

Economic Review

4/2015



BULGARIAN
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BANK

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The BNB quarterly *Economic Review* presents information and analysis of balance of payments dynamics, monetary and credit aggregates, their link with the development of the real economy, and their bearing on price stability. Processes and trends in the external environment are also analysed since the Bulgarian economy is directly influenced by them. This publication contains also quantitative assessments of the development in major macroeconomic indicators in the short run: inflation, economic growth, exports, imports, trade balance and BoP current account, foreign direct investment, monetary and credit aggregate dynamics.

The *Economic Review*, issue 4/2015 was presented to the BNB Governing Council at its 10 February 2016 meeting. It employs statistical data published up to 27 January 2016.

The estimates and projections published in this issue should not be regarded as advice or recommendation. Exclusively the information user is liable for any consequences thereof.

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Abbreviations

ABSPP	Asset-Backed Securities Purchase Programme
APP	Asset Purchase Programme
APRC	Annual percentage rate of charge
BIR	Base interest rate
BOP	Balance of Payments
BTC	Bulgarian Telecommunications Company
b.p.	basis points
CBPP3	Covered Bond Purchase Programme
CEECs	Central and East European countries
CEFTA	Central European Free Trade Association
CFP	Consolidated Fiscal Programme
CIF	Cost, insurance, freight
CNY	Chinese Yuan
CPI	Consumer Price Index
DXY	an index measuring the exchange rate of the US dollar against the basket of six major currencies
EA	Employment Agency
EC	European Commission
ECB	European Central Bank
EIB	European Investment Bank
EMBI	Emerging Markets Bond Index
EONIA	Euro OverNight Index Average
EU	European Union
EURIBOR	Euro Interbank Offered Rate
EWRC	Energy and Water Regulatory Commission
FDI	Foreign Direct Investment
FOB	Free on Board
FRS	Federal Reserve System
GDP	Gross Domestic Product
GFMS	Gold Fields Mineral Services
HICP	Harmonized Index of Consumer Prices
HRW	Hard Red Wheat
HUF	Hungarian forint
IEA	International Energy Agency
IMF	International Monetary Fund
ISM	Institute for Supply Management
LEONIA	LEv OverNight Index Average
LIBOR	London Interbank Offered Rate
M1	narrow money
M2	M1 and quasi-money
M3	broad money
MF	Ministry of Finance
MFIs	Monetary Financial Institutions
mt	metric tons
NPISHs	Non-profit institutions serving households
NSI	National Statistical Institute
OECD	Organization for Economic Cooperation and Development
OPEC	Organization of Petroleum Exporting Countries
OTC	over-the-counter
PBoC	People's Bank of China
PMI	Purchasing Managers' Index
p.p.	percentage points
PPP	Purchasing Power Parity
PSPP	Public Sector Purchase Programme
RON	Romanian new leu
SITC	Standard International Trade Classification
WTI	West Texas Intermediate

Summary

In the fourth quarter of 2015 the global economic indicator declined, signalling an ongoing but slower improvement in global economic activity on the previous quarter. Divergences continued to be observed across geographic regions and the level of economic indicators pointed to a moderate increase of euro area economic growth and weaker growth in the US and in developing economies. Global inflation declined further due to the decrease in the price indices of both developed and developing economies, underpinned by the continuous fall in international commodity prices and that of crude oil in particular.

The divergence between the monetary policy cycles of the ECB and the Federal Reserve intensified at the end of 2015 when, on 16 December, the US central bank decided to increase the target range for the federal funds rate by 25 basis points from 0–0.25 per cent to 0.25–0.50 per cent. This decision was underpinned by the significantly improved labour market conditions in the USA and the expectations of the members of the Federal Open Market Committee (FOMC) for reaching the 2 per cent inflation objective over the medium term. The low inflation outlook in the euro area was the main reason behind the decision of the Governing Council of the ECB, taken on 3 December, to decrease the interest rate on the deposit facility by 10 basis points to a level of -0.30 per cent and to broaden the scope and duration of the non-standard monetary policy measures.

The risks to global economic growth in the first half of 2016 are mainly related to the possibility of a more pronounced slowdown in some developing economies' growth, as well as to the uncertainty over the effects stemming from the gradual monetary policy tightening in the U.S. If the downward trend in international crude oil prices continues, this would create risks of lower than currently expected global inflation. In the light of these risks the external environment will remain a source of uncertainty to the development of the Bulgarian economy in the first half of 2016.

Between January and November 2015 the positive current and capital account balance posted an increase from the same period of 2014 mainly due to the capital account surplus growth related to the higher capital transfers under EU programmes. The increase in nominal exports of goods at a rate higher than that of imports of goods contributed to a contraction of the trade balance deficit on an annual basis between January and November 2015. The impact of the lower trade balance deficit on the current account balance, however, was offset by the increase in the primary income account deficit. In the first half of 2016 the capital account surplus is expected to decline, leading to a decrease in the current and capital account surplus.

In 2015 deposits attracted from the non-government sector in the banking system followed an upward trend despite the decreasing rates on deposits. Due to the weak lending in Bulgaria and lack of investment alternatives, banks had very limited opportunities for realisation of the increased resources and maintained high liquidity on their accounts with the central bank. For the first two quarters of 2016 we expect a retention of the high household propensity to save and a continuous growth in funds attracted in the banking system. Growth in credit to the private sector is projected to increase slowly in line with expectations of a gradual economic activity recovery. Deposit and lending rates are expected to sustain their downward dynamics over the first half of 2016.

In the third quarter of 2015 the quarter-on-quarter growth of real GDP accelerated relative to the previous quarter to reach 0.7 per cent mainly due to private consumption. Gross fixed capital formation also had a low positive contribution to this growth. Government consumption declined *vis-à-vis*

the previous quarter. Net exports recorded a negative contribution to this growth as the quarterly decrease in goods and services exports outstripped that in goods and services imports.

Short-term economic indicators for the fourth quarter of 2015 provide positive indications about the economic developments. The anticipated continuous recovery of demand for goods and services, retained low oil prices, positive sentiment of households and firms, together with industrial production growth amid high capacity utilisation are expected to create conditions for boosting employment, income and companies' investment activities. Still, the high uncertainty is likely to continue to contribute for more cautious investment and expenditure firm policy. Respectively, private consumption is projected to grow quarter on quarter and private investment to remain low over the first half of 2016. Government investment is expected to decline on a quarterly basis. In real terms, exports of goods and services are anticipated to increase at a slightly higher pace than imports of goods and services. The described dynamics of the final use components indicates that in the first and second quarters of 2016 quarterly GDP growth is expected to moderate slightly relative to the corresponding quarters of 2015.

Annual inflation was negative in 2015 and amounted to -0.9 per cent at the end of the year. This reflected mainly the decline in international oil prices which contributed to the significant drop in transport fuel prices, as well as in some administratively controlled prices affected indirectly by fuel prices. The economic environment in Bulgaria did not exert essential upward pressure on end-user prices due to the weak increase in domestic demand and lower production costs of firms related to price falls in intermediate consumption goods and lower nominal unit labour costs.

In the first half of 2016 inflation is expected to remain negative, but tending to gradually decrease its rate of decline. It will be driven mostly by the projected slower declines in energy product prices and price rises reflecting higher road fees and tobacco excise taxes as of early 2016.

At its meeting of 19 November 2015 the BNB Governing Council decided to publish the BNB forecast for key macroeconomic indicators twice a year. To this end, this issue of the *Economic Review* is the first to include a Section on the annual BNB forecast for the key macroeconomic indicators until 2017, prepared as of 15 December 2015.

The forecast foresees economic growth to slow down to 2.1 per cent in 2016, with lower government investment acting as a specific factor for this year. In 2017 we expect the real GDP growth to accelerate again to 2.8 per cent, with the projected stabilisation of global commodity prices in 2016, deflationary trends in consumer prices in Bulgaria would be discontinued, and inflation would start to accelerate slowly in 2017, provided that global price rise assumptions materialise.

The presented main forecast is an economically justified most probable (from the point of view of the team preparing the projection) trajectory of future economic developments, with this trajectory being surrounded by a number of other possible states of the economy which may materialise with a certain probability. These circumstances entail as a good practice in preparing and presenting forecast, the main forecast to be accompanied by the relevant analysis and presentation of attendant risks. Based on available information on external environment developments and the relevant domestic factors we assess the risks to the outlook for economic activity as balanced. There are risks for inflation to be lower than projected, if international price dynamics is below our expectations.

1. External Environment

In the fourth quarter of 2015 the global economic indicator declined, signalling an ongoing but slower improvement in global economic activity on the previous quarter. Divergences continued to be observed across geographic regions and the level of economic indicators pointed to a moderate increase of euro area economic growth and weaker growth in the USA and in developing economies. Inflation continued to decline on a global scale, mainly due to the continued fall in international prices of the main commodity groups and oil prices in particular.

The divergence between the monetary policy cycles of the ECB and the Federal Reserve intensified at the close of 2015 when the US central bank by its decision of 16 December increased the target range for the federal funds rate by 25 basis points. This decision was underpinned by the significantly improved labour market conditions in the USA and the expectations of Federal Open Market Committee members for achieving the 2 per cent inflation objective over the medium term. The low inflation outlook in the euro area was the main reason behind the additional liquidity-providing measures adopted by the ECB.

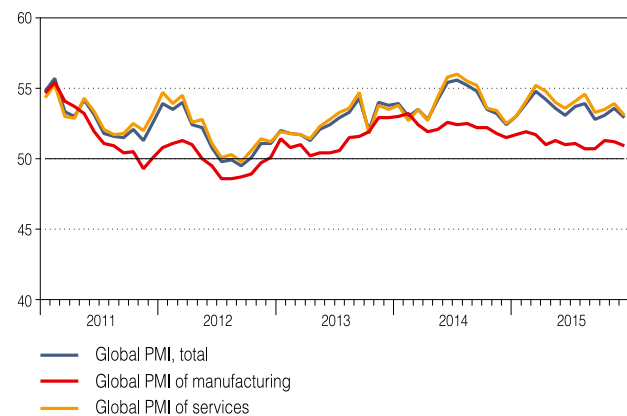
Current Business Situation

In the fourth quarter of 2015 the global economic indicator (global PMI) declined compared with the previous quarter's average level mainly due to the services index dynamics. The downward trend observed since early 2014 continued, although in the fourth quarter the average value of the PMI index of manufacturing was higher than that in the third quarter. In the fourth quarter the PMI index for developed economies, such as the euro area and the USA, remained significantly above the neutral limit of 50, while the index for developing economies remained below that limit.

Divergent trends in economic activity in both developed and developing economies were also reflected in world trade growth across regions. The major trend in world trade tended downwards, but while the US and the EU had a positive contribution to world trade dynamics, external trade of developing countries decreased.

Global inflation fell on an annual basis reaching a level of 1.3 per cent in November. The decrease of global inflation continued to be driven mainly by the lower prices of major commodity groups (oil prices in particular) in international markets. A regional breakdown shows a decrease in inflation observed in both developed and developing countries.

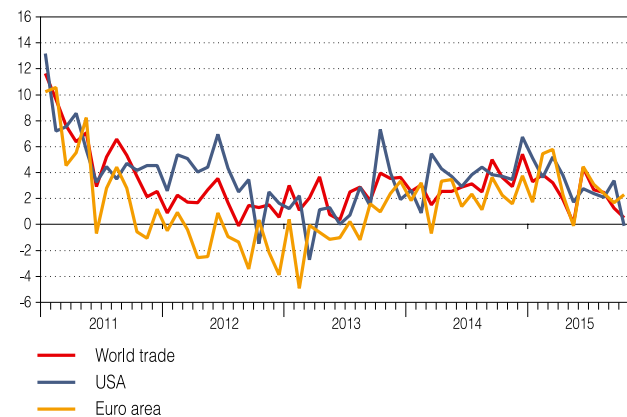
Global PMI



Source: JP Morgan.

World Trade

(annual rate of volume growth, per cent)



Source: CPB Netherlands Bureau for Economic Policy Analysis.

In January 2016, the International Monetary Fund revised downwards its forecasts for global economic growth for 2016.¹ The revision reflected mainly the expectations of lower growth in developing economies. At the same time, the economic growth forecast for Bulgaria's main trading partners from the euro area for 2016 was revised upwards. According to the IMF, risks of lower growth for the global economy mainly relate to a more sizeable contraction in growth in some developing economies; the uncertainty regarding the effects of the process of the ongoing increase in the key US interest rates; a further fall in the prices of raw materials; as well as to a possible new escalation in geopolitical terms.

The external environment remains the main source of uncertainty to the Bulgarian economic developments in the first half of 2016. However, current macroeconomic data signal favourable economic activity developments in our main trading partners in the euro area.

Euro area

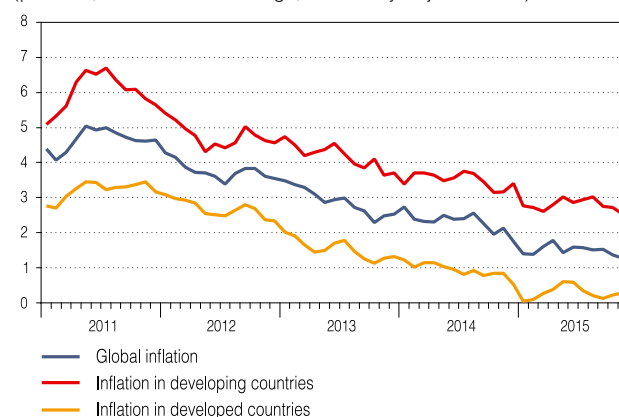
Over the third quarter of 2015 the euro area's real GDP grew 1.6 per cent on an annual basis (as in the second quarter). Economic growth accelerated to 1.7 per cent in Germany, 0.8 per cent in Italy and 3.4 per cent in Spain, while in France it remained at its level of the previous quarter of 1.1 per cent.

On a quarterly basis, euro area's real GDP growth moderated to 0.3 per cent from 0.4 per cent in the previous quarter. The economic activity slowdown was due to weaker growth in Germany, Spain and Italy – down to 0.3 per cent, 0.8 per cent, and 0.2 per cent respectively, which was partly offset by the accelerating growth in France up to 0.3 per cent on a quarterly basis. Most of GDP growth in France was driven by the positive contribution of the change in inventories (0.7 percentage points). By Member States, Germany and Spain remained the most sizeable contributors to the quarterly GDP growth of the euro area in the July–September period with 0.09 percentage points growth for both.

¹ World Economic Outlook Update, International Monetary Fund, 19 January 2016.

Inflation Measured through CPI

(per cent, annual rate of change, seasonally adjusted data)

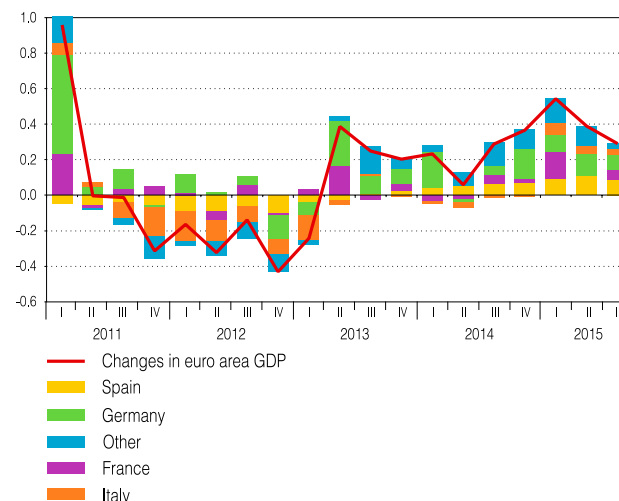


Note: The World Bank measures the change of CPI in individual groups as a weighted average of CPI changes in the countries of the group. For calculating the weights of the countries, real GDP based on purchasing power parity is used. Groups include only World Bank Member States classified by the World Bank as developing and developed countries.

Source: World Bank.

Contributions to Real GDP Growth in the Euro Area by Country (Quarterly)

(per cent; percentage points)



Source: Eurostat and BNB calculations.

By GDP component, household consumption (0.2 percentage points) and government consumption (0.1 percentage point) continued to contribute positively to the quarterly growth in euro area economic activity. In contrast to the second quarter when net exports contributed most significantly to GDP growth, between July and September net exports was the only component with negative contribution to growth (-0.3 percentage points). The contribution of total investment to euro area economic growth remained almost neutral.

