.1	0.0	0.6	0.9	
Cyclically adjusted balance	% GDP	-4.1	-3.5	-2.5	-3.0	0.3	-1.1	-0.7	0.7	0.5	0.4	
One-off measures ¹⁾	% GDP	0.0	0.0	-0.1	-2.0	0.0	-0.3	-0.2	-0.1	0.0	0.0	
Structural balance	% GDP	-4.1	-3.5	-2.4	-1.1	0.3	-0.9	-0.5	0.8	0.5	0.4	
Fiscal effort ²⁾	pp	-1.0	0.6	1.2	1.3	1.3	-1.2	0.4	1.3	-0.3	-0.1	
Interest expenditure	% GDP	1.2	1.3	1.3	1.4	1.3	1.3	1.1	0.9	0.8	0.7	
Primary balance	% GDP	-4.2	-2.9	-1.4	-2.5	0.1	-0.6	0.4	1.7	1.9	2.1	
Cyclically adjusted primary balance	% GDP	-2.9	-2.2	-1.1	-1.6	1.6	0.2	0.3	1.7	1.3	1.2	
General government debt	% GDP	33.6	37.4	39.8	44.5	44.9	42.2	40.0	36.8	34.6	33.1	
	bill. CZK	1 319	1 480	1 606	1 805	1 840	1 819	1 836	1 755	1 743	1 754	
Change in debt-to-GDP ratio	pp	5.3	3.8	2.5	4.6	0.4	-2.7	-2.2	-3.2	-2.2	-1.5	

¹⁾ One-off and temporary measures are such measures that have only a temporary impact on public budgets. Besides their temporary impact on overall balance, these measures are usually of non-recurring nature and very often result from the events that are beyond the direct power of the government.

²⁾ Change in structural balance.

Source: CZSO. Calculations of the MoF.

1.3 Monetary Policy, Financial Sector and Exchange Rates

1.3.1 Monetary Policy

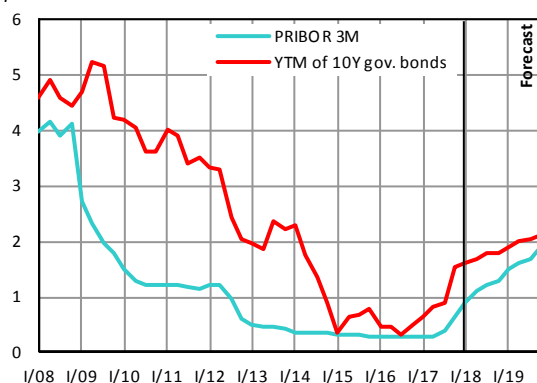
Following the discontinuation of its exchange rate commitment the CNB implements monetary policy in a standard regime, in which interest rates are the main tool. At the beginning of November, it increased the two-week repo rate by 0.25 pp to 0.50% because inflation will probably be above the CNB's inflation target also in the monetary policy horizon. Monetary conditions are gradually tightening in the interest as well as exchange rate (see below) components. This development should continue also in the forecast horizon.

1.3.2 Financial Sector and Interest Rates

In the fourth quarter of 2017 the **3M** (three-month) **PRIBOR** rate increased to 0.7% (*versus 0.6%*), averaging 0.4% in 2017 (*in line with the estimate*). With regard to the assumed monetary policy developments, we expect that the 3M PRIBOR rate will increase to 1.1% (*versus 1.0%*) in 2018 and further to 1.7% in 2019.

Graph 1.3.1: Interest Rates

in % p.a.



Source: CNB. Calculations of the MoF.

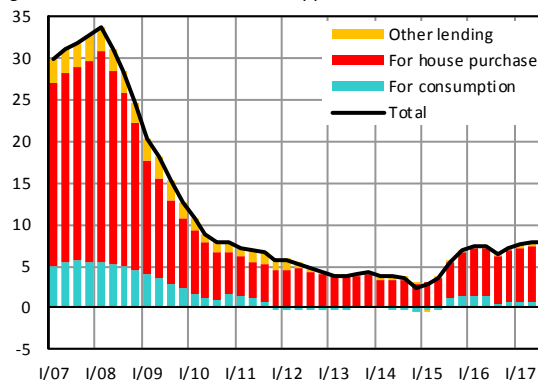
Long-term interest rates have recently been increasing gradually as a result of the expected tightening of monetary policy. The **yield to maturity on 10-year government bonds** for convergence purposes reached 1.5% in the fourth quarter of 2017 (*versus 1.2%*), and averaged 1.0% in 2017 (*versus 0.9%*). With regard to the expected developments of inflation and the CNB's and ECB's monetary policy stance, we expect that long-term rates will increase to 1.7% (*versus 1.5%*) in 2018 and further to 2.0% in 2019.

In the third quarter of 2017, loans to households increased by 8.0% and their dynamics thus remaining unchanged in comparison with the previous quarter. The developments of the main groups of loans, i.e. housing loans, consumption loans and other loans (loans to the self-employed persons) were also stable. Due to the structure of loans to households, their growth has long been driven by housing loans (the weight is approx. 75%). The acceleration in housing loans that has taken place since the beginning of 2015 and has been supported by low interest rates led, in the combination with a limited

supply of residential real estate, to a dynamic growth in real estate prices. Continuation of this trend would pose a negative risk for the economy and the financial stability. However, the growth in housing loans has slightly slowed down in the last few months, which is probably due to higher interest rates and the achieved high level of real estate prices (which significantly reduces the availability of home ownership even for medium-income groups), especially in large cities. The CZSO's data on residential construction and issued building permits suggest that housing supply should increase in the future.

Graph 1.3.2: Loans to Households

YoY growth rate in %, contributions in pp

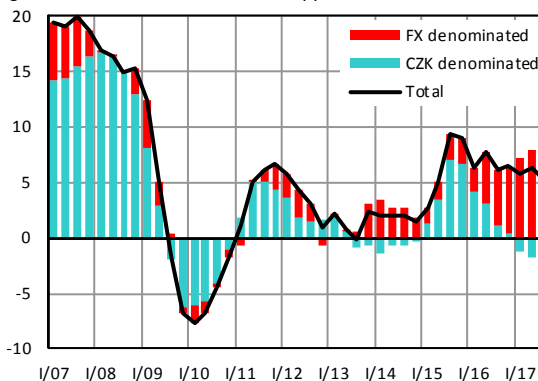


Source: CNB. Calculations of the MoF.

In the third quarter of 2017 the YoY growth in total loans to non-financial corporations decreased slightly in comparison with the previous quarter to 5.3%. A moderate decline in koruna loans (-1.3%) continued, while foreign currency loans grew dynamically despite a slight slowdown. However, their growth significantly decelerated in October and November. These trends may reflect increased uncertainty about the further development of the koruna exchange rate, or speculations on appreciation of the koruna. However, they may also from the behaviour of exporters seeking natural hedging.

Graph 1.3.3: Loans to Non-financial Corporations

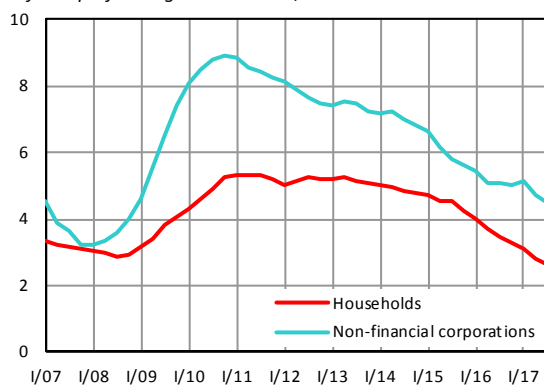
YoY growth rate in %, contributions in pp



Source: CNB. Calculations of the MoF.

Graph 1.3.4: Non-performing Loans

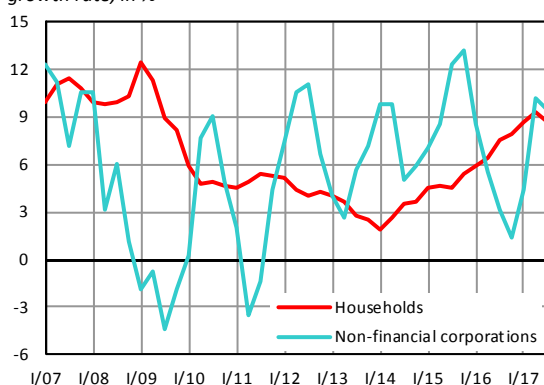
ratio of non-performing to total loans, in %



Source: CNB. Calculations of the MoF.

Graph 1.3.5: Deposits

YoY growth rate, in %



Source: CNB. Calculations of the MoF.

The share of non-performing loans in total loans reflects the positive economic development. In the third quarter of 2017 it was 2.6% for households (0.9 pp less YoY) and 4.5% for non-financial corporations (0.6 pp less YoY). The low and long-term declining share of non-performing loans indicates a very good financial condition of households and companies and also suggests that the quality

of banks' loan portfolio should not be a factor leading to limitation of availability of bank loans in the near future.

The YoY growth of deposits slowed down slightly in the third quarter of 2017 both for households (to 8.6%) and non-financial corporations (to 9.5%). In terms of the capacity of households and non-financial corporations to finance future consumption and investment from own resources, the continued growth of deposits may be assessed positively.

1.3.3 Exchange Rates

The exchange rate of the koruna against the euro continued to appreciate and averaged 25.6 CZK/EUR in the fourth quarter of 2017 (versus 25.8 CZK/EUR), a YoY appreciation of 5.4%. In 2017 as a whole the average exchange rate was 26.3 CZK/EUR (versus 26.4 CZK/EUR).

It is assumed for the future development of the CZK/EUR exchange rate that the QoQ annualized koruna appreciation rate will be 1.7% in the entire forecast horizon. That represents real appreciation by 2.1%, which is a rough equivalent of average annual real appreciation of the exchange rate in 2004–2013. The assumption is also consistent with the estimates of average rate of equilibrium real appreciation of the koruna for the next five years (estimates ranging between 0.4% and 2.7%), published by the CNB in the document Analyses of the Czech Republic's Current Economic Alignment with the Euro Area 2017. Therefore, we expect an average exchange rate of 25.4 CZK/EUR (versus 25.5 CZK/EUR) for 2018, and 25.0 CZK/EUR for 2019.

The estimated development of the CZK/USD exchange rate is implied by the USD/EUR exchange rate, for which a technical assumption of stability at the level of 1.20 USD/EUR (versus 1.15 USD/EUR) has been adopted. Appreciation of the euro is probably due to more positive than expected developments in the Euro Area.

Table 1.3.1: Interest Rates – yearly

average of period, unless stated otherwise

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
										Forecast	Forecast
Repo 2W rate CNB (end of period)	in % p.a.	0.75	0.75	0.05	0.05	0.05	0.05	0.05	0.50	.	.
Main refinancing rate ECB (end of period)	in % p.a.	1.00	1.00	0.75	0.25	0.05	0.05	0.05	0.00	.	.
Federal funds rate (end of period)	in % p.a.	0.25	0.25	0.25	0.25	0.25	0.50	0.75	1.50	.	.
PRIBOR 3M	in % p.a.	1.31	1.19	1.00	0.46	0.36	0.31	0.29	0.41	1.1	1.7
YTM of 10Y government bonds	in % p.a.	3.88	3.71	2.78	2.11	1.58	0.61	0.43	0.98	1.7	2.0
Client interest rates											
Loans to households	in % p.a.	7.01	6.83	6.46	6.03	5.57	5.14	4.63	.	.	.
Loans to non-financial corporations	in % p.a.	4.10	3.93	3.69	3.19	3.00	2.77	2.58	.	.	.
Deposits of households	in % p.a.	1.25	1.20	1.18	1.01	0.84	0.65	0.47	.	.	.
Deposits of non-financial corporations	in % p.a.	0.56	0.52	0.56	0.41	0.29	0.19	0.10	.	.	.

Source: CNB, ECB, Fed. Calculations of the MoF.

Table 1.3.2: Interest Rates – quarterly
average of period, unless stated otherwise

		2017				2018			
		Q1	Q2	Q3	Q4	Q1 <i>Forecast</i>	Q2 <i>Forecast</i>	Q3 <i>Forecast</i>	Q4 <i>Forecast</i>
Repo 2W rate CNB (end of period)	<i>in % p.a.</i>	0.05	0.05	0.25	0.50	.	.	.	.
Main refinancing rate ECB (end of period)	<i>in % p.a.</i>	0.00	0.00	0.00	0.00	.	.	.	.
Federal funds rate (end of period)	<i>in % p.a.</i>	1.00	1.25	1.25	1.50	.	.	.	.
PRIBOR 3M	<i>in % p.a.</i>	0.28	0.30	0.40	0.65	0.9	1.1	1.2	1.3
YTM of 10Y government bonds	<i>in % p.a.</i>	0.66	0.82	0.90	1.54	1.6	1.7	1.8	1.8
Client interest rates									
Loans to households	<i>in % p.a.</i>	4.29	4.15	4.15	.	.	.	.	.
Loans to non-financial corporations	<i>in % p.a.</i>	2.57	2.55	2.55	.	.	.	.	.
Deposits of households	<i>in % p.a.</i>	0.38	0.36	0.36	.	.	.	.	.
Deposits of non-financial corporations	<i>in % p.a.</i>	0.06	0.05	0.05	.	.	.	.	.

Source: CNB, ECB, Fed. Calculations of the MoF.

Table 1.3.3: Loans and Deposits – yearly averages

		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Households – MFI											
Loans	<i>growth in %</i>	31.6	29.3	16.5	8.8	6.6	4.9	4.0	3.4	4.7	7.2
For consumption	<i>growth in %</i>	26.2	25.7	16.4	7.3	4.2	-1.0	-0.1	-0.9	3.4	6.0
For house purchase	<i>growth in %</i>	33.8	30.8	15.5	8.9	6.5	6.4	5.5	4.5	5.6	8.1
Other lending	<i>growth in %</i>	27.5	24.9	23.9	11.6	11.1	6.0	1.2	2.9	1.0	3.0
CZK denominated	<i>growth in %</i>	31.6	29.3	16.5	8.8	6.6	4.9	4.0	3.4	4.7	7.2
FX denominated	<i>growth in %</i>	3.3	-8.9	0.1	31.0	2.4	30.8	-1.3	0.0	12.7	8.5
Deposits	<i>growth in %</i>	10.8	10.0	10.2	5.1	5.0	4.5	3.3	2.9	4.8	7.0
CZK denominated	<i>growth in %</i>	11.7	10.7	10.1	5.6	5.4	4.7	3.3	2.7	4.1	6.9
FX denominated	<i>growth in %</i>	-4.3	-3.4	13.1	-6.8	-4.0	-2.1	2.3	8.5	22.5	7.3
Non-performing loans (banking statistics)	<i>share, in %</i>	3.2	3.0	3.6	4.8	5.3	5.2	5.2	4.9	4.5	3.6
Loans to deposits ratio	<i>in %</i>	48	56	59	61	62	63	63	63	63	63
Non-financial corporations – MFI											
Loans	<i>growth in %</i>	19.3	15.9	1.9	-5.2	4.7	3.5	1.3	1.9	6.5	6.6
CZK denominated	<i>growth in %</i>	18.5	18.7	0.5	-5.2	4.9	2.6	0.3	-1.0	5.9	2.8
FX denominated	<i>growth in %</i>	22.8	3.4	9.1	-5.4	3.7	7.8	5.7	13.7	9.0	20.5
Deposits	<i>growth in %</i>	10.3	5.1	-2.2	5.5	0.4	8.9	4.9	7.6	10.3	4.6
CZK denominated	<i>growth in %</i>	9.6	6.4	-3.2	6.9	2.0	8.2	4.2	5.6	6.7	4.5
FX denominated	<i>growth in %</i>	12.8	0.5	1.6	0.2	-6.1	11.8	8.0	15.2	23.2	4.8
Non-performing loans (banking statistics)	<i>share, in %</i>	3.8	3.5	6.0	8.6	8.5	7.8	7.4	7.0	6.0	5.2
Loans to deposits ratio	<i>in %</i>	117	129	135	121	126	120	116	110	106	108

Source: CNB, ECB. Calculations of the MoF.

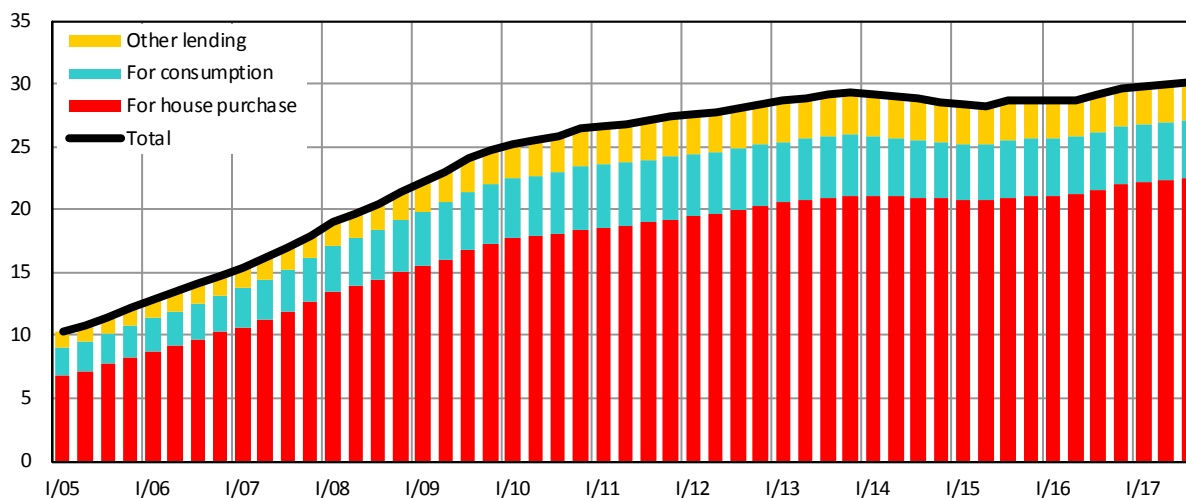
Table 1.3.4: Loans and Deposits – quarterly averages

		2015	2016				2017		
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Households – MFI									
Loans	<i>growth in %</i>	7.0	7.5	7.5	6.6	7.2	7.6	8.0	8.0
For consumption	<i>growth in %</i>	8.7	9.7	8.7	2.3	3.7	4.2	4.6	4.5
For house purchase	<i>growth in %</i>	7.3	7.7	8.0	8.0	8.5	8.9	9.2	9.2
Other lending	<i>growth in %</i>	2.7	2.7	2.6	3.0	3.5	3.6	4.7	4.4
CZK denominated	<i>growth in %</i>	7.0	7.5	7.5	6.6	7.2	7.6	7.9	7.9
FX denominated	<i>growth in %</i>	9.3	13.1	18.3	6.1	-2.0	12.0	48.5	49.4
Deposits	<i>growth in %</i>	5.5	5.9	6.4	7.6	7.9	8.7	9.3	8.6
CZK denominated	<i>growth in %</i>	4.9	4.9	5.7	6.3	7.6	8.1	9.4	10.6
FX denominated	<i>growth in %</i>	19.5	11.5	8.6	6.6	3.0	-5.6	-18.7	-17.3
Non-performing loans (banking statistics)	<i>share, in %</i>	4.3	4.0	3.7	3.5	3.3	3.1	2.8	2.6
Loans to deposits ratio	<i>in %</i>	64	63	63	63	64	62	62	63
Non-financial corporations – MFI									
Loans	<i>growth in %</i>	9.1	6.3	7.8	6.1	6.4	5.8	6.3	5.3
CZK denominated	<i>growth in %</i>	8.5	5.4	3.8	1.5	0.5	-1.7	-2.3	-1.3
FX denominated	<i>growth in %</i>	11.2	9.7	22.0	22.7	27.1	31.1	32.7	24.9
Deposits	<i>growth in %</i>	13.2	8.6	5.6	3.2	1.4	4.4	10.2	9.5
CZK denominated	<i>growth in %</i>	10.0	8.0	4.5	3.2	2.5	8.6	19.8	15.6
FX denominated	<i>growth in %</i>	24.3	10.3	8.9	3.0	-2.2	-8.8	-18.0	-9.4
Non-performing loans (banking statistics)	<i>share, in %</i>	5.6	5.4	5.1	5.1	5.0	5.1	4.7	4.5
Loans to deposits ratio	<i>in %</i>	104	104	108	110	109	105	104	106

Source: CNB, ECB. Calculations of the MoF.

Graph 1.3.6: Loans to Households

in % of GDP (from yearly moving sums)



Source: CNB, CZSO. Calculations of the MoF.

Table 1.3.5: Exchange Rates – yearly

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
							Estimate	Forecast	Forecast	Outlook	Outlook
Nominal exchange rates											
CZK / EUR	average	25.14	25.97	27.53	27.28	27.03	26.32	25.4	25.0	24.6	24.2
	appreciation in %	-2.2	-3.2	-5.7	0.9	0.9	2.7	3.7	1.7	1.7	1.7
CZK / USD	average	19.58	19.56	20.75	24.60	24.43	23.36	21.2	20.8	20.5	20.1
	appreciation in %	-9.7	0.1	-5.7	-15.7	0.7	4.6	10.4	1.7	1.7	1.7
NEER	average of 2015=100	108.9	106.4	100.8	100.0	102.4	105.4	110	112	114	116
	appreciation in %	-3.5	-2.3	-5.2	-0.8	2.4	2.9	4.6	1.7	1.7	1.7
Real exchange rate to EA19¹⁾	average of 2010=100	99.8	96.8	92.8	93.4	94.6	97	102	104	106	108
	appreciation in %	-2.0	-3.0	-4.2	0.7	1.4	2.9	4.3	2.2	2.1	2.2
REER	average of 2010=100	99.2	96.9	91.8	91.2	93.5	.	.	.	.	.
(Eurostat, CPI deflated, 42 countries)	appreciation in %	-2.8	-2.3	-5.2	-0.7	2.5	.	.	.	.	.

¹⁾ Deflated by GDP deflators.

Source: CNB, Eurostat. Calculations of the MoF.

Table 1.3.6: Exchange Rates – quarterly

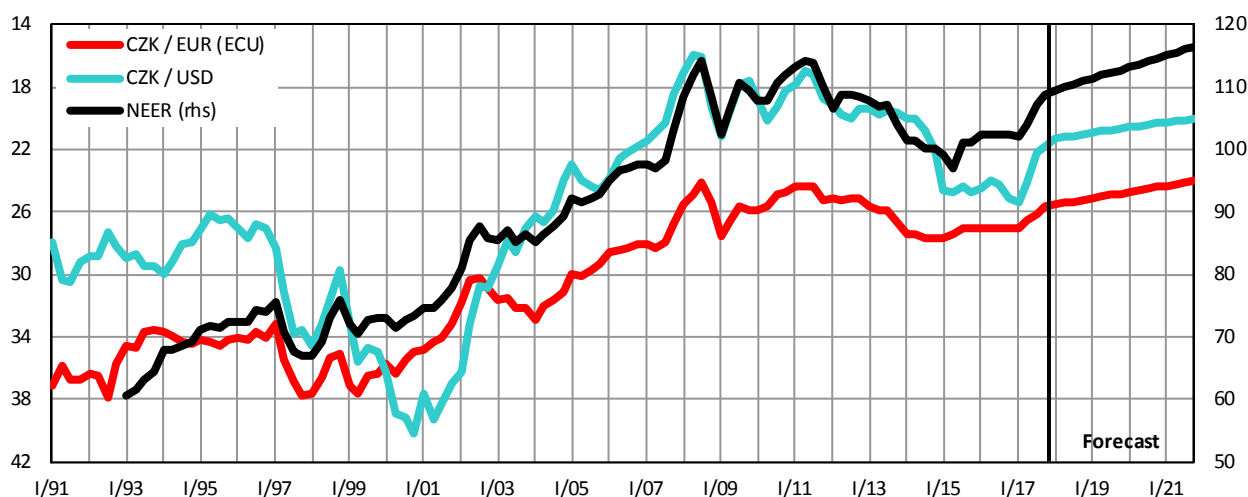
		2017				2018			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
					Estimate	Forecast	Forecast	Forecast	Forecast
Nominal exchange rates									
CZK / EUR	average	27.02	26.53	26.08	25.65	25.5	25.4	25.3	25.2
	appreciation in %	0.1	1.9	3.6	5.4	5.8	4.3	3.0	1.7
CZK / USD	average	25.38	24.07	22.19	21.79	21.3	21.2	21.1	21.0
	appreciation in %	-3.3	-0.5	9.1	15.0	19.2	13.6	5.1	3.7
NEER	average of 2015=100	101.9	104.0	107.1	108.9	110	110	110	111
	appreciation in %	-0.5	1.6	4.5	6.3	7.5	5.8	3.1	1.9
Real exchange rate to EA19¹⁾	average of 2010=100	94.2	96.2	98.4	101	100	101	102	103
	appreciation in %	-0.1	1.8	3.9	6.1	6.2	4.8	3.7	2.3
REER	average of 2010=100	93.4	95.1	98.5	.	.	.	.	.
(Eurostat, CPI deflated, 42 countries)	appreciation in %	-0.6	1.9	5.4	.	.	.	.	.

¹⁾ Deflated by GDP deflators.

Source: CNB, Eurostat. Calculations of the MoF.

Graph 1.3.7: Nominal Exchange Rates

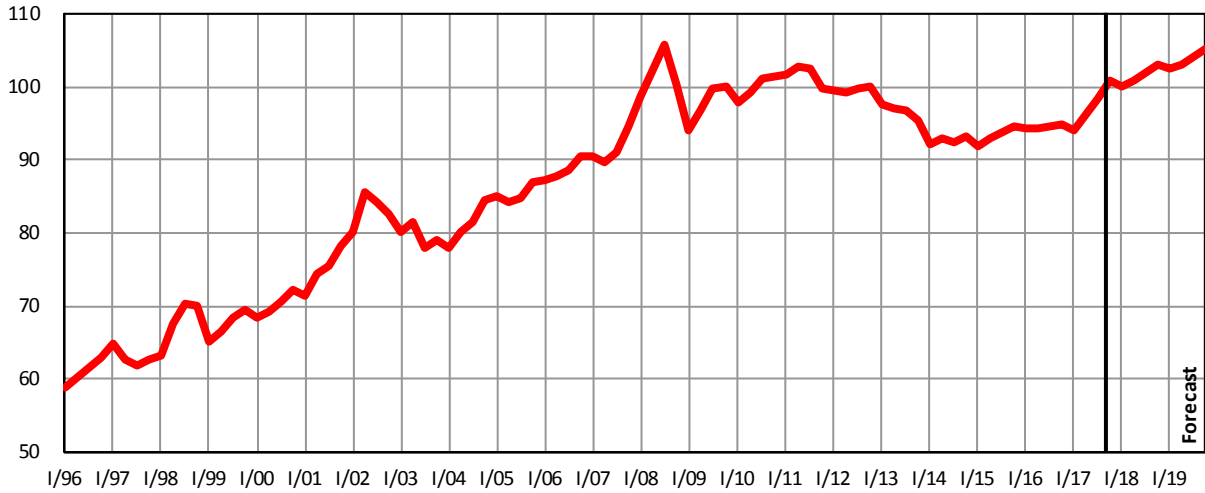
quarterly averages, average 2015=100 (rhs)



Source: CNB. Calculations of the MoF.

Graph 1.3.8: Real Exchange Rate to EA19

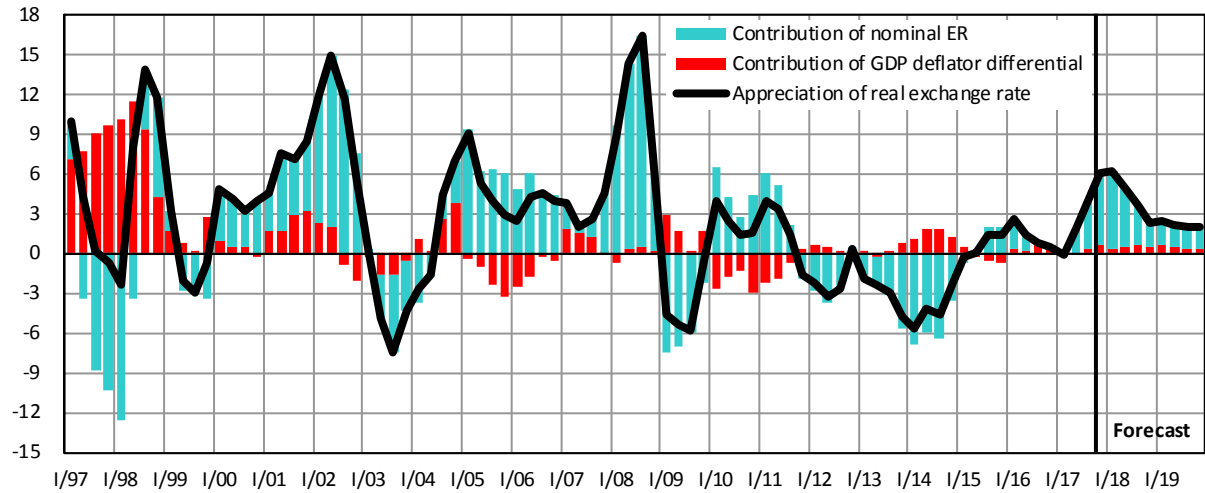
quarterly averages, deflated by GDP deflators, average 2010=100



Source: CNB, Eurostat. Calculations of the MoF.

Graph 1.3.9: Real Exchange Rate to EA19

deflated by GDP deflators, YoY growth rate in %, contributions in percentage points



Source: CNB, Eurostat. Calculations of the MoF.

1.4 Structural Policies

1.4.1 Taxes

Pursuant to the Act on Registration of Sales, the remaining business professions (e.g. liberal professions, transport, agriculture), were to join the electronic registration of sales on 1 March 2018, and selected craft branches and manufacturing activities on 1 June 2018. However, in its decision of 15 December 2017 the Constitutional Court cancelled the **start of the remaining phases of electronic registration of sales** and joining of the sectors described above will therefore be delayed. Moreover, according to the Constitutional Court's decision, payments made by bank transfers will not be subject to the electronic registration of sales.

1.4.2 Financial Markets

The amendment to the Capital Market Undertakings Act, which entered into effect on 3 January 2018, transposes the EU Directives and Regulations into the Czech law and will contribute to greater efficiency and transparency of the financial market business. In response to technical progress in this area, a new trading platform is being introduced in the form of an organised trading system, and high-frequency trading is subject to regulation. Adjusting the information obligations imposed on regu-

lated entities and the rules of negotiations with customers enhances investor protection. Last but not least, the new measures harmonise and tighten administrative sanctions.

1.4.3 Social and Health Care Systems

On 1 January 2018, an **amendment to the Act on the State Social Support** entered into effect, which enables parents to decide on the amount and time of drawing the parental allowance in a more flexible way and, at the same time, eases conditions for placing children in preschool facilities at the time of receiving the parental allowance. Last but not least, the amendment has extended the range of families entitled to the child allowance, increased the parental allowance in the case of multiple birth and the tax relief for the first child by CZK 150 per month.

1.4.4 Labour Market

The government regulation on the minimum wage entered into effect on 1 January 2018. The minimum wage thus increased by 10.9% YoY to CZK 12,200 per month, and the lowest levels of guaranteed wage rose by approx. 11%.

1.5 Demographic Trends

From a long-run perspective, the population of the Czech Republic has been increasing moderately. Between the first and the third quarter of 2017, the population grew by 18.7 thousand persons to 10.597 million; most of this increase was due to foreign migration.

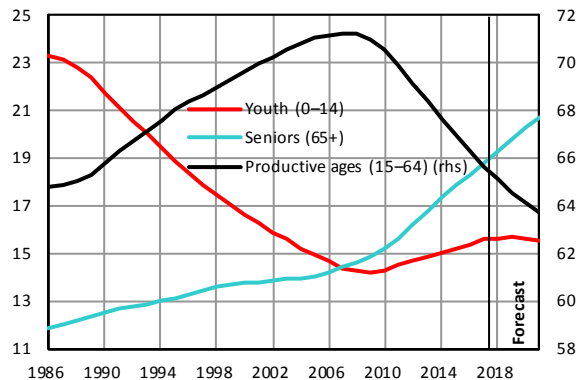
The **positive migration balance** was 16.4 thousand persons, 2.5 thousand more than in the same period of 2016. While 33.1 thousand persons moved from abroad, 16.8 thousand left the Czech Republic. The highest net migration balance was recorded with citizens of Ukraine (4.2 thousand) and Slovakia (3.2 thousand).

Natural increase in the Czech population was 2.3 thousand persons. There were 85.7 thousand children born alive, almost the same number as in the period from the first to the third quarter of the previous year, when the number of new-borns was the highest since 2010. On the other hand, 83.4 thousand people died, 3.8 thousand more than a year ago due to increased mortality at the beginning of the year.

As far as the age structure of the population is concerned, the fastest growing age category is that of seniors over the age of 64; their number in the third quarter of 2017 increased by 51 thousand YoY. The number of children under the age of 14 increased by 24 thousand.

Graph 1.5.1: Age Groups

shares on total population, in %

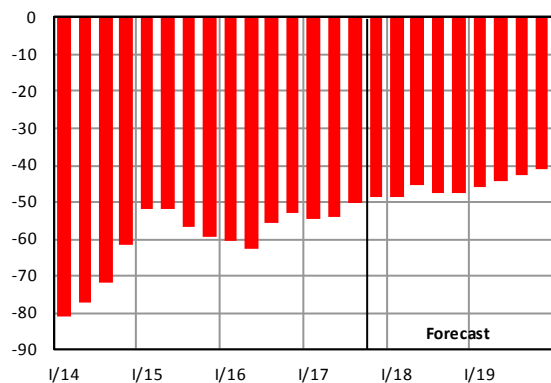


Source: CZSO. Calculations of the MoF.

A long-term trend is a gradual **decline in the working-age population** (15–64 years), although its intensity has been decreasing over time (see Graph 1.5.2). In the third quarter of 2017, the YoY decrease in this category was 50 thousand persons, which corresponds to 0.7%. However, the development of its structure is not homogeneous. There has been a considerable increase in the number of citizens in the age group 40–54 years, by 55 thousand. As people in this age group have the highest employment and participation rates, the impact of population ageing on the size of the labour force is fully eliminated.

Graph 1.5.2: Population Aged 15–64

based on LFS, YoY increases of quarterly averages, in thousands



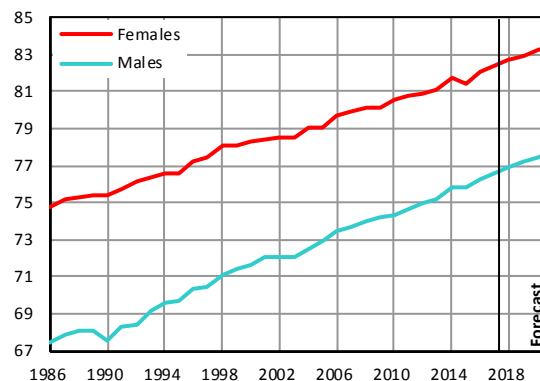
Source: CZSO. Calculations of the MoF.

The increase in the number of **old-age pensioners** is lower than would correspond to demographic development and postponement of the statutory retirement age, probably as a result of the economic boom. As of 30 September 2017, a total of 2.397 million old-age pensioners were clients of the pension system, i.e., 22.6% of the Czech population.

The YoY increase was only 8 thousand persons, i.e. 0.3%. As the increasing number of old-age pensioners falls behind the employment growth, the effective dependency ratio (see Graph 1.5.4) has been declining since 2012, which is one of the factors contributing to the improvement of the pensions account balance.

Graph 1.5.3: Life Expectancy at Birth

in years



Source: CZSO.

Table 1.5.1: Demographics

in thousands of persons (unless stated otherwise)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
						Estimate	Forecast	Forecast	Outlook	Outlook
Population (as of 1 January)	10 505	10 516	10 512	10 538	10 554	10 579	10 593	10 606	10 618	10 628
growth in %	0.2	0.1	0.0	0.2	0.1	0.2	0.1	0.1	0.1	0.1
0–14 years	1 541	1 560	1 577	1 601	1 624	1 647	1 654	1 660	1 659	1 653
growth in %	1.3	1.2	1.1	1.5	1.4	1.5	0.4	0.3	0.0	-0.4
15–64 years	7 263	7 188	7 109	7 057	6 998	6 943	6 895	6 848	6 807	6 772
growth in %	-0.9	-1.0	-1.1	-0.7	-0.8	-0.8	-0.7	-0.7	-0.6	-0.5
65 and more years	1 701	1 768	1 826	1 880	1 932	1 989	2 043	2 098	2 152	2 203
growth in %	3.9	3.9	3.3	3.0	2.8	2.9	2.7	2.7	2.5	2.4
Old-age pensioners (as of 1 January)¹⁾	2 340	2 341	2 340	2 355	2 377	2 395	2 400	2 415	2 429	2 440
growth in %	3.5	0.0	0.0	0.6	0.9	0.8	0.2	0.6	0.6	0.4
Old-age dependency ratios (as of 1 January, in %)										
Demographic ²⁾	23.4	24.6	25.7	26.6	27.6	28.6	29.6	30.6	31.6	32.5
Under current legislation ³⁾	37.8	38.3	38.8	39.3	39.8	40.1	40.4	40.7	41.0	41.2
Effective ⁴⁾	47.9	47.6	47.2	46.9	46.8	46.2	45.7	45.9	46.1	46.2
Fertility rate	1.452	1.456	1.528	1.570	1.630	1.46	1.47	1.47	1.48	1.48
Population increase	11	-4	26	16	25	14	13	12	10	9
Natural increase	0	-2	4	0	5	-5	-6	-8	-9	-11
Live births	109	107	110	111	113	99	98	96	95	93
Deaths	108	109	106	111	108	105	104	104	104	104
Net migration	10	-1	22	16	20	19	19	20	20	20
Immigration	30	30	42	35	38	.	.	.	.	.
Emigration	20	31	20	19	17	.	.	.	.	.

¹⁾ In 2010 disability pensions of pensioners over 64 were transferred into old-age pensions.

²⁾ Demographic dependency: ratio of people in senior ages (65 and more) to people in productive age (15–64).

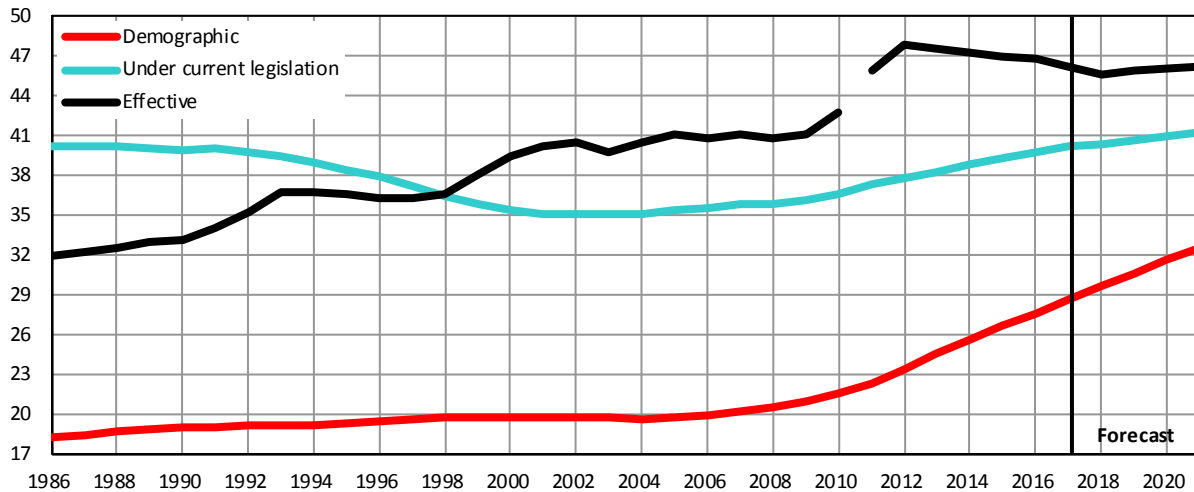
³⁾ Dependency under current legislation: ratio of people above the official retirement age to the people over 19 below the official retirement age.

⁴⁾ Effective dependency: ratio of old-age pensioners to working people (LFS methodology).

Source: Czech Social Security Administration, CZSO. Calculations of the MoF.

Graph 1.5.4: Dependency Ratios

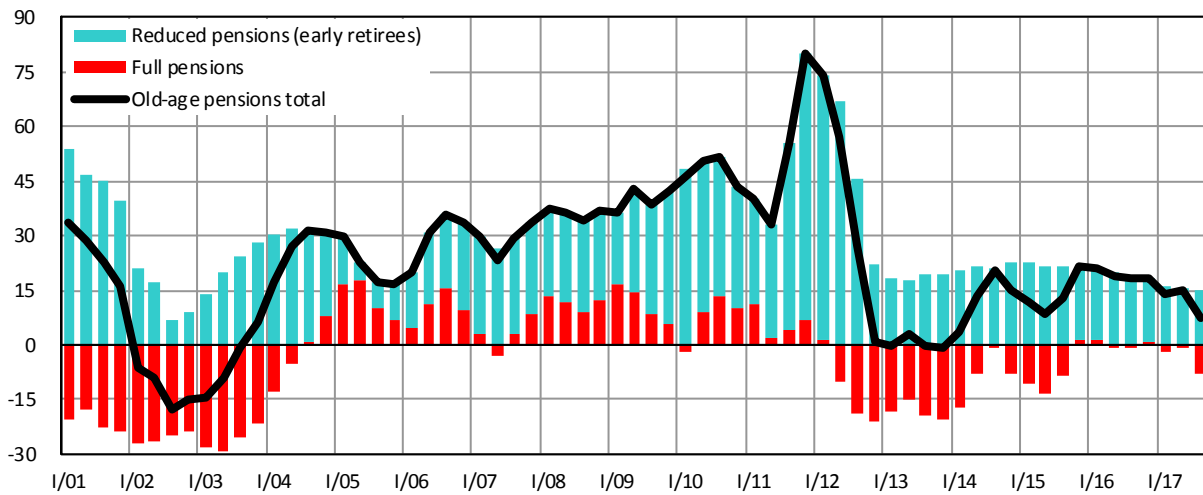
As of January 1, in %, inconsistent between 2010 and 2011 due to transfer of disability pensions to old-age pensions for people over 64 years



Source: CZSO. Calculations of the MoF.

Graph 1.5.5: Old-Age Pensioners

absolute increase over a year in thousands of persons



Note: Adjusted for the transfer of disability pensions to old-age pensions for people over 64 years in 2010.

Source: Czech Social Security Administration, CZSO. Calculations of the MoF.

2 Economic Cycle

2.1 Position within the Economic Cycle

The QoQ economic growth, broadly in line with the potential product growth, lead to stabilization of the **positive output gap** in the third quarter of 2017 at 2.1% of the potential product (see Graph 2.1.1). Given the forecast of economic growth and assumed developments of potential product, the output gap should be above 2% in the coming period.

The positive output gap is most reflected in the **situation on the labour market**, which shows certain symptoms of overheating (see Chapter 3.3). The unemployment rate (LFS) reached a record low, and it continues to decline. The number of job vacancies (according to the data of the Ministry of Labour and Social Affairs) has been growing dynamically, already exceeding the heights from the peak of the previous cycle in 2008 by more than two fifths. In many professions and regions it is very difficult to find employees, and their lack is becoming a barrier to higher economic growth. The positive output gap also corresponds to **inflation** above the CNB's inflation target, which is driven by both demand and supply factors.

The YoY **potential product growth** has stabilized, since the beginning of 2016, approximately at 2.7%. That is a slightly better result compared to the long-run average growth of gross value added (and also of potential product) of 2.5%.

The main driver of potential growth and its acceleration is **total factor productivity**. In the third quarter of 2017, the contribution of its trend component, derived using the Hodrick-Prescott filter, reached 2.1 pp.

Labour supply is being affected by a long-lasting decrease in the working-age population (15–64 years), caused by the process of population ageing (see Chapter 1.5). Since the end of 2014, **demographic development** has slowed potential product growth by 0.4 pp.

However, the negative impact of population ageing on the labour supply is completely eliminated by **increasing participation rates** (the ratio of labour force and the population aged 15–64). Structural factors – an increase in the number of inhabitants in age groups with naturally high participation and an increase in the statutory and effective retirement age (see Graph 3.3.4) as well as broader offer of jobs – are predominating here. In the third quarter of 2017, the contribution of the participation rate to potential product growth reached 0.6 pp.

The 2015 investment wave, supported by efforts for maximum possible utilization of allocation of EU funds, has led to an increase in the contribution of **capital stock** from 0.3 pp at the turn of 2013 and 2014 to 0.7 pp in the fourth quarter of 2015. In 2017 the contribution of the capital stock dipped to 0.5 pp.

From a long-run perspective, the regular **average working time** is shortening in the Czech Republic, which brings the Czech Republic closer to developed economies. However, the intensity of this factor's effect is decreasing with the high demand for labour. In the third quarter of 2017, the contribution of the number of hours usually worked was only –0.2 pp versus –0.4 pp at the end of the recession in the first quarter of 2013.

Table 2.1.1: Output Gap and Potential Product

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 Q1-3
Output gap	%	3.6	-3.8	-2.0	-0.8	-2.4	-4.0	-2.2	0.3	0.0	1.6
Potential product ¹⁾	growth in %	3.3	2.0	0.8	0.7	0.9	1.2	1.4	2.3	2.7	2.7
Contributions											
Trend total factor productivity	pp	1.9	1.1	0.6	0.4	0.4	0.7	1.2	1.7	1.9	2.1
Fixed assets	pp	1.2	0.8	0.6	0.6	0.5	0.4	0.4	0.6	0.6	0.5
Demography ²⁾	pp	0.3	0.1	-0.2	-0.4	-0.5	-0.5	-0.5	-0.4	-0.4	-0.4
Participation rate	pp	0.0	0.3	0.1	0.3	0.8	1.0	0.5	0.5	0.7	0.7
Usually worked hours	pp	-0.1	-0.3	-0.3	-0.2	-0.3	-0.3	-0.2	-0.1	-0.1	-0.2

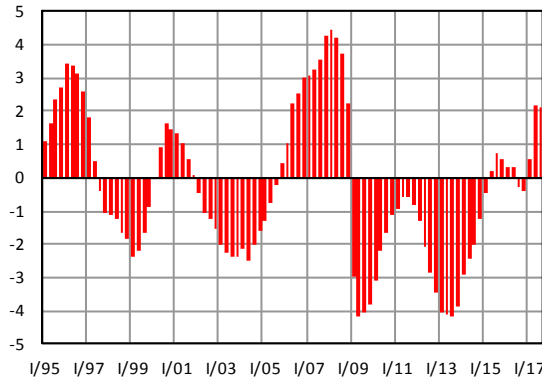
¹⁾ Based on gross value added.

²⁾ Contribution of growth of working-age population (15–64 years).

Source: CZSO. Calculations of the MoF.

Graph 2.1.1: Output Gap

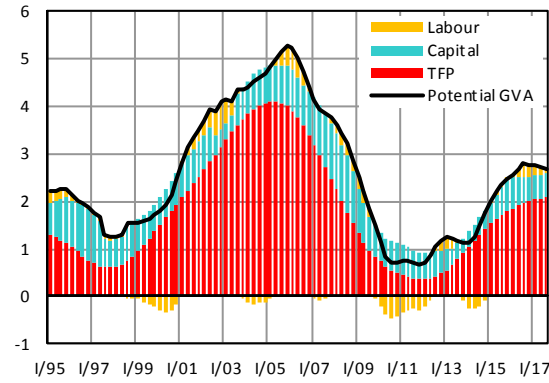
in % of potential product



Source: CZSO. Calculations of the MoF.

Graph 2.1.2: Potential Product

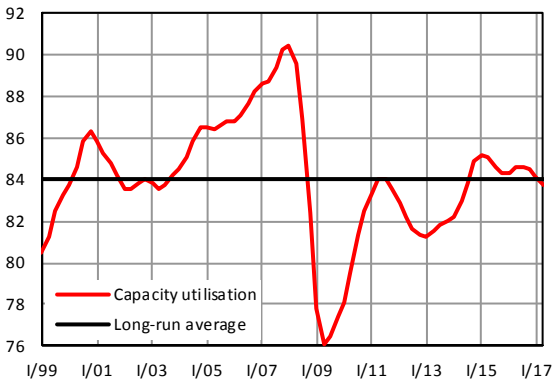
YoY growth rate in %, contributions in percentage points



Source: CZSO. Calculations of the MoF.

Graph 2.1.3: Capacity Utilisation in Industry

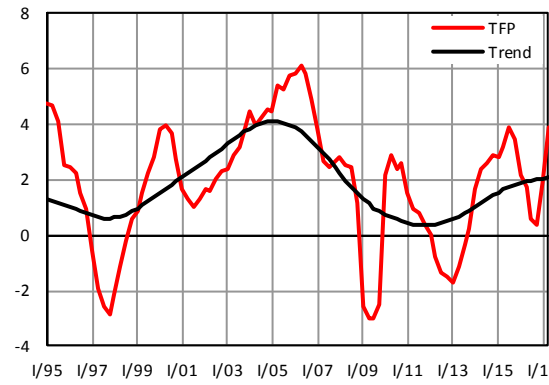
smoothed by Hodrick-Prescott filter, in %



Source: CZSO.

Graph 2.1.4: Total Factor Productivity

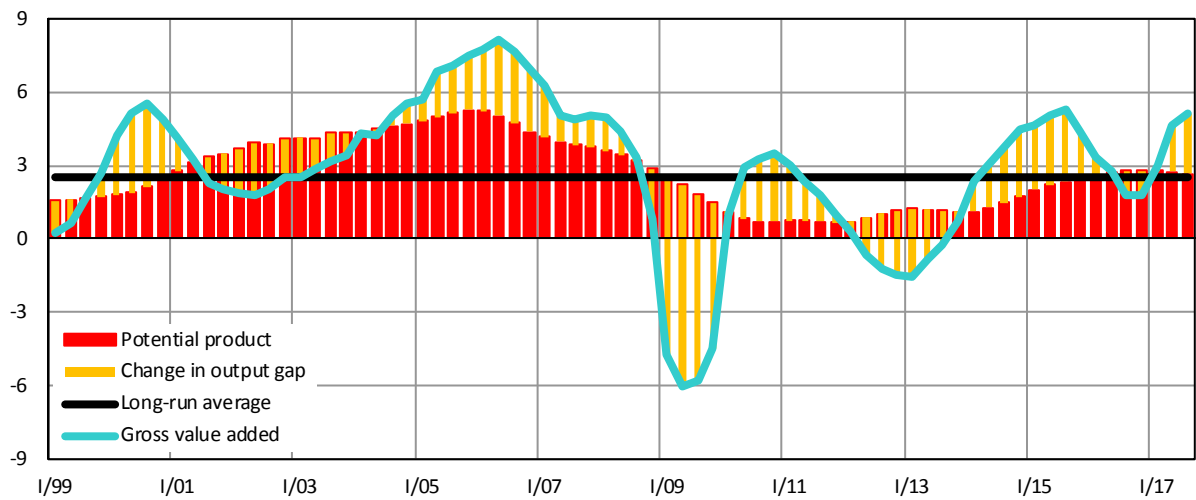
YoY growth rate, in %



Source: CZSO. Calculations of the MoF.

Graph 2.1.5: Decomposition of the Growth in Gross Value Added – Business Cycle Perspective

YoY growth rate in %, contributions in percentage points



Source: CZSO. Calculations of the MoF.

2.2 Business Cycle Indicators

The industrial confidence indicator rose in the fourth quarter of 2017, which suggests that high YoY dynamics of gross value added in industry was likely to be sustained.

In construction, the confidence indicator increased again significantly in the fourth quarter of 2017. This indicates that gross value added continues to recover in this sector, which was strongly influenced by a lower volume of investment from EU funds in 2016. However, we cannot omit here the fact that the correlation between the development of confidence and gross value added in construction is very low, as is apparent from Graph 2.2.2.

Confidence in trade and services declined in the fourth quarter of 2017, which points to a stabilization of the high YoY growth of gross value added in this sector.

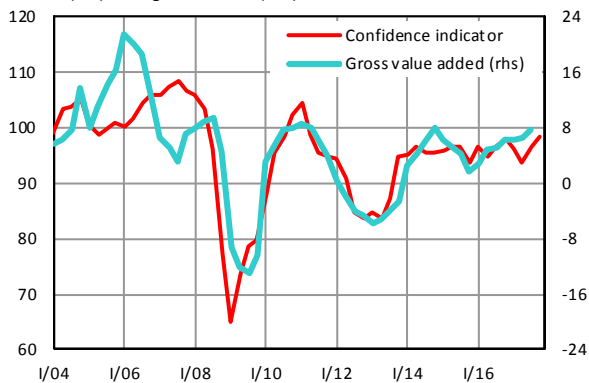
The consumer confidence indicator increased significantly in the fourth quarter of 2017, reaching a record-high value, which indicates an increase in the growth dynamics of household consumption in the first half of 2018. This conclusion results from the fact that the development of the consumer confidence indicator leads household consumption by 1–2 quarters.

The composite confidence indicator signals, thanks to the strengthening of most of its components, that YoY growth in gross value added accelerated in the fourth quarter of 2017.

The composite leading indicator captured the direction of the output gap development during 2017. For the fourth quarter of 2017, a slight opening of the positive output gap is indicated, followed by its stabilization at the beginning of 2018.

Graph 2.2.1: Confidence and GVA in Industry

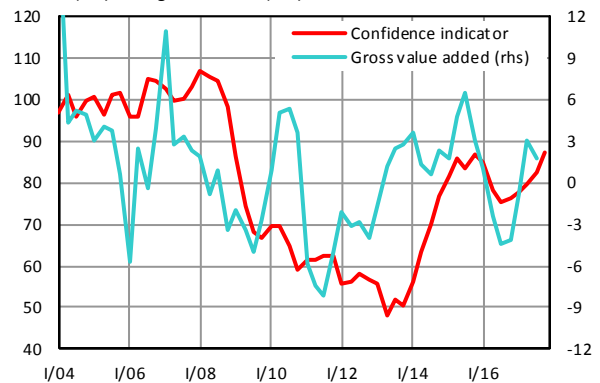
2005=100 (lhs), YoY growth in % (rhs)



Source: CZSO.

Graph 2.2.2: Confidence and GVA in Construction

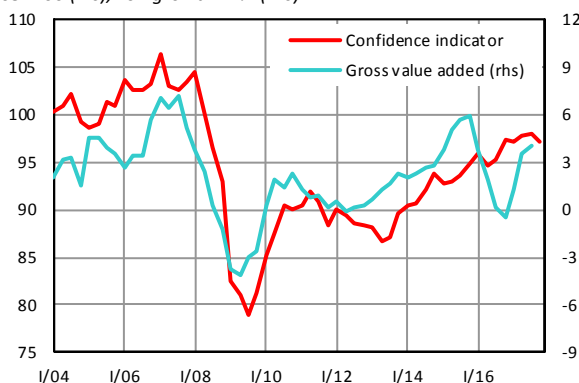
2005=100 (lhs), YoY growth in % (rhs)



Source: CZSO.

Graph 2.2.3: Confidence and GVA in Trade and Services

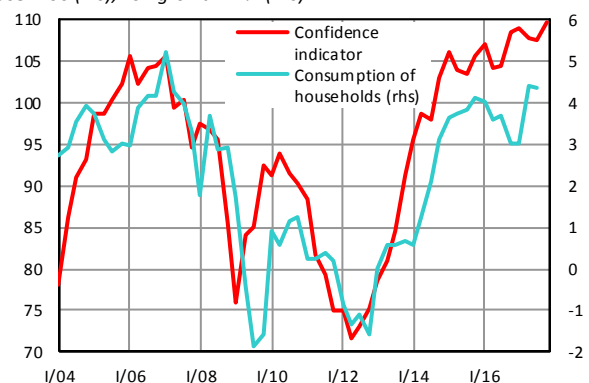
2005=100 (lhs), YoY growth in % (rhs)



Source: CZSO. Calculations of the MoF.

Graph 2.2.4: Consumer Confidence and Consumption

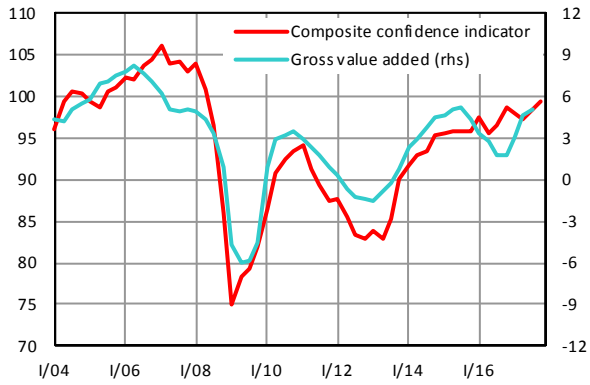
2005=100 (lhs), YoY growth in % (rhs)



Source: CZSO.