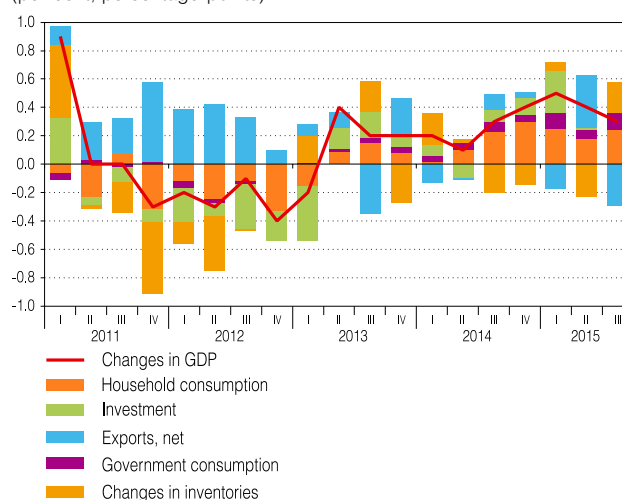
The dynamics of euro area leading economic indicators shows that GDP growth rate is likely to accelerate slightly in the fourth quarter compared with the previous one. The EC economic sentiment index rose to 106.8 in December against 105.6 in September 2015, while the consumer confidence index increased to -5.7 in December against -7.0 in September. The EC business climate indicator for the euro area, which is an indicator of the regional investment activity, also reported an increase and came to 0.41 in December from 0.34 in September. In the fourth quarter the euro area PMI indices reported an increase. In December the composite PMI index reached 54.3 against 53.6 in September and manufacturing and services PMIs increased to 53.2 and 54.2 respectively from 52.0 and 53.7 in September 2015.

In December the ECB left its forecast for GDP growth in the euro area for 2016 and 2017 broadly unchanged. The outlook for external demand was revised downwards and that for domestic demand – upwards.

Inflation in the euro area remained at very low levels, with December data pointing to a change in the HICP of 0.2 per cent on an annual basis compared with 0.1 per cent growth in the previous two months. Inflation decline continued to be driven primarily by the fall in energy prices. According to Eurostat's final data, consumer prices declined most sizeably in Cyprus (-0.6 per cent), Slovenia (-0.6 per cent) and Slovakia (-0.5 per cent), while Belgium, Malta and Austria reported the highest inflation: 1.4 per cent, 1.2 per cent and 1.1 per cent respectively.

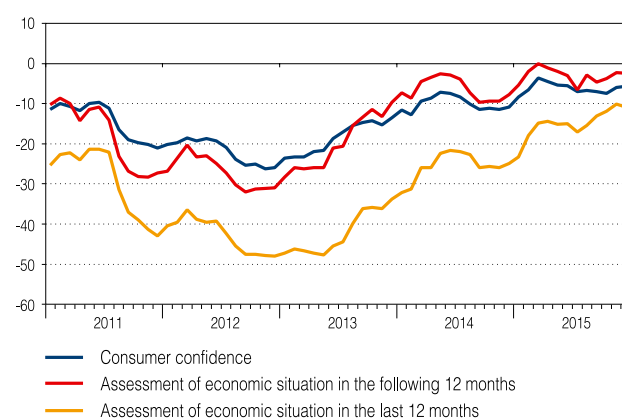
Contribution to Real GDP Growth in the Euro Area by Component (Quarterly)

(per cent; percentage points)



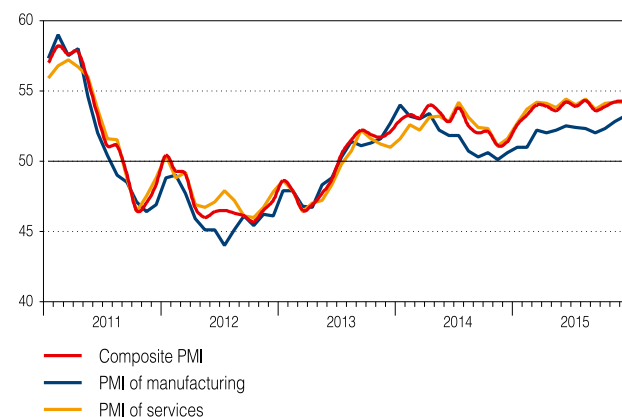
Source: Eurostat.

Euro Area Consumer Confidence Indices



Source: EC.

Manufacturing and Services PMIs



Source: Markit.

In December ECB revised downwards its euro area average annual inflation forecasts for 2016 and 2017. The revision for 2016 was by minus 0.2 percentage points and was mainly due to the expected fall in energy prices.

Euro area unemployment continued to decline at a lower pace reaching 10.5 per cent in November 2015. Over the recent months Greece and Spain continued to report the highest unemployment rates – 24.6 per cent and 21.4 per cent, with a decline observed in both countries. An increase in annual unemployment was observed in Cyprus, Austria and Latvia, where the indicator went up between 0.1 and 0.4 percentage points in November. Germany and Malta continued to report the lowest unemployment rates – 4.5 per cent and 5.1 per cent respectively. The indicator of the expected unemployment over the next twelve months included in the EC consumer confidence index showed worsening consumer expectations about labour market developments. In the fourth quarter the average value of this sub-index increased to 18.0 points from 14.4 points in the third quarter.

At its monetary policy meeting of 3 December 2015 the ECB decided to lower the deposit facility rate by 10 basis points to -0.30 per cent, with effect from 9 December 2015. Furthermore, the following decisions with regard to the non-standard monetary policy were approved: to extend the asset purchase programme (APP) and carry out monthly purchases of EUR 60 billion to be extended until the end of March 2017, or beyond, if necessary; to reinvest the principal payments on the securities purchased under the APP as they mature, for as long as necessary; to include, in the public sector purchase programme (PSPP), euro-denominated marketable debt instruments issued by regional and local governments located in the euro area; to continue to offer ample liquidity by means of the full allotment procedure in its regular refinancing operations, *i.e.* the main refinancing operations (MROs) and three-month longer-term refinancing operations (LTRO) at least until the end of 2017. According to ECB estimates, the extended APP together with the reinvestment of maturing principle papers will boost the liquidity in the

Projections of the Annual Rate of Change of Euro Area Real GDP

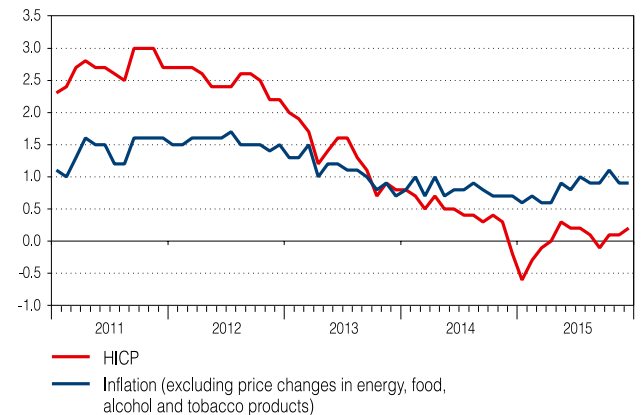
(per cent)

Institution	Publishing date	2015		2016		2017	
		last	previous	last	previous	last	previous
ECB	December 2015	1.5	1.4	1.7	1.7	1.9	1.8
EC	November 2015	1.6	1.5	1.8	1.9	1.9	-

Sources: ECB, EC.

Euro Area Inflation Rate

(per cent, change on the same period of previous year)



Source: Eurostat.

Projections of Euro Area Annual Inflation Rate

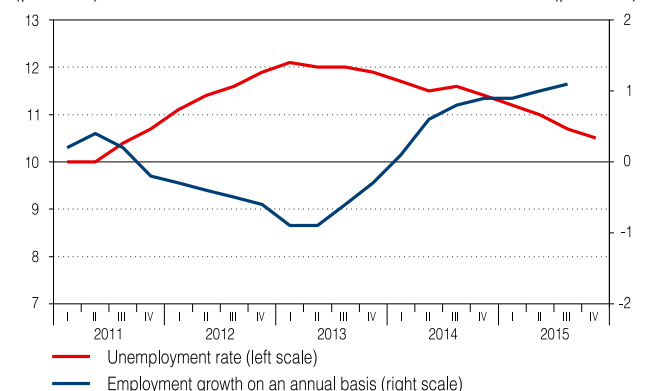
(per cent)

Institution	Publishing date	2015		2016		2017	
		last	previous	last	previous	last	previous
ECB	December 2015	0.1	0.1	1.0	1.1	1.6	1.7
EC	November 2015	0.1	0.1	1.0	1.5	1.6	-

Sources: ECB, EC.

Euro Area Unemployment Rate and Employment Growth

(per cent)



Source: Eurostat.

euro area banking system by EUR 680 billion (6.5 per cent of euro area GDP) until 2019. The size and the scope of the additional monetary policy measures announced by the ECB were less pronounced than expected by market participants. As a result, euro area shares and government bonds depreciated on 3 December, and the euro appreciated by around 3 per cent on the US dollar² and remained close to this level amid substantial daily volatility.

The monthly volume of purchases under the expanded APP of the ECB in September, October, November and December accounted for EUR 60.6, 63.7, 62.6 and 50.3 billion, which was in line with the ECB's intention to temporarily frontload purchases made before early December when financial market activity is typically lower. On 30 December the cumulative amount of the purchases under the three asset purchase programmes: PSPP, CBPP3 and ABSPP came to EUR 491.2 billion, EUR 143.3 billion and EUR 15.3 billion respectively.

In its sixth Targeted Longer-term Refinancing Operation (TLTRO) conducted on 11 December, EUR 18.3 billion was allotted to 55 participating banks (EUR 15.6 billion allotted between 88 banks in the previous operation).

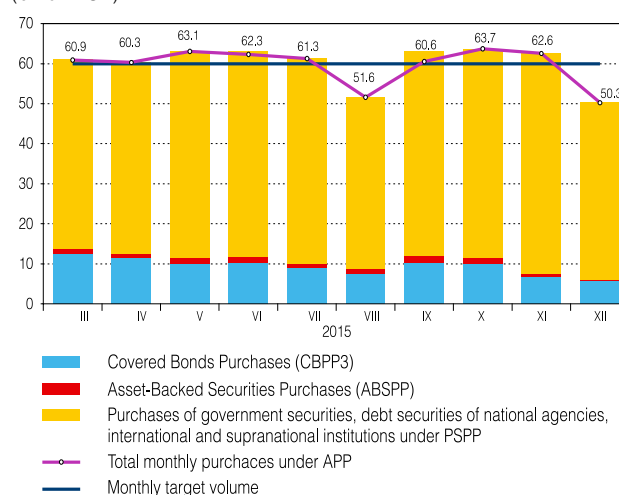
As a result of ECB operations and programmes, on 15 January 2016 the amount of excess liquidity in the euro area banking system increased to EUR 650.1 billion from EUR 467.2 billion at the end of September 2015. On 8 January 2016 the ECB balance sheet number went up 5.6 per cent on end-September 2015 and came to EUR 2.767 trillion.

Excess liquidity resulted in a further decline in EONIA which reported an average of -0.17 per cent for the 1 October 2015 – 18 January 2016 period (-0.12 per cent for the third quarter of 2015). Concurrently, the volume of overnight deposits in euro area's interbank market trade continued decreasing as their daily average value between 1 October and 18 January was EUR 11.2 billion (against EUR 16.7 billion in the third quarter of 2015).

² The national currency of the USA hereinafter referred to as the US dollar.

Monthly Securities Purchases under the Expanded APP of the ECB

(billion EUR)

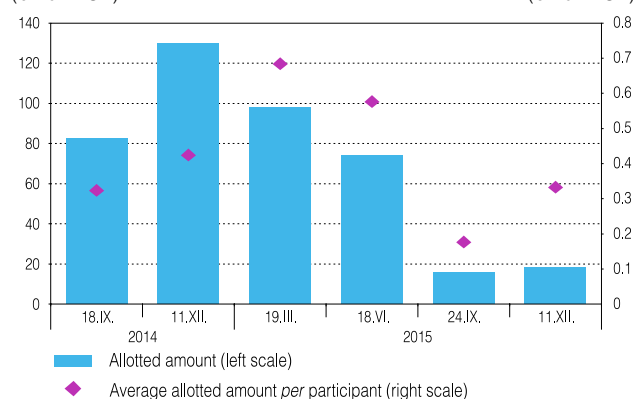


Source: ECB.

Allocation of Funds on ECB Targeted Longer-term Refinancing Operation (TLTRO)

(billion EUR)

(billion EUR)



Source: ECB.

EURIBOR interest rates on interbank market deposits continued to follow a downward trend. On 18 January 2016 one-month interest rates reached -0.22 per cent (minus 11 basis points on end-September 2015), and those with maturities of six and 12 months fell to -0.05 per cent (minus 8 basis points on end-September) and 0.05 per cent (minus 9 basis points on end-September). Given the expectations for further rises in excess liquidity in the banking system and the possible decrease in the ECB deposit facility interest rate, the downward trend in money market interest rates is expected to remain sustained.

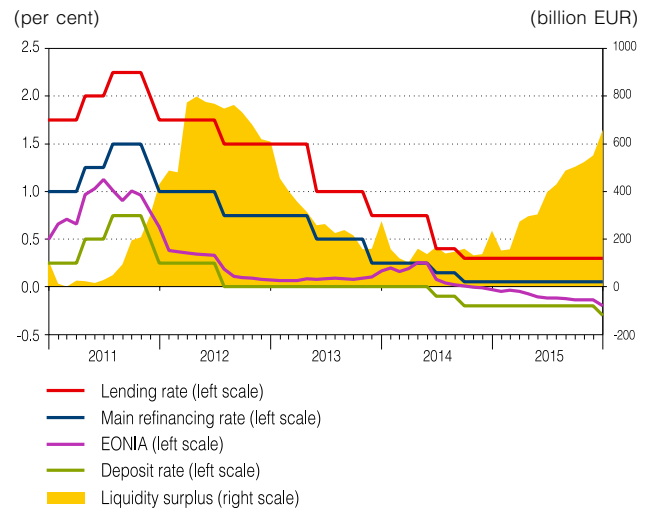
Following its monetary policy meeting of 21 January 2016 the ECB Governing Council confirmed that it is ready to use all its available monetary policy instruments to achieve its inflation target of below but close to 2 per cent inflation in the medium term and reiterated that the key interest rates in the euro area will remain at their current or lower levels for a longer period of time. According to the ECB, since the beginning of 2016 the risks related to lower economic growth and lower inflation in the euro area have increased due to heightened uncertainty of emerging economies growth forecasts, the observed sizeable volatilities in financial and commodity markets, as well as due to geopolitical risks.

The United States

In the third quarter of 2015 US real GDP growth moderated to 2.1 per cent on an annual basis from 2.7 per cent in the previous quarter. Over the same period the quarter-on-quarter rate of change of GDP went down to 0.5 per cent compared to 1.0 per cent in the second quarter. The slowdown was mainly due to the negative contribution of changes in inventories and the weaker growth in net exports. Household consumption and investment continued to make a major positive contribution to the quarterly GDP growth in the July–September period by 0.5 and 0.15 percentage points respectively.

In the fourth quarter of 2015 the leading US economic activity indicators saw mainly downward movements with a clearly outlined negative trend observed mainly in industrial production indicators. The average levels of

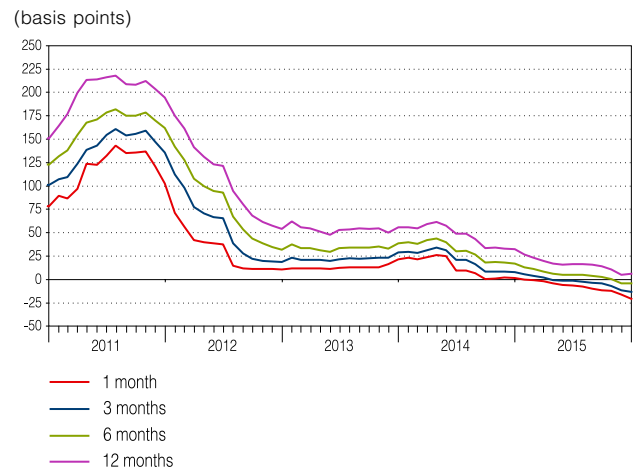
ECB Interest Rates, EONIA and Excess Liquidity in the Euro Area



Note: EONIA data are average for the month.

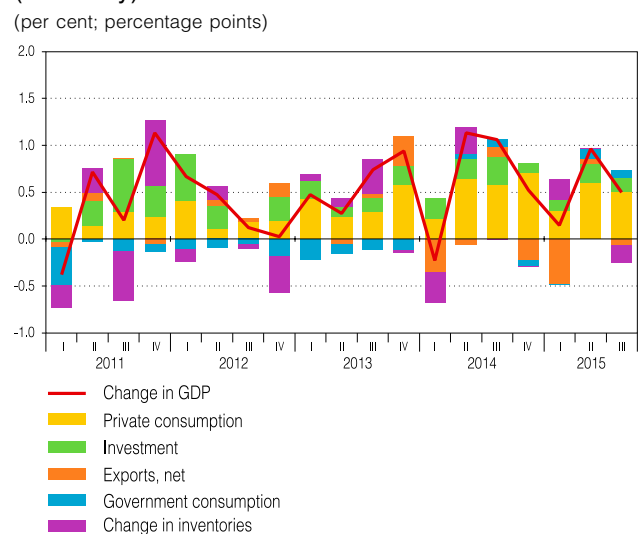
Source: ECB.

EURIBOR Dynamics



Source: ECB.

Contribution to US GDP Growth by Component (Quarterly)



Source: Bureau of Economic Analysis.

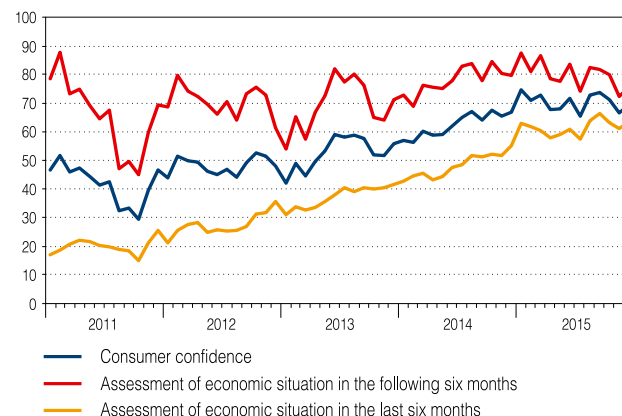
consumer confidence indicators declined, but their values remained relatively high at the end of the year. The average monthly rates of change in consumer spending and retail sales were also lower compared to the third quarter. Similar developments were observed in the ISM-PMIs of manufacturing and services which reported only downward changes. At the end of 2015 the ISM index for the services sector remained markedly above the cut-off limit of 50, whilst the comparable indicator for the manufacturing sector fell below this reference value, pointing to weaker activity in the sector.

The US consumer price dynamics indicators increased slightly in the fourth quarter of 2015. In November the annual inflation rate measured by the personal consumption expenditure deflator (PCE) went up to 0.4 per cent from 0.2 per cent in the past two months, while the annual growth rate of the core inflation (excluding food and energy prices) remained stable at 1.3 per cent for the eleventh month in a row. In December the annual growth rate of US inflation indicator – the consumer price index (CPI) – accelerated to 0.7 per cent from 0.5 per cent in November and 0.2 per cent in October. The most sizeable growth by component was recorded by housing expenditure, medical and transport services, medical goods and food. Energy and fuels in particular continued to report a sizeable decline on an annual basis. Core inflation rose by 0.1 percentage point to 2.1 per cent on an annual basis in December.

In the fourth quarter of 2015 and in early 2016 the expectations for consumer price changes in one to five years horizon – a component of the University of Michigan consumer confidence index, reported relatively slight and divergent movements. According to preliminary data for January 2016, our inflation expectations for a period of up to one year declined to 2.4 per cent from 2.6 per cent in December, while those for five years ahead went up to 2.7 per cent from 2.6 per cent in December. In the first and the second quarter of 2016 inflation in the US is expected to remain below 2 per cent on an annual basis, and the general price indices are likely to decline due to the continued fall in fuel and other commodity prices.

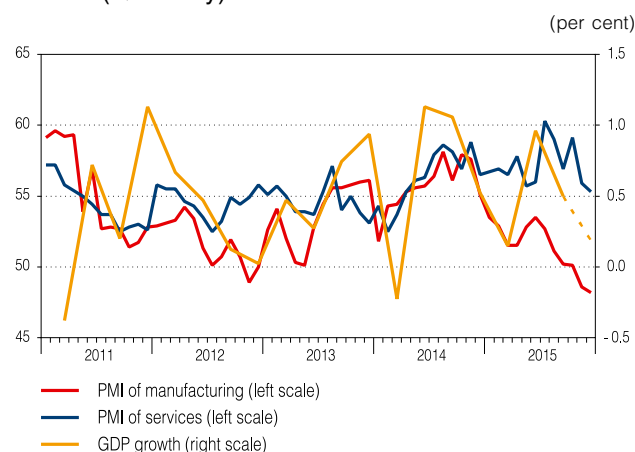
US Consumer Confidence Indices

(2000 = 100)



Source: The Conference Board.

US Manufacturing and Services ISM-PMIs and GDP Growth (Quarterly)

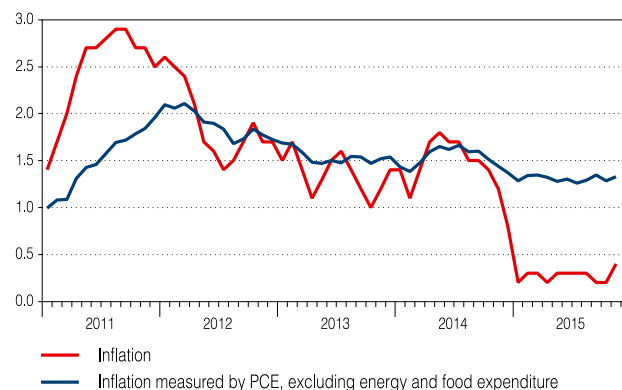


Note: the dotted line shows the economic growth forecast for the USA according to the Federal Reserve Bank of Atlanta model (GDPNow™).

Sources: Institute for Supply Management and Bureau of Economic Analysis (BEA), Federal Reserve Bank of Atlanta and BNB calculations.

US Inflation Rate

(per cent, on an annual basis)



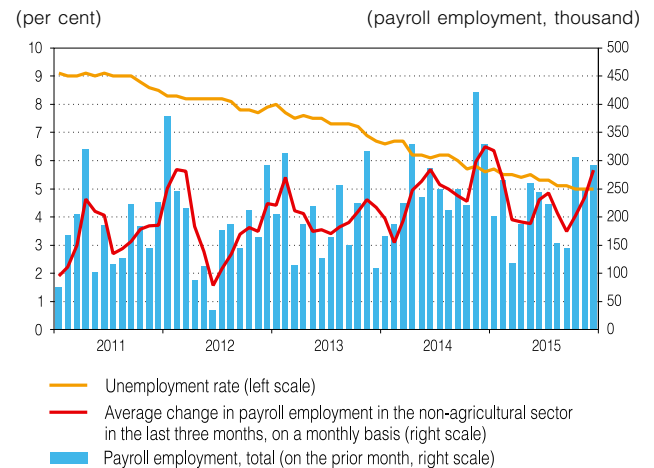
Note: Inflation is measured by the personal consumption expenditure deflator.

Source: Bureau of Labor Statistics.

In the fourth quarter of 2015 US unemployment rate remained stable at 5.0 per cent. Over the same period, the average number of new employees in the US non-agricultural sector came to 284 thousand from 174 thousand in the previous quarter.

At its 15–16 December meeting the FOMC decided unanimously to increase the target range for the federal funds rate by 25 basis points to 0.25 and 0.50 per cent respectively. The decision was justified by the marked improvement in labour market conditions and the confidence that inflation will rise to the target rate of 2 per cent in the medium term. It was outlined that future changes in the range of the federal funds rate will be made on the basis of current and expected changes in the economic conditions and their impact on the implementation of monetary policy objectives for maximum employment and annual inflation rate of 2 per cent, but most likely the federal funds rate will remain under the long-term equilibrium level for some time. The policy of reinvesting proceeds from maturing Treasury securities and mortgage-backed bonds on the Federal Reserve's portfolio in new similar instruments remained unchanged.

US Unemployment Rate and Number of New Employees in the US Non-Agricultural Sector



Source: Bureau of Labor Statistics.

Monetary Policy Normalisation in the United States

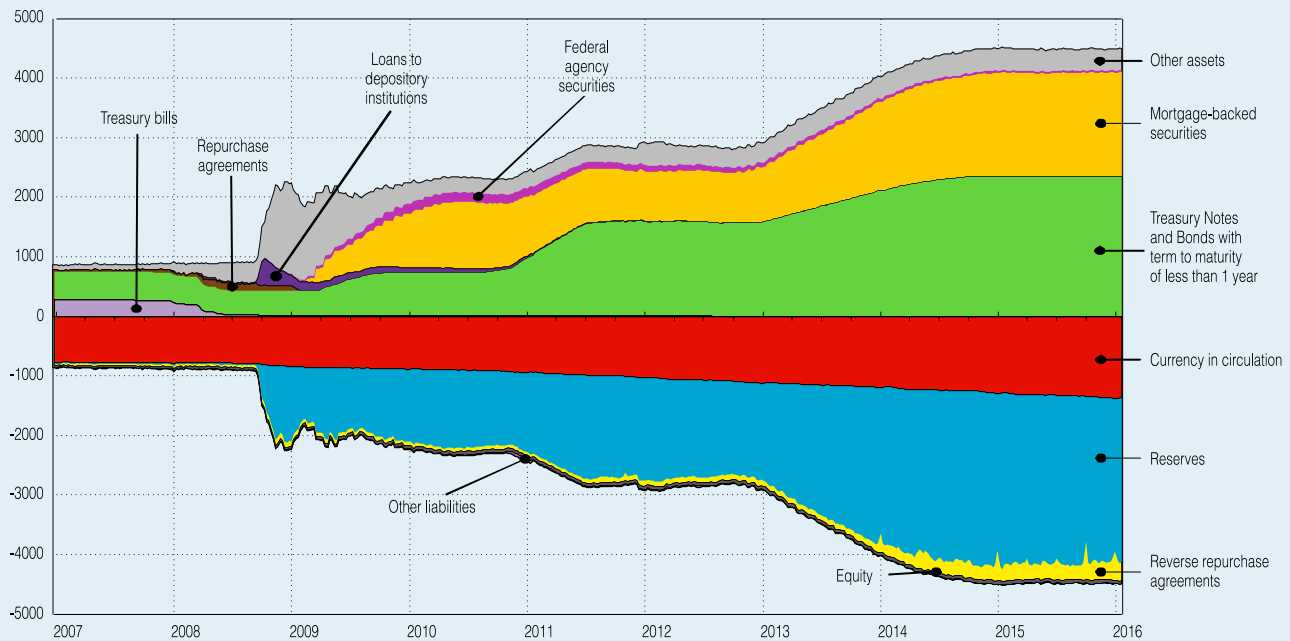
The economic recession in the United States which started at the end of 2007 and continued until mid-2009¹ has brought about significant changes in the Federal Reserve's monetary policy. Between December 2007 and October 2014, the US Federal Reserve System has undertaken a series of standard and non-standard monetary policy measures. The standard expansionary monetary policy measures started with the cut of the target federal funds rate in September 2007. The downward trend in the Federal Reserve's main interest rate continued just over a year. The latest cut was made in December 2008 by setting the official federal funds rate target at a range of 0 to 0.25 per cent, where it remained unchanged until December 2015. This is the longest period of keeping the target rate at such a low level after the restoration of the Federal Reserve Systems' independence in 1951. The rapid depletion of the effectiveness of standard monetary policy measures against the background of the ongoing economic recession in the US called for the introduction of non-standard monetary policy measures, among which asset purchase programmes or the so called quantitative easing², the first of which was announced by the Federal Reserve at the end of November 2008. Over the period in which the Federal Reserve conducted non-standard monetary policy measures, its balance sheet figure saw a five fold increase. Most of this increase was realised after the end of the recession and was the result of the Federal Reserve System's desire to fulfil its mandate to return the economy to full employment and achieve price stability.

¹ According to the definition of recession by the Business Cycle Dating Committee of the National Bureau of Economic Research (NBER).

² For more information on the Federal Reserve Systems' measures in response to the financial crisis see the Federal Reserve System's website: <http://www.federalreserve.gov/monetarypolicy/bst.htm>

Composition of the Federal Reserve Systems' Balance Sheet

(billion USD)

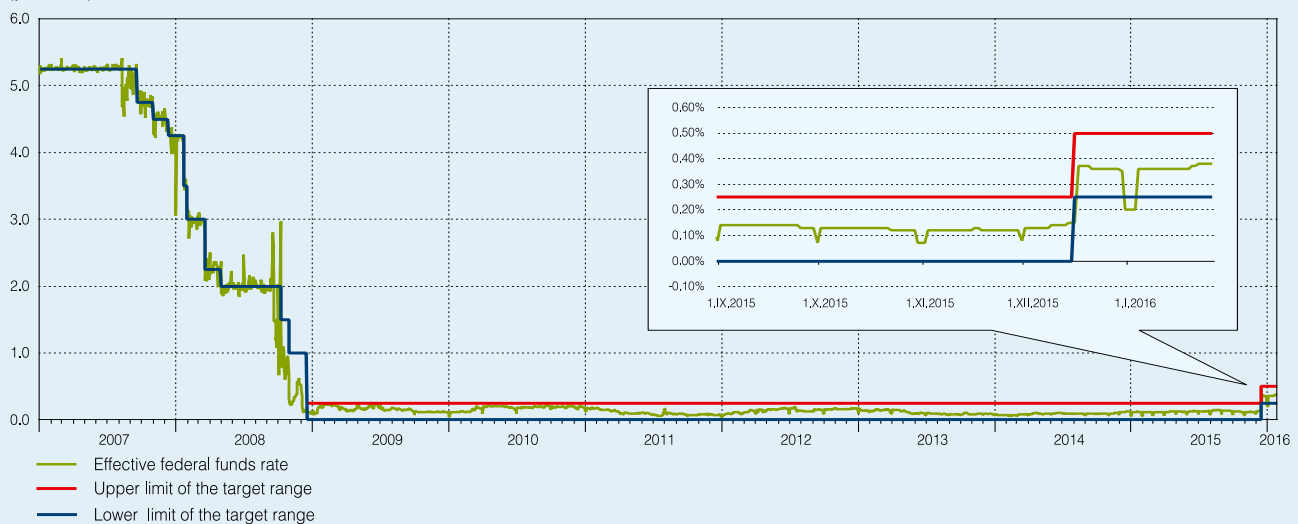


Source: Federal Reserve System of the USA

Following the significant improvement in the US labour market conditions over the recent years and the confidence of the members of the Federal Open Market Committee (FOMC)³ that the Federal Reserve Systems' inflation targets will be reached soon, at its meeting of 16 December 2015 the Committee decided unanimously to commence the process of normalisation of the US monetary policy by raising the target range for the federal funds rate by 0.25 percentage points to 0.25 – 0.50 per cent.

Target and Effective Federal Funds Rates

(per cent)



Source: Federal Reserve Bank of St. Louis

The process of normalisation of the monetary policy is a sequence of actions whose implementation will allow the Federal Open Market Committee (FOMC) to implement monetary policy in the same way it did before the outbreak of the financial crises in 2007.⁴ This sequence of actions is described in the 'Policy

³ The Federal Open Market Committee is the main monetary policy body of the Federal Reserve System.

⁴ For further information concerning the normalisation process see the Federal Reserve System's website: <http://www.federalreserve.gov/monetarypolicy/policy-normalization.htm>

Normalization Principles and Plans⁵ published in September 2014. It presents an updated detailed plan⁶ whose implementation may be divided into two stages overlapping in time.

The first stage of normalizing the stance and conduct of monetary policy provides for a gradual increase in the target range of the federal funds rate to more normal levels. According to the plan, the timing and rates of increase in the target federal funds rate and other short-term interest rates will depend on the information received on the US economic conditions and outlook. Under the plan of September 2014 and the details on its implementation published in 2015, the current interest rate corridor of 25 basis points will remain unchanged and the upper limit of this corridor will be determined by the interest on the excess reserves of depository institutions with the Federal Reserve, while the lower limit will be determined by the interest rate that will be paid by the Federal Reserve on the instrument for conducting overnight reverse repurchase operations⁷. The overnight reverse repurchase operations tool⁸ will be used, as not all financial institutions participating in the US money market have the right to receive interest on their excess reserves held with the Federal Reserve System⁹. Setting an upper and a lower limit of the interest rate paid by the Federal Reserve to the market participants, entitled or not entitled respectively to receive interest on their excess reserves, will create incentives for interest arbitrage in lending and borrowing of funds between them. Thus, if there is enough competition between money market participants, the effective federal funds rate¹⁰ should move near the middle of the corridor. Currently, the Federal Reserve System foresees to cease the use of the overnight reverse repurchase operations as a monetary policy instrument when it is no longer needed to control the federal funds rate.