Graph 2.2.5: Composite Confidence Indicator and GVA

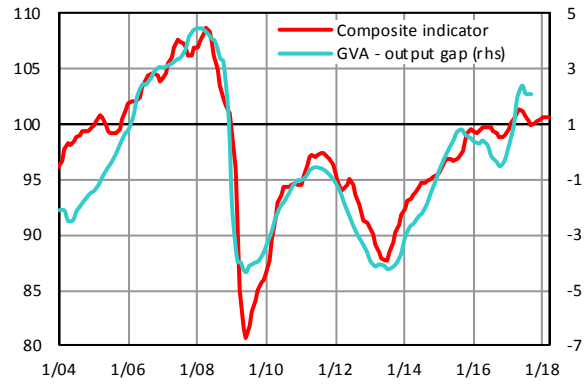
2005=100 (lhs), YoY growth in % (rhs)



Source: CZSO.

Graph 2.2.6: Composite Leading Indicator

2005=100 (lhs), in % of GVA (rhs)



Note: Synchronized with the output gap (based on GVA) derived from the Cobb-Douglas production function (see Chapter 2.1), on a monthly basis.

Source: CZSO. Calculations of the MoF.

3 Forecast of Macroeconomic Developments in the CR

3.1 Economic Output

3.1.1 GDP in the Third Quarter of 2017

Economic performance measured by real GDP increased by 4.7% YoY (*versus 4.5%*) in the third quarter of 2017, while seasonally adjusted GDP rose by 0.5% QoQ (*versus 0.3%*). The QoQ growth was almost exclusively driven by industry — the combined contribution of all other sectors, which amounted to just 0.1 pp, was offset by a negative contribution of net taxes on products.

The YoY increase in GDP in the third quarter of 2017 reflected mainly the growing domestic demand. The main drivers of growth were households' final consumption expenditure and investment activity of firms. With the growth rate of both exports and imports accelerating the balance of foreign trade in goods and services also contributed positively to GDP growth.

The increase in household consumption was due to rising disposable income and unprecedentedly high consumer confidence. Households' consumption expenditure was also supported by a YoY decrease in the savings rate. Expenditures on semi-durable and durable goods were the most dynamically growing components of consumption of households, which suggests that households are optimistic regarding their future economic situation and the economic development. Expenditures on services and non-durable goods, which are less sensitive to economic fluctuations, also contributed to the growth of total household consumption. In real terms, household consumption increased by 4.1% (*versus 3.8%*). General government consumption was up by 1.2% (*versus 1.6%*).

After a decline in 2016, the gross fixed capital formation growth further accelerated to 6.3% (*versus 8.0%*). Investments in information and communications technologies, other machinery and equipment and also to dwellings and transport equipment contributed significantly to this increase. Investments in other buildings and structures, which were hit in 2016 by a halting of the increased investment activity of the general government sector co-financed by EU funds from the previous financial perspective, also increased. The growth in investment activity was driven solely by continued strengthening of private investment (see Graph 3.1.7). Considering the positive YoY contribution of the change in inventories, the gross capital formation increased more than investment in fixed capital, by 7.4% (*versus 8.6%*).

Thanks to a more favourable development of export markets and improvement in export performance, the YoY increase in exports of goods and services accelerated in comparison with the same quarter of 2016. Total exports thus increased by 6.3% in the third quarter of 2017

(*versus 5.9%*). Imports of goods and services increased by 6.2% (*versus 6.5%*). The stronger dynamics of imports reflected, in particular, the acceleration in exports and the recovery of import-intensive investment activity.

A higher decrease in export prices compared to import prices resulted in a deterioration of the terms of trade of 0.8% (*versus 0.7%*). The trading loss resulting from foreign trade brought about a situation where real gross domestic income, which unlike GDP includes this factor, increased by 4.1% YoY (*versus 4.0%*).

Gross operating surplus increased by 4.8% (*versus 4.6%*), compensation of employees rose by 8.5% (*versus 7.3%*) and net taxes on production were up by 5.5% YoY (*versus 3.8%*). As a result, nominal GDP recorded growth of 6.3% (*versus 5.6%*).

3.1.2 Estimate for the Fourth Quarter of 2017

We estimate that in the fourth quarter of 2017 real GDP increased by 5.1% YoY (*versus 4.7%*) and by 0.7% QoQ (*versus 0.4%*). The estimated increase in the QoQ dynamics of GDP reflects the data on the development of the economy in the fourth quarter available as of the cut-off date of the Forecast (industrial and construction production, sales in retail and in services, confidence indicators). In 2017 as a whole, GDP thus increased by 4.3% (*versus 4.1%*).

We think that GDP growth was mainly due to the growth in domestic demand. Owing to the rising disposable income, high consumer confidence and declining savings rate, final consumption expenditure of households could have increased by 4.4% (*versus 4.1%*). Consumption of the general government sector could have risen by 1.9% (*versus 1.5%*). Gross capital formation increased, according to our estimates, by 8.4% (*versus 7.6%*) solely due to an increase in investment in fixed capital.

Foreign trade may have had a positive impact on DGP dynamics, mainly thanks to a robust growth of export markets. We estimate that exports of goods and services increased by 5.9% (*versus 6.1%*) and imports, in relation to the development of domestic demand and exports, increased by 6.0% (*versus 6.1%*).

3.1.3 Forecast for the Years 2018 and 2019

In 2018, economic growth should be driven mainly by domestic demand led by strong final consumption expenditure of households and investment activity of firms and the general government sector. GDP growth should also be strengthened by the general government consumption and balance of foreign trade. We expect real GDP to grow by 3.4% (*versus 3.3%*) in 2018 and by 2.6% in 2019.

Household consumption will be supported by growing real disposable income and declining savings rate. In 2018, the development of private consumption should positively reflect a number of discretionary changes in the social area, the dynamics of consumer loans and consumers' optimistic expectations (see Chapter 2.2). Household consumption could thus increase by 3.7% in 2018 (*versus* 3.5%) and by 2.7% in 2019.

We expect general government consumption to increase by 1.8% (*versus* 1.7%) in 2018 and by 1.5% in 2019. In 2018 the general government consumption should be primarily driven by an increase in social benefits in kind, which will reflect mainly health insurance plans and the medium-term outlook of health insurance companies, and also by an increase in expenditures on the purchases of goods and services with the contribution of gradually starting current subsidies from EU funds. Employment growth in the general government sector should play only a marginal role.

Gross fixed capital formation should grow in 2018 not only due to private investments but also due to investments by the general government sector. Private investment is stimulated by the growth in gross operating surplus, the economic recovery abroad, low interest rates, and slightly above-average use of production capacities in the manufacturing industry. Also, the increasing lack of employees could motivate businesses to invest in order to increase labour productivity. Conversely, certain

risks in the external environment could hamper private investments. In the case of the government sector investment, we expect stable growth in investment expenditure financed from national resources in both these years. Investment activity in 2018 and 2019 should be supported by a gradual start of projects co-financed by the EU funds under the 2014–2020 financial perspective. The gross fixed capital formation could thus increase by 4.1% in 2018 (*unchanged*) and by 3.4% in 2019, with a positive contribution of government and especially private investment.

The contribution of the change in inventories to GDP growth should be zero both in 2018 and in 2019. In 2018 we expect an increase in gross capital formation by 4.1% (*versus* 3.8%), and its growth should slow down to 3.5% in 2019.

We expect that exports of goods and services will grow by 5.4% (*versus* 5.7%) in 2018 and by 5.0% in 2019. The dynamics of exports of goods and services reflect mainly the expected export market growth (see Chapter 3.4), and to a lesser extent also an increase in export performance. On the side of imports of goods and services, we expect an influence of increases of imports and gross domestic expenditure, and in that context mainly the import-intensive investment demand. Hence, imports will probably grow by 5.6% (*versus* 5.7%) in 2018 and by 5.4% in 2019.

Table 3.1.1: Real GDP by Type of Expenditure – yearly*chained volumes, reference year 2010*

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
							<i>Estimate</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Outlook</i>	<i>Outlook</i>
Gross domestic product	<i>bill. CZK 2010</i>	4 001	3 981	4 089	4 307	4 418	4 608	4 763	4 885	5 002	5 113
	<i>growth in %</i>	-0.8	-0.5	2.7	5.3	2.6	4.3	3.4	2.6	2.4	2.2
	<i>growth in %¹⁾</i>	-0.7	-0.5	2.7	5.4	2.5	4.5	3.4	2.5	2.4	2.1
Private consumption expenditure²⁾	<i>bill. CZK 2010</i>	1 921	1 931	1 966	2 038	2 112	2 197	2 278	2 340	2 393	2 440
	<i>growth in %</i>	-1.2	0.5	1.8	3.7	3.6	4.0	3.7	2.7	2.2	2.0
Government consumption exp.	<i>bill. CZK 2010</i>	783	803	812	827	844	860	875	888	901	915
	<i>growth in %</i>	-2.0	2.5	1.1	1.9	2.0	1.9	1.8	1.5	1.5	1.5
Gross capital formation	<i>bill. CZK 2010</i>	1 051	997	1 083	1 223	1 195	1 242	1 293	1 338	1 379	1 415
	<i>growth in %</i>	-3.9	-5.1	8.6	13.0	-2.3	4.0	4.1	3.5	3.1	2.6
Gross fixed capital formation	<i>bill. CZK 2010</i>	1 042	1 016	1 056	1 164	1 137	1 200	1 250	1 293	1 332	1 369
	<i>growth in %</i>	-3.1	-2.5	3.9	10.2	-2.3	5.6	4.1	3.4	3.0	2.8
Change in stocks and valuables	<i>bill. CZK 2010</i>	9	-19	26	59	58	42	44	45	47	46
Exports of goods and services	<i>bill. CZK 2010</i>	2 978	2 984	3 242	3 437	3 593	3 808	4 011	4 211	4 406	4 601
	<i>growth in %</i>	4.3	0.2	8.7	6.0	4.5	6.0	5.4	5.0	4.6	4.4
Imports of goods and services	<i>bill. CZK 2010</i>	2 732	2 734	3 008	3 212	3 320	3 494	3 689	3 887	4 071	4 251
	<i>growth in %</i>	2.7	0.1	10.1	6.8	3.4	5.2	5.6	5.4	4.7	4.4
Gross domestic expenditure	<i>bill. CZK 2010</i>	3 756	3 733	3 860	4 087	4 150	4 298	4 444	4 563	4 669	4 766
	<i>growth in %</i>	-2.1	-0.6	3.4	5.9	1.5	3.6	3.4	2.7	2.3	2.1
Methodological discrepancy³⁾	<i>bill. CZK 2010</i>	-1	-1	-4	-7	-5	-6	-6	-5	-6	-7
Real gross domestic income	<i>bill. CZK 2010</i>	3 942	3 956	4 112	4 344	4 493	4 645	4 796	4 919	5 040	5 154
	<i>growth in %</i>	-1.2	0.4	3.9	5.6	3.4	3.4	3.2	2.6	2.5	2.3
Contributions to GDP growth⁴⁾											
Gross domestic expenditure	<i>pp</i>	-2.1	-0.6	3.2	5.5	1.4	3.3	3.2	2.5	2.2	1.9
Consumption	<i>pp</i>	-1.0	0.8	1.1	2.2	2.1	2.3	2.1	1.6	1.4	1.2
Household expenditure	<i>pp</i>	-0.6	0.3	0.9	1.8	1.7	1.9	1.7	1.3	1.1	0.9
Government expenditure	<i>pp</i>	-0.4	0.5	0.2	0.4	0.4	0.4	0.3	0.3	0.3	0.3
Gross capital formation	<i>pp</i>	-1.1	-1.3	2.1	3.4	-0.6	1.0	1.1	0.9	0.8	0.7
Gross fixed capital formation	<i>pp</i>	-0.8	-0.6	1.0	2.6	-0.6	1.4	1.0	0.9	0.8	0.7
Change in stocks	<i>pp</i>	-0.2	-0.7	1.1	0.8	0.0	-0.3	0.0	0.0	0.0	0.0
Foreign balance	<i>pp</i>	1.3	0.1	-0.5	-0.2	1.2	1.0	0.2	0.1	0.2	0.3
External balance of goods	<i>pp</i>	1.4	0.1	-0.1	-1.1	0.8	0.9	0.1	-0.1	0.1	0.2
External balance of services	<i>pp</i>	-0.1	0.0	-0.4	0.9	0.4	0.1	0.1	0.1	0.1	0.1
Gross value added	<i>bill. CZK 2010</i>	3 624	3 606	3 729	3 905	4 004	.	.	.	.	.
	<i>growth in %</i>	-0.8	-0.5	3.4	4.7	2.5	.	.	.	.	.
Net taxes and subsidies on products	<i>bill. CZK 2010</i>	376	375	363	402	415	.	.	.	.	.

¹⁾ From working day adjusted data.²⁾ The consumption of non-profit institutions serving households (NPISH) is included in the private consumption.³⁾ Deterministic impact of using prices and structure of the previous year for calculation of y-o-y growth.⁴⁾ Calculated on the basis of prices and structure of the previous year with perfectly additive contributions.

Source: CZSO. Calculations of the MoF.

Table 3.1.2: Real GDP by Type of Expenditure – quarterly

chained volumes, reference year 2010

		2017				2018			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		<i>Prelim.</i>	<i>Prelim.</i>	<i>Prelim.</i>	<i>Estimate</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>
Gross domestic product	<i>bill. CZK 2010</i>	1 073	1 165	1 172	1 198	1 116	1 202	1 207	1 239
	<i>growth in %</i>	4.0	3.4	4.7	5.1	3.9	3.2	3.0	3.4
	<i>growth in %¹⁾</i>	3.0	4.7	5.0	5.3	4.6	2.9	3.1	3.0
	<i>QoQ in %¹⁾</i>	1.5	2.5	0.5	0.7	0.9	0.8	0.6	0.6
Private consumption expenditure²⁾	<i>bill. CZK 2010</i>	520	548	556	573	540	569	576	593
	<i>growth in %</i>	3.7	3.9	4.1	4.4	3.9	3.9	3.5	3.4
Government consumption exp.	<i>bill. CZK 2010</i>	201	210	208	240	204	214	212	245
	<i>growth in %</i>	2.8	1.8	1.2	1.9	1.8	1.8	1.8	1.8
Gross capital formation	<i>bill. CZK 2010</i>	247	314	352	329	267	319	360	348
	<i>growth in %</i>	-2.2	0.9	7.4	8.5	7.9	1.5	2.1	5.9
Gross fixed capital formation	<i>bill. CZK 2010</i>	261	286	309	344	277	297	318	358
	<i>growth in %</i>	2.4	4.7	6.3	8.2	6.2	3.5	2.9	4.1
Change in stocks and valuables	<i>bill. CZK 2010</i>	-13	28	43	-15	-10	22	41	-10
Exports of goods and services	<i>bill. CZK 2010</i>	955	974	907	972	985	1 035	959	1 033
	<i>growth in %</i>	7.4	4.4	6.3	5.9	3.1	6.4	5.7	6.3
Imports of goods and services	<i>bill. CZK 2010</i>	849	879	850	915	879	934	897	980
	<i>growth in %</i>	5.3	3.4	6.2	6.0	3.5	6.2	5.5	7.1
Gross domestic expenditure	<i>bill. CZK 2010</i>	968	1 072	1 116	1 142	1 011	1 102	1 146	1 185
	<i>growth in %</i>	2.0	2.5	4.5	5.0	4.5	2.8	2.7	3.8
Methodological discrepancy³⁾	<i>bill. CZK 2010</i>	0	-2	-3	-1	-2	-2	-2	0
Real gross domestic income	<i>bill. CZK 2010</i>	1 079	1 172	1 186	1 209	1 121	1 207	1 219	1 249
	<i>growth in %</i>	2.3	2.0	4.1	5.1	3.9	3.0	2.8	3.3
Gross value added	<i>bill. CZK 2010</i>	980	1 056	1 060	.	.	.	.	.
	<i>growth in %</i>	4.1	3.2	4.7	.	.	.	.	.
	<i>growth in %¹⁾</i>	3.0	4.6	5.1	.	.	.	.	.
	<i>QoQ in %¹⁾</i>	1.6	2.3	0.6	.	.	.	.	.
Net taxes and subsidies on products	<i>bill. CZK 2010</i>	94	109	112	.	.	.	.	.

¹⁾ From seasonally and working day adjusted data²⁾ The consumption of non-profit institutions serving households (NPISH) is included in the private consumption.³⁾ Deterministic impact of using prices and structure of the previous year for calculation of y-o-y growth.

Source: CZSO. Calculations of the MoF.

Table 3.1.3: Nominal GDP by Type of Expenditure – yearly

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
							<i>Estimate</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Outlook</i>	<i>Outlook</i>
Gross domestic product	<i>bill. CZK</i>	4 060	4 098	4 314	4 596	4 773	5 042	5 304	5 530	5 754	5 985
	<i>growth in %</i>	0.6	0.9	5.3	6.5	3.9	5.6	5.2	4.3	4.0	4.0
Private consumption expenditure ¹⁾	<i>bill. CZK</i>	1 998	2 025	2 074	2 152	2 242	2 388	2 539	2 663	2 772	2 876
	<i>growth in %</i>	1.0	1.4	2.4	3.8	4.2	6.5	6.3	4.9	4.1	3.8
Government consumption exp.	<i>bill. CZK</i>	804	826	849	883	917	965	1 012	1 047	1 084	1 122
	<i>growth in %</i>	-1.1	2.7	2.8	4.0	3.9	5.2	4.9	3.5	3.5	3.5
Gross capital formation	<i>bill. CZK</i>	1 063	1 011	1 116	1 285	1 257	1 327	1 395	1 458	1 518	1 579
	<i>growth in %</i>	-2.2	-4.9	10.4	15.1	-2.1	5.6	5.1	4.5	4.1	4.0
Gross fixed capital formation	<i>bill. CZK</i>	1 052	1 027	1 084	1 216	1 192	1 276	1 345	1 406	1 466	1 529
	<i>growth in %</i>	-1.4	-2.4	5.5	12.2	-2.0	7.1	5.4	4.6	4.2	4.3
Change in stocks and valuables	<i>bill. CZK</i>	11	-16	32	68	66	51	51	52	53	50
External balance	<i>bill. CZK</i>	195	236	275	276	357	362	357	362	380	408
Exports of goods and services	<i>bill. CZK</i>	3 092	3 150	3 561	3 725	3 797	3 991	4 107	4 318	4 531	4 756
	<i>growth in %</i>	7.5	1.9	13.0	4.6	1.9	5.1	2.9	5.1	4.9	5.0
Imports of goods and services	<i>bill. CZK</i>	2 897	2 914	3 286	3 449	3 439	3 629	3 750	3 956	4 151	4 348
	<i>growth in %</i>	6.5	0.6	12.8	5.0	-0.3	5.5	3.3	5.5	4.9	4.8
Gross national income	<i>bill. CZK</i>	3 808	3 854	4 022	4 285	4 468	4 744	4 994	5 210	5 424	5 645
	<i>growth in %</i>	2.1	1.2	4.4	6.5	4.3	6.2	5.3	4.3	4.1	4.1
Primary income balance	<i>bill. CZK</i>	-252	-245	-292	-310	-305	-298	-310	-320	-330	-340

¹⁾ The consumption of non-profit institutions serving households (NPISH) is included in the private consumption.

Source: CZSO. Calculations of the MoF.

Table 3.1.4: Nominal GDP by Type of Expenditure – quarterly

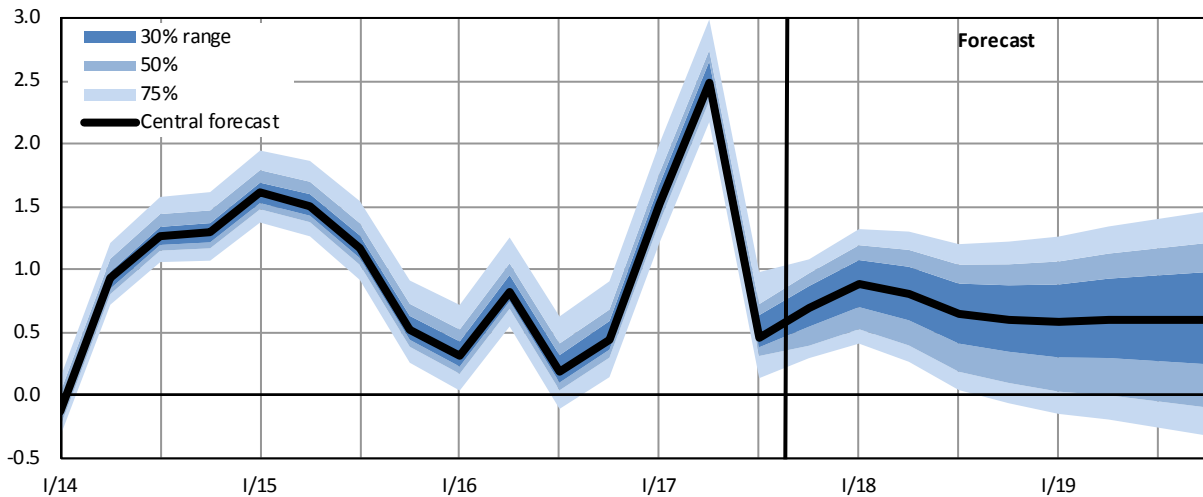
		2017				2018			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		<i>Prelim.</i>	<i>Prelim.</i>	<i>Prelim.</i>	<i>Estimate</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>
Gross domestic product	<i>bill. CZK</i>	1 160	1 267	1 286	1 329	1 225	1 330	1 350	1 399
	<i>growth in %</i>	4.6	4.4	6.3	7.1	5.6	4.9	5.0	5.3
Private consumption expenditure ¹⁾	<i>bill. CZK</i>	560	592	607	628	596	632	645	665
	<i>growth in %</i>	6.2	6.1	6.7	7.1	6.4	6.8	6.3	5.9
Government consumption exp.	<i>bill. CZK</i>	217	233	233	282	228	246	245	293
	<i>growth in %</i>	5.4	5.2	4.7	5.4	5.4	5.4	5.1	4.0
Gross capital formation	<i>bill. CZK</i>	264	336	376	351	288	344	387	377
	<i>growth in %</i>	-0.9	3.1	9.1	9.6	8.9	2.3	3.0	7.3
Gross fixed capital formation	<i>bill. CZK</i>	278	305	329	365	298	319	343	386
	<i>growth in %</i>	4.2	6.6	7.8	9.3	7.1	4.6	4.2	5.7
Change in stocks and valuables	<i>bill. CZK</i>	-14	31	47	-14	-10	25	45	-9
External balance	<i>bill. CZK</i>	118	105	71	67	112	108	74	63
Exports of goods and services	<i>bill. CZK</i>	1 022	1 029	940	1 000	1 008	1 057	980	1 062
	<i>growth in %</i>	8.9	4.7	4.2	2.8	-1.3	2.7	4.3	6.2
Imports of goods and services	<i>bill. CZK</i>	904	923	869	933	896	949	907	998
	<i>growth in %</i>	9.0	5.5	5.0	2.8	-0.9	2.8	4.3	7.0

¹⁾ The consumption of non-profit institutions serving households (NPISH) is included in the private consumption.

Source: CZSO. Calculations of the MoF.

Graph 3.1.1: Gross Domestic Product (real)

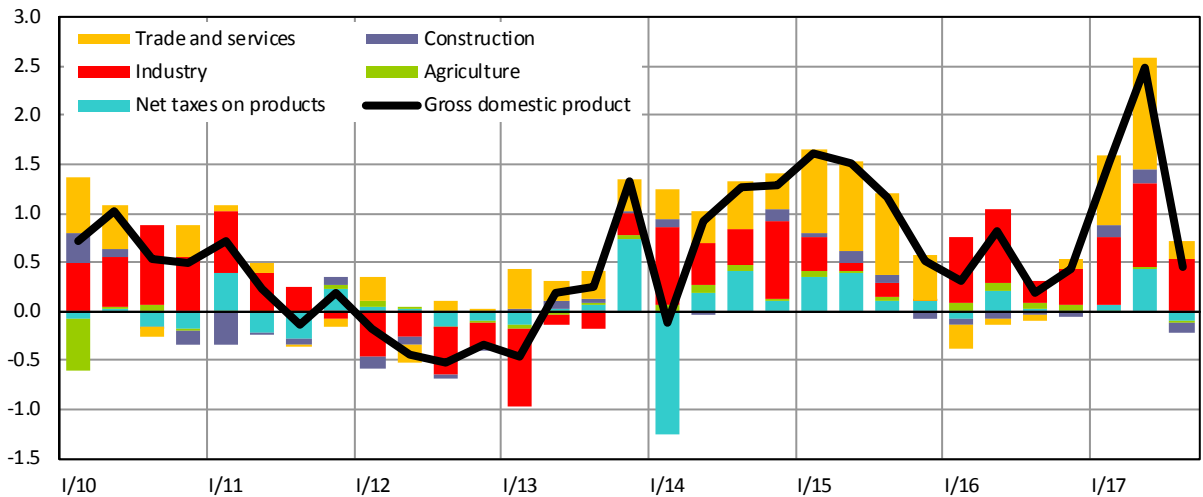
QoQ growth rate, in %, seasonally adjusted, past probability distribution reflects the actual distribution of data revisions, future probability distribution is based upon the MoF's forecasting performance



Source: CZSO. Calculations of the MoF.

Graph 3.1.2: Resources of Gross Domestic Product

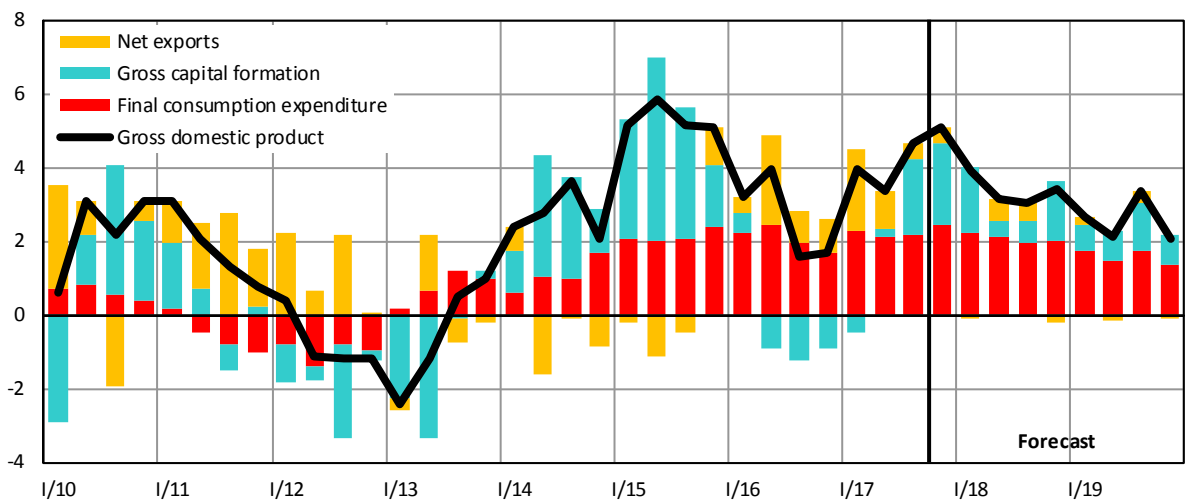
QoQ real growth rate of GDP in %, contributions of individual components in percentage points, seasonally adjusted



Source: CZSO. Calculations of the MoF.

Graph 3.1.3: Gross Domestic Product by Type of Expenditure

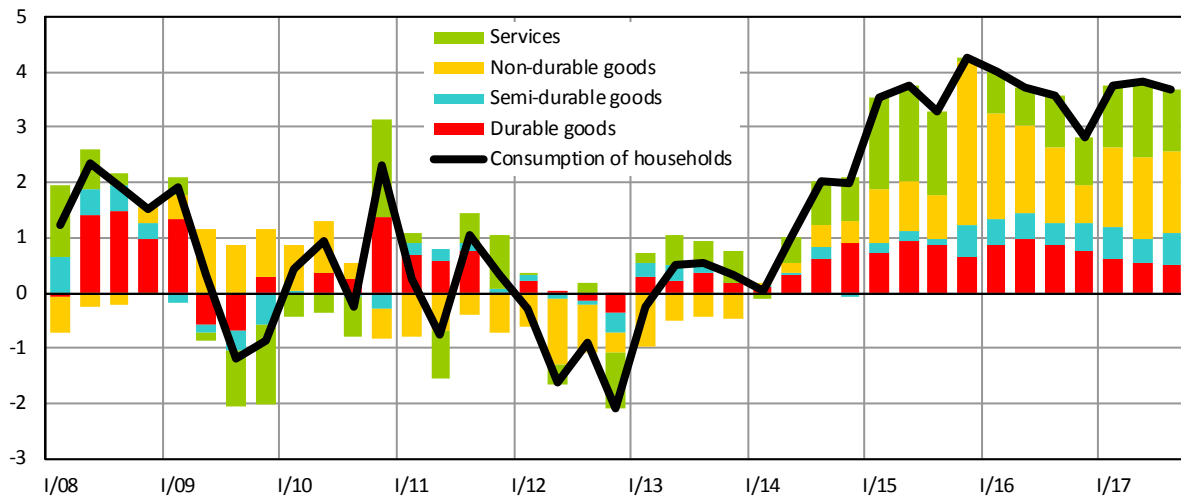
YoY real growth rate of GDP in %, contributions of individual components in percentage points



Source: CZSO. Calculations of the MoF.