The second stage of the process of normalisation of the US monetary policy provides for a gradual and predictable decrease in the Federal Reserve System's balance sheet. This stage will be realised mostly by terminating the current policy for reinvestment of the proceeds from the maturing securities in the Federal Reserve's portfolio. The process of termination will start after the initial increase of the target interest rate and the point where the reinvestment policy will be phased out will depend on the economic and financial conditions, as well as the US economic outlook. Currently, the members of the FOMC do not foresee any sales of agency mortgage-backed securities, as part of the process of normalisation, although in the long run small sales may be possible to decrease or remove the residues of those securities from the Federal Reserve's balance sheet. In the long run, the members of the Committee intend to keep the volume of securities on the Federal Reserve's balance sheet no greater than necessary for the effective and efficient implementation of the monetary policy, and foresee to limit the securities in the central bank's portfolio mainly to US treasuries. This will minimise the possible negative effects on the distribution of credit in the different sectors of the economy.

Currently, the economists to the Board of Governors of the Federal Reserve expect the entire monetary policy normalisation process in the USA to last about seven years¹¹. Given that the normalisation process details are subject to changes related to the economic and financial developments in the USA, this is an estimate period.

⁵ Minutes of the FOMC meeting of 16-17 September 2014. See <http://www.federalreserve.gov/monetarypolicy/files/fomcminutes20140917.pdf>

⁶ The first plan to provide general guidelines on the process of normalisation of the US monetary policy was published in the Minutes of the FOMC of the 21-22 June 2011 meeting under 'Exit Strategy Principles'. See: <http://www.federalreserve.gov/monetarypolicy/files/fomcminutes20110622.pdf>

⁷ For monetary policy purposes, this instrument was adapted for use by a wider range of participants in the overnight money market.

⁸ For more information on the *modus operandi* and the effects of the application of this instrument see: 'Overnight RRP Operations as a Monetary Policy Tool: Some Design Considerations', Finance and Economics Discussion Series 2015-010. Frost, Josh, Lorie Logan Antoine Martin, Patrick McCabe, Fabio Natalucci, and Julie Remache (2015). Washington: Board of Governors of the Federal Reserve System, <http://dx.doi.org/10.17016/FEDS.2015.010>.

⁹ An up-to-date list of all counterparties that may participate in reverse overnight repurchase operations with the Federal Reserve can be found on the website of the Federal Reserve Bank of New York: https://www.newyorkfed.org/markets/expanded_counterparties.html

¹⁰ For more information on the effective federal funds rate see the website of the Federal Reserve Bank of New York: <https://apps.newyorkfed.org/markets/autorates/fed%20funds>

¹¹ See Williamson S. (2015). 'Monetary Policy Normalization: What's New? What's Old? How Does It Matter?', Presentation of the Vice President and Economist Federal Reserve Bank of St. Louis, slide 33, 28 May 2015

China

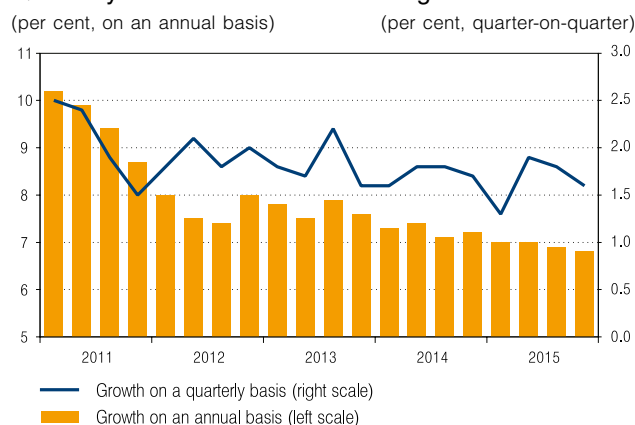
According to data of the National Bureau of Statistics of China, the real GDP growth for 2015 was 6.9 per cent – slightly below the target of 7.0 per cent annual growth set by the government. Over the review quarter China's GDP grew by 6.8 per cent on an annual basis (6.9 per cent in the previous quarter). The quarter-on-quarter growth came to 1.6 per cent in the fourth quarter as the trend towards a gradual increase in the services sector activity and a moderate growth rate of industrial output remained unchanged. In the fourth quarter of 2015 the manufacturing PMI in China declined further, but stayed below the neutral 50-point level, while the services PMIs continued to signal enhanced activity in this sector.

In the fourth quarter of 2015, inflation remained almost unchanged compared to the July–September period, as food prices remained the key positive contributor to consumer-price index changes. The downward trend in producer prices observed since mid-2014 was discontinued and their annual rate of decline stabilised at around 6 per cent. The continuous deflation in producer prices together with the still existing excess unutilized capacity were the main factors with adverse effect on Chinese economic activity.

In January 2016 the IMF confirmed its forecast for China's economic growth of 6.3 per cent in 2016 and 6.0 per cent in 2017. The slow-down will come as a result of the rebalancing process in the Chinese economy which largely reflects the gradual decline in investment activity.

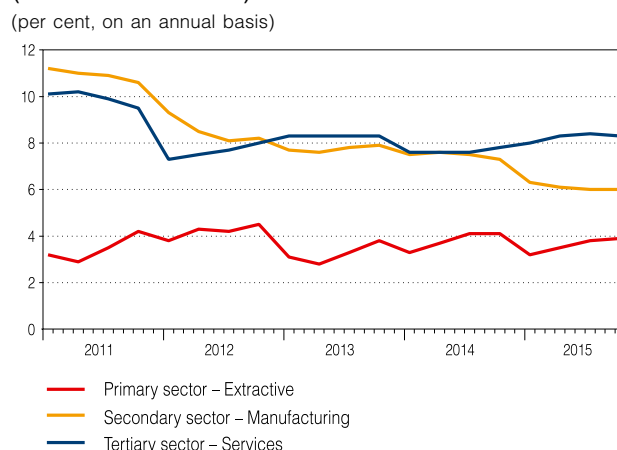
On 30 November the IMF Board of Governors decided to include the Chinese renminbi in the basket of currencies which makes up the special drawing rights (SDR). The decision will enter into force as of 1 October 2016 and in line with the new formula the weights of the currencies in SDRs will be, as follows: US dollar (41.73 per cent), euro (30.93 per cent), Chinese renminbi (10.92 per cent), Japanese yen (8.33 per cent) and pound sterling (8.09 per cent). As a consequence of the inclusion of the

Quarterly and Annual Rate of Change of China's GDP



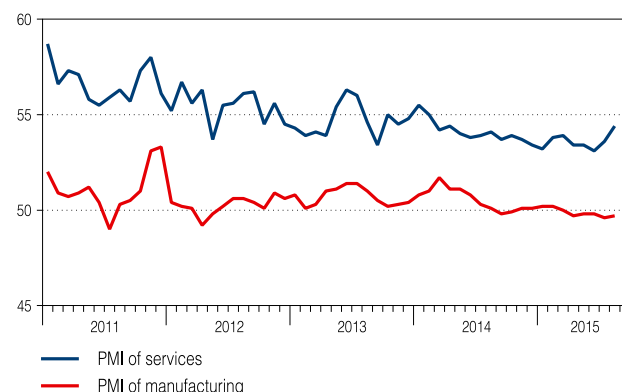
Source: National Bureau of Statistics of China.

Change in Components of China's GDP (Quarter-on-Quarter)



Source: National Bureau of Statistics of China.

Manufacturing and Services PMIs in China



Source: China Federation of Logistics and Purchasing.

Chinese renminbi, the share of the euro in the basket of currencies which makes up the SDRs, fell by 6.5 percentage points from its previous share of 37.4 per cent.

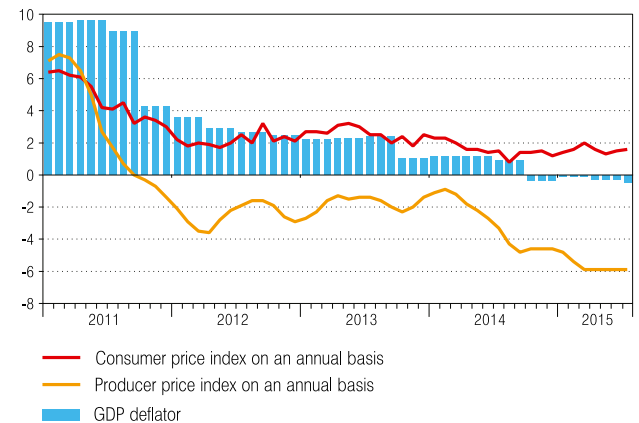
At the end of 2015 the China Foreign Exchange Trade System (CFETS) to the People's Bank of China published a CNY effective exchange rate index based on the basket of 13 currencies. According to the CFETS communication, the new index will reflect the national currency's relative strength more accurately than the CNY/USD exchange rate. At the same time, this gives a sign that the People's Bank of China will rather monitor the stability of the exchange rate for the yuan against the basket of currencies than the stability of the CNY/USD exchange rate.

In the fourth quarter of 2015 the downward trend in China's foreign exchange reserves deepened and they fell to USD 184 billion. China's international reserves went down to USD 513 billion in 2015. This sharp fall reflected largely the central bank's interventions on the foreign exchange market aimed at curbing the further depreciation of the national currency resulting from the flight of capital from China.

The expected slowdown in the rate of Chinese economic growth is likely to result in a moderating growth in our main trading partners and thus to contribute to a weaker demand for Bulgarian goods and services. Weaker Chinese growth will contribute to lower demand for major commodities and crude oil, which will put downward pressure on their prices in international markets. This would mean a longer period of deflation for the Bulgarian economy related to lower international prices of commodities and fuels.

Price Indices in China (Annual Rate of Change)

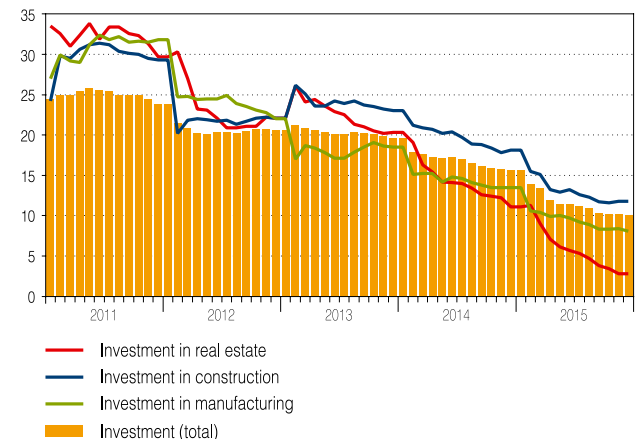
(per cent, on an annual basis)



Source: National Bureau of Statistics of China.

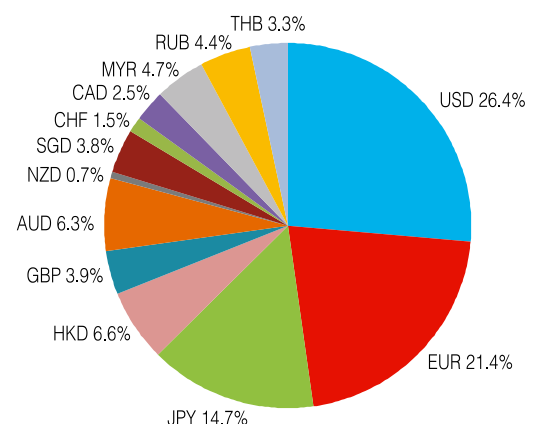
Total Investment in Fixed Capital and in Selected Sectors in China

(per cent, on an annual basis)



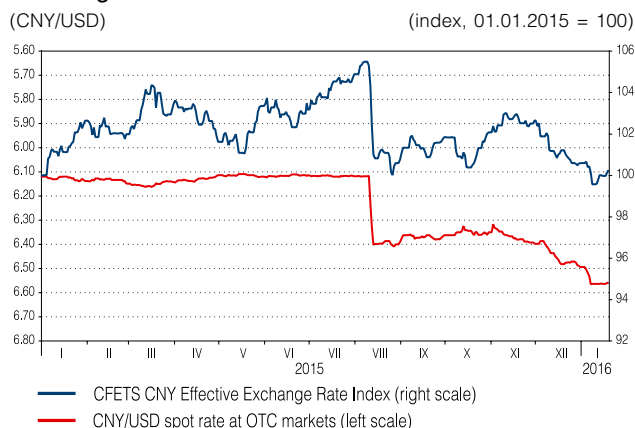
Source: National Bureau of Statistics of China.

Share of Currencies in the China Foreign Exchange Trade System (CFETS) Index for the Effective Exchange Rate of the CNY



Source: People's Bank of China.

CNY/USD Exchange Rate and CNY Effective Exchange Rate Index



Note: Inverted scale.

Source: People's Bank of China.

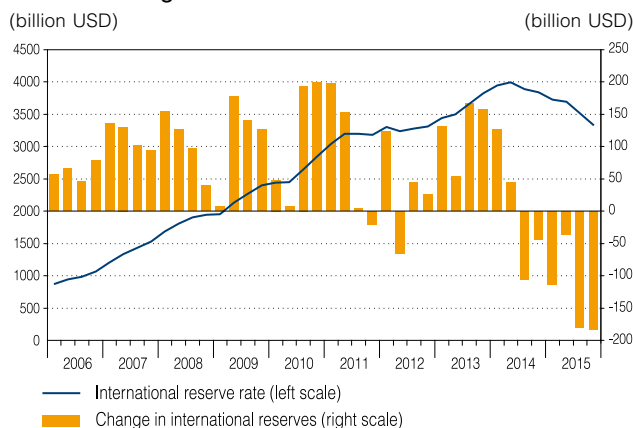
International Commodity Prices

Crude Oil

In the fourth quarter of 2015 the price of Brent crude oil continued to decline, reaching USD 43.3 *per barrel* on average for the period under review. The main factor behind this price fall remained the excess global oil supply, mainly due to the higher oil production of OPEC member states which continue to protect their market share. The impact of the lower crude oil prices on global crude oil production is becoming increasingly clear and in December 2015 the non-OPEC crude oil production slowed down on an annual basis which could be a sign that OPEC's policy of maintaining their market share results in crowding out the competitors from the market. OPEC crude oil production increased further and since the beginning of 2016 Iran is expected to start exporting petroleum products when most of the economic sanctions against the country would be repealed.

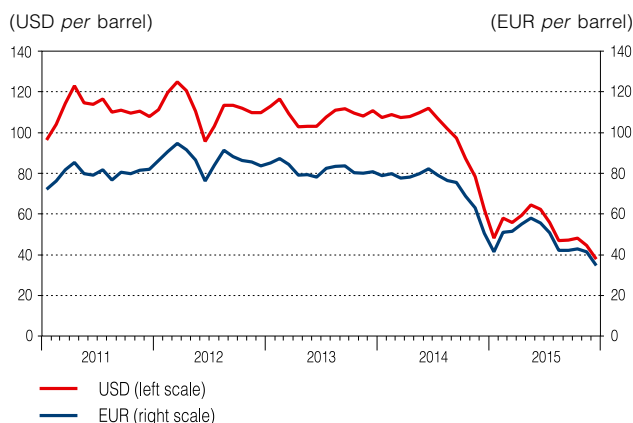
According to International Energy Agency (IEA) data there is still excess supply of crude oil regardless of the increased demand for petroleum products observed since mid-2014 when the oil price started to fall. The agency's expectations point to a lower world demand for crude oil in the first half of 2016 compared to the one reported in the second half of 2015 due to the weaker economic growth in developing economies.