Graph 3.1.4: Consumption of Households

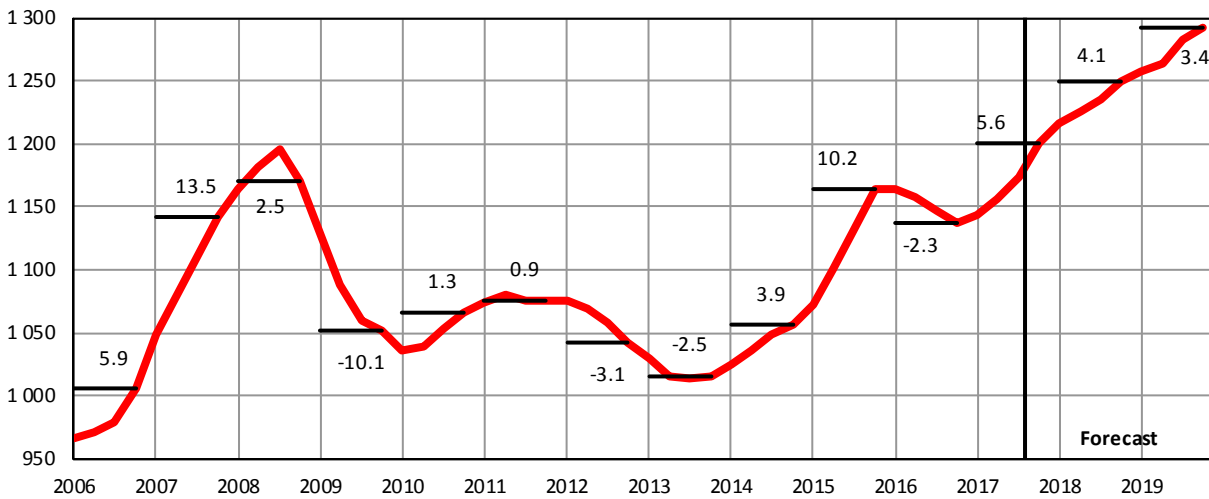
consumption of households in domestic concept, YoY real growth rate in %, contributions of individual components in percentage points



Source: CZSO. Calculations of the MoF.

Graph 3.1.5: Gross Fixed Capital Formation

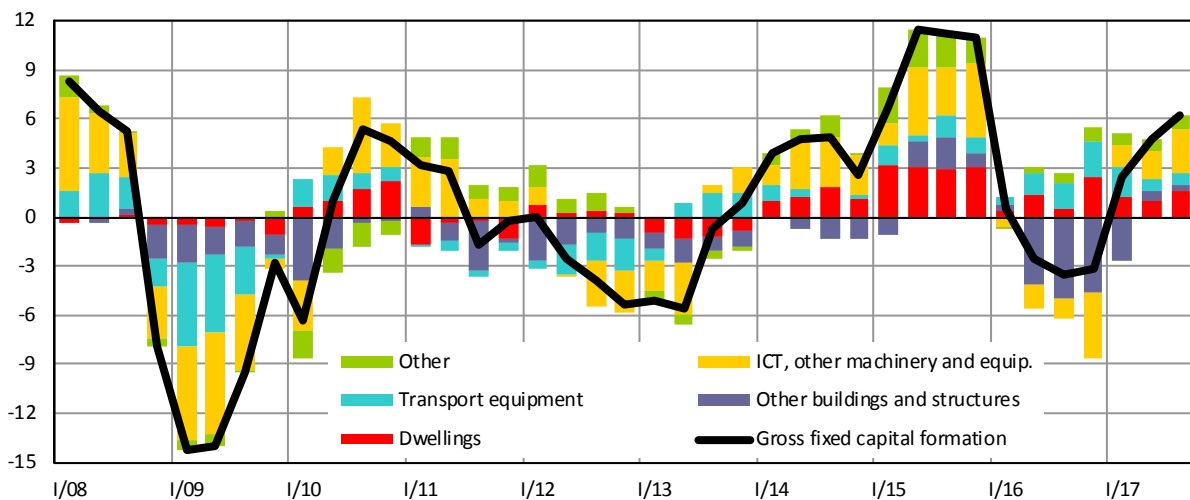
yearly moving sums, bill. CZK in const. prices of 2010, black lines with labels show the average level and growth rate in the given year



Source: CZSO. Calculations of the MoF.

Graph 3.1.6: Gross Fixed Capital Formation by Type of Expenditure

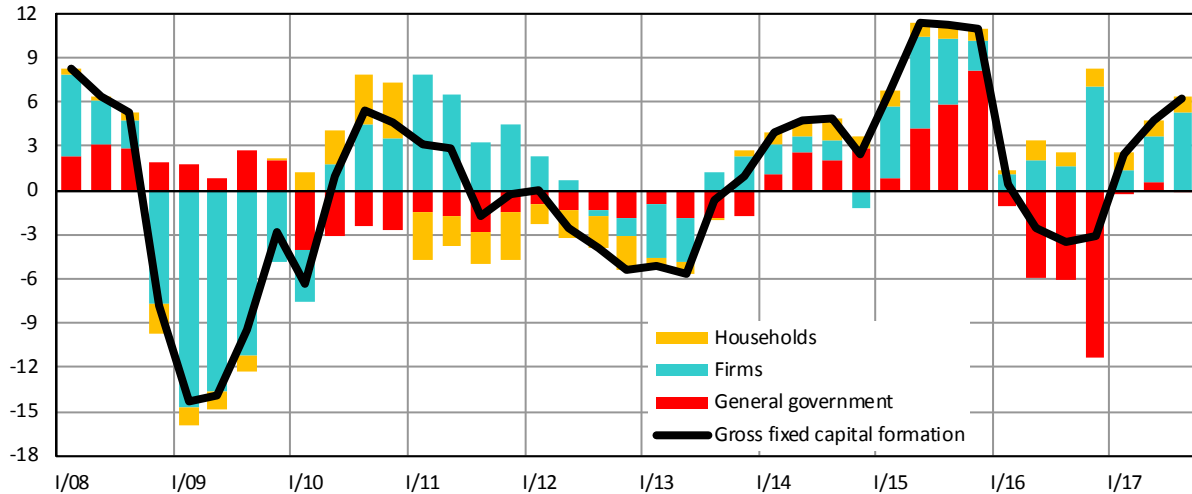
YoY real growth rate in %, contributions of individual components in percentage points



Source: CZSO. Calculations of the MoF.

Graph 3.1.7: Gross Fixed Capital Formation by Sector

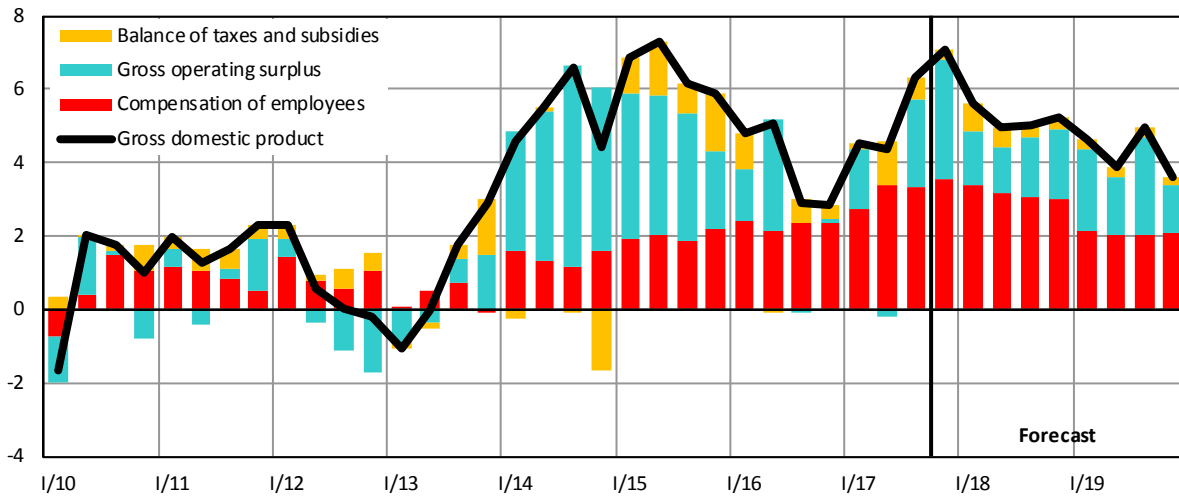
YoY real growth rate in %, contributions of individual sectors in percentage points



Source: CZSO. Calculations of the MoF.

Graph 3.1.8: Nominal Gross Domestic Product

YoY growth rate of GDP in %, contributions of individual components in percentage points



Source: CZSO. Calculations of the MoF.

Table 3.1.5: GDP by Type of Income – yearly

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
							<i>Estimate</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Outlook</i>	<i>Outlook</i>
GDP	<i>bill. CZK</i>	4 060	4 098	4 314	4 596	4 773	5 042	5 304	5 530	5 754	5 985
	<i>growth in %</i>	0.6	0.9	5.3	6.5	3.9	5.6	5.2	4.3	4.0	4.0
Balance of taxes and subsidies	<i>bill. CZK</i>	385	402	381	434	455	482	506	520	535	550
	<i>% of GDP</i>	9.5	9.8	8.8	9.4	9.5	9.6	9.5	9.4	9.3	9.2
	<i>growth in %</i>	4.4	4.2	-5.1	13.8	4.7	6.1	5.0	2.7	2.8	2.8
Taxes on production and imports	<i>bill. CZK</i>	508	528	518	571	601	.	.	.	.	.
	<i>growth in %</i>	4.1	3.9	-1.8	10.1	5.4	.	.	.	.	.
Subsidies on production	<i>bill. CZK</i>	123	126	137	137	147	.	.	.	.	.
	<i>growth in %</i>	3.0	2.7	8.5	-0.1	7.5	.	.	.	.	.
Compensation of employees <i>(domestic concept)</i>	<i>bill. CZK</i>	1 665	1 676	1 735	1 821	1 929	2 085	2 244	2 354	2 460	2 568
	<i>% of GDP</i>	41.0	40.9	40.2	39.6	40.4	41.3	42.3	42.6	42.8	42.9
	<i>growth in %</i>	2.4	0.7	3.5	5.0	5.9	8.1	7.6	4.9	4.5	4.4
Wages and salaries	<i>bill. CZK</i>	1 269	1 275	1 321	1 384	1 464	1 580	1 701	1 785	1 865	1 947
	<i>growth in %</i>	2.6	0.5	3.6	4.8	5.8	7.9	7.7	4.9	4.5	4.4
Social security contributions	<i>bill. CZK</i>	396	402	414	437	464	504	543	569	595	621
	<i>growth in %</i>	1.6	1.4	3.1	5.5	6.3	8.6	7.6	4.9	4.5	4.4
Gross operating surplus	<i>bill. CZK</i>	2 010	2 020	2 198	2 341	2 390	2 475	2 553	2 656	2 759	2 867
	<i>% of GDP</i>	49.5	49.3	50.9	50.9	50.1	49.1	48.1	48.0	48.0	47.9
	<i>growth in %</i>	-1.4	0.5	8.8	6.5	2.1	3.6	3.2	4.0	3.9	3.9
Consumption of capital	<i>bill. CZK</i>	880	906	939	969	995	1 035	1 087	1 143	1 196	1 248
	<i>growth in %</i>	1.8	3.0	3.6	3.2	2.7	4.0	5.0	5.2	4.6	4.4
Net operating surplus	<i>bill. CZK</i>	1 130	1 114	1 259	1 372	1 395	1 440	1 466	1 513	1 563	1 619
	<i>growth in %</i>	-3.8	-1.4	13.0	9.0	1.7	3.2	1.9	3.2	3.3	3.6

Source: CZSO. Calculations of the MoF.

Table 3.1.6: GDP by Type of Income – quarterly

		2017				2018			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		<i>Prelim.</i>	<i>Prelim.</i>	<i>Prelim.</i>	<i>Estimate</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>
GDP	<i>bill. CZK</i>	1 160	1 267	1 286	1 329	1 225	1 330	1 350	1 399
	<i>growth in %</i>	4.6	4.4	6.3	7.1	5.6	4.9	5.0	5.3
Balance of taxes and subsidies	<i>bill. CZK</i>	103	127	133	119	111	134	137	123
	<i>growth in %</i>	2.0	13.2	5.5	3.3	8.5	5.4	2.9	3.7
Compensation of employees <i>(domestic concept)</i>	<i>bill. CZK</i>	492	518	517	558	531	558	557	598
	<i>growth in %</i>	6.6	8.6	8.5	8.6	8.0	7.8	7.6	7.2
Wages and salaries	<i>bill. CZK</i>	373	391	393	424	402	422	423	455
	<i>growth in %</i>	6.8	8.3	8.2	8.3	8.0	7.8	7.6	7.2
Social security contributions	<i>bill. CZK</i>	119	127	125	134	129	136	134	143
	<i>growth in %</i>	5.8	9.7	9.5	9.5	8.0	7.8	7.5	7.2
Gross operating surplus	<i>bill. CZK</i>	565	622	635	652	582	637	656	677
	<i>growth in %</i>	3.3	-0.4	4.8	6.6	3.0	2.5	3.3	3.9

Source: CZSO. Calculations of the MoF.

3.2 Prices

3.2.1 Consumer Prices

The average inflation rate in 2017 reached 2.5% (*versus* 2.4%), and was the highest in the last five years. The inflation was mainly driven by domestic factors, both on the supply and demand side. The very low unemployment combined with a record-breaking number of job vacancies resulted in a rapid wage growth, which was reflected in a significant increase in unit labour costs. That, together with increasing crude oil prices, created inflation on the supply side. Inflation on the demand side was due to increasing household consumption in an environment of a clearly positive output gap. In terms of consumer basket sections, the key factor was an increase in prices in the food and non-alcoholic beverages section, whose contribution to the average inflation rate was 0.9 pp. The only major factor hampering inflation, especially in the second half of the year, was appreciation of the koruna after the discontinuation of the CNB's exchange rate commitment (see Chapter 1.3). Within the EU, the CR was among countries with higher inflation in 2017.

The YoY inflation, which was in the upper half of the tolerance band of the CNB's inflation target throughout almost the entire 2017, reached 2.4% in December (*versus* 2.3%). The contribution of administrative measures to December YoY inflation was negligible (0.1 pp). Regulated prices almost stagnated and the price effects of changes in indirect taxes were also insignificant. The contribution of food and non-alcoholic beverages (1.0 pp) was the most important one among consumer basket sections in December inflation, similarly to the entire year.

The assumptions of the current macroeconomic forecast significantly differ from those in the November forecast in some areas determining the price developments. This includes mainly higher expected Brent crude oil price (see Chapter 1.1.4), stronger exchange rate of the koruna against the US dollar, and, to a lesser extent, an assumption of a stronger koruna against the euro (see Chapter 1.3.3). However, these factors offset each other to a certain extent, and overall they lead only to a very small change in the inflation forecast for 2018 and 2019.

In 2018 one can expect inflation almost similar to that in 2017. The effects of supply and demand factors should also be similar.

Administrative measures will probably influence inflation in 2018 only slightly. Growth of regulated prices should be revived, the most important component being probably the impact of increased energy prices (0.1 pp). The effects of changes in indirect taxes should be very small (up to 0.1 pp).

Despite the expected strong appreciation of the Czech koruna against the euro by 3.7%, which should be the largest since 2010, the YoY inflation will remain in the upper half of the tolerance band of the CNB's inflation target probably throughout the entire 2018. This will be due to a YoY higher crude oil prices, continued strong growth in unit labour costs and in domestic demand in the environment of a positive output gap.

In 2018, the average inflation rate should reach 2.6% (*versus* 2.4%), with a YoY increase in consumer prices of 2.4% (*versus* 2.3%) in December.

In 2019, the pro-inflationary effect of several factors should be mitigated. The increase in unit labour costs and in domestic demand should slow down, and crude oil price should even slightly decline. The output gap, however, will probably remain in clearly positive values. Further appreciation of the Czech koruna should have a moderate anti-inflationary effect. In accordance with the above, we expect the average inflation rate in 2019 and the December YoY consumer prices growth to slow down to 2.1% and 1.9%, respectively.

3.2.2 Deflators

In the third quarter of 2017, the GDP deflator increased by 1.6% (*versus* 1.1%), with the gross domestic expenditure deflator rising by 2.4% (*versus* 1.8%) and terms of trade deteriorating by 0.8% (*versus* 0.7%). Growth of the household consumption deflator was estimated accurately, and the deviation of the dynamics of the gross fixed capital formation deflator is not significant. In contrast, the growth of the general government consumption deflator exceeded the forecast significantly. A slightly higher than expected decline in foreign trade prices was recorded for exports as well as imports, and the deviation on terms of trade is thus minimal.

We estimate that GDP deflator increased by 1.3% in 2017 (*versus* 1.1%). In 2018, its growth should accelerate to 1.8% (*versus* 2.1%), due almost exclusively to a smaller decrease in terms of trade than in 2017. In 2019, the GDP deflator growth should decline to 1.7%, and the changes in the dynamics of the gross domestic expenditure deflator and terms of trade should almost offset each other. The situation is clearly shown in Graph 3.2.6.

Gross domestic expenditure deflator growth could slightly slow from the estimated 2.3% in 2017 (*versus* 2.1%) down to 2.2% (*versus* 2.4%) in 2018. We also expect that the changes in the dynamics of deflators of individual components of gross domestic expenditure will be small (see Graph 3.2.4). In 2019, the gross domestic expenditure deflator growth could decrease to 1.8% as a result of a decline in consumer inflation and a slowdown in the growth of salaries in the general government sector.

Table 3.2.1: Prices – yearly

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
							Estimate	Forecast	Forecast	Outlook	Outlook
Consumer Price Index											
Average of a year	<i>average 2005=100</i>	121.0	122.7	123.2	123.6	124.4	127.4	130.7	133.4	135.9	138.3
	<i>growth in %</i>	3.3	1.4	0.4	0.3	0.7	2.5	2.6	2.1	1.8	1.8
December	<i>average 2005=100</i>	121.1	122.8	122.9	123.0	125.4	128.3	131.4	133.8	136.2	138.6
	<i>growth in %</i>	2.4	1.4	0.1	0.1	2.0	2.4	2.4	1.9	1.8	1.8
Of which the contribution of:											
Administrative measures ¹⁾	<i>percentage points</i>	2.2	1.0	-0.2	0.1	0.0	0.1	0.3	0.3	0.3	0.3
Market increase	<i>percentage points</i>	0.2	0.4	0.3	0.0	2.0	2.3	2.1	1.6	1.5	1.5
Harmonized index of consumer prices	<i>average 2005=100</i>	120.3	121.9	122.4	122.8	123.6	126.6	129.8	132.5	134.9	137.2
	<i>growth in %</i>	3.5	1.4	0.4	0.3	0.6	2.4	2.5	2.1	1.8	1.7
Offering prices of flats											
Czech Republic	<i>average 2010=100</i>	96.1	97.2	100.7	106.9	117.6	130.7	.	.	.	.
	<i>growth in %</i>	1.1	1.1	3.6	6.2	10.0	11.1	.	.	.	.
Czech Republic excluding Prague	<i>average 2010=100</i>	92.5	91.3	93.0	97.7	107.1	112.1	.	.	.	.
	<i>growth in %</i>	-4.2	-1.3	1.9	5.1	9.6	4.7	.	.	.	.
Prague	<i>average 2010=100</i>	99.6	103.1	108.5	116.1	128.2	149.2	.	.	.	.
	<i>growth in %</i>	6.4	3.5	5.2	7.0	10.4	16.4	.	.	.	.
Deflators											
GDP	<i>average 2010=100</i>	101.5	102.9	105.5	106.7	108.0	109.4	111.3	113.2	115.0	117.0
	<i>growth in %</i>	1.5	1.4	2.5	1.2	1.2	1.3	1.8	1.7	1.6	1.8
Domestic final use	<i>average 2010=100</i>	102.9	103.5	104.6	105.7	106.4	108.9	111.3	113.3	115.1	117.0
	<i>growth in %</i>	1.8	0.5	1.1	1.0	0.7	2.3	2.2	1.8	1.6	1.7
Consumption of households	<i>average 2010=100</i>	104.0	104.9	105.5	105.6	106.1	108.7	111.4	113.8	115.8	117.9
	<i>growth in %</i>	2.2	0.8	0.6	0.1	0.5	2.4	2.5	2.1	1.8	1.8
Consumption of government	<i>average 2010=100</i>	102.7	102.8	104.6	106.7	108.7	112.2	115.7	118.0	120.3	122.7
	<i>growth in %</i>	0.9	0.2	1.7	2.0	1.8	3.2	3.1	2.0	2.0	2.0
Fixed capital formation	<i>average 2010=100</i>	100.9	101.1	102.7	104.5	104.8	106.4	107.6	108.8	110.1	111.6
	<i>growth in %</i>	1.7	0.1	1.6	1.8	0.3	1.5	1.2	1.1	1.2	1.4
Exports of goods and services	<i>average 2010=100</i>	103.8	105.6	109.8	108.4	105.7	104.8	102.4	102.5	102.8	103.4
	<i>growth in %</i>	3.1	1.7	4.0	-1.3	-2.5	-0.8	-2.3	0.1	0.3	0.5
Imports of goods and services	<i>average 2010=100</i>	106.1	106.6	109.2	107.4	103.6	103.9	101.6	101.8	102.0	102.3
	<i>growth in %</i>	3.7	0.5	2.5	-1.7	-3.5	0.3	-2.2	0.1	0.2	0.3
Terms of trade	<i>average 2010=100</i>	97.9	99.0	100.5	100.9	102.0	100.9	100.7	100.8	100.9	101.1
	<i>growth in %</i>	-0.6	1.2	1.5	0.4	1.1	-1.1	-0.2	0.0	0.1	0.2

¹⁾ The contribution of increase in regulated prices and in indirect taxes to increase of December YoY consumer price inflation.

Source: CZSO, Eurostat. Calculations of the MoF.

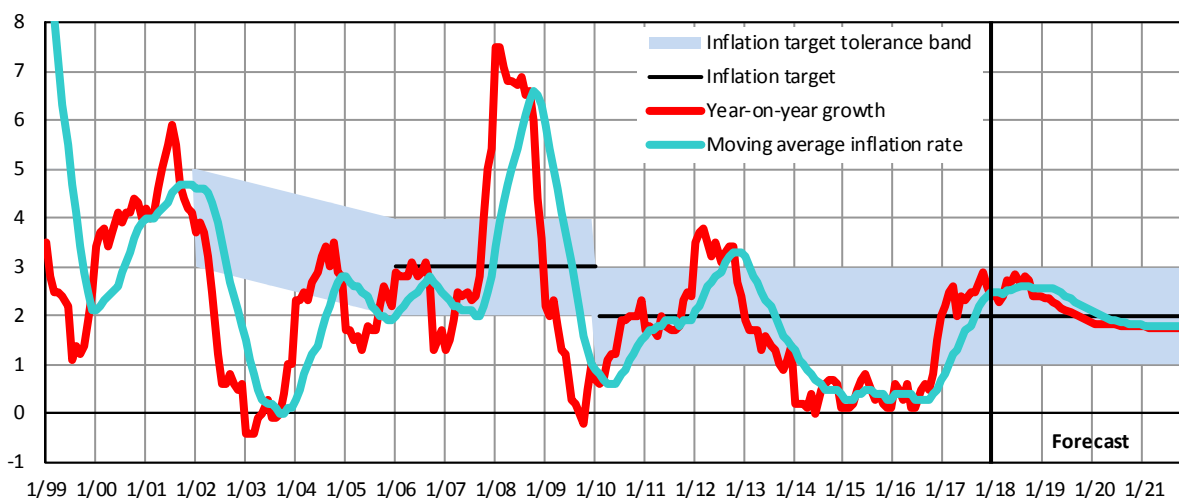
Table 3.2.2: Prices – quarterly

		2017				2018			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
					Estimate	Forecast	Forecast	Forecast	Forecast
Consumer Price Index	average 2005=100	126.7	127.1	127.6	128.3	129.7	130.6	131.1	131.4
	growth in %	2.4	2.2	2.5	2.6	2.4	2.7	2.7	2.4
Of which the contribution of:									
Administrative measures ¹⁾	percentage points	-0.2	-0.2	-0.1	-0.1	0.3	0.3	0.2	0.2
Market increase	percentage points	2.6	2.4	2.6	2.7	2.2	2.5	2.5	2.1
Harmonized index of consumer prices	average 2005=100	125.9	126.3	126.7	127.3	128.8	129.8	130.2	130.3
	growth in %	2.5	2.3	2.4	2.5	2.3	2.7	2.7	2.4
Offering prices of flats									
Czech Republic	average 2010=100	124.2	127.6	133.7	137.1	.	.	.	.
	growth in %	9.5	9.5	12.5	12.5	.	.	.	.
Czech Republic excluding Prague	average 2010=100	108.3	109.9	114.6	115.4	.	.	.	.
	growth in %	4.6	3.6	5.7	4.7	.	.	.	.
Prague	average 2010=100	140.0	145.3	152.8	158.8	.	.	.	.
	growth in %	13.6	14.6	18.3	18.8	.	.	.	.
Deflators									
GDP	average 2010=100	108.0	108.8	109.8	110.9	109.8	110.7	111.9	112.9
	growth in %	0.5	1.0	1.6	1.9	1.6	1.7	1.9	1.8
Domestic final use	average 2010=100	107.6	108.4	108.9	110.5	110.0	110.9	111.4	112.6
	growth in %	2.1	2.4	2.4	2.3	2.2	2.3	2.3	2.0
Consumption of households	average 2010=100	107.8	108.1	109.1	109.6	110.4	111.1	112.0	112.2
	growth in %	2.4	2.2	2.4	2.5	2.4	2.7	2.7	2.4
Consumption of government	average 2010=100	107.9	110.9	111.7	117.4	111.7	114.9	115.4	119.9
	growth in %	2.6	3.4	3.5	3.5	3.5	3.5	3.3	2.1
Fixed capital formation	average 2010=100	106.6	106.5	106.3	106.1	107.5	107.6	107.7	107.7
	growth in %	1.7	1.8	1.4	1.1	0.8	1.0	1.3	1.5
Exports of goods and services	average 2010=100	107.0	105.6	103.6	102.9	102.4	102.0	102.3	102.8
	growth in %	1.4	0.3	-1.9	-3.0	-4.3	-3.4	-1.3	-0.1
Imports of goods and services	average 2010=100	106.5	105.0	102.3	102.0	102.0	101.6	101.1	101.9
	growth in %	3.5	2.0	-1.1	-3.0	-4.2	-3.2	-1.1	0.0
Terms of trade	average 2010=100	100.5	100.6	101.3	101.0	100.4	100.4	101.2	100.9
	growth in %	-2.0	-1.7	-0.8	0.0	-0.1	-0.2	-0.2	-0.1

¹⁾ The contribution of increase in regulated prices and in indirect taxes to increase of December YoY consumer price inflation.
Source: CZSO, Eurostat. Calculations of the MoF.

Graph 3.2.1: Consumer Prices

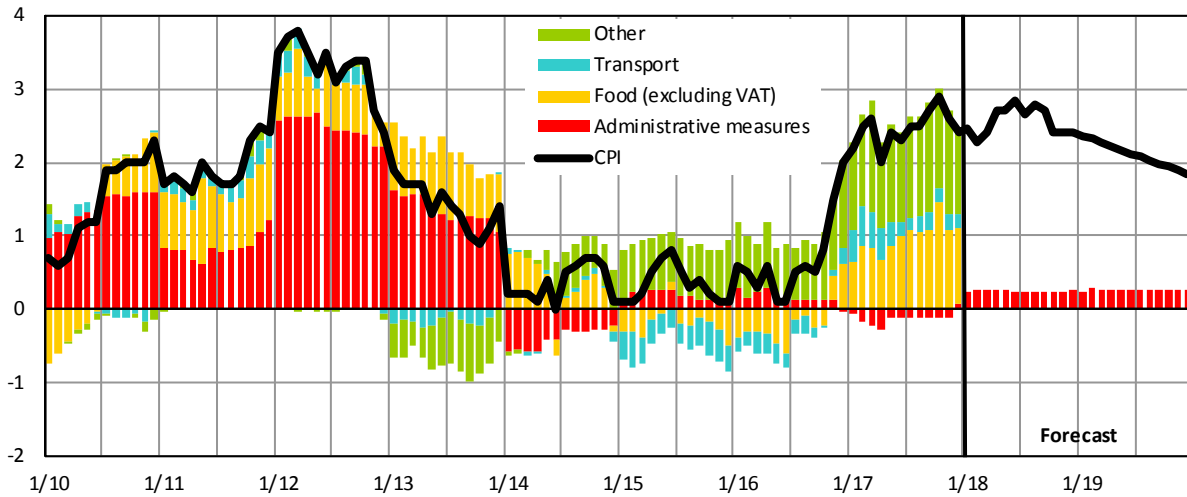
YoY growth rate, in %



Note: For the years 2002–2005 the highlighted area represents target band for headline inflation, whereas from 2006 on it is the tolerance band of the CNB's point target for headline inflation.
Source: CNB, CZSO. Calculations of the MoF.

Graph 3.2.2: Consumer Prices in Main Divisions

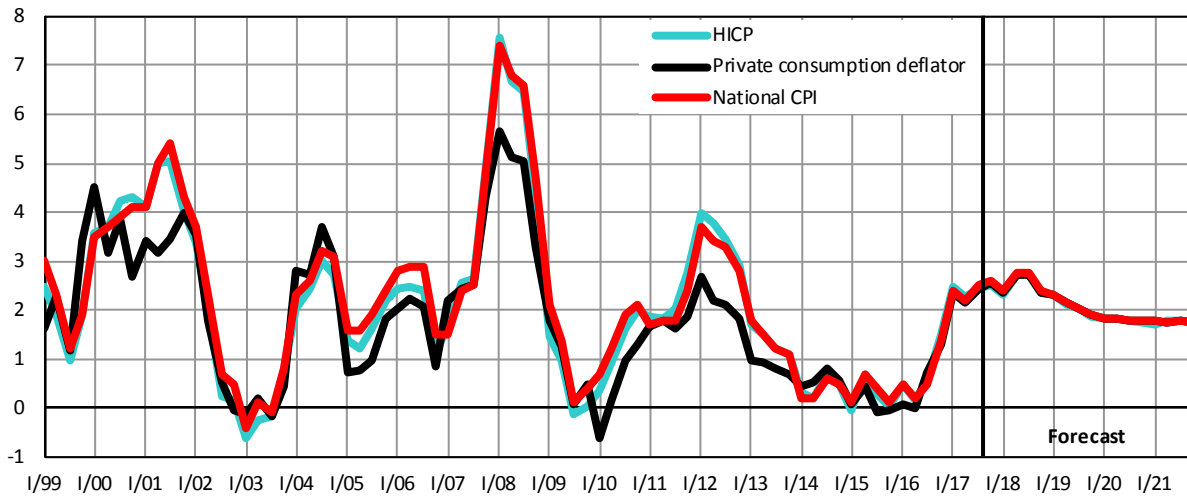
YoY growth of consumer price index, contributions in percentage points, Transport excluding administrative measures and excises



Source: CZSO. Calculations of the MoF.

Graph 3.2.3: Indicators of Consumer Prices

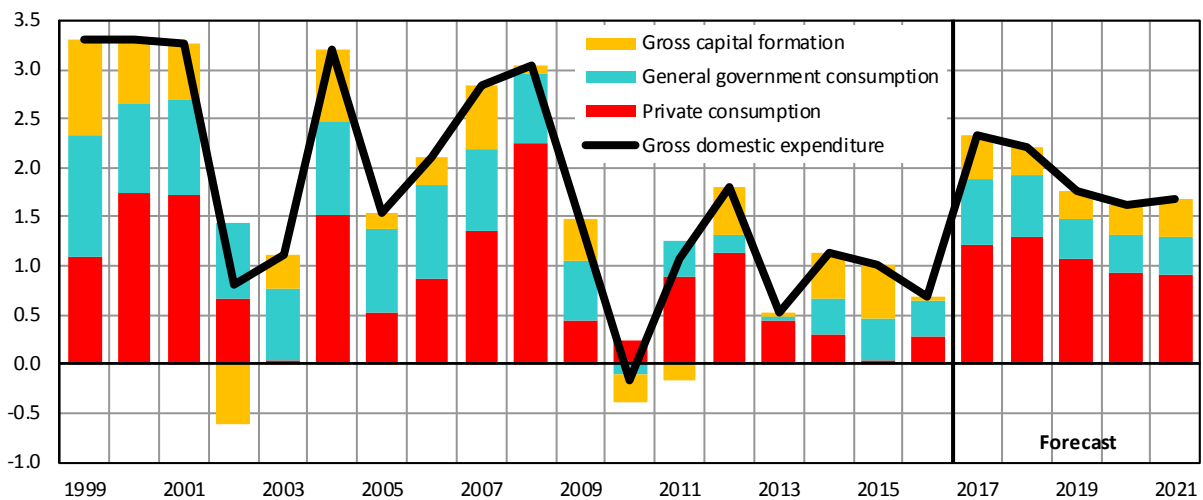
YoY growth rate, in %



Source: CZSO, Eurostat. Calculations of the MoF.

Graph 3.2.4: Gross Domestic Expenditure Deflator

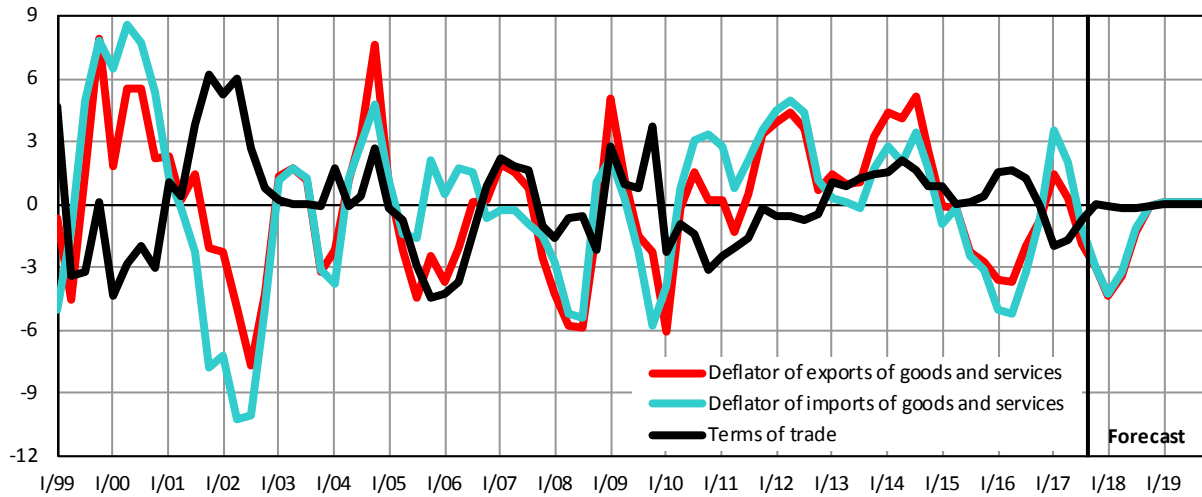
YoY growth rate in %, contributions of growth of deflators of individual components of gross domestic expenditure in percentage points



Source: CZSO. Calculations of the MoF.

Graph 3.2.5: Terms of Trade

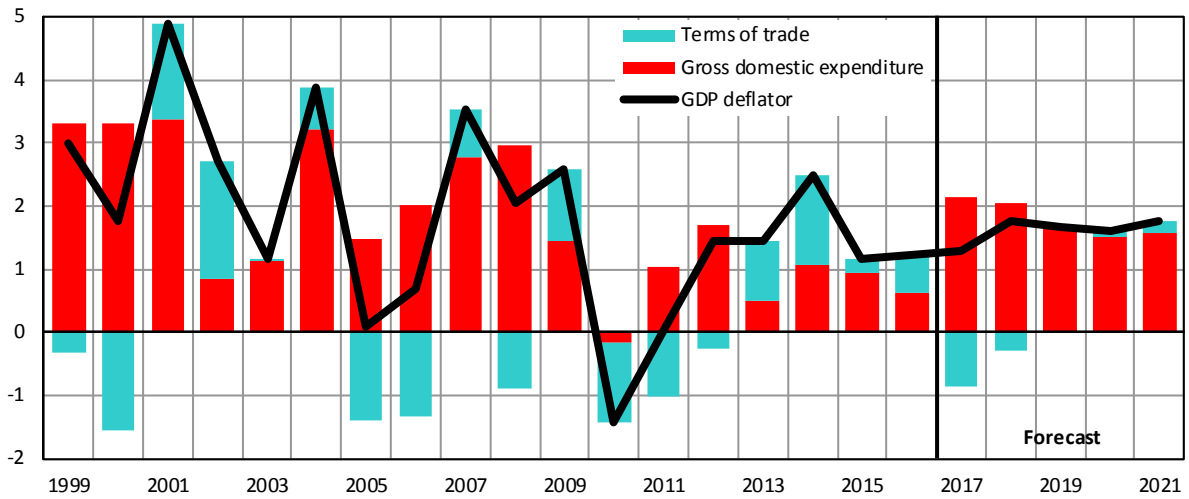
YoY growth rate, in %



Source: CZSO. Calculations of the MoF.

Graph 3.2.6: GDP deflator

YoY change in %, contributions of growth of gross domestic expenditure deflator and change in terms of trade in percentage points



Source: CZSO. Calculations of the MoF.

3.3 Labour Market

The labour market showed signs of overheating in 2017. Employment growth continued in the category of employees as well as in the category of entrepreneurs. Unemployment continued to decline even after reaching a very low level. The number of vacancies already exceeds 200 thousand, significantly more than previous highs from 2008. This development is fully correlated with increasing wages and salaries.

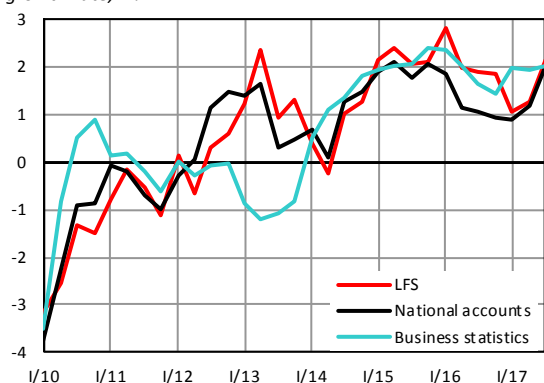
3.3.1 Employment

Employment (LFS) grew by 2.0% YoY (*versus 1.5%*) in the third quarter of 2017. The number of employees was up by 2.2% (*versus 1.0%*), the number of entrepreneurs increased by 1.5% (*versus 4.0%*). The growth in the number of entrepreneurs with employees slightly decreased (1.3%), whereas the growth in the number of entrepreneurs without employees accelerated marginally (1.7%).

From sectoral perspective, the growth in employment (business statistics) was mostly driven by manufacturing; major contributions were also recorded in wholesale, retail and education. A strong decline continued in mining and quarrying (9.7%), and was also recorded in construction and administrative and support service activities.

Graph 3.3.1: Employees in Different Statistics

YoY growth rate, in%



Source: CZSO.

Shortage of workers is evident virtually in all market sectors and is already an important obstacle to higher economic growth.

The possibility of raising employment further through the use of the unemployed is apparently, to a considerable extent, exhausted. A natural response is the recruitment of employees from among persons who are currently out of the labour force (see below). Another possible solution to this problem is the recruitment of foreign workers, which, however, often faces administrative barriers. In the long term, space is being created for the development of automation and robotization and for a greater orientation of the economy to less labour-intensive sectors with higher value added.

Thanks to the better than expected result in the third quarter, we are increasing the estimate of employment growth in 2017 to 1.6% (*versus 1.4%*). Due to tense situation in the labour market, described above, we expect that the growth will slow down to 0.6% (*versus 0.4%*) in 2018 and to 0.2% in 2019.

3.3.2 Unemployment

The unemployment rate (LFS) continues to fall to record-breaking lows – in the third quarter of 2017, it was 2.8% (*versus 2.9%*). The seasonally adjusted unemployment rate in the age group 15–64 declined to 2.5% in November 2017. The number of unemployed persons fell by 63 thousand YoY in the third quarter, i.e. by almost 30% in relative terms. It is obvious that such an intensity of decline is no longer sustainable; on the other hand, it is very difficult to determine where the minimum value (rate) of unemployment is.

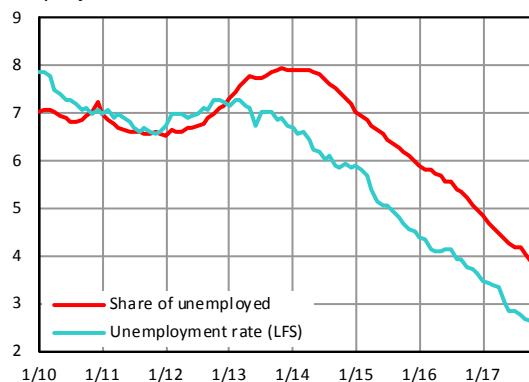
We estimate that the unemployment rate averaged 2.9% in 2017 (*versus 3.0%*). Due to the developments in the past months, we expect it to decline to 2.4% in 2018 (*versus 2.8%*), and to 2.3% in 2019. In the European context, these are extremely low values, which have practically not been recorded in the past decades.

The YoY decline in the **share of unemployed** (Ministry of Labour and Social Affairs) also continued to accelerate. Despite a lower than expected number of registered applicants at the end of the last year, the share of unemployed dropped in line with the forecast by 1.3 pp to 4.3% in 2017.

As regards registered unemployment, there is greater room for further decline than in the LFS due to the fact that some applicants work part-time within the so-called non-conflicting employment and they are thus probably able to exit registration and start a full-time job. Going forward, we expect the share of unemployed to decline to 3.3% in 2018 (*versus 3.5%*) and to 2.8% in 2019.

Graph 3.3.2: Indicators of Unemployment

seasonally adjusted data, in%



Note: Share of unemployed (Ministry of Labour and Social Affairs) is defined as a share of available job seekers aged 15 to 64 years in the population of the same age.

Source: CZSO, Ministry of Labour and Social Affairs. Calculations of the MoF.

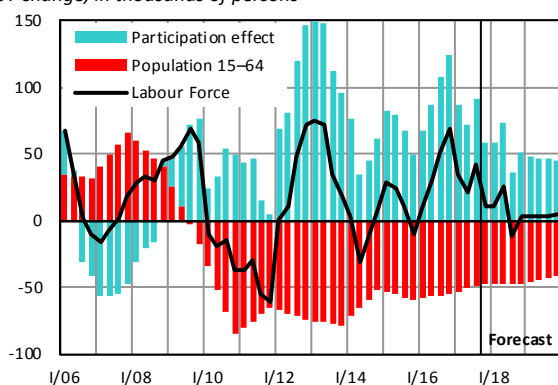
3.3.3 Participation

The **economic activity rate** (15–64 years) increased by 1.1 pp YoY to 76.4% (*versus* 76.1%) in the third quarter of 2017 due to the fact that job vacancies and growing earnings are a motivation for joining the labour process even for individuals who had not been economically active in the past.

The current increase in the participation in the Czech economy completely eliminated the effects of reduction in population aged 15–64 (as a result of the ageing process) on the size of the labour force (see Graph 3.3.3). It is extraordinary both in the historical perspective and in the European context. While the economic activity rate (15–64 years) in the second quarter of 2011 was 70.5% and 0.5 pp under the EU28 average, it exceeded the EU28 average by 2.3 pp in the second quarter of 2017¹. Higher increases in participation were only recorded in Hungary, Malta and Bulgaria, whose starting values, however, were significantly lower than in the Czech economy.

Graph 3.3.3: Changes in the Size of the Labour Force

YoY change, in thousands of persons



Source: CZSO. Calculations of the MoF.

To identify room for an increase in participation in the future, we broke down the ratio of labour force to the population 15–64 years (see Graph 3.3.4). The demographic effect reflects the influence of a shift of the population structure to age cohorts with higher participation. Postponement of the statutory retirement age also has a significant impact. Other effects on participation can be summarized to the category of behaviour that describes the willingness of the economically inactive in a given age group to actively engage in work activities (or vice versa).

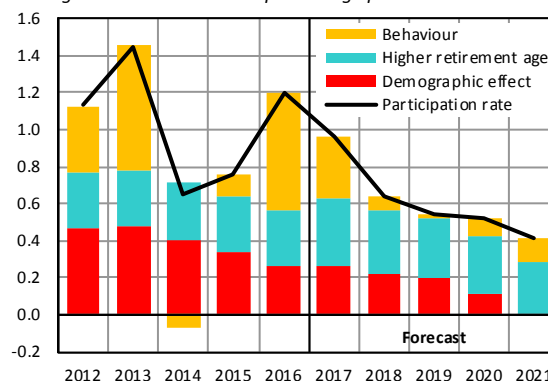
The results show that there is some room for further growth in the participation rate, although the positive influence of the demographic effect should diminish over time. The intensity of the behaviour factor is approached rather conservatively in the forecast and it cannot be ruled out that persons who would be economically inactive under other circumstances will enter the labour process in the current labour market situa-

¹ Data for EU28 is not yet available for the third quarter of 2017

tion. The shrinking increases in participation should not have a significant impact on the size of the labour force because the decline in the population aged 15–64 years should slow down at the same time (see Chapter 1.5).

Graph 3.3.4: Labour Force to Population (15–64) Ratio

YoY change and contributions in percentage points



Note: Unlike the participation rate (15–64), the labour force to population (15–64) ratio includes the labour force aged 65 or more.

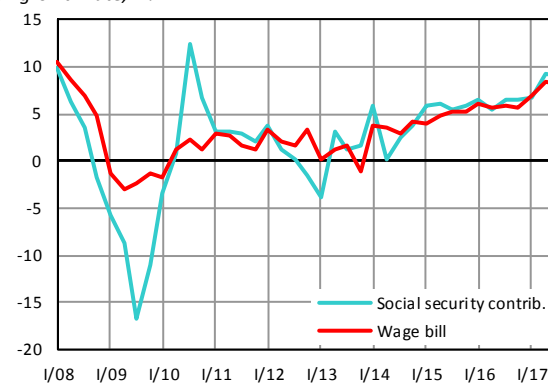
Source: CZSO. Calculations of the MoF.

3.3.4 Wages

The **wage bill** growth (national accounts, domestic concept) slightly slowed down to 8.2% (*versus* 7.2%) in the third quarter of 2017, while the growth rate of the number of employees accelerated significantly. The dynamics of earnings was driven by continued strong growth of wages in manufacturing (by 8.9%) but also by salary increases in the public administration, defence, education and health and social care (by 9.3%), which was the highest in the last 12 years. The lowest growth rate was recorded in construction (by 2.8%) and in finance and insurance (by 4.8%), which is the second best paid sector.

Graph 3.3.5: Collection of Social Security Contributions and the Wage Bill

YoY growth rate, in%



Note: Time series of the collection of social security contributions is influenced, among other factors, by a legislative change in 2009 and a pay-out of exceptional bonuses at the end of 2012.

Source: CZSO, Ministry of Finance.

Effective since November 2017, pay tariffs of employees in the general government sector have significantly increased by 10% and in the case of teachers by 15%. Based on available data on the cash collection of social

security contributions, we estimate that the growth of the wage bill reached 8.3% (versus 7.5%) in the fourth quarter of 2017. Due to the increased estimate for the fourth quarter and the forecast error in the third quarter of 2017, the YoY growth in earnings could have amounted to 7.9% (versus 7.4%) in 2017.

In line with the further decline in unemployment and deepening frictions in the labour market, the wage growth should remain at a very high level in the long run. On the other hand, collective bargaining has not yet been completed in many enterprises with a large number of employees, and the negotiated conditions may therefore have an effect only in the course of this year. The increase in the minimum wage by almost 11% together with the level of guaranteed wage will result in an upward shift in the entire distribution of earnings. The wage bill could rise by 7.7% this year (versus 7.6%).

The forecast of wage and salary developments in 2019 reflects the assumption of salary growth in the government sector and the fact that any further increase in the minimum wage has not yet been decided. Significant increases in the labour cost combined with tightening monetary conditions should negatively affect the profitability of companies, and the contribution of higher number of employees to the wage bill should be only slightly positive. The wage and salary growth could therefore slow down to 4.9% in 2019.

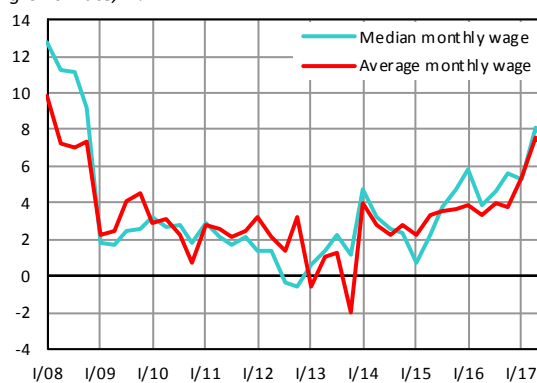
The **average wage** (business statistics, full-time equivalent) increased by 6.8% (versus 7.5%) in the third quarter of 2017. The wage median grew by 7.1% over the same

period, in line with a faster dynamics in low- and medium-income professions. The average wage could have increased by 8.1% (versus 7.9%) in the fourth quarter of 2017, and by 6.9% (versus 7.1%) in 2017 as a whole, due to the deviation in the forecast for the third quarter.

Owing to the persistent shortage of workers in the labour market, the average nominal wage growth rate could reach 7.1% in 2018 (versus 7.2%). The slight decrease in the forecast for 2018 is due to an increase in the forecast of the number of employees. Vacancies are mostly in worse paid professions; however, the difference is completely negligible in terms of the level of average wage. The slowdown in the pace of economic growth in 2019 could result in an average wage growth of 4.7%.

Graph 3.3.6: Nominal Monthly Wage

YoY growth rate, in%



Source: CZSO.

Table 3.3.1: Labour Market – yearly

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
							<i>Estimate</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Outlook</i>	<i>Outlook</i>
Labour Force Survey											
Employment	<i>av. in thous.persons</i>	4 890	4 937	4 974	5 042	5 139	5 220	5 252	5 261	5 269	5 274
	<i>growth in %</i>	0.4	1.0	0.8	1.4	1.9	1.6	0.6	0.2	0.2	0.1
Employees	<i>av. in thous.persons</i>	3 997	4 055	4 079	4 168	4 257	4 317	4 345	4 352	4 360	4 365
	<i>growth in %</i>	0.1	1.5	0.6	2.2	2.1	1.4	0.6	0.2	0.2	0.1
Entrepreneurs and self-employed	<i>av. in thous.persons</i>	893	882	895	874	882	904	908	908	909	909
	<i>growth in %</i>	1.6	-1.3	1.5	-2.3	0.9	2.4	0.5	0.1	0.1	0.0
Unemployment	<i>av. in thous.persons</i>	367	369	324	268	211	157	132	126	124	124
Unemployment rate	<i>average in %</i>	7.0	7.0	6.1	5.1	4.0	2.9	2.4	2.3	2.3	2.3
Long-term unemployment ¹⁾	<i>av. in thous.persons</i>	161	163	141	127	89	.	.	.	.	.
Labour force	<i>av. in thous.persons</i>	5 257	5 306	5 298	5 310	5 350	5 377	5 384	5 387	5 394	5 398
	<i>growth in %</i>	0.7	0.9	-0.2	0.2	0.8	0.5	0.1	0.1	0.1	0.1
Population aged 15–64	<i>av. in thous.persons</i>	7 229	7 154	7 081	7 026	6 968	6 917	6 869	6 826	6 789	6 760
	<i>growth in %</i>	-0.9	-1.0	-1.0	-0.8	-0.8	-0.7	-0.7	-0.6	-0.5	-0.4
Employment/Pop. 15–64	<i>average in %</i>	67.6	69.0	70.2	71.8	73.7	75.5	76.5	77.1	77.6	78.0
Employment rate 15–64 ²⁾	<i>average in %</i>	66.5	67.7	69.0	70.2	72.0	73.7	74.6	75.1	75.7	76.1
Labour force/Pop. 15–64	<i>average in %</i>	72.7	74.2	74.8	75.6	76.8	77.7	78.4	78.9	79.4	79.9
Participation rate 15–64 ³⁾	<i>average in %</i>	71.6	72.9	73.5	74.0	75.0	75.9	76.5	77.0	77.5	77.9
Registered unemployment											
Unemployment	<i>av. in thous.persons</i>	504	564	561	479	406	318	238	201	187	186
Share of unemployed ⁴⁾	<i>average in %</i>	6.8	7.7	7.7	6.6	5.6	4.3	3.3	2.8	2.6	2.6
Wages and salaries											
Average monthly wage ⁵⁾											
Nominal	CZK	25 067	25 035	25 768	26 591	27 575	29 500	31 600	33 100	34 500	36 000
	<i>growth in %</i>	2.5	-0.1	2.9	3.2	3.7	6.9	7.1	4.7	4.3	4.3
Real	CZK 2005	20 717	20 403	20 916	21 514	22 166	23 100	24 200	24 800	25 400	26 000
	<i>growth in %</i>	-0.8	-1.5	2.5	2.9	3.0	4.4	4.4	2.6	2.5	2.5
Median monthly wage	CZK	20 828	21 110	21 786	22 414	23 528	.	.	.	.	.
	<i>growth in %</i>	0.4	1.4	3.2	2.9	5.0	.	.	.	.	.
Wage bill	<i>growth in %</i>	2.6	0.5	3.6	4.8	5.8	7.9	7.7	4.9	4.5	4.4
Labour productivity	<i>growth in %</i>	-1.2	-0.8	2.2	3.8	1.3	2.7	2.7	2.4	2.2	2.1
Unit labour costs ⁶⁾	<i>growth in %</i>	3.0	0.5	0.4	-0.8	3.3	3.9	4.1	2.3	2.0	2.1
Compens. of employees / GDP	%	41.0	40.9	40.2	39.6	40.4	41.3	42.3	42.6	42.8	42.9

¹⁾ Persons in unemployment for longer than 12 months.

²⁾ The indicator does not include employment over 64 years.

³⁾ The indicator does not include labour force over 64 years.

⁴⁾ Share of available job seekers aged 15 to 64 years in the population of the same age.

⁵⁾ Derived from full-time-equivalent employers in the entire economy.

⁶⁾ Ratio of nominal compensation per employee to real productivity of labour.

Source: CZSO, Ministry of Labour and Social Affairs. Calculations of the MoF.

Table 3.3.2: Labour Market – quarterly

		2017				2018			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		<i>Estimate</i>				<i>Forecast</i>			
Labour Force Survey									
Employment	<i>av. in thous. persons</i>	5 169	5 197	5 257	5 257	5 226	5 254	5 264	5 266
	<i>YoY growth in %</i>	1.6	1.3	2.0	1.3	1.1	1.1	0.1	0.2
	<i>QoQ growth in %</i>	0.3	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Employees	<i>av. in thous. persons</i>	4 276	4 298	4 360	4 332	4 325	4 346	4 367	4 340
	<i>growth in %</i>	1.1	1.3	2.2	1.2	1.1	1.1	0.1	0.2
Entrepreneurs and self-employed	<i>av. in thous. persons</i>	893	899	897	925	900	908	897	926
	<i>growth in %</i>	4.4	1.6	1.5	2.3	0.9	1.0	0.0	0.1
Unemployment	<i>av. in thous. persons</i>	185	159	150	133	139	128	132	127
Unemployment rate	<i>average in %</i>	3.4	3.0	2.8	2.5	2.6	2.4	2.4	2.4
Long-term unemployment ¹⁾	<i>av. in thous. persons</i>	68	59	49	.	.	.	.	.
Labour force	<i>av. in thous. persons</i>	5 354	5 356	5 407	5 390	5 365	5 382	5 396	5 393
	<i>growth in %</i>	0.7	0.3	0.8	0.2	0.2	0.5	-0.2	0.1
Population aged 15–64	<i>av. in thous. persons</i>	6 936	6 921	6 911	6 899	6 887	6 875	6 863	6 852
	<i>growth in %</i>	-0.8	-0.8	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
Employment/Pop. 15–64	<i>average in %</i>	74.5	75.1	76.1	76.2	75.9	76.4	76.7	76.9
	<i>increase over a year</i>	1.8	1.6	2.1	1.5	1.3	1.3	0.6	0.6
Employment rate 15–64 ²⁾	<i>average in %</i>	72.8	73.3	74.2	74.3	74.0	74.5	74.8	74.9
	<i>increase over a year</i>	1.8	1.6	2.0	1.4	1.2	1.2	0.6	0.6
Labour force/Pop. 15–64	<i>average in %</i>	77.2	77.4	78.2	78.1	77.9	78.3	78.6	78.7
	<i>increase over a year</i>	1.1	0.9	1.2	0.7	0.7	0.9	0.4	0.6
Participation rate 15–64 ³⁾	<i>average in %</i>	75.5	75.6	76.4	76.2	76.0	76.4	76.7	76.8
	<i>increase over a year</i>	1.1	0.9	1.1	0.6	0.5	0.8	0.4	0.6
Registered unemployment									
Unemployment	<i>av. in thous. persons</i>	379.5	320.8	297.0	273.1	281	235	222	217
Share of unemployed ⁴⁾	<i>average in %</i>	5.1	4.3	4.0	3.7	3.9	3.2	3.1	3.0
Wages and salaries									
Average monthly wage ⁵⁾									
Nominal	CZK	27 890	29 333	29 050	31 700	29 900	31 400	31 200	33 800
	<i>growth in %</i>	5.3	7.6	6.8	8.1	7.1	7.1	7.4	6.8
Real	CZK 2005	22 013	23 079	22 766	24 700	23 000	24 100	23 800	25 800
	<i>growth in %</i>	2.9	5.2	4.2	5.3	4.6	4.3	4.6	4.3
Median monthly wage	CZK	23 705	24 885	25 181	.	.	.	.	.
	<i>growth in %</i>	5.2	8.1	7.1	.	.	.	.	.
Wage bill	<i>growth in %</i>	6.8	8.3	8.2	8.3	8.0	7.8	7.6	7.2

¹⁾ Persons in unemployment for longer than 12 months.