China's Foreign Reserves



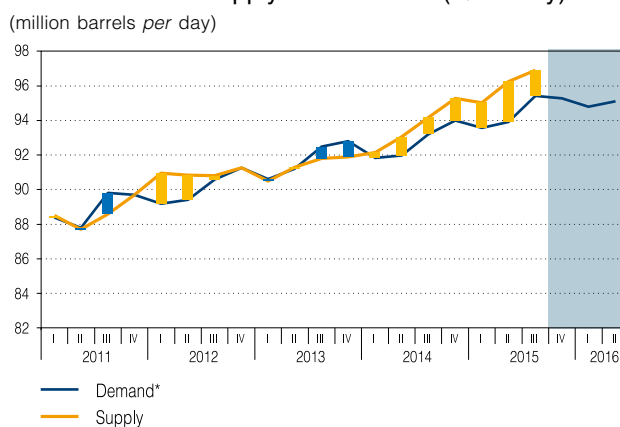
Source: People's Bank of China.

Brent Crude Oil Prices



Source: World Bank.

World Crude Oil Supply and Demand (Quarterly)



* Including the December 2015 IAE latest available data about crude oil demand.

Source: IEA.

Oil price expectations for the first half of 2016, based on crude oil futures prices in December, were changed upwards to USD 40–45 *per barrel*.

Major Raw Material and Food Prices

In the fourth quarter of 2015 prices in US dollars of major commodity groups in international markets continued to decline on both annual and quarterly basis. Concurrently, reflecting the 12.3 per cent year-on-year depreciation of the euro against the US dollar, in the fourth quarter of 2015 certain price indices experienced divergent dynamics in euro and US dollars.

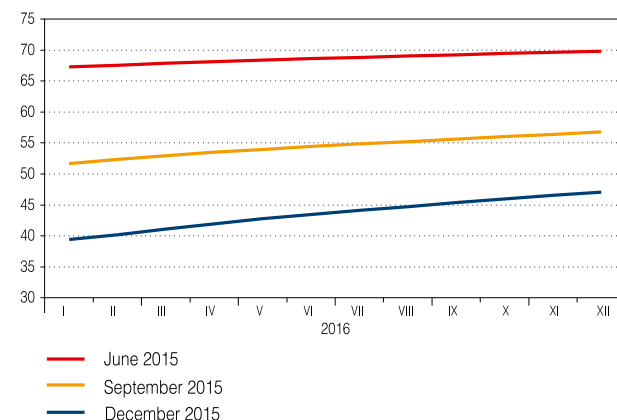
The metals price index published by the ECB decreased by 19.6 per cent on an annual basis (down 29.5 per cent in US dollar) in the fourth quarter of 2015 and by 8.6 per cent on the previous quarter. The decline reflected both the high level of inventories and the decelerating growth of demand from China which consumes half of the world's metal production. For the same reasons, the price of copper in international markets, copper being a main subcomponent of Bulgaria's exports, decreased significantly on both quarterly and annual basis in the fourth quarter of 2015 both in euro and US dollar.

Expectations for industrial metals prices in euro point to a moderating quarterly decline in the first half of 2016, as supply is projected to continue to exceed demand over the same period.

In the fourth quarter of 2015 the food price index in US dollars decreased by 9.0 per cent on the corresponding period of 2014. At the same time, reflecting the depreciation of the euro against the US dollar, the price of food in euro posted an increase of 3.9 per cent. On a quarterly basis, the average food price in the fourth quarter of 2015 declined on the third quarter of 2015 both in euro and in US dollars. Over the review period, US dollar prices of all index sub-components went down on an annual basis as a result of the weaker demand for these goods worldwide. In the fourth quarter of 2015, the wheat price in euro, which is of primary importance for Bulgarian exports, went down by 2.2 per cent (against a decline of 14.1 per cent of the price in US dollar)

Brent Crude Oil Futures Prices

(average monthly price of contract, USD *per barrel*)



Source: JP Morgan.

reflecting the expected abundant harvest in the main producer countries, as well as the global increase in stocks.

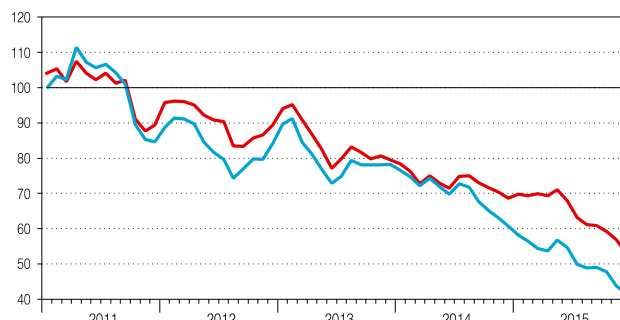
International food prices in euro are expected to start to increase gradually on a quarterly basis in the first half of 2016, but to remain lower than the ones recorded over the same period of 2015.

Based on our expectations for the major raw material and food price dynamics for the projection horizon, it may be concluded that the terms of trade in Bulgaria will remain favourable in the first half of 2016.

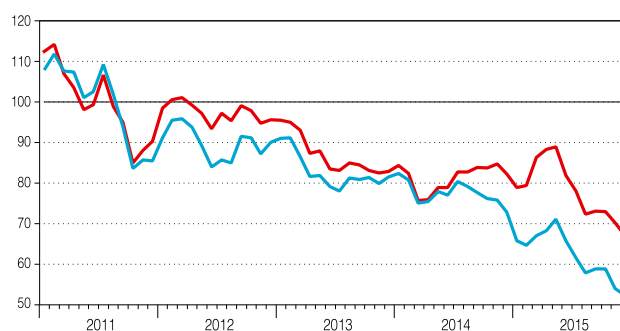
Price Indices of Major Raw Materials and Commodity Groups

(2011 = 100)

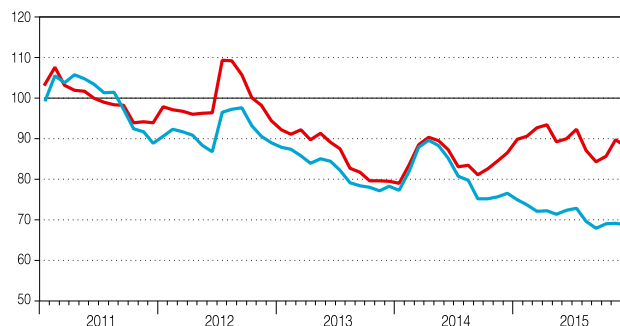
Metals



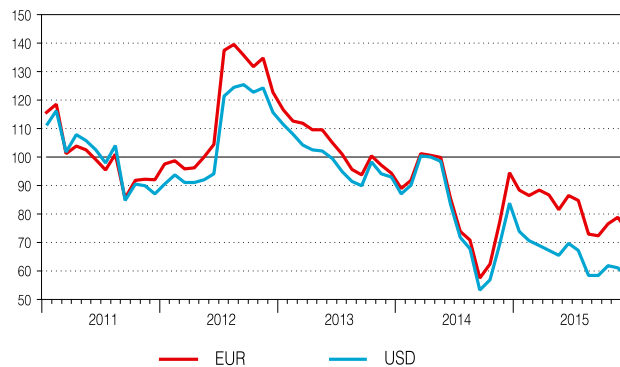
Copper



Food



Wheat



Sources: ECB and BNB calculations.

2. Financial Flows, Money and Credit

Between January and November 2015 the positive current and capital account balance posted an increase from the same period of 2014, reflecting mainly the capital account surplus growth as a result of higher capital transfers under EU programmes. In the first half of 2016 the capital account surplus is expected to decline which will result in a contraction in the current and capital account surplus.

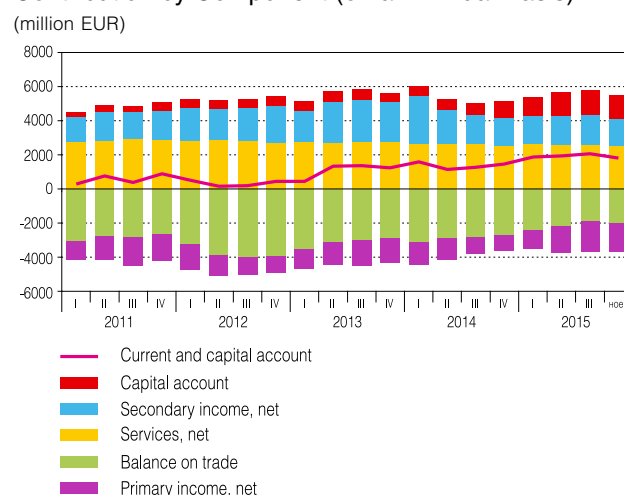
Over 2015 attracted funds from the non-government sector in the banking system followed an upward trend despite the decreasing deposit rates. Given the weak domestic demand for loans and lack of alternative investments, opportunities for banks to use the increased resources were quite limited and they maintained high liquidity on the accounts with the BNB. In the first two quarters of 2016, we expect a retention of the high household propensity to save and continuous growth of the funds attracted in the banking system. Growth in credit to the private sector is projected to increase slowly in line with expectations of a gradual economic activity recovery. Deposit and lending rates are expected to sustain their downward dynamics over the first half of 2016.

External Financial Flows

Nominal exports of goods increased at a higher rate than imports of goods thus contributing to a contraction of the trade balance deficit on an annual basis in the January to November 2015 period. The impact of the lower trade balance deficit on the current account balance, however, was offset by the increase in the primary income account deficit. The overall current and capital account surplus increased on an annual basis largely as a result of the higher capital account surplus related to increase in capital transfers under EU programmes.

Despite the moderation in growth of external demand for Bulgarian goods and services in 2015, the wearing off of the one-off effect of specific factors limiting exports in 2014³ contributed positively to the increase in the physical volume of exports, while falling prices led to the retention of their nominal growth. The weak private consumption and private investment dynamics had a dampening effect on real imports and in combination with the favourable terms of trade contributed to a lower nominal annual growth of imports of goods (2.1 per cent) compared to that of exports of goods (6.1 per cent). As a result of these developments trade deficit contracted significantly on

Current and Capital Account Dynamics and Contribution by Component (on an Annual Basis)



Source: BNB.

³ For more details see Economic Review, 2/2014, p. 36.

an annual basis in the January–November 2015 period.

Lower inflows under the travel sub-item for the January–November 2015 period compared to those in the corresponding period of 2014 related to the reduction in the number of tourists mainly from Russia and Greece. At the same time, Bulgarian citizens' trips abroad increased. As a result, the positive balance on services⁴ decreased.

The trend towards an increase in the gross operating surplus of the total economy was a prerequisite for the higher outflows reported under the dividend and distributed profit item for the January–November 2015 period. These developments together with the outflows under the reinvested earnings item played a decisive role for the sizeable increase in the primary income account deficit posted on the corresponding period of 2014.

Over the review period the surplus in the secondary income item went down on an annual basis. The flow dynamics of this item reflected the higher payments on the contribution to the EU budget, which were only partly offset by the increase in the proceeds to the general government sector under EU programmes⁵.

As a result of the outlined developments, the current account balance remained positive for the January to November 2015 period, with the surplus in the item going down slightly on the corresponding period of 2014 mainly due to the higher primary income account deficit.

In the first half of 2016 we expect the current account surplus to remain close to its current level as a share of GDP, while maintaining the trends observed so far related to the decrease in the trade balance deficit together with the contracting positive services balance and widening deficit in the primary income item as a percentage of GDP. The nominal exports dynamics will be determined by our expecta-

⁴ For a more detailed analysis of exports and imports of goods and services, see Chapter 3.

⁵ In November 2015 a contribution of BGN 251.1 million was made to the EU budget at the cost of the significantly lower amount due in December (BGN 10.6 million according to Ministry of Finance estimates).

Flows on Balance of Payments Accounts

(million EUR)

	2013	2014	January – November 2015
Current account	765.2	495.2	789.5
Trade balance	-2890.7	-2734.6	-1645.7
Services, net	2735.1	2530.0	2529.4
Primary income, net	-1474.9	-915.7	-1574.7
Secondary income, net	2395.6	1615.6	1480.4
Capital account	469.3	959.6	1207.6
Financial account	1421.6	-1627.3	-1374.6
Changes in reserves	-531.8	1810.4	4048.2

Source: BNB.

tions for improved economic activity in our main trading partners of the euro area and hence, for an increase in the demand for Bulgarian goods. At the same time, the recovery in private consumption and private investment growth will contribute positively to the increase in nominal imports, while lower government investment will act as a deterrent to its growth. Maintaining favourable terms of trade for the Bulgarian economy will be another factor expected to contribute to the decline in the trade balance deficit. In the first half of 2016 the services balance is expected to contract as a share of GDP due to the lower tourism revenue related to the economic challenges in countries important for Bulgaria's tourist sector. We expect an increase in the primary account deficit due to disbursements in the investment income sub-item related to the projected higher gross operating surplus in the economy. Over the projected horizon the capital account surplus is expected to contract and as a result the current and capital account surplus to decline as a share of GDP.

Over the January–November 2015 the financial account was negative, and its balance was largely determined by banks operations and by the inflow of direct investment to Bulgaria. As regards bank transactions, net assets were negative due to the more pronounced decline in banks' foreign assets than that in their foreign liabilities⁶.

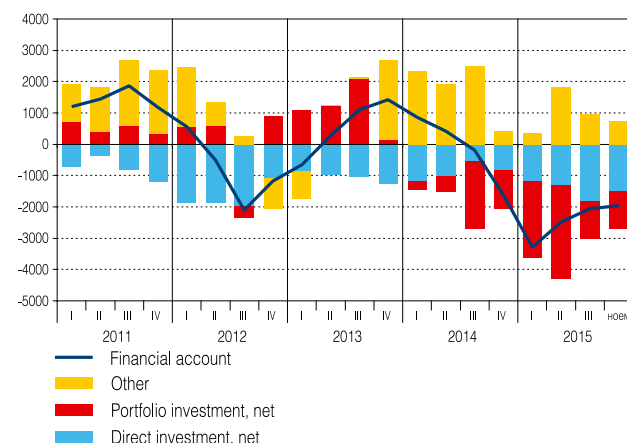
In the January to November 2015 period direct investment liabilities (reporting direct investment in Bulgaria) came to BGN 1416.4 million. Significant inflows were reported in the equity capital, excluding reinvested earnings item of the non-financial sector and less significant ones in the reinvested earnings sub-item of other MFIs and other sectors.

Over the review period the financial account balance was also influenced by government transactions. Despite the Eurobonds issue in March 2015, general government liabilities for the January–November 2015 period fell reflecting repayments made on government

⁶ A more detailed analysis of banks' activities is presented in the *Monetary and Credit Aggregates* section of Chapter 2.

Financial Account Dynamics and Contribution by Component (on an Annual Basis)

(million EUR)



Note: The Other item includes Other Investments, net, and Financial Derivatives (Other than Reserves) and Employee Stock Options, net.

Source: BNB.

Banks' Flows on Balance of Payments Financial Account

(million EUR)

	2013	2014	January – November 2015
Direct investment			
assets	18.1	35.0	-2.5
liabilities	109.1	106.1	191.5
Portfolio investment			
assets	292.3	-309.4	-873.7
liabilities	67.0	-50.6	-2.8
Other investments			
assets	2007.5	1238.2	-1776.6
liabilities	-811.7	-295.6	-1627.5
Total assets	2318.0	963.8	-2652.8
Total liabilities	-635.6	-240.1	-1438.8
Net assets	2953.6	1203.9	-1214.0

Source: BNB.

bonds issued in international capital markets and on a bridge bank loan disbursed at the end of 2014.

The positive net flows on the current and capital account, as well as the flow of funds to the financial account for the first eleven months of 2015 led to an increase in international reserves of EUR 4048.2 million (based on BoP data).⁷ In November 2015 the international reserve coverage of the average nominal imports of goods and non-factor services over the last 12 months went up to 8.4 months (7.1 months by end-2014).

In October 2015, Bulgaria's gross external debt decreased on the end of 2014. This decline was largely due to the contraction of debt under inter-company loans, reflecting the unilateral write-off of a claim by a foreign creditor⁸. The decline in bank debt also played an important role for the contraction of gross external debt. The share of long-term debt in Bulgaria's total gross external debt increased mainly as a result of the government debt issue in March 2015 and came to 77.3 per cent in October.

Amid declining international financial market interest rates in the January to October 2015 period, the trend towards an improved access to new external financing and resident debt service remained sustained. Over the review period an annual increase was reported in financial credit transactions declared by non-residents along with a decrease in external debt service costs paid by residents.