²⁾ The indicator does not include employment over 64 years.

³⁾ The indicator does not include labour force over 64 years.

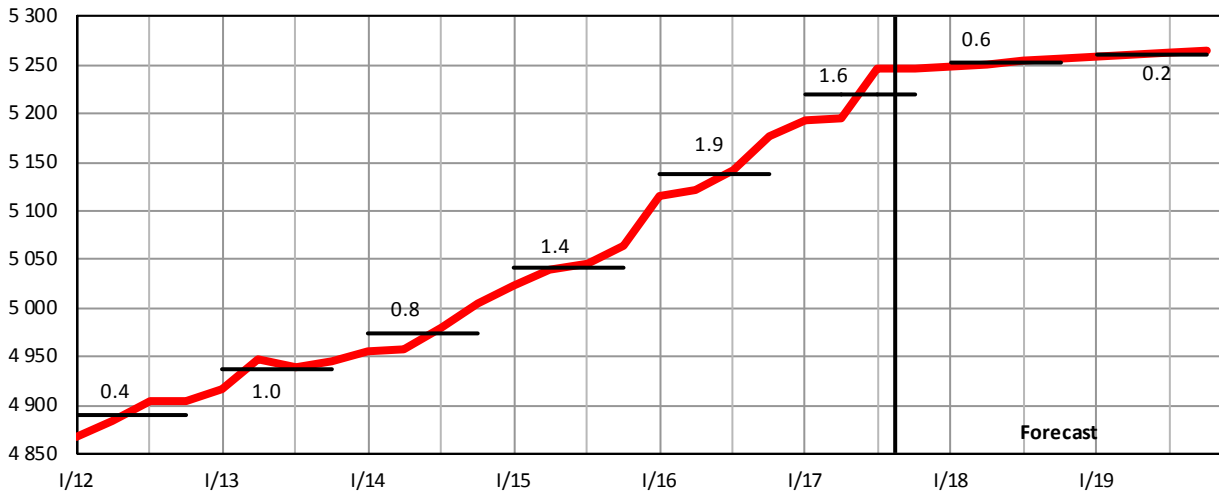
⁴⁾ Share of available job seekers aged 15 to 64 years in the population of the same age.

⁵⁾ Derived from full-time-equivalent employers in the entire economy.

Source: CZSO, Ministry of Labour and Social Affairs. Calculations of the MoF.

Graph 3.3.7: Employment (LFS)

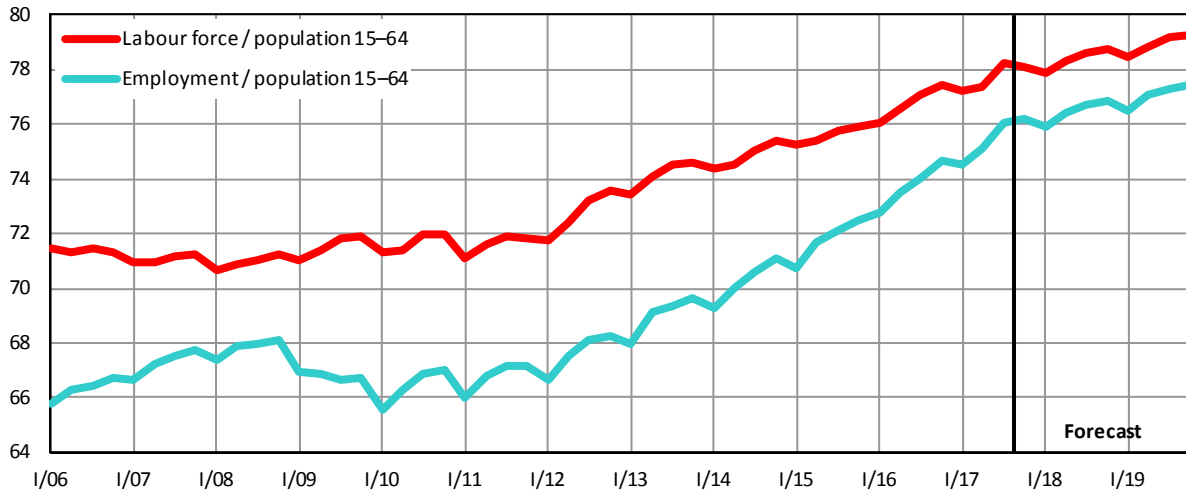
seasonally adjusted data, in thousands of persons, black lines with labels show the average level and growth rate in the given year



Source: CZSO. Calculations of the MoF.

Graph 3.3.8: Ratio of Labour Force and Employment to Population Aged 15–64

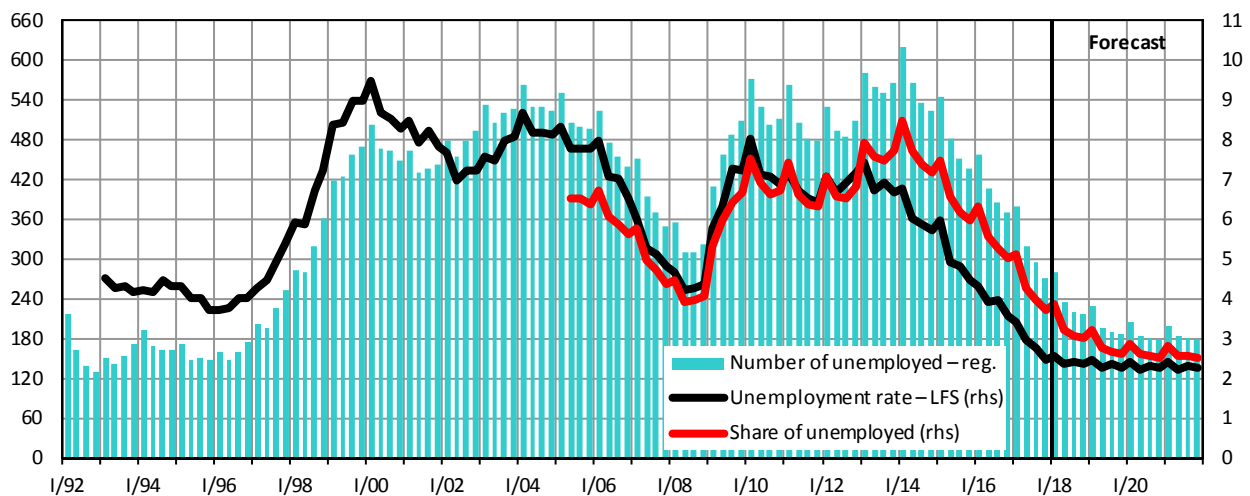
in %



Source: CZSO. Calculations of the MoF.

Graph 3.3.9: Unemployment

quarterly average, in thousands of persons, in % (rhs)

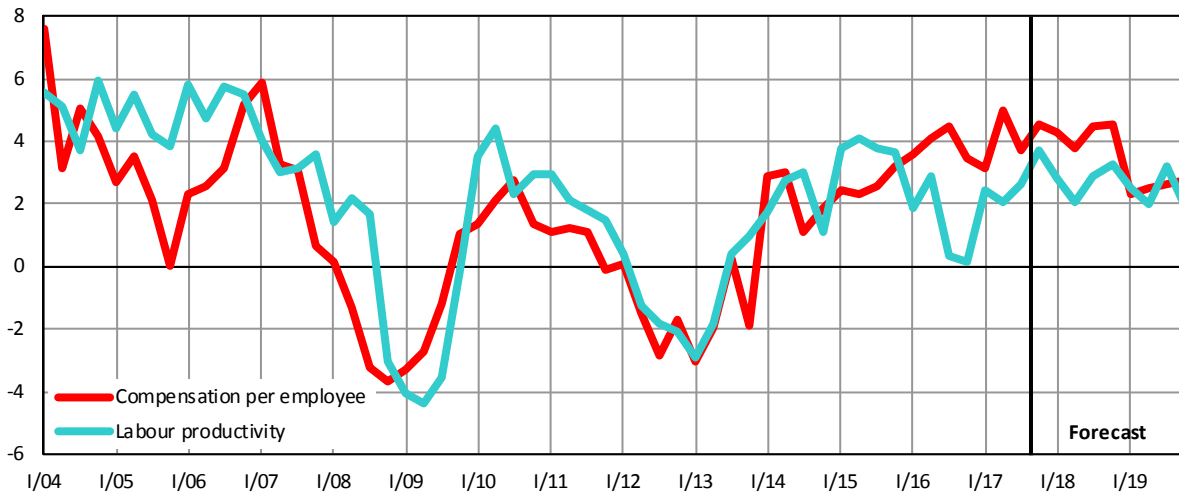


Note: Share of unemployed (Ministry of Labour and Social Affairs) is defined as a share of available job seekers aged 15 to 64 years in the population of the same age.

Source: CZSO, Ministry of Labour and Social Affairs. Calculations of the MoF.

Graph 3.3.10: Compensation per Employee and Real Productivity of Labour

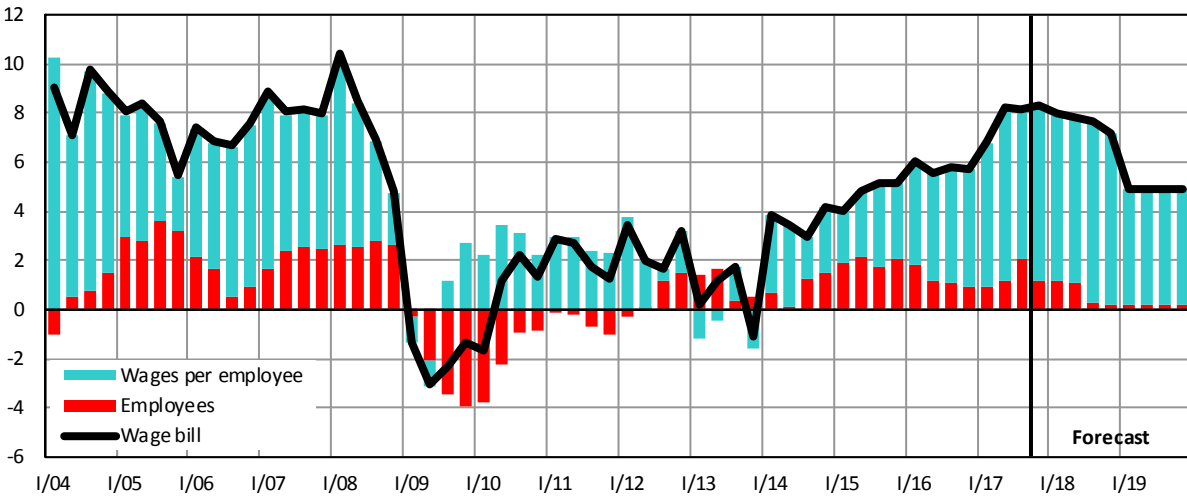
YoY growth rate, in %



Source: CZSO. Calculations of the MoF.

Graph 3.3.11: Wage Bill – nominal, domestic concept

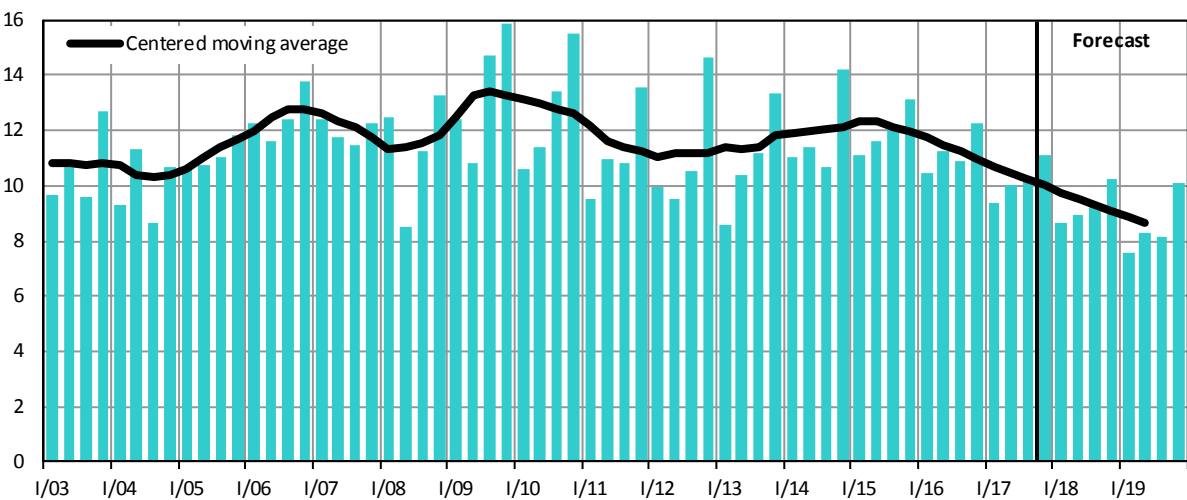
YoY growth rate, in %



Source: CZSO. Calculations of the MoF.

Graph 3.3.12: Gross Savings Rate of Households

in % of disposable income



Source: CZSO. Calculations of the MoF.

Table 3.3.3: Income and Expenditures of Households – yearly

SNA methodology – national concept

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
										Estimate	Forecast	Forecast
Current income												
Compensation of employees	bill.CZK	1 587	1 627	1 669	1 692	1 760	1 852	1 966	2 123	2 282	2 392	
	growth in %	2.2	2.5	2.6	1.3	4.0	5.3	6.1	8.0	7.5	4.8	
Gross operating surplus and mixed income	bill.CZK	685	674	654	645	662	691	712	734	761	784	
	growth in %	-0.2	-1.7	-2.9	-1.3	2.6	4.3	3.0	3.2	3.7	3.0	
Property income received	bill.CZK	154	153	147	158	166	166	158	171	179	188	
	growth in %	-2.5	-0.6	-4.0	7.8	5.1	-0.4	-4.6	8.4	4.7	4.9	
Social benefits not-in-kind	bill.CZK	541	553	566	563	576	591	606	627	661	685	
	growth in %	1.1	2.1	2.4	-0.6	2.2	2.6	2.7	3.5	5.4	3.6	
Other current transfers received	bill.CZK	140	139	151	146	160	181	187	225	240	256	
	growth in %	-1.0	-0.5	8.6	-3.1	9.2	13.3	3.3	20.1	6.8	6.4	
Current expenditure												
Property income paid	bill.CZK	23	21	15	21	16	14	16	16	16	16	
	growth in %	17.7	-8.5	-27.2	40.5	-24.3	-10.7	8.0	0.2	0.7	1.2	
Curr. taxes on income and property	bill.CZK	144	156	158	166	177	183	200	222	249	263	
	growth in %	-2.5	8.1	1.6	4.9	6.9	3.2	9.2	11.0	12.3	5.7	
Social contributions	bill.CZK	621	640	654	670	696	732	775	837	903	946	
	growth in %	2.9	3.1	2.3	2.4	3.8	5.3	5.8	8.0	7.9	4.7	
Other current transfers paid	bill.CZK	141	145	154	140	150	168	175	214	227	241	
	growth in %	-1.6	3.2	6.2	-9.3	6.9	11.9	4.6	21.9	6.1	6.2	
Gross disposable income	bill.CZK	2 179	2 184	2 206	2 208	2 285	2 383	2 463	2 593	2 730	2 840	
	growth in %	0.8	0.2	1.0	0.1	3.5	4.3	3.4	5.3	5.3	4.0	
Final consumption	bill.CZK	1 913	1 952	1 970	1 997	2 044	2 125	2 214	2 357	2 507	2 629	
	growth in %	1.5	2.0	0.9	1.3	2.4	3.9	4.2	6.5	6.3	4.9	
Change in share in pension funds	bill.CZK	15	16	15	35	35	33	31	32	33	36	
Gross savings	bill.CZK	282	248	250	246	276	291	280	268	257	246	
Capital transfers (income (-) / expenditure (+))	bill.CZK	-29	-25	-21	-13	-32	-12	-13	-17	-23	-25	
Gross capital formation	bill.CZK	230	198	183	181	195	208	223	237	247	257	
	growth in %	8.8	-13.9	-7.8	-1.3	8.3	6.6	7.0	6.5	4.2	3.8	
Change in financial assets and liab.	bill.CZK	79	73	87	77	110	93	69	46	31	13	
Real disposable income	growth in %	0.4	-1.5	-1.2	-0.8	2.9	4.2	2.8	2.8	2.7	1.9	
Gross savings rate	%	12.8	11.3	11.3	11.0	11.9	12.1	11.2	10.2	9.3	8.6	

Source: CZSO. Calculations of the MoF.

3.4 External Relations

The **current account balance to GDP ratio**² was 0.6% in the third quarter of 2017 (*versus 0.7%*), thus having deteriorated by 0.3% of GDP QoQ.

The **export market growth**³ reached 5.6% (*versus 6.4%*) in the third quarter of 2017. Although GDP of the main trading partners' countries slightly exceeded expectations, the development of import intensity lagged behind the estimate by more than 1 pp. This may be related to a lower growth in demand for cars abroad in the second and third quarters of 2017. Despite that, the growth of imports of the Czech Republic's main trading partners shows high dynamics and has been accelerating since the third quarter of 2016 already. According to our estimates, the export market growth reached 5.4% (*versus 6.0%*) in 2017 as a whole. In view of the forecast slowdown in GDP growth of our main trading partners and the development of their import intensity, we expect the export market growth to slow down to 5.0% (*versus 5.2%*) this year and further to 4.4% in 2019.

Export performance increased by 1.9% (*versus 1.4%*) in the third quarter of 2017. We estimate that the export performance growth accelerated from 0.6% in 2016 to 1.2% (*versus 0.8%*) in 2017. We expect that the growth will slow down to 0.5% (*unchanged*) in 2018 and will remain the same also in 2019. The continued growth of private investment increases the efficiency of production and thus also the competitiveness of Czech products. The increasing unit labour costs, the expected appreciation of the koruna and the shortage of workforce will weigh on further increases in export performance.

As far as foreign trade is concerned (balance of payments methodology), the **balance of goods** worsened for the second quarter in a row in the third quarter of 2017. The slight decrease in the surplus to 5.0% of GDP (*versus 4.9%*) was mainly due to factors on the import side. Stronger demand for investment goods led to a higher growth in imports of machinery, while an increase in domestic private consumption resulted in higher imports of manufactured articles. The dynamic economic growth was also reflected in the increase in imports of semi-finished products and mineral fuels.

Similarly, growth was seen in commodity classes significant for the Czech economy on the export side. According to the standard classification of foreign trade, the most significant growth in terms of weight was recorded in the machinery and transport (especially automobiles) class, which accounts for more than half of Czech exports and played a major part in the overall surplus on the balance of goods.

² All the *quarterly* figures relative to GDP are listed in annual moving totals.

³ The most important trading partners include Germany with a 32.2% share in Czech exports, Slovakia with 9.7%, Poland with 6.2%, the United Kingdom and France with 5.0% each and Austria with 4.2%.

Prices of mineral fuel remain the main factor affecting the **terms of trade** of foreign trade in goods. The deficit of the fuel part of the balance reached 2.5% of GDP in the third quarter of 2017 and this value will probably be attained also for the entire year 2017 (*unchanged*). In 2018, due to the expected increase in the price of oil, the deficit on the balance of mineral fuels will slightly increase; in relative terms, however, it should slightly decline to 2.4% of GDP (*unchanged*). We expect the deficit to decrease to 2.2% of GDP in 2019.

We estimate that the surplus on the balance of goods was 4.9% of GDP in 2017 (*unchanged*). The positive balance should decrease to 4.5% of GDP (*versus 4.7%*) in 2018 and further to 4.2% of GDP in 2019. The decrease in the forecast for the surplus on the balance of goods is due to increasing domestic demand (investment activity growth), expected decline in demand for cars in Western Europe, stronger exchange rate making Czech products more expensive abroad, and higher price of crude oil.

Since the first quarter of 2015, the surplus on the **balance of services** has been increasing continuously. The total surplus on this balance reached 2.2% of GDP in the third quarter of 2017 (*in line with the estimate*). We expect the same value also for the entire 2017 (*unchanged*). The balance of transportation services, construction works, telecommunication services and IT services has improved. With respect to the continued economic growth, we expect sales of services abroad to improve further, and the surplus to be maintained at similar levels. In 2018, we estimate a surplus of 2.2% of GDP (*unchanged*), and the same also in 2019.

The YoY decrease in the surplus of the current account by 1.3% of GDP in the third quarter of 2017 was due to a worsened **balance of primary and secondary income** by 0.6% of GDP and 0.7% of GDP, respectively. The deficit of primary income reached 5.4% of GDP (*versus 5.3%*) in the third quarter of 2017. The deterioration was due to higher outflow of income from foreign direct investments (mainly dividends), based on the increased profitability of foreign-owned companies. The primary income balance shows high volatility over time related to the cyclical development of the economy. In spite of persisting pressures on wage growth, and therefore the division of GDP into net corporate profits and compensation of employees, profitability of firms under foreign control is growing. The deficit of primary income reached probably 5.4% of GDP (*versus 5.3%*) in 2017, and it should slightly decline to 5.3% of GDP in 2018 and 2019 (*versus 5.2% of GDP in 2018*).

In this context, we estimate that the **current account of the balance of payments** showed a moderate surplus of 0.5% GDP in 2017 (*versus 0.6%*). We expect a decrease in the positive balance to 0.1% of GDP (*versus 0.5%*) in 2018, and the same surplus to be reached also in 2019.

Box 3.1: Cyclically-adjusted balance of foreign trade in goods and services in the Czech Republic

The turnover and balance of foreign trade represent significant aggregates for the assessment of the internal and external balance of the economy. The balance of goods and services enters the use of the gross domestic product, but is also one of the main items on the current account of the balance payments. Its development is thus closely linked to the overall macroeconomic situation of the country. For the purposes of macroeconomic analyses and forecasts, it is useful to adjust the balance of foreign trade for the business cycle, that is, to break down the balance of goods and services to the structural and cyclical components.

The openness of the economy, captured by the ratio of foreign trade turnovers to GDP, is determined by the size and geographical position of the economy, barriers to trade, infrastructure, population education, cultural proximity of states, the institutional framework, political risks and other factors. Higher international division of labour usually leads to narrower specialization and deeper use of comparative advantages as one of the factors of labour productivity growth.

However, if we focus on the balance of foreign trade, its structural component is related to the intertemporal position of the current account of the balance payments in the broader economic convergence process. A young, transforming economy strongly attracts foreign capital, and the resulting excess of investment over savings leads to an increase in imports of goods and services and in turn, to a negative balance of foreign trade. An increasing production of foreign companies in the economy gradually improves the balance of goods and services, and the deficit of primary income with a predominant share of reinvested earnings is simultaneously increasing. In the later stages of the investment cycle, the balance of foreign trade is characterized by significant surpluses, which are to a large extent offset by the outflow of dividends abroad. The Czech economy has gone through these stages in the past and at present the positive balance of foreign trade even exceeds the negative balance of primary income, as a result of which the Czech Republic is approaching countries with net exports of savings (according to the national accounts statistics; the balance of payments statistics shows that the Czech Republic has been a net exporter of savings already since 2014).

In addition to the aforementioned structural foreign trade factors, the external position of the economy is significantly influenced by cyclical fluctuations of the domestic and foreign economies. These are related to deviations of the koruna price levels⁴ (P) of traded goods resulting from the deviations of prices on foreign markets and of the nominal exchange rate. Functional relationships within the nominal balance of goods and services (NX) are captured by equation (1). Exports of goods and services (EX) are the function of foreign demand at constant prices⁵ (Y_F), and imports of goods and services (IM) depend on the development of import-intensive exports and domestic demand at constant prices (Y_{DOM}).

$$NX = [EX \rightarrow f(Y_F)] - [IM \rightarrow f(EX, Y_{DOM})] \quad (1)$$

The structural component of exports (EX^*) and imports (IM^*) is quantified in equations (2) and (3) as actual exports and imports adjusted for the percentage deviation⁶ of the variables from their equilibrium levels⁷ while taking into account the specific elasticities in foreign trade⁸. The cyclically-adjusted balance of foreign trade (NX^*) is then the difference in structural values of exports and imports (4). Seasonally adjusted data from quarterly national accounts have been used:

$$EX^* = EX \left[1 - \varepsilon^{EX, Y_F} (Y_F - Y_F^*) - \varepsilon^{EX, P_{EX}} (P_{EX} - P_{EX}^*) \right] \quad (2)$$

$$IM^* = IM \left[1 - \varepsilon^{IM, EX} (EX - EX^*) - \varepsilon^{IM, Y_{DOM}} (Y_{DOM} - Y_{DOM}^*) - \varepsilon^{IM, P_{IM}} (P_{IM} - P_{IM}^*) \right] \quad (3)$$

$$NX^* = EX^* - IM^* \quad (4)$$

It follows from the breakdowns in Graphs 1 and 2 that the Czech economy recorded the strongest cyclical fluctuations in exports and imports in the 2007–2008 boom and the subsequent decline in the recession in 2009. The positive cyclical component of exports is evident in 2014 and 2015 in response to the devaluation of the koruna exchange rate by the CNB. On the import side, however, this effect was outweighed in 2015 by acceleration in import-intensive investment activity associated with dynamic end of allocation of EU funds from the previous financial perspective. For that reason, Graph 3 shows a significantly negative deviation of the balance of foreign trade in 2015.

⁴ Deflators of exports and imports of goods and services from national accounts were used.

⁵ The real gross domestic product of the Euro Area was used.

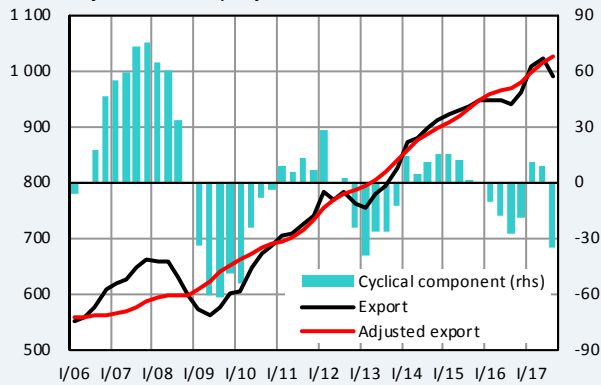
⁶ $(Y_F - Y_F^*)$, $(P_{EX} - P_{EX}^*)$, $(EX - EX^*)$, $(Y_{DOM} - Y_{DOM}^*)$, $(P_{IM} - P_{IM}^*)$ are interpreted as differences of logarithms, i.e., approximately a percentage deviation from trend values.

⁷ The Hodrick-Prescott filter with $\lambda=1600$ was applied to seasonally adjusted time series from national accounts. Filtering was performed on quarterly data from 1996 to 2021, adding values from the current Macroeconomic Forecast of the MoF to address the endpoint problem.

⁸ Values of price and volume elasticities of foreign trade based on regression estimates: $\varepsilon^{EX, Y_F} = 3.52$; $\varepsilon^{EX, P_{EX}} = 1.00$; $\varepsilon^{IM, EX} = 0.72$; $\varepsilon^{IM, Y_{DOM}} = 0.23$; $\varepsilon^{IM, P_{IM}} = 0.37$

Graph 1: Cyclically Adjusted Export

CZK billion, from seasonally adjusted data

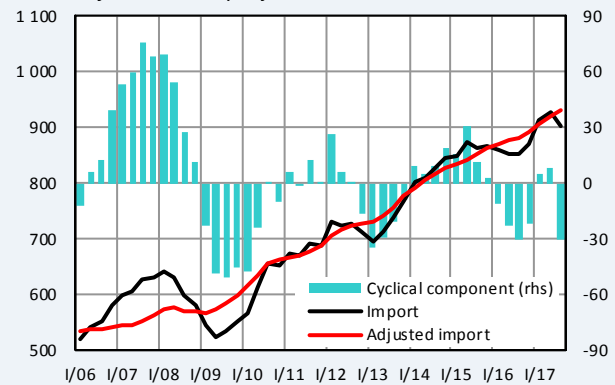


Note: Adjusted values of export smoothed by the Hodrick-Prescott filter ($\lambda=1$).

Source: CZSO. Calculations of the MoF.

Graph 2: Cyclically Adjusted Import

CZK billion, from seasonally adjusted data

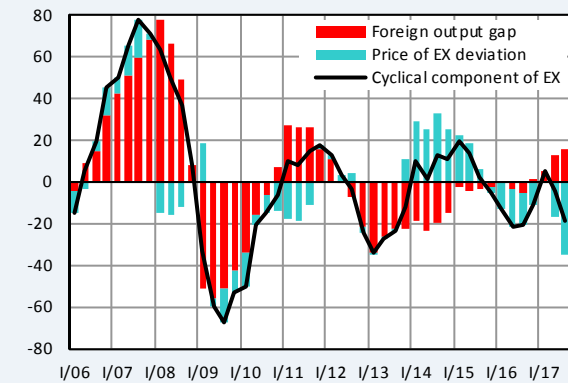


Note: Adjusted values of export smoothed by the Hodrick-Prescott filter ($\lambda=1$).

Source: CZSO. Calculations of the MoF.

Graph 3: Contributions to Deviations of Export from Cyclically Adjusted Values

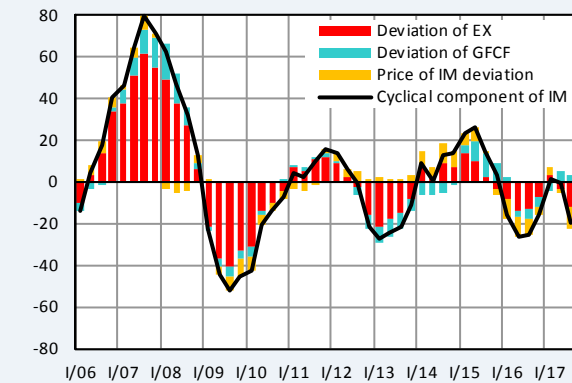
CZK billion, from seasonally adjusted data



Source: CZSO, Eurostat. Calculations of the MoF.

Graph 4: Contributions to Deviations of Import from Cyclically Adjusted Values

CZK billion, from seasonally adjusted data



Source: CZSO. Calculations of the MoF.

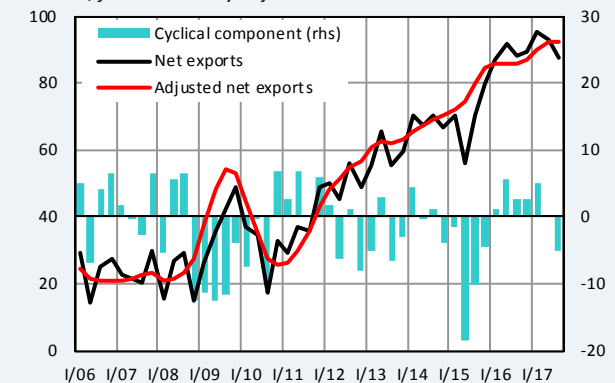
Deviations of exports from the equilibrium levels are, for most of the time, created by the output gap abroad, which is also – indirectly – strongly reflected in imports. The deviation of prices in foreign trade from the trend is of a generally more pro-cyclical nature. However, in 2014 there is a clear positive contribution of the deviation of export prices stemming from the weakening of the exchange rate after adoption of the CNB's exchange rate commitment. A relatively immediate reflection of the weakening of the koruna in the export deflator can be explained by price formation on export markets. Exported goods are sold at global prices, and devaluation will thus cause the koruna prices of exports and the profitability of exporters to jump. However, that effect gradually fades away over the horizon of 2 years due to increased export supply, and pressures on reduction in foreign prices and trade margins of exporters at a stable exchange rate.

It should be added that the crude oil price drop also affected the development during that period. Deviations of the balance of imports of goods and services from the equilibrium are determined mainly by export fluctuations, to a lesser extent by gross fixed capital formation and import prices.

Exports, imports and the balance were close to their equilibrium values in mid-2017. However, the appreciation of the exchange rate after the discontinuation of the CNB's exchange rate commitment significantly reduced the nominal values of export and import and shifted the balance of goods and services below its equilibrium level in the third quarter of 2017 as a result of the synergy of the statistical effect (higher exports more influenced by the appreciation of the exchange rate than imports) and the classic economic effect (a stronger exchange rate curbs exports and promotes imports).

Graph 5: Cyclically Adjusted Balance of Foreign Trade

CZK billion, from seasonally adjusted data



Note: Adjusted values of export and import smoothed by the Hodrick-Prescott filter ($\lambda=1$).

Source: CZSO. Calculations of the MoF.

Table 3.4.1: Balance of Payments – yearly

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
									<i>Estimate</i>	<i>Forecast</i>	<i>Forecast</i>
Goods and services	<i>bill.CZK</i>	119	157	201	237	276	266	352	358	354	358
	<i>% GDP</i>	3.0	3.9	5.0	5.8	6.4	5.8	7.4	7.1	6.7	6.5
Goods	<i>bill.CZK</i>	40	75	124	167	220	188	251	246	236	234
	<i>% GDP</i>	1.0	1.9	3.0	4.1	5.1	4.1	5.3	4.9	4.5	4.2
Services	<i>bill.CZK</i>	78	81	78	70	56	78	101	112	117	124
	<i>% GDP</i>	2.0	2.0	1.9	1.7	1.3	1.7	2.1	2.2	2.2	2.2
Primary income	<i>bill.CZK</i>	-250	-223	-238	-249	-261	-255	-272	-271	-283	-293
	<i>% GDP</i>	-6.3	-5.5	-5.9	-6.1	-6.0	-5.5	-5.7	-5.4	-5.3	-5.3
Secondary income	<i>bill.CZK</i>	-11	-18	-27	-10	-7	0	-27	-62	-66	-63
	<i>% GDP</i>	-0.3	-0.5	-0.7	-0.2	-0.2	0.0	-0.6	-1.2	-1.2	-1.1
Current account	<i>bill.CZK</i>	-142	-85	-63	-22	8	11	53	26	5	3
	<i>% GDP</i>	-3.6	-2.1	-1.6	-0.5	0.2	0.2	1.1	0.5	0.1	0.1
Capital account	<i>bill.CZK</i>	38	13	53	82	32	102	54	20	28	36
	<i>% GDP</i>	0.9	0.3	1.3	2.0	0.7	2.2	1.1	0.4	0.5	0.7
Net lending/borrowing	<i>bill.CZK</i>	-104	-72	-10	61	40	113	106	46	33	39
	<i>% GDP</i>	-2.6	-1.8	-0.3	1.5	0.9	2.5	2.2	0.9	0.6	0.7
Financial account	<i>bill.CZK</i>	-122	-75	12	68	59	176	118	.	.	.
Direct investments	<i>bill.CZK</i>	-95	-47	-121	7	-80	50	-141	.	.	.
Portfolio investments	<i>bill.CZK</i>	-150	-6	-55	-93	90	-164	-170	.	.	.
Financial derivatives	<i>bill.CZK</i>	5	4	-9	-5	-6	-5	11	.	.	.
Other investments	<i>bill.CZK</i>	77	-9	116	-30	-18	-56	-147	.	.	.
Reserve assets	<i>bill.CZK</i>	41	-17	80	188	73	351	564	.	.	.
International investment position	<i>bill.CZK</i>	-1 823	-1 823	-1 864	-1 695	-1 577	-1 512	-1 176	.	.	.
	<i>% GDP</i>	-46.0	-45.2	-45.9	-41.4	-36.6	-32.9	-24.6	.	.	.
Gross external debt	<i>bill.CZK</i>	2 164	2 312	2 434	2 733	3 024	3 196	3 528	.	.	.
	<i>% GDP</i>	54.6	57.3	60.0	66.7	70.1	69.5	73.9	.	.	.

Source: CNB, CZSO. Calculations of the MoF.

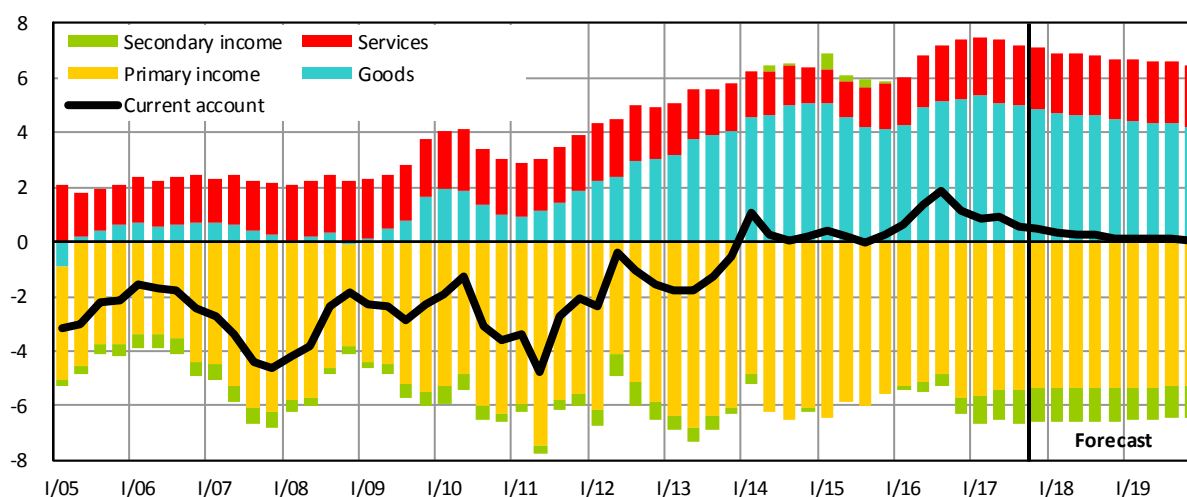
Table 3.4.2: Balance of Payments – quarterly
moving sums of the latest 4 quarters

		2017				2018			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Goods and services	<i>bill.CZK</i>	361	359	357	358	352	355	358	354
	<i>% GDP</i>	7.5	7.4	7.2	7.1	6.9	6.9	6.8	6.7
Goods	<i>bill.CZK</i>	258	249	246	246	240	241	241	236
	<i>% GDP</i>	5.3	5.1	5.0	4.9	4.7	4.7	4.6	4.5
Services	<i>bill.CZK</i>	103	110	111	112	113	114	116	117
	<i>% GDP</i>	2.1	2.3	2.2	2.2	2.2	2.2	2.2	2.2
Primary income	<i>bill.CZK</i>	-272	-263	-270	-271	-274	-277	-280	-283
	<i>% GDP</i>	-5.6	-5.4	-5.4	-5.4	-5.4	-5.4	-5.4	-5.3
Secondary income	<i>bill.CZK</i>	-49	-53	-59	-62	-63	-64	-65	-66
	<i>% GDP</i>	-1.0	-1.1	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2
Current account	<i>bill.CZK</i>	40	43	28	26	16	14	13	5
	<i>% GDP</i>	0.8	0.9	0.6	0.5	0.3	0.3	0.2	0.1
Capital account	<i>bill.CZK</i>	36	22	18	20	22	24	26	28
	<i>% GDP</i>	0.7	0.5	0.4	0.4	0.4	0.5	0.5	0.5
Net lending/borrowing	<i>bill.CZK</i>	76	65	47	46	38	38	39	33
	<i>% GDP</i>	1.6	1.3	0.9	0.9	0.7	0.7	0.7	0.6
Financial account	<i>bill.CZK</i>	83	137	136	.	.	.	.	.
Direct investments	<i>bill.CZK</i>	-213	-155	-116	.	.	.	.	.
Portfolio investments	<i>bill.CZK</i>	-479	-464	-363	.	.	.	.	.
Financial derivatives	<i>bill.CZK</i>	11	6	-2	.	.	.	.	.
Other investments	<i>bill.CZK</i>	-768	-835	-814	.	.	.	.	.
Reserve assets	<i>bill.CZK</i>	1532	1586	1430	.	.	.	.	.
International investment position	<i>stock in bill.CZK</i>	-997	-1 166	-1 228	.	.	.	.	.
	<i>% GDP</i>	-20.7	-23.9	-24.8	.	.	.	.	.
Gross external debt	<i>stock in bill.CZK</i>	4 434	4 478	4 517	.	.	.	.	.
	<i>% GDP</i>	91.9	91.8	91.2	.	.	.	.	.

Source: CNB, CZSO. Calculations of the MoF.

Graph 3.4.1: Current Account

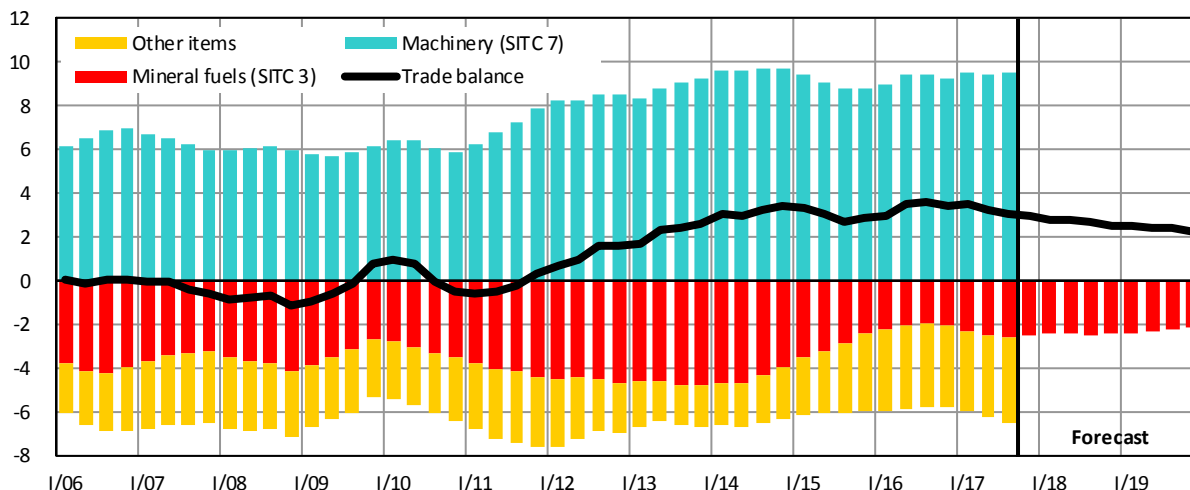
moving sums of the latest 4 quarters, in % of GDP, trade and service balances in BoP definitions



Source: CNB, CZSO. Calculations of the MoF.

Graph 3.4.2: Balance of Trade (national concept)

moving sums of the latest 4 quarters, in % of GDP, in cross-border definitions

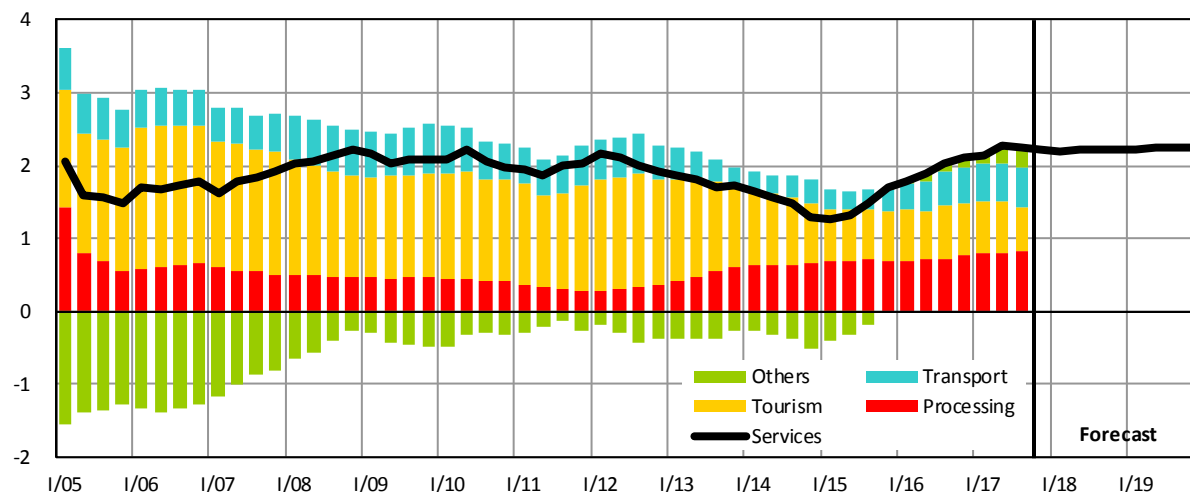


Note: The data in the graph show imports in cif methodology. For this reason, the graph is not comparable with Tables 3.4.1 and 3.4.2, where imports are in fob methodology. Trade balance in the national concept (unlike in the BoP methodology in Tables 3.4.1 and 3.4.2) does not include the import of JAS-39 Gripen fighter jets in the fourth quarter of 2015 amounting to CZK 9.9 bill., i.e. 0.2% of GDP.

Source: CZSO. Calculations of the MoF.

Graph 3.4.3: Balance of Services

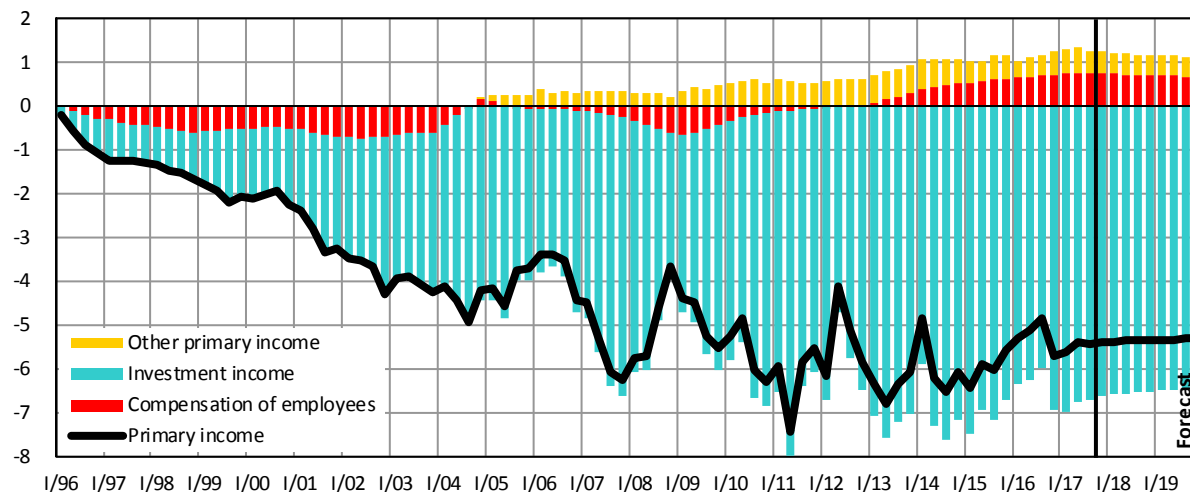
moving sums of the latest 4 quarters, in % of GDP



Source: CNB, CZSO. Calculations of the MoF.

Graph 3.4.4: Balance of Primary Income

moving sums of the latest 4 quarters, in % of GDP



Source: CNB, CZSO. Calculations of the MoF.

Table 3.4.3: Decomposition of Exports of Goods – yearly*seasonally adjusted*

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
										<i>Estimate</i>	<i>Forecast</i>	<i>Forecast</i>
GDP ¹⁾	<i>average of 2005=100</i>	100.0	103.4	104.4	105.3	107.5	109.8	112.1	115	118	121	
	<i>growth in %</i>	3.6	3.4	1.0	0.9	2.1	2.1	2.1	2.8	2.6	2.4	
Import intensity ²⁾	<i>average of 2005=100</i>	100.0	104.0	103.1	104.5	107.2	110.4	112.1	115	118	120	
	<i>growth in %</i>	8.7	4.0	-0.9	1.4	2.6	3.0	1.5	2.5	2.4	2.0	
Export markets ³⁾	<i>average of 2005=100</i>	100.0	107.5	107.6	110.0	115.3	121.2	125.7	132	139	145	
	<i>growth in %</i>	12.6	7.5	0.1	2.3	4.8	5.1	3.7	5.4	5.0	4.4	
Export performance	<i>average of 2005=100</i>	100.0	102.5	106.9	105.2	109.6	109.9	110.6	112	113	113	
	<i>growth in %</i>	2.5	2.5	4.3	-1.6	4.3	0.3	0.6	1.2	0.5	0.5	
Real exports	<i>average of 2005=100</i>	100.0	110.2	115.0	115.7	126.4	133.3	139.1	148	157	164	
	<i>growth in %</i>	15.4	10.2	4.4	0.6	9.2	5.4	4.3	6.6	5.5	4.9	
1 / NEER	<i>average of 2005=100</i>	100.0	97.0	101.3	103.0	108.6	109.9	106.9	104	99	98	
	<i>growth in %</i>	-2.2	-3.0	4.4	1.7	5.5	1.2	-2.8	-2.8	-4.4	-1.6	
Prices on foreign markets	<i>average of 2005=100</i>	100.0	103.9	102.8	102.6	101.0	98.4	98.2	100	102	104	
	<i>growth in %</i>	1.0	3.9	-1.1	-0.1	-1.6	-2.6	-0.1	1.8	1.9	1.8	
Exports deflator	<i>average of 2005=100</i>	100.0	100.8	104.0	105.7	109.7	108.2	105.0	104	101	101	
	<i>growth in %</i>	-1.2	0.8	3.2	1.5	3.8	-1.4	-2.9	-1.0	-2.6	0.1	
Nominal exports	<i>average of 2005=100</i>	100.0	111.0	119.6	122.3	138.6	144.1	146.0	154	158	166	
	<i>growth in %</i>	14.2	11.0	7.8	2.2	13.4	4.0	1.3	5.5	2.8	5.1	

¹⁾ Weighted average of GDP of the seven most important partners – Germany, Slovakia, Austria, the United Kingdom, Poland, France and Italy.²⁾ Index of ratio of real imports of goods to real GDP.³⁾ Weighted average of imports of goods of the main partners.

Source: CNB, CZSO, Eurostat. Calculations of the MoF.

Table 3.4.4: Decomposition of Exports of Goods – quarterly*seasonally adjusted*

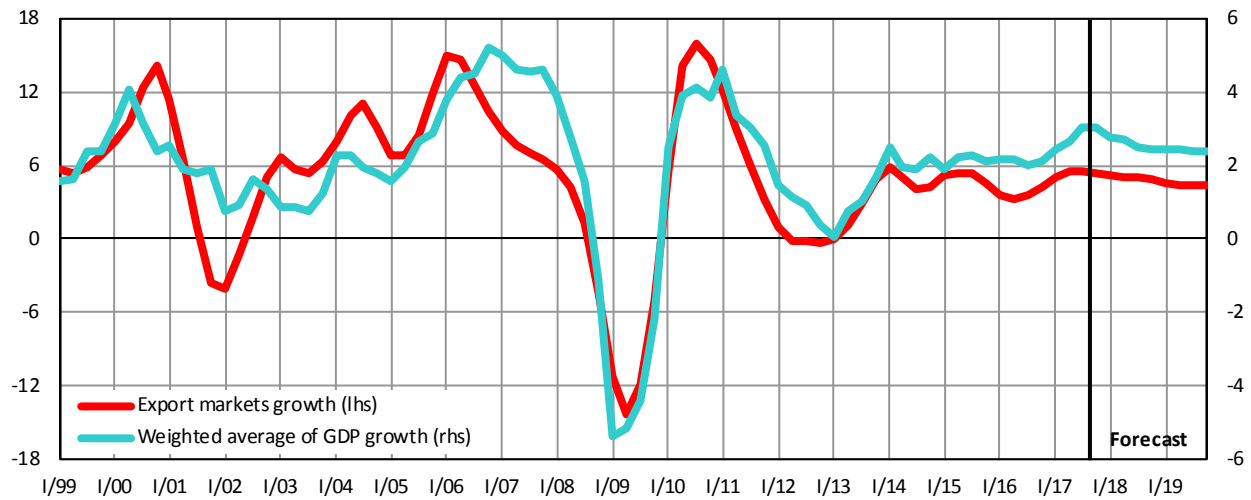
		2017				2018			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		<i>Estimate</i>				<i>Forecast</i>			
GDP ¹⁾	<i>average of 2010=100</i>	114.0	114.8	115.7	116	117	118	119	119
	<i>growth in %</i>	2.5	2.6	3.1	3.0	2.7	2.7	2.5	2.4
Import intensity ²⁾	<i>average of 2010=100</i>	114.0	114.8	115.0	116	117	117	118	119
	<i>growth in %</i>	2.5	2.9	2.5	2.3	2.3	2.3	2.5	2.3
Export markets ³⁾	<i>average of 2010=100</i>	130.0	131.8	133.1	135	137	138	140	141
	<i>growth in %</i>	5.0	5.6	5.6	5.4	5.1	5.0	5.1	4.8
Export performance	<i>average of 2010=100</i>	111.6	114.6	111.3	110	112	115	112	111
	<i>growth in %</i>	-0.9	2.8	1.9	1.1	0.5	0.5	0.5	0.5
Real exports	<i>average of 2010=100</i>	145.0	151.1	148.2	149	153	159	156	157
	<i>growth in %</i>	4.0	8.5	7.5	6.6	5.7	5.6	5.6	5.3
1 / NEER	<i>average of 2010=100</i>	107.4	105.3	102.2	101	100	100	99	99
	<i>growth in %</i>	0.5	-1.5	-4.3	-6.0	-6.9	-5.5	-3.0	-1.8
Prices on foreign markets	<i>average of 2010=100</i>	99.4	99.5	100.1	101	102	101	102	103
	<i>growth in %</i>	1.1	1.7	2.0	2.6	2.2	1.8	1.8	1.8
Exports deflator	<i>average of 2010=100</i>	106.8	104.7	102.4	102	102	101	101	102
	<i>growth in %</i>	1.6	0.2	-2.3	-3.5	-4.9	-3.8	-1.3	-0.1
Nominal exports	<i>average of 2010=100</i>	154.9	158.2	151.7	151	156	161	158	159
	<i>growth in %</i>	5.6	8.7	5.0	2.8	0.5	1.6	4.2	5.3

See notes to Table 3.4.3.

Source: CNB, CZSO, Eurostat. Calculations of the MoF.

Graph 3.4.5: GDP and Imports of Goods in Main Partner Countries

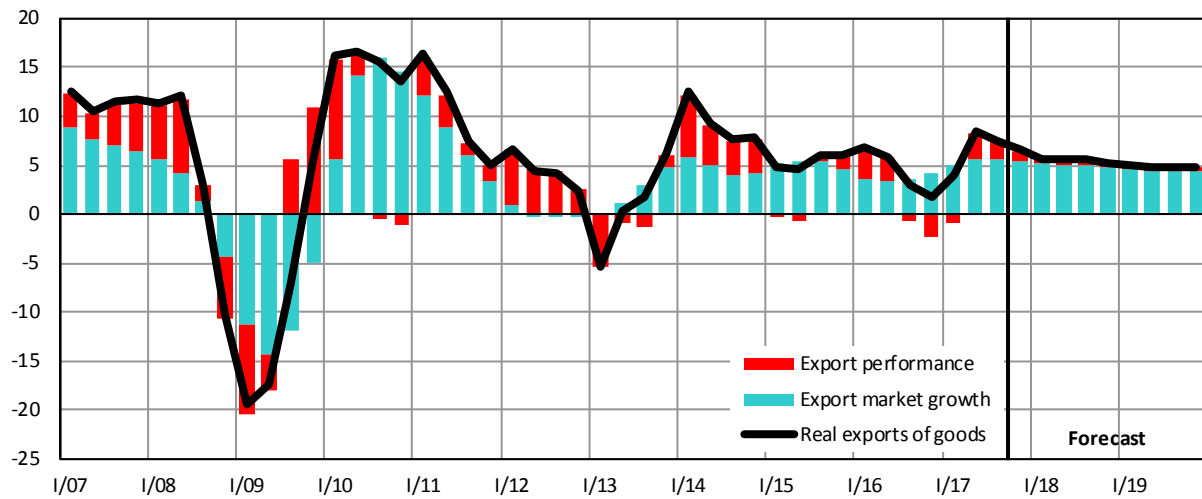
YoY growth rate, in %, seasonally adjusted



Source: Eurostat. Calculations of the MoF.