Monetary and Credit Aggregates

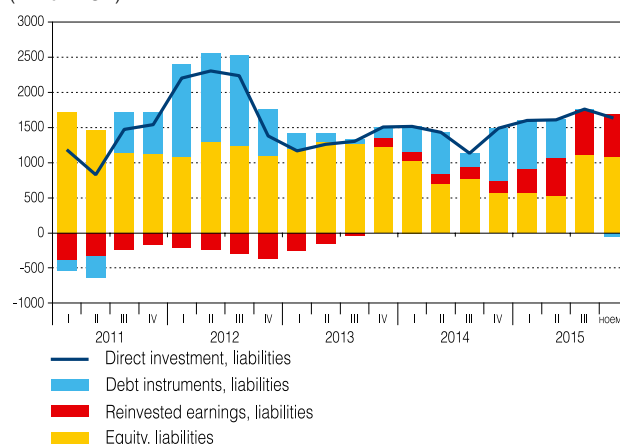
In 2015 the continuous high propensity of households to save and the ongoing increase in deposits of non-government sector in the banking system, as well as the low credit activity in Bulgaria played a key role for the monetary and credit aggregates dynamics.

⁷ Valuation adjustments and price revaluation excluded.

⁸ See *Gross External Debt*, October 2015 on the BNB website: <http://bnb.bg/Statistics/StExternalSector/StGrossExternalDebt/index.htm>

Direct Investment Liabilities by Type of Investment (on an Annual Basis)

(million EUR)



Source: BNB.

Gross External Debt in October 2015

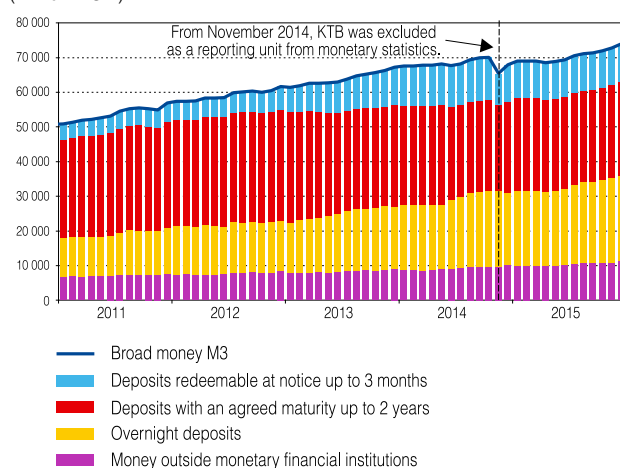
(million EUR)

	Amount	Change	
		Since December 2014	For the last 12 months
General government	5 639.9	-386.6	728.1
Central bank	0.0	0.0	0.0
Banks	4 034.6	-1 432.7	-1 668.8
Other sectors	11 932.7	-52.3	-57.3
FDI: Intercompany loans	12 718.1	-3 159.7	-3 265.6
Total	34 325.2	-5 031.2	-4 263.6

Source: BNB.

M3 and its Contribution by Component

(million BGN)



Note: The marketable instruments component is not shown on the chart due to its insignificant contribution to broad money growth.

Source: BNB.

In December 2015 the broad monetary aggregate M3 grew by BGN 6.0 billion – up 8.8 per cent on end-2014. Despite the continuous decrease in interest rates on deposits, non-government sector funds⁹ in the banking system followed and upward trend throughout 2015. Attracted funds dynamics was driven mainly by the increase in overnight deposits and to a lesser extent by the increase in money outside MFIs and that in deposits with agreed maturity. Despite the continuous decrease in interest rates on deposits, non-government sector funds in the banking system followed and upward trend throughout 2015. Households preferred to save mainly in time deposits which – given the general cut in interest rates – still are a source of some yield¹⁰, and in highly liquid overnight deposits. In 2015 the trend of depositing most of households funds in national currency continued.

Non-financial corporations' deposits went up to BGN 18.2 billion at the close of 2015, posting a 18.7 per cent growth on December 2014. Unlike households, firms preferred overnight deposits, while their deposits with agreed maturity reported a decline on December 2014. As regards the currency structure of corporations' deposits, lev deposits contributed more to their growth since mid-2015.

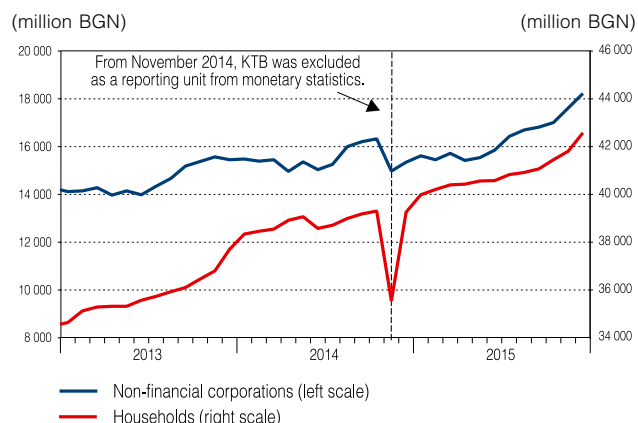
As a result of the increase in the funds attracted from residents, the effective implicit minimum required reserve ratio reached 9.28 per cent in December¹¹ with commercial banks' deposits with the BNB comprising 8.13 percentage points and the remaining 1.15 percentage points were in the form of recognised cash balances and

⁹ Non-government sector's deposits include deposits of households, of non-financial corporations and of financial corporations. Household deposits occupied the largest share (68 per cent on average for 2015) followed by those of non-financial corporations (27 per cent on average for 2015); hence, the analysis is focused on these two sectors.

¹⁰ On the background of the overall downward trend in deposit rates, in 2015 more significant declines were observed in the rates on deposits redeemable at notice compared to other deposit rates, an incentive for households to shift their savings increasingly into longer-term deposits.

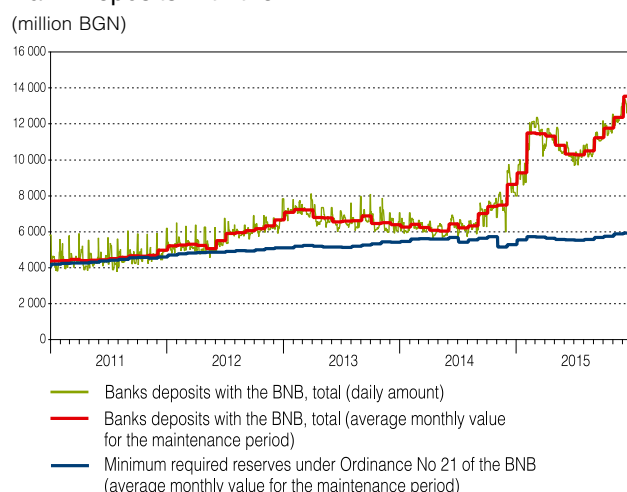
¹¹ According to Article 3 of BNB Ordinance No 21, the rate of minimum required reserves of funds attracted from residents is 10 per cent of the deposit base, from non-residents 5 per cent, and from the state and local government budgets 0 per cent.

Deposits of Non-financial Corporations and Households



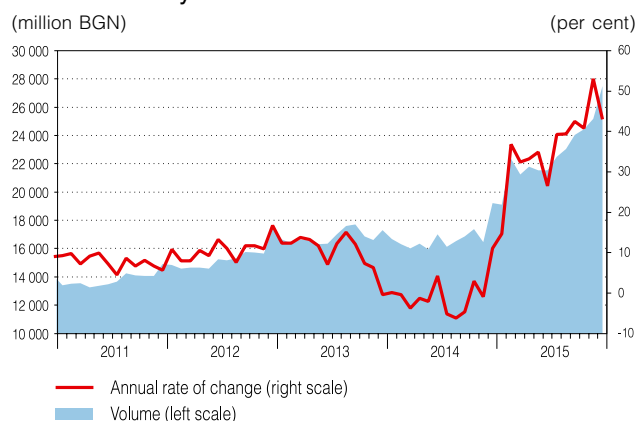
Source: BNB.

Bank Deposits with the BNB



Source: BNB.

Reserve Money



Source: BNB (monetary statistics).

funds on banks' settlement accounts in the TARGET2-BNB system¹².

The sizeable increase in banks reserves in 2015 contributed most to reserve money growth which reached 43.0 per cent on an annual basis in December. Banknotes and coins in circulation contributed less to the change in the monetary base whose annual rate of increase reached 9.8 per cent at the end of 2015.

Growing deposits in the banking system together with lower demand for loans by both firms and households were the drivers behind the strengthening of commercial banks' liquidity position. The measures introduced by the BNB in early 2015 to address banks with Greek equity holdings also contributed to the increase in banking system liquidity¹³. By end-November 2015 the liquid asset ratio¹⁴ of the banking system went up to 34.80 per cent from 30.12 per cent at the end of 2014. The lack of alternatives for liquidity surplus disposal abroad due to decreasing and even negative returns in the euro area was the reason behind the increase of bank funds on their accounts with the BNB. Excess reserves on banks' minimum reserve accounts with the BNB over the required minimum under Ordinance No 21 came to 127.8 per cent on an average daily basis in December 2015 (56.5 per cent in at the end of 2014).

On 26 November 2015 the BNB Governing Council approved the new Ordinance No 21 on the Minimum Required Reserves Maintained by Banks which entered into force on 4 January 2016.¹⁵ The new ordinance introduces a definition of bank excess reserves¹⁶ and applies a negative interest rate on excess reserves where the ECB deposit facility rate is negative and a zero interest rate where the ECB deposit facility

¹² See Article 4 of Ordinance No 21 of the BNB.

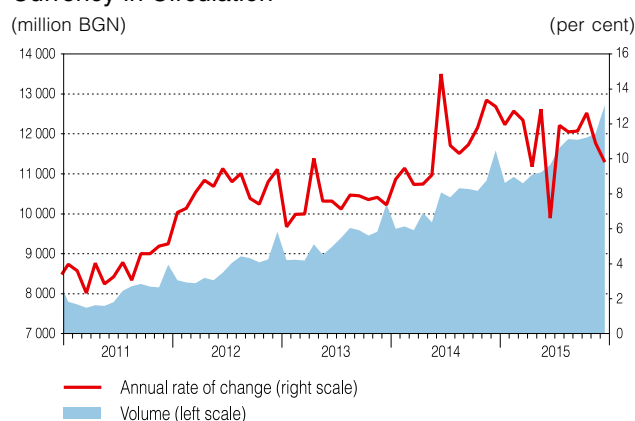
¹³ See *BNB Precautionary Measures to Counteract External Risks to Bulgaria's Banking System*, Economic Review, 2/2015, p. 28.

¹⁴ See Ordinance No 11 of the BNB.

¹⁵ This Ordinance is published in the State Gazette, issue 94 of 4 December 2015.

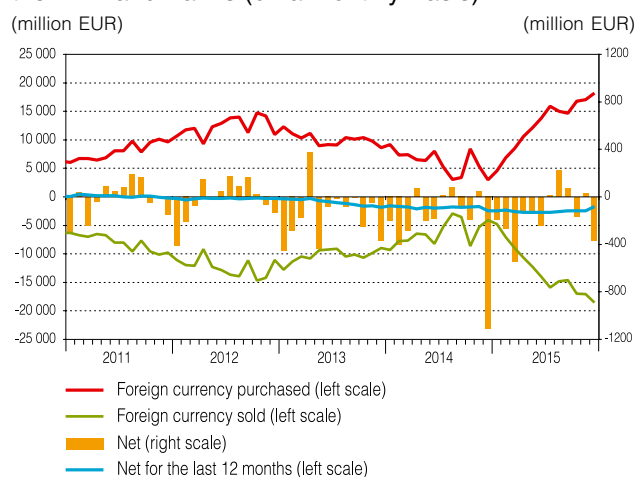
¹⁶ Under Article 5, paragraph 1 of the new Ordinance No 21, excess reserves are defined as excess of the holdings in reserve assets by more than 5 per cent over the amount of the reserve requirement.

Currency in Circulation



Source: BNB.

Foreign Currency Purchases and Sales between the BNB and Banks (on a Monthly Basis)



Note: Net means currency purchased minus currency sold by the BNB. Data refer to all bank transactions in foreign currency, including liquidity management operations related to the transfer of own funds from lev accounts with the BNB to own accounts with the BNB in euro and vice versa.

Source: BNB.

rate is positive or zero. The new ordinance also removes the recognition of banks' funds in the TARGET2-BNB national system component as reserve assets. With the enforcement of the new ordinance, bank deposits with the BNB posted a decline between 4 and 20 January 2016 following the decrease in their excess reserves.

Another instrument used by banks to manage their liquidity was foreign currency trading with the BNB. Over the year bank euro sales exceeded purchases, this trend dominating reserve currency trading between banks and the BNB. As of December net purchases of banks were EUR 1.7 billion for the last twelve months.

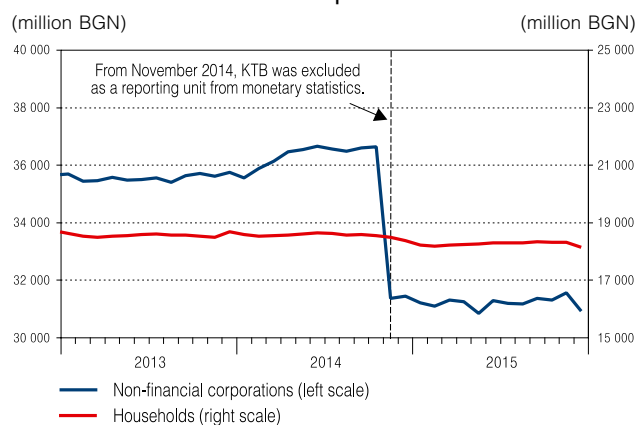
In 2015 lending was subdued, reflecting retention of weak loan demand and reluctance of firms and households to assume new obligations amid still uncertain economic environment. At the same time, banks continued to follow rather cautious credit policies. In December the amount of claims on the non-government sector fell by 1.6 per cent on end-2014. Banks' claims on both non-financial corporations and households also exhibited year-on-year declines (-1.6 and -1.3 per cent, respectively). Net sales of loans by banks also affected dynamics of claims on the non-government sector.

The volume of new loans to non-financial corporations decreased from the previous year,¹⁷ though remaining at a level above BGN 1 billion for the last 12 months. By currency, new corporate loans in levs sustained their upward trend amid declining shares of loans denominated in euro and US dollars. In November newly extended lev loans to corporations occupied 45.6 per cent on average in total new corporate loans for the last 12 months. Loans denominated in euro declined to 52.1 per cent and those in dollars fell to 2.3 per cent.

In 2015 loans to households tended to gradually slowdown their rate of decline, reaching -1.3 per cent on an annual basis. The category of loans for housing purposes had the main contribution to the negative growth in household lending.

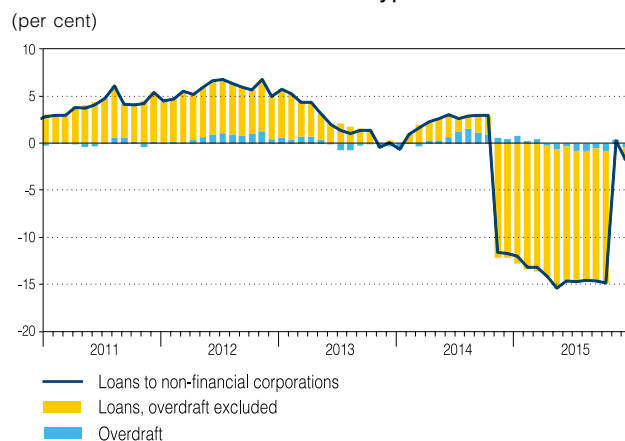
¹⁷ The terms 'new' and 'newly extended' are hereinafter referred to as the statistical category 'new business'.

Claims on Non-financial Corporations and Households



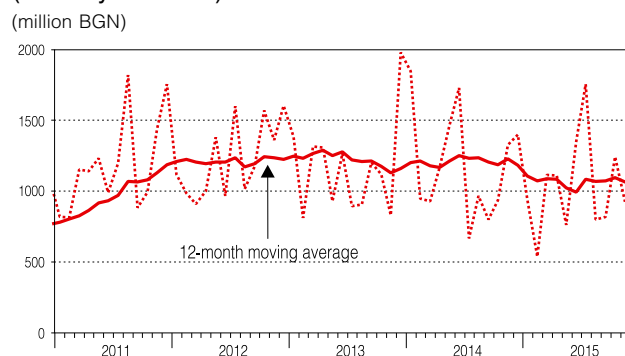
Source: BNB.

Annual Growth of Loans to Non-financial Corporations and Contributions of Individual Types of Loans



Source: BNB.

New Loans to Non-financial Corporations* (Monthly Volumes)



* For data characterised by significant fluctuations, additionally moving averages computed for suitably selected periods are provided in order to smooth the fluctuations in corresponding time series and present the trends in their development.

Source: BNB.

Overdrafts and other loans also declined, while consumer credit displayed a slight positive contribution during most of the year. New loans to households recorded a tendency toward increasing the volumes. Positive developments were due to the rising volumes of new housing and consumer loans. Other loans, however, experienced no essential changes from previous year's levels.

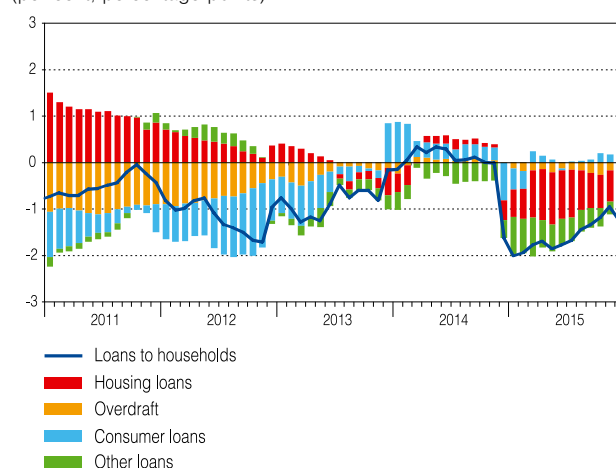
According to the results of the BNB quarterly lending survey, demand for loans by both corporations and households enhanced over the third quarter. Financing needs of firms for inventories and working capital, as well as for investment purposes were among the factors contributing to the accelerated demand for corporate loans. Concurrently, households showed stronger interest in loans for consumption purposes. Corporate lending policy of banks remained unchanged. As regards household lending, more significant easing in credit standards was registered in consumer loans. The cost and volume of attracted resources, as well as enhanced competition from other banks were the factors which helped banks ease funding conditions, according to the survey results. However, credit and collateral risks, and to a lesser degree, the macroeconomic environment have contributed to the tightening of standards. Between October and December 2015 banks expect that demand for loans by corporations and households will continue to enhance and standards to be eased for corporate and consumer loans, while remaining broadly unchanged for housing loans to households.

Non-government sector's deposits are expected to grow further in the first half of 2016, with liquidity in the banking system remaining high. Expected dynamics is related to the likely retention of the high savings rate of households despite further declining deposit rates.

In the context of negative short-term interest rates in the euro area and lack of investment alternatives, banks are expected to continue maintaining comparatively high deposits with the BNB. A factor driving declines in bank excess reserves with the BNB was the new Ordinance No 21 which introduces an interest

Annual Growth of Household Credit and Contributions of Individual Types of Loans

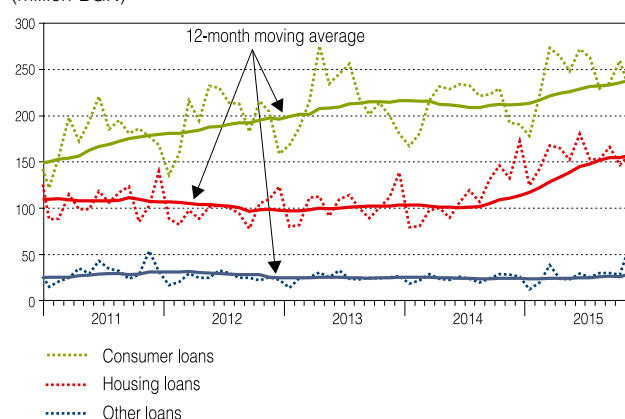
(per cent, percentage points)



Source: BNB.

New Loans to Households (Monthly Volumes)

(million BGN)



Source: BNB.

rate on the reserves since early 2016 (currently, this rate is negative and equal to the ECB deposit facility rate) which could provide a further incentive for banks to seek alternative sources of profitability.

In the first two quarters lending to the private sector is projected to rise slowly in line with expectations of a gradual recovery in economic activity. The ongoing downward trend in lending interest rates is projected to affect positively lending to corporations and households. At the same time, sales of credit portfolios by banks may have a dampening effect on the nominal credit growth.

Interest Rates

In 2015 traded volumes in the lev money market declined significantly from the previous year due to higher liquidity in the banking system and weak credit activity. The subdued activity in the interbank money market in tandem with interest rate conditions in the euro area were the driving factors for the decrease in interest rates across all maturity sectors traded between banks over the year.

In 2015 the spread between LEONIA and EONIA which was close to zero at the end of 2014 expanded gradually to reach 21 basis points in December 2015. This reflected the deepening decline in EONIA after the negative values attained in the last quarter of 2014 and retention of LEONIA at a close to zero level. The retained level of overnight deposit rates in Bulgaria reflected the fact that banks were able to keep excess holdings on their BNB accounts at a zero interest rate. In December the EONIA decline deepened further following new cuts of deposit facility rates by the ECB.¹⁸

In the last 12 months interest rates on three-month interbank deposits in both Bulgaria and the euro area continued to follow a long-term downward trend.¹⁹ Reflecting the steady

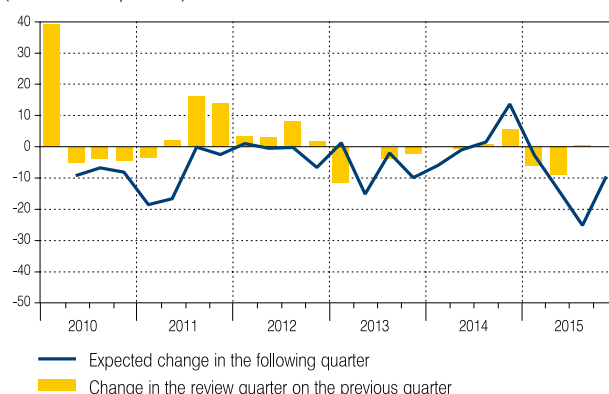
¹⁸ On 3 December the ECB Governing Council decided to cut the deposit facility rate by 10 basis points to -0.30 per cent, with effect from 9 December 2015.

¹⁹ The analysis is based on the average value of SOFIBOR and SOFIBID quotes for unsecured three-month deposits in levs.

Changes in Credit Conditions

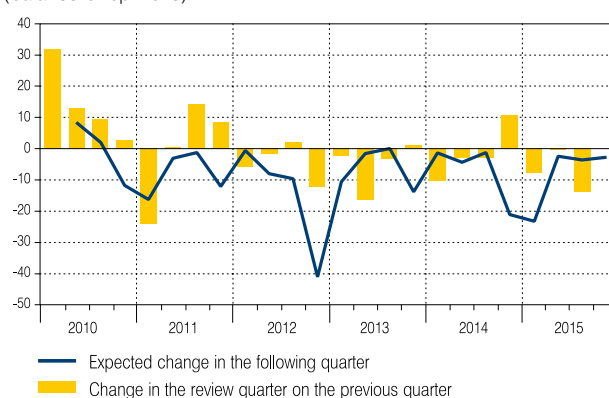
a) corporate loans

(balance of opinions)



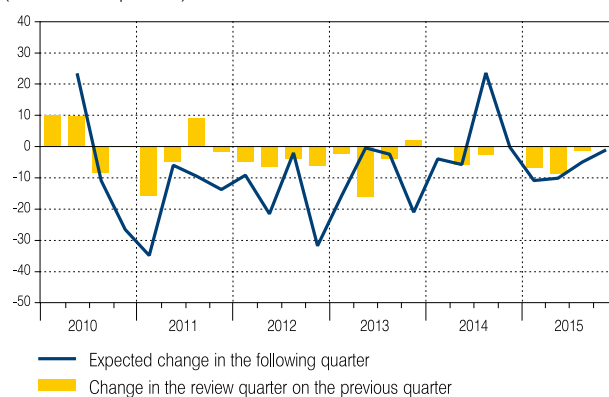
b) consumer loans

(balance of opinions)



c) housing loans

(balance of opinions)



Note: These charts present banks' balance of opinions defined as a difference in percentage points between the percentage of banks responding 'tightened' ('considerably' and 'somewhat') and the percentage of banks responding 'eased' ('considerably' and 'somewhat'). All opinions are weighted by the bank's market share in the relevant credit segment. Expectations are shown in the charts by shifting the data a quarter forward.

Source: BNB.

decline in both indices during the year, their spread was sustained at a level close to that at the end of 2014. Similar developments were observed in longer-term interbank market rates. Six-month and 12-month deposit rates decreased by 24 and 49 basis points, respectively, compared to December 2014.

Since early 2016, following the introduction of a negative rate on bank excess reserves with the BNB, LEONIA and the average SOFIBOR and SOFIBID quotes for unsecured lev deposits of up to three weeks remained negative.

Further increasing funds attracted from residents and interest rate conditions in interbank money markets in Bulgaria and the euro area were the incentives for banks to continue decreasing deposit rates in 2015. In November the average weighted interest rate on new time deposits of non-financial corporations and households accounted for 1.1 per cent (2.1 per cent in December 2014). Interest rates decreased in new deposits of both households and non-financial corporations, the former tending to decline more significantly. In both sectors, stronger decline rates were recorded in the first seven months of the year.

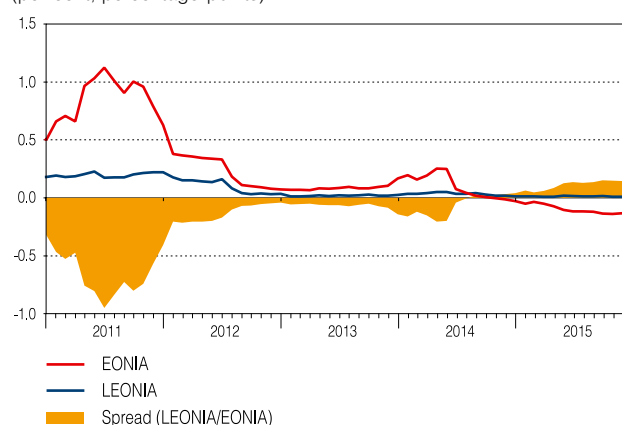
Broken down by currencies, over 2015 downward tendencies were observed in both lev and euro and US dollar denominated new deposits. Compared to the end of 2014, the decline was more pronounced in the cost of attracted funds in levs and euro rather than in dollars. In December the share of foreign currency deposits, the bulk of them in euro, dropped slightly from the end of 2014, reaching 41.4 per cent (42.3 per cent in December 2014).

The variation of interest rates across banks shows that the average interest rate at which banks borrow new time deposits from households in levs was 1.46 per cent in November, falling by 8 basis points from September 2015. The standard deviation contracted by 7 basis points to 0.65 per cent. Over the review period the number of banks offering time deposit rates in the 1 to 2 per cent band increased, while that of banks with rates of up to 1 per cent and within 2 to 3 per cent band decreased.

Interbank Money Market Interest Rates

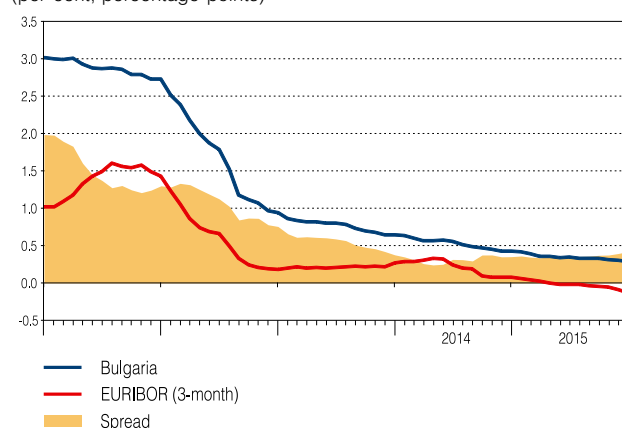
a) overnight deposits

(per cent; percentage points)



b) three-month deposits

(per cent; percentage points)

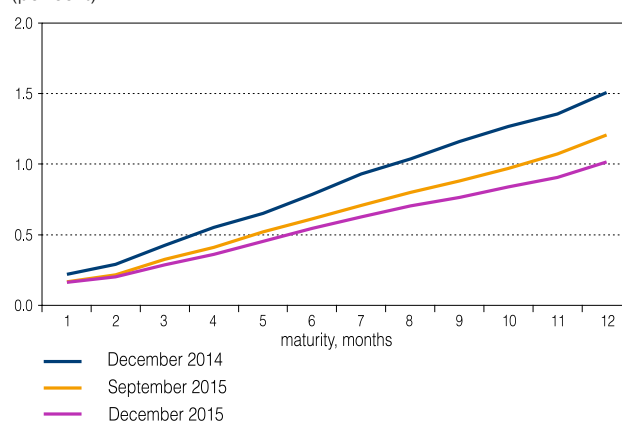


Note: Values for Bulgaria reflect the average value of SOFIBOR and SOFIBID quotes for unsecured three-month deposits in levs.

Sources: the BNB, the ECB.

Interbank Money Market Instruments Yield Curve

(per cent)



Note: Values reflect the average value of SOFIBOR and SOFIBID quotes for unsecured three-month deposits in levs.

Source: BNB.

Declining costs of attracted bank funds and rising banking system liquidity along with strengthened competition among banks amid still low demand for borrowings were the main factors behind the decrease in lending interest rates over the year. In 2015 declines were registered in interest rates on newly extended lev, euro and dollar loans to corporations. Foreign currency lending displayed a more pronounced downward dynamics compared to the end of 2014. In November 2015 interest rates on loans denominated in dollars and euro were 7.5 and 6.6 per cent, respectively, and in levs 6.5 per cent.²⁰

The cost of borrowing for households also followed a downward tendency over the year. In November APRC on consumer loans was 11.5 per cent and on housing loans 6.5 per cent²¹ (12.4 and 7.4 per cent in December 2014). Both categories of loans posted declines in their interest and non-interest costs compared to the previous year, the former declining more strongly. Since early 2015 declines in interest rates on consumer and housing loans were 67 and 70 basis points and that in the implicit rate of non-interest service charges 16 and 18 basis points, respectively. Starting from the middle of 2015 the implicit rate of non-interest service charges increased slightly in the structure of consumer credit.

In November the average interest rate on new housing euro loans rose by 17 basis points from September to 6.02 per cent, according to the breakdown by bank. The standard deviation fell by 20 basis points to 0.74 per cent. Over the review period the number of banks offering lending rates in the 6 to 7 per cent band increased at the expense of banks extending loans at up to 6 per cent rates. The number of banks whose rates on housing loans in euro moved within the 7 to 8 per cent band stayed unchanged from September 2015.

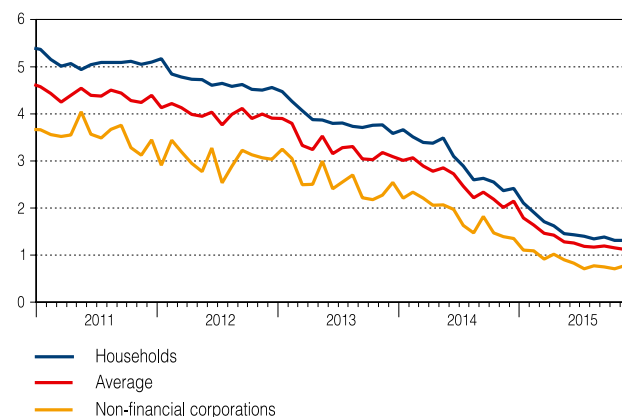
²⁰ The above values are the weighted average of the interest rates on loans to non-financial corporations on a 12-month basis.

²¹ Values indicating APRC and interest rates are the weighted average of the interest rates on household consumer and housing loans on a 12-month basis.