Graph 3.4.6: Real Exports of Goods

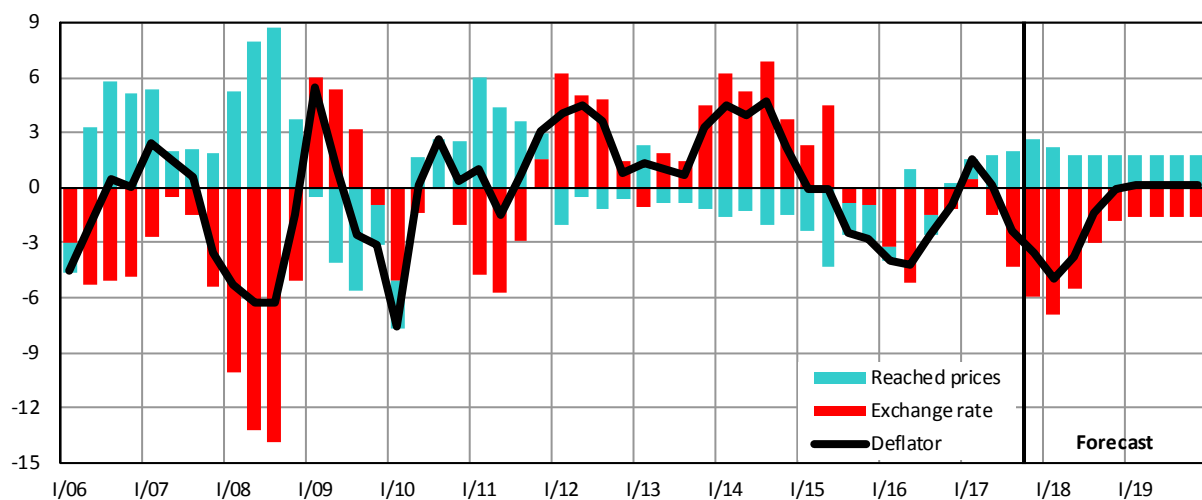
decomposition of YoY growth, in %, seasonally adjusted



Source: CZSO, Eurostat. Calculations of the MoF.

Graph 3.4.7: Deflator of Exports of Goods

decomposition of YoY growth, in %



Source: CNB, CZSO. Calculations of the MoF.

3.5 International Comparisons

Comparisons for the period up to and including 2016 are based on Eurostat statistics. Since 2017, our own calculations on the basis of real exchange rates have been used.

In 2016, GDP per capita in **current purchasing power parity** increased in most of the monitored countries, though in that year a slight decrease in both absolute and relative terms compared to EA19 was recorded in Greece and Hungary. The main reason for the decline in GDP per capita in Hungary was weakening of the purchasing power parity HUF/PPS by 4%, while in the case of Greece it was mainly due to a decline in economic performance. In the Czech Republic the purchasing power parity was 17.66 CZK/PPS compared to the EU28 and 17.27 CZK/EUR compared to the EA19. The economic level was approx. 25,600 PPS, corresponding to 82% of the economic level in the EA19. The relative economic level of the Czech Republic should increase gradually to 86% of the EA19 average in 2019, thanks to the continued economic growth.

GDP per capita converted by the current **exchange rate** was approx. 16,700 EUR in the CR in 2016, i.e. 53% of the EA19 level. Higher economic growth and the exchange rate appreciation will result in a gradual increase in the relative level to 59% of the EA19 average in 2019.

As far as the comparison of price levels is concerned, the **comparative price level of GDP** in the Czech Republic slightly rose again in 2016, reaching 64% of the EA19 average. In the coming years, the comparative price level of GDP should increase gradually to 69% in 2019. However, this increase should not jeopardize the competitiveness of the Czech economy.

Through the decomposition⁹ of GDP per capita into individual components (labour productivity, labour market component and demographic component) it is possible to determine in detail the sources of economic growth. The results of the analysis are summarised in Graphs 3.5.5 and 3.5.6.

Labour productivity measured as a ratio of GDP to the number of hours worked has been increasing in the long run in the monitored countries; however, its level is still relatively low compared to the EA19 average. Although the economic recession slowed down labour productivity growth, its absolute level did not decrease in any of the monitored countries in 2008–2016, with the exception of Greece. In the given period, however, a decrease in the relative level of labour productivity compared to the EA19 average was also seen, in addition to Greece, in Slovenia and Portugal, whereas the relative levels increased approximately by 8 pp in Poland and Latvia. Given the higher growth rate of hours worked compared to the growth rate of GDP in current purchasing power parity, labour productivity in the Czech Republic decreased by 1.2% in 2016 reaching 66% of the EA19 average.

In the case of the **labour market component**, which gives the number of hours worked per working-age person, there is the opposite situation. In 2016, the relative level of the labour market component exceeded the average of the EA19 countries in all states except Slovakia; in Estonia, Lithuania, Latvia, the Czech Republic and Poland the difference was more than 20 pp. In 2008–2016, the absolute level of the labour market component dropped in Greece, Latvia, Portugal, Estonia, Slovenia and Hungary, with Greece recording a 14% fall in the mentioned years as a result of a 19% drop in hours worked.

The share of the working-age population, captured by the **demographic component**, reached its peak in most monitored countries during the first decade of the 21st century and is now decreasing due to population ageing. In 2008–2016, the sharpest decrease of 5.1 pp was recorded in the Czech Republic. Compared to the EA19 average, however, the demographic component is still higher in all monitored countries except Latvia and Poland; in Slovakia it exceeded the EA19 average by 9 pp in 2016.

⁹ GDP per capita can be written as follows:

$$\begin{aligned}
 \text{GDP per capita} &= \frac{\text{GDP}}{\text{number of inhabit.}} = \\
 &= \frac{\text{GDP}}{\text{no. of hours worked}} * \frac{\text{no. of hours worked}}{\text{population aged 15–64}} * \frac{\text{population aged 15–64}}{\text{no. of inhabit.}} = \\
 &= \text{labour productivity} * \text{labour market component} * \text{demographic component}
 \end{aligned}$$

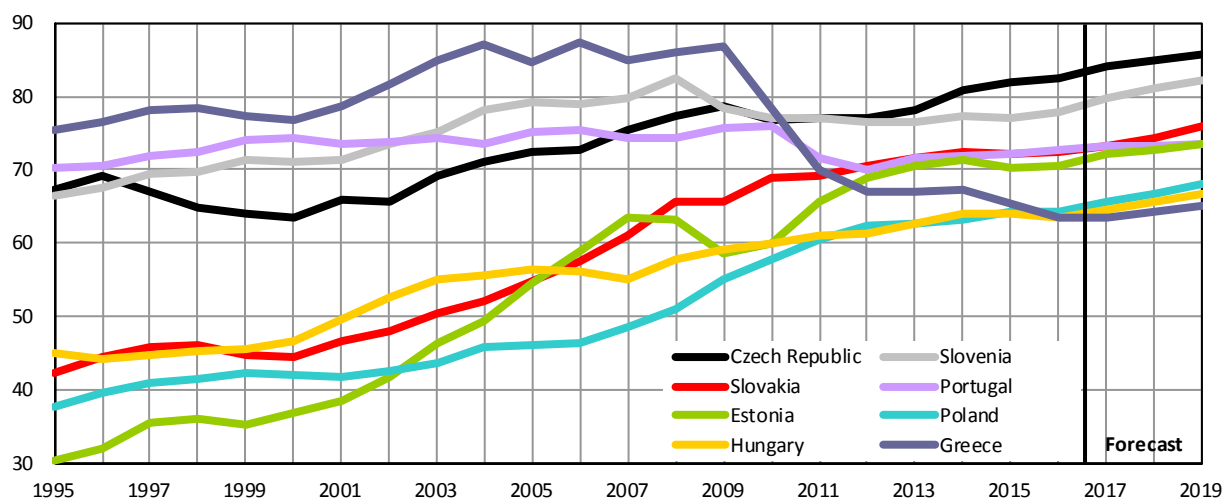
Table 3.5.1: GDP per Capita – Using Current Purchasing Power Parities

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
									<i>Estimate</i>	<i>Forecast</i>	<i>Forecast</i>
Spain	<i>PPS</i>	24 400	24 200	24 200	24 000	24 900	26 300	26 700	27 800	29 000	30 000
	<i>EA19=100</i>	89	86	85	84	84	85	86	87	87	88
Czech Republic	<i>PPS</i>	21 100	21 700	22 000	22 400	23 800	25 300	25 600	26 900	28 200	29 300
	<i>EA19=100</i>	77	77	77	78	81	82	82	84	85	86
Slovenia	<i>PPS</i>	21 200	21 700	21 800	21 900	22 700	23 800	24 100	25 500	26 900	28 200
	<i>EA19=100</i>	77	77	77	76	77	77	78	80	81	82
Lithuania	<i>PPS</i>	15 400	17 200	18 600	19 600	20 800	21 700	22 000	23 400	24 800	26 200
	<i>EA19=100</i>	56	61	65	68	70	70	71	73	75	77
Slovakia	<i>PPS</i>	19 000	19 500	20 100	20 500	21 300	22 300	22 400	23 400	24 700	26 000
	<i>EA19=100</i>	69	69	71	72	72	72	72	73	74	76
Portugal	<i>PPS</i>	20 900	20 200	20 000	20 500	21 200	22 300	22 500	23 400	24 300	25 200
	<i>EA19=100</i>	76	72	70	72	72	72	73	73	73	74
Estonia	<i>PPS</i>	16 500	18 500	19 600	20 200	21 000	21 700	21 900	23 000	24 100	25 200
	<i>EA19=100</i>	60	66	69	70	71	70	71	72	73	74
Poland	<i>PPS</i>	15 900	17 000	17 800	17 900	18 600	19 800	19 900	21 000	22 100	23 200
	<i>EA19=100</i>	58	60	62	63	63	64	64	66	67	68
Hungary	<i>PPS</i>	16 500	17 200	17 500	18 000	18 800	19 800	19 700	20 700	21 800	22 900
	<i>EA19=100</i>	60	61	61	63	64	64	63	65	66	67
Greece	<i>PPS</i>	21 500	19 700	19 100	19 200	19 800	20 200	19 700	20 300	21 300	22 300
	<i>EA19=100</i>	78	70	67	67	67	65	63	64	64	65
Latvia	<i>PPS</i>	13 400	14 900	16 100	16 700	17 600	18 500	18 800	20 000	21 300	22 500
	<i>EA19=100</i>	49	53	56	58	60	60	61	63	64	66
Croatia	<i>PPS</i>	15 100	15 600	16 000	16 000	16 300	17 200	17 500	18 400	19 300	20 200
	<i>EA19=100</i>	55	55	56	56	55	56	56	57	58	59

Source: AMECO, CZSO, Eurostat. Calculations of the MoF.

Graph 3.5.1: GDP per Capita – Using Current Purchasing Power Parities

EA19=100



Source: AMECO, CZSO, Eurostat. Calculations of the MoF.

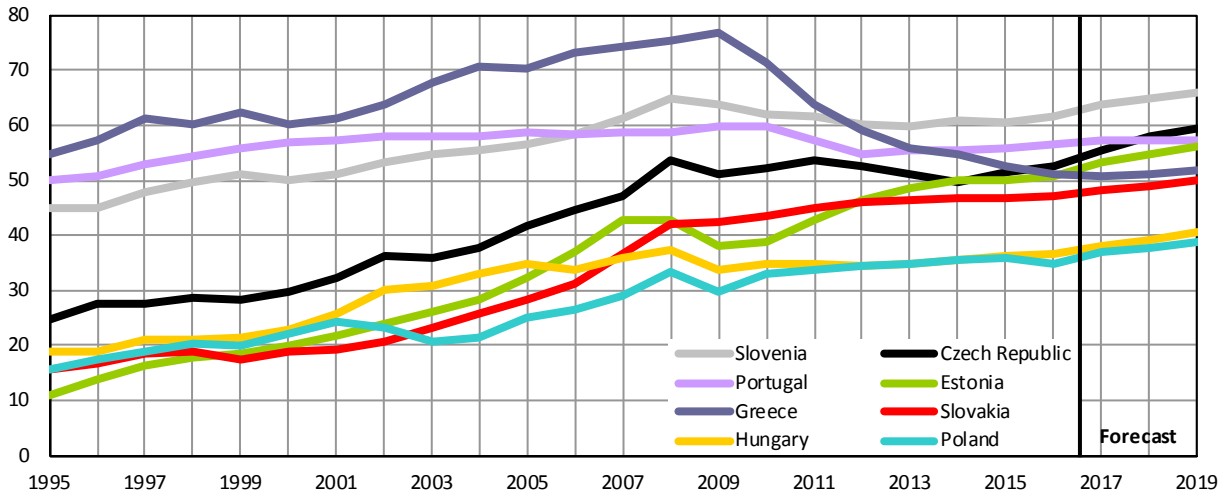
Table 3.5.2: GDP per Capita – Using Current Exchange Rates

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
									<i>Estimate</i>	<i>Forecast</i>	<i>Forecast</i>
Spain	<i>EUR</i>	23 200	22 900	22 200	22 000	22 300	23 300	24 100	25 000	26 100	26 900
	<i>EA19=100</i>	81	78	76	75	74	75	76	76	77	77
	<i>Comparative price level EA19=100</i>	92	92	90	89	88	88	88	88	88	88
Slovenia	<i>EUR</i>	17 700	18 000	17 500	17 600	18 200	18 800	19 600	20 800	22 000	23 100
	<i>EA19=100</i>	62	62	60	60	61	61	62	64	65	66
	<i>Comparative price level EA19=100</i>	80	80	78	78	79	79	79	80	80	80
Czech Republic	<i>EUR</i>	14 900	15 600	15 400	15 000	14 900	16 000	16 700	18 100	19 700	20 800
	<i>EA19=100</i>	52	54	53	51	50	52	53	55	58	59
	<i>Comparative price level EA19=100</i>	68	70	68	65	61	63	64	66	68	69
Portugal	<i>EUR</i>	17 000	16 700	16 000	16 300	16 600	17 400	17 900	18 700	19 400	20 000
	<i>EA19=100</i>	60	57	55	55	55	56	57	57	57	57
	<i>Comparative price level EA19=100</i>	79	80	78	77	77	78	78	78	78	78
Estonia	<i>EUR</i>	11 000	12 500	13 500	14 300	15 000	15 500	16 000	17 400	18 600	19 700
	<i>EA19=100</i>	39	43	46	49	50	50	51	53	55	56
	<i>Comparative price level EA19=100</i>	65	66	67	69	70	71	72	74	75	76
Greece	<i>EUR</i>	20 300	18 600	17 300	16 500	16 400	16 300	16 200	16 600	17 300	18 100
	<i>EA19=100</i>	71	64	59	56	55	53	51	51	51	52
	<i>Comparative price level EA19=100</i>	91	91	88	84	81	80	80	80	80	80
Slovakia	<i>EUR</i>	12 400	13 100	13 400	13 700	14 000	14 600	14 900	15 700	16 600	17 500
	<i>EA19=100</i>	44	45	46	47	47	47	47	48	49	50
	<i>Comparative price level EA19=100</i>	63	65	65	65	65	65	65	66	66	66
Lithuania	<i>EUR</i>	9 000	10 300	11 200	11 800	12 500	12 900	13 500	14 700	16 000	17 100
	<i>EA19=100</i>	32	35	38	40	42	42	43	45	47	49
	<i>Comparative price level EA19=100</i>	57	58	58	59	59	59	60	61	63	64
Latvia	<i>EUR</i>	8 500	9 800	10 800	11 400	11 900	12 300	12 700	13 700	14 800	15 900
	<i>EA19=100</i>	30	34	37	39	40	40	40	42	44	45
	<i>Comparative price level EA19=100</i>	61	64	66	66	66	66	66	67	68	69
Hungary	<i>EUR</i>	9 900	10 200	10 000	10 300	10 700	11 300	11 600	12 500	13 300	14 200
	<i>EA19=100</i>	35	35	34	35	36	36	37	38	39	40
	<i>Comparative price level EA19=100</i>	58	57	56	56	56	57	58	59	60	61
Poland	<i>EUR</i>	9 400	9 900	10 100	10 300	10 700	11 200	11 100	12 100	12 800	13 500
	<i>EA19=100</i>	33	34	35	35	36	36	35	37	38	39
	<i>Comparative price level EA19=100</i>	57	56	55	56	56	56	54	56	56	57
Croatia	<i>EUR</i>	10 500	10 500	10 300	10 300	10 200	10 600	11 100	11 800	12 400	13 100
	<i>EA19=100</i>	37	36	35	35	34	34	35	36	37	37
	<i>Comparative price level EA19=100</i>	67	65	63	62	62	61	62	63	63	63

Source: AMECO, CZSO, Eurostat. Calculations of the MoF.

Graph 3.5.2: GDP per Capita – Using Current Exchange Rates

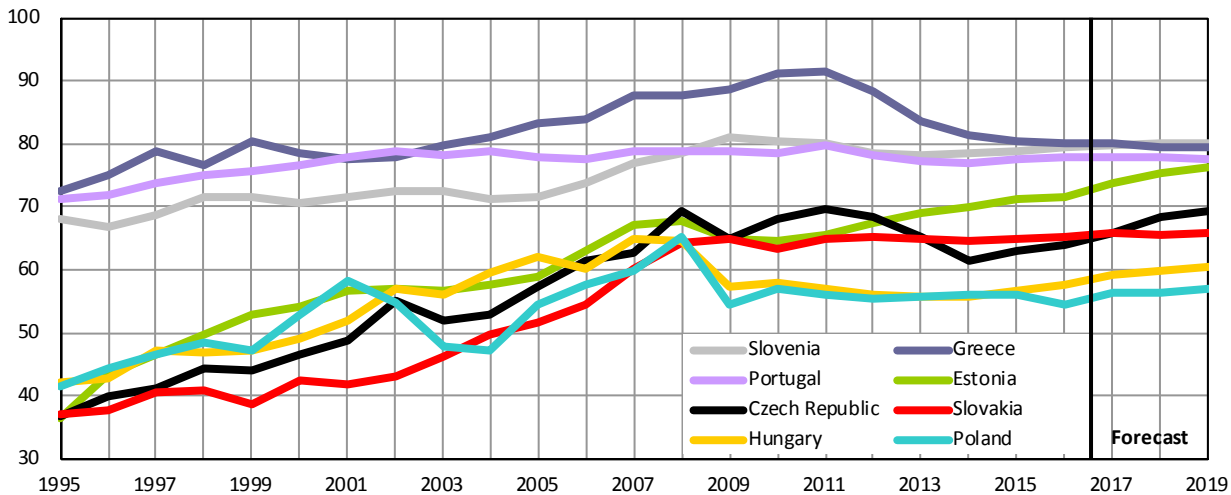
EA19=100



Source: AMECO, CZSO, Eurostat. Calculations of the MoF.

Graph 3.5.3: Comparative Price Level of GDP per Capita

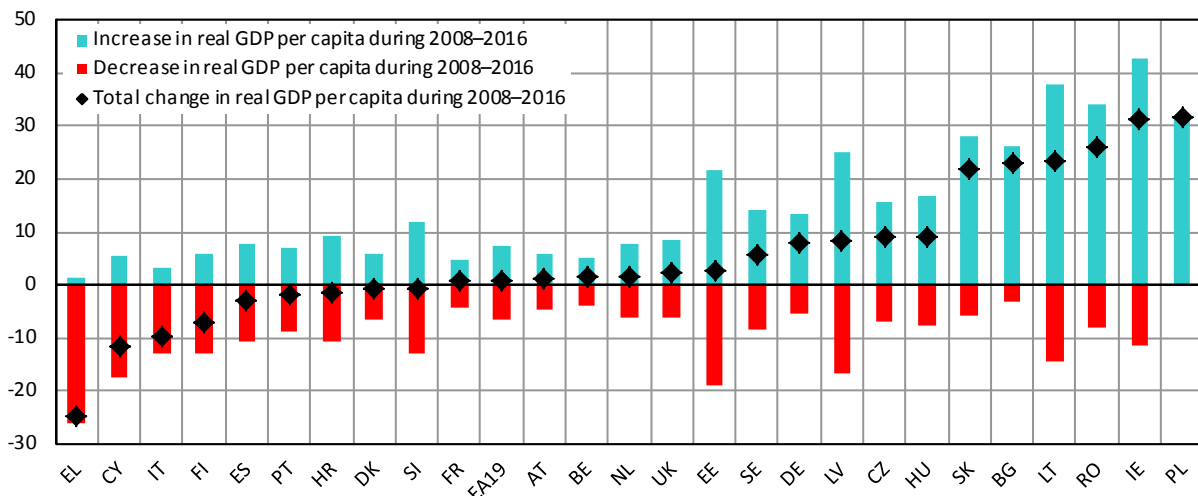
EA19=100



Source: AMECO, CZSO, Eurostat. Calculations of the MoF.

Graph 3.5.4: Change in Real GDP per Capita during 2008–2016

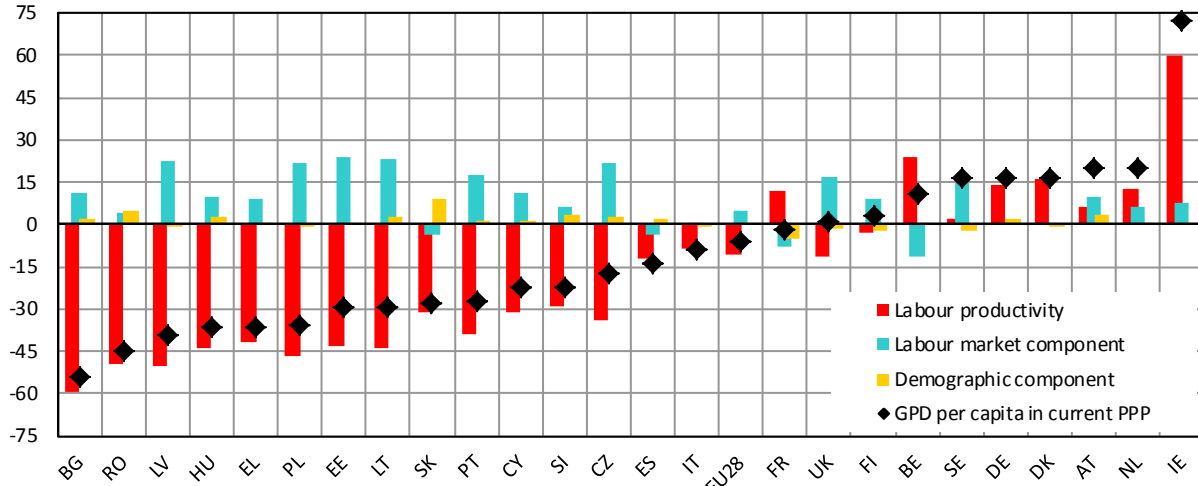
growth in %



Source: Eurostat. Calculations of the MoF.

Graph 3.5.5: Current PPP Adjusted GDP per Capita Level Relative to the EA19 Average in 2016

in percentage points

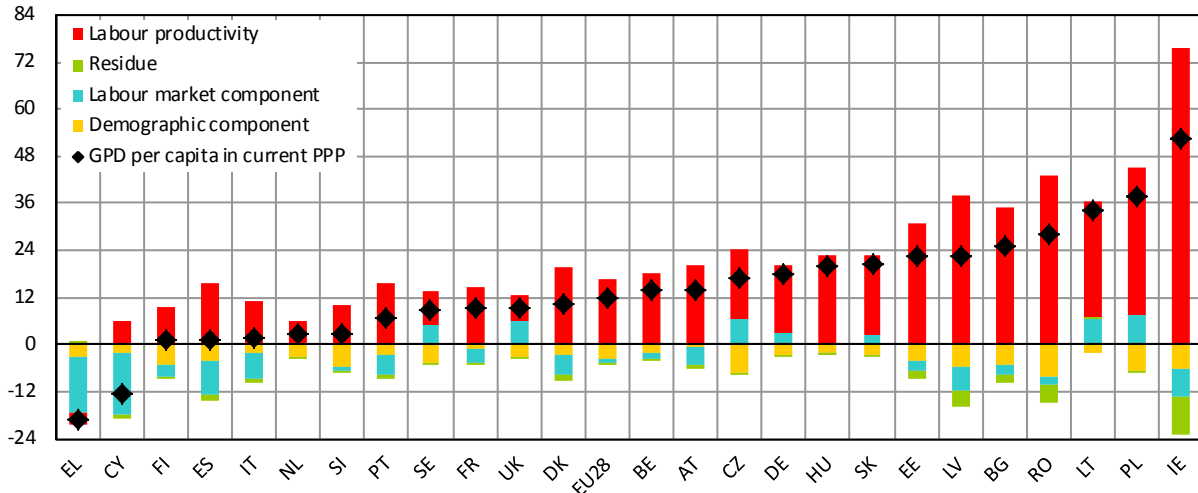


Note: The labour market component is defined as the ratio of total hours worked to working-age (15–64) population, the demographic component is the ratio of the working-age to total population.

Source: Eurostat. Calculations of the MoF.

Graph 3.5.6: Change in Current PPP Adjusted GDP per Capita during 2008–2016

growth in %



Source: Eurostat. Calculations of the MoF.

4 Monitoring of Other Institutions' Forecasts

The Ministry of Finance of the Czech Republic monitors macroeconomic forecasts of other institutions engaged in forecasting the Czech economy. Publicly available forecasts of 12 institutions are monitored. Out of these, 7 institutions are domestic (CNB, Ministry of Labour and Social Affairs, domestic banks and investment companies) and the others are foreign (European Commission, Organisation for Economic Co-operation and Development, IMF, etc.) The forecasts are summarised in Table 4.1.

Table 4.1: Summary of the Monitored Forecasts

		January 2018			January 2018
		min.	max.	average	MoF forecast
Gross domestic product (2018)	growth in %, const.pr.	2.6	3.6	3.2	3.4
Gross domestic product (2019)	growth in %, const.pr.	2.5	3.2	2.9	2.6
Average inflation rate (2018)	%	1.8	2.6	2.3	2.6
Average inflation rate (2019)	%	1.7	2.1	1.9	2.1
Average monthly wage (2018)	growth in %	6.5	8.2	7.1	7.1
Average monthly wage (2019)	growth in %	3.5	6.2	4.8	4.7
Current account / GDP (2018)	%	0.1	1.0	0.7	0.1
Current account / GDP (2019)	%	0.4	1.0	0.7	0.1

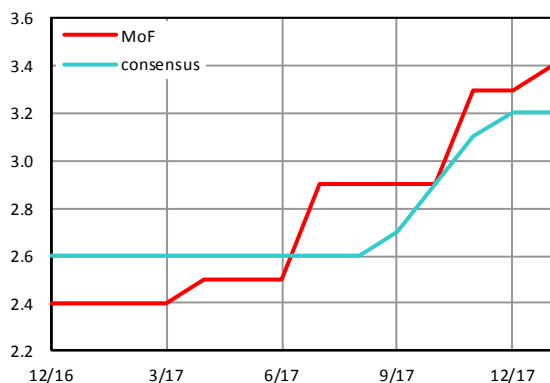
Source: Forecasts of individual institutions. Calculations of the MoF.

According to the average of monitored institutions' estimates, real GDP growth should reach 3.2% in 2018 and then slow slightly down to 2.9% in 2019. The average inflation rate should be 2.3% in 2018, and subsequently slow down to 1.9%. The dynamic growth of the average wage by 7.1% in 2018 should then significantly decelerate, and the average wage should increase only by 4.8% in 2019. The surplus on the current account of the balance payments should be around 0.7% of GDP in 2018 and 2019.

In the case of the estimate of development of real GDP, the MoF's forecast expects a slightly higher growth in 2018 and, conversely, a slightly lower growth in 2019. With regard to the dynamic growth in crude oil prices at the end of 2017, the MoF believes that the price level growth rate should be slightly higher in both monitored years. Regarding the average wage development, the MoF's forecast is in line with the estimates of the monitored institutions. The current account of the balance of payments should be more or less balanced in the MoF's view.

Graph 4.1: Forecasts for Real GDP Growth in 2018

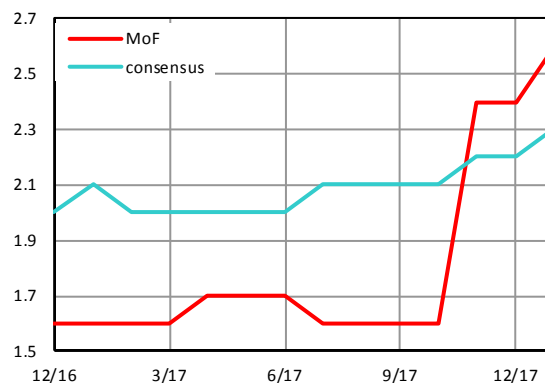
in %; the month, in which the monitoring was conducted on the horizontal axis



Source: Forecasts of individual institutions. Calculations of the MoF.

Graph 4.2: Forecasts for Average Inflation Rate in 2018

in %; the month, in which the monitoring was conducted on the horizontal axis



Source: Forecasts of individual institutions. Calculations of the MoF.



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