Interest Rates on New Time Deposits

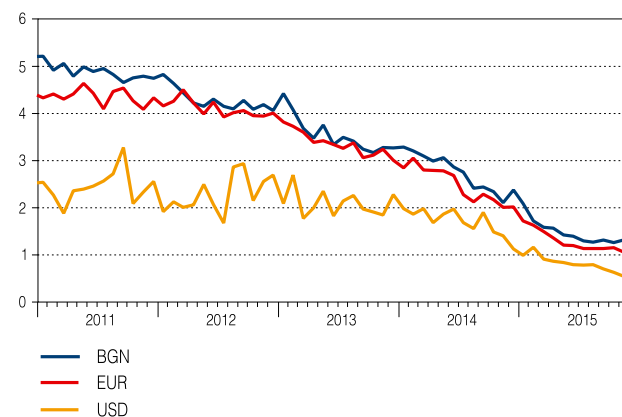
a) by sector

(per cent)



b) by currency

(per cent)

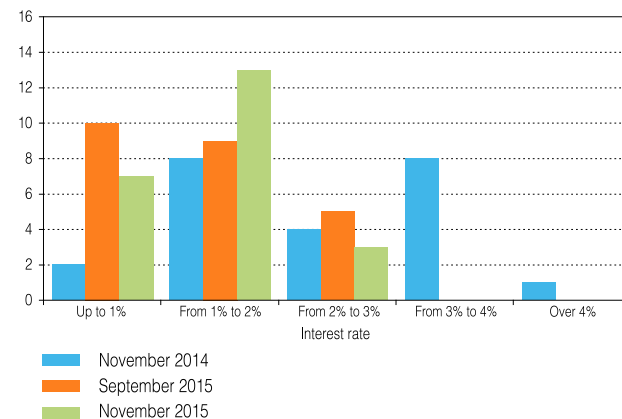


Note: The average interest rate is calculated for all sectors, maturities and currencies weighted by the relevant volumes of new deposits.

Source: BNB.

Variation of Interest Rates on New Household Time Lev Deposits

(frequency – number of banks)



Source: BNB.

Developments in interest rates on new time deposits are likely to remain on the downside in the first two quarters of 2016. The continuous decline in the cost of funds attracted from residents will be driven by the retention of the high household savings rate in the context of low and even negative rates in the short-term inter-bank market segments in both Bulgaria and the euro area. The low cost of borrowings will drive the continued decline in interest rates on new loans extended in the first half of 2016. The new Ordinance No 21 which introduces a negative interest rate on bank excess reserves (equal to the ECB deposit facility rate) may have an additional downward effect on these rates, provided banks are likely to assume credit risk.

By end-2015 primary market yields on ten and five-year government bonds declined from 2.48 and 0.97 per cent in October to 2.34 and 0.79 per cent in December. This drop may be explained by the increased financial sector liquidity as a result of significant volumes of maturing treasury bills in early December.²²

Government bond rate dynamics was divergent in the fourth quarter, with short-time rises across all maturities observed in November on both primary and secondary markets due to comparatively low interest on the part of investors and their preferences to invest in the secondary market of Bulgarian government securities issued in international capital markets.

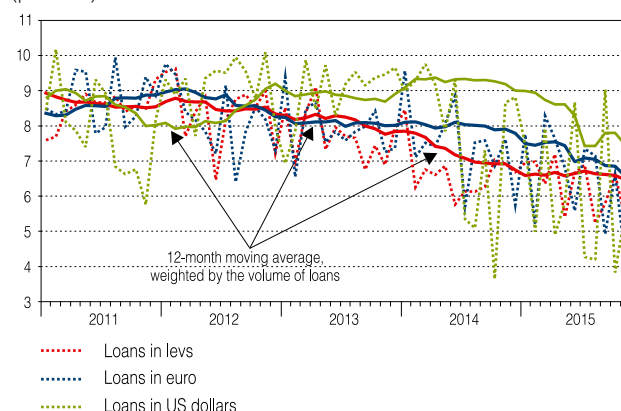
Following a temporary increase in November in line with government securities primary and secondary market developments, by end-December the long-term interest rate in the secondary bond market reached 2.43 per cent.

All Bulgarian Eurobond yields declined in the last quarter in sync with the moderate drop of government bond yields in the euro area, though reflecting also the narrowing spread relative to the German benchmark bonds. This trend was more pronounced in bonds maturing in 2017 and 2022. In January 2016 yields of securities maturing in 2017 became negative.

²² Twelve-month treasury bills of BGN 775.8 million matured in December. In the last quarter the net issue of government securities was negative at BGN 214.8 million.

Interest Rates on New Loans to Non-financial Corporations by Currency

(per cent)



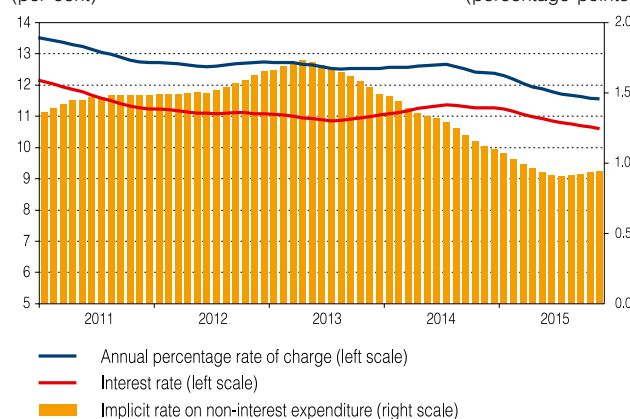
Source: BNB.

Interest Rates and Annual Percentage Rate of Charges on New Household Loans

a) consumer loans

(per cent)

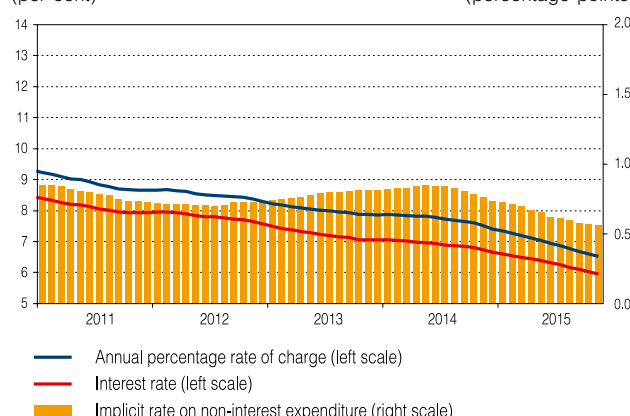
(percentage points)



b) housing loans

(per cent)

(percentage points)



Notes: Interest rates in all maturities and currencies are weighted by the relevant volumes of new loans for a 12-month period. The implicit rate is the difference between the APRC and the relevant interest rates and reflects the approximate per cent of all non-interest service charges on loans (including fees and commissions).

Source: BNB.

Over the first half of 2016 Bulgarian government bond yields are expected to continue declining, with demand likely to increase under the influence of significant volumes of maturing government securities (BGN 845.5 million) and a high level of excess reserves in the banking system.

Financial Flows between the General Government and the Other Sectors of the Economy

Government's revenue and expenditure policy and budget financing operations affected the allocation of liquidity between economic sectors.²³

Over the third quarter the external sector represented an important source of funds for the consolidated government budget. In this quarter, as in the previous, EU fund inflows (BGN 729.3 million or 3.1 per cent of GDP for the quarter) had a strong contribution to the increase in liquidity. These funds exceeded the amount of external sector allocations intended mainly for interest payments on government debt instruments held by foreign investors rather than for Bulgaria's contribution to the EU budget.²⁴ Hence, the net inflow of resources from the external sector to the budget came to 2.3 per cent of GDP for the quarter.

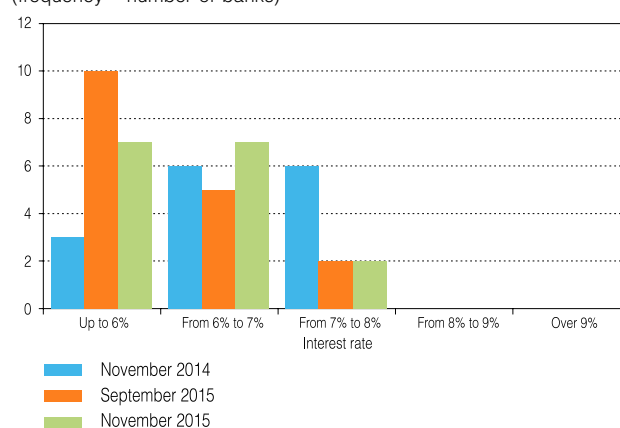
Following government operations on budget financing between July and September, the financial sector (BNB excluded) was a beneficiary of liquidity. Net allocations comprised 4.8 per cent of GDP, mainly due to the net negative issue of domestic government securities (BGN -1009.5 million) and interest payments on government debt instruments to residents. Budget financing policy led to a decrease in government and budget organisations' deposits with the BNB by 3.4 per cent of GDP for the third quarter.

²³ For more details on financial flows between the budget and other sectors, see Economic Review, May 2004, p. 28. The sign '+' of the respective financial flow indicates that as a result of its operations, the budget provided net funds to the respective sector, while the sign '-' means that the budget withdrew net funds from the respective sector.

²⁴ The major portion of interest expenses included coupon payments on Eurobonds maturing in 2017 and 2024.

Variation of Interest Rates on New Housing Loans in Euro

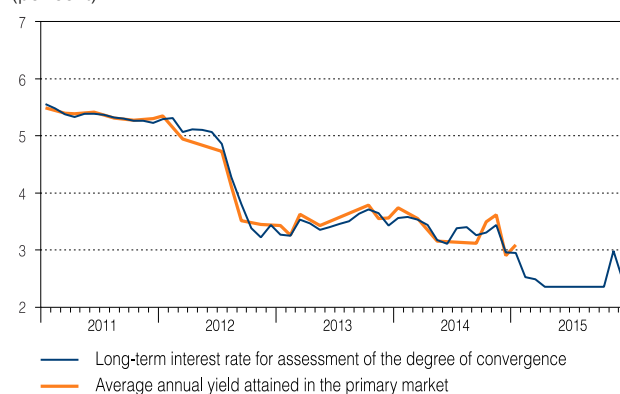
(frequency – number of banks)



Source: BNB.

Interest Rates on Ten-Year-and-Six-Month Government Securities on the Primary and Secondary Markets

(per cent)



Source: BNB.

Available monthly data of mid-January 2016 and preliminary MF estimates of consolidated fiscal programme implementation for 2015 suggest that in the last quarter of 2015 the external sector will continue to be a net source of liquidity for the consolidated government budget. This was confirmed by the funds received under the EU Structural Funds and Cohesion Fund (BGN 575.7 million between October and December) which exceeded the contribution paid to the EU budget (BGN 321.9 million) and repayments on external loans.

In the last quarter the government issuing policy led to a transfer of liquidity to the financial sector (the BNB excluded), reflecting the negative domestic government bond issue at BGN 214.8 million.

The MF preliminary data show that the deficit was BGN 2.9 billion in the fourth quarter. The negative budget balance suggests significant reallocations of liquidity from the budget to the non-government non-bank sector through decreasing the government and budget organisations' deposits with the BNB by BGN 3129 million from the end of September to the end of December 2015.

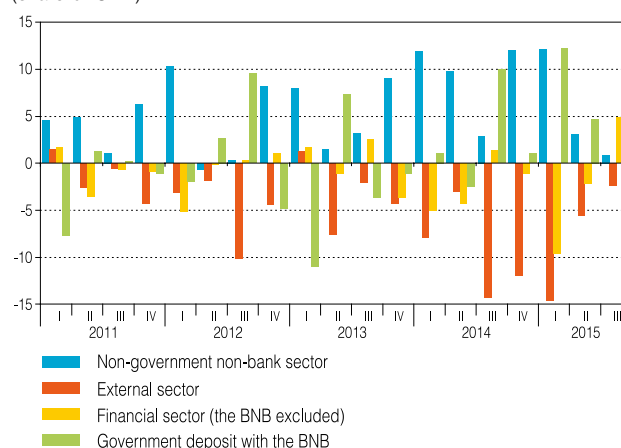
Developments in financial flows generated in the process of external and internal economic factors interaction contributed to the growth in international foreign exchange reserves. By end-2015 the market value of international reserves²⁵ (assets on the Issue Department balance sheet) rose by EUR 3.8 billion on an annual basis to EUR 20.3 billion (BGN 39.7 billion). According to the currency board principles, the increase in international reserves corresponded to the increase in the Issue Department balance sheet liabilities.²⁶ Liabilities to banks and banknotes, as well as coins in circulation, though to a much lesser extent, had the major contributions to the overall year-on-year rise in liabilities as of end 2015.

²⁵ The market value of international reserves includes changes stemming from transactions, valuation adjustments and price revaluation.

²⁶ According to Article 28, paragraph 1 of the Law on the BNB, 'the aggregate amount of monetary liabilities of the BNB shall not exceed the lev equivalent of gross international reserves,' with the lev equivalent determined on the basis of the fixed exchange rate.

Effect of Consolidated Budget on Other Sectors' Liquidity (Quarterly)

(share of GDP)



Sources: MF, BNB.

In the first half of 2016 banks' funds with the BNB are expected to remain at comparatively high levels, tending to decrease. The government deposit value will reflect the government issuing policy and achieved budget balance. Currency in circulation is expected to post comparatively high growth with a tendency toward a gradual slowdown.

3. Economic Activity

In the third quarter of 2015 quarterly real GDP growth accelerated relative to the previous quarter to reach 0.7 per cent. Private consumption contributed most significantly to growth. Gross fixed capital formation had a low positive contribution to this growth. Government consumption declined *vis-à-vis* the previous quarter. Net exports recorded a negative contribution to real GDP growth as the quarterly decrease in goods and services exports outstripped that in goods and services imports.

Short-term economic indicators over the fourth quarter of 2015 give positive signs about the economic development. The anticipated continuous recovery of demand for goods and services, retained low oil prices, positive sentiment of households and firms together with industrial production growth amid high capacity utilisation are expected to create conditions for employment, income and companies' investment activities increase. Still, the high uncertainty is likely to continue to contribute to a more cautious investment and expenditure policy of the firms. Accordingly, private consumption is projected to grow quarter on quarter and private investment to remain low over the first half of 2016. Government investment is expected to decline on a quarterly basis. In real terms, goods and services exports are projected to increase at slightly higher rates than imports of goods and services. The described dynamics of the final use components indicates that in the first and second quarters of 2016 quarterly GDP growth is expected to moderate slightly relative to the corresponding quarters of 2015.

Current Economic Environment

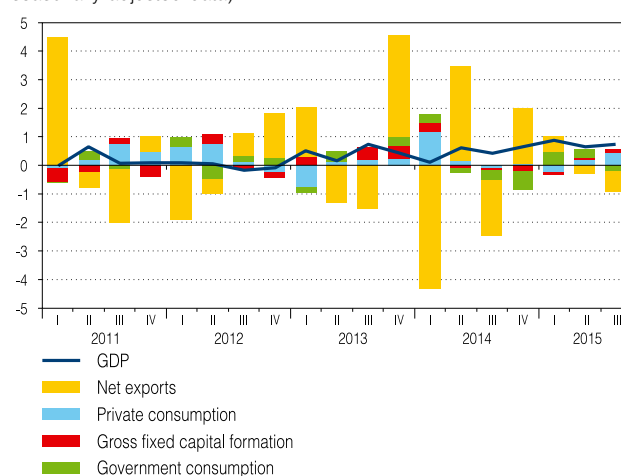
In the beginning of 2015 real GDP growth reflected mainly the high real growth of goods and services exports (resulting in a strong positive contribution of net exports) and the weak domestic demand. Throughout the year the contribution of net exports began to decrease gradually, while final consumption and fixed capital investments increased their growth. In the third quarter of 2015 quarterly growth of real GDP²⁷ was 0.7 per cent. Among GDP sub-components, private consumption had the strongest contribution. Fixed capital investment and changes in inventories also had a slight positive contribution to the growth. Government consumption declined over the period. Reflecting the stronger quarterly decline in exports than in imports of goods and services, net exports also had a negative contribution to the growth.

Indicators tracking firms and households' sentiment (NSI business climate and consumer confidence) remained at comparatively high

²⁷ The quarter-on-quarter analysis in this section employs seasonally adjusted data, unless otherwise indicated. The seasonal adjustment of indicators, on which the NSI or Eurostat do not officially publish seasonally adjusted data, was made via the TRAMO SEATS or OxMetrics programme by using automated set up for diagnostics and optimisation of adjustment parameters.

Contribution to GDP Growth by Final Use Component

(per cent, percentage points, quarter-on-quarter, seasonally adjusted data)



Note: Non-additive data due to direct chain-linked and seasonal adjustment of GDP and its components; the contribution of the change in inventories has not been included.

Sources: NSI, BNB calculations.

levels over the fourth quarter. In December the business climate indicator picked up, according to seasonally adjusted data, with improvements observed in all sectors, excluding services. In October and November the real component of industrial turnover on the external market improved along with increased retail trade volumes compared with the average level in the third quarter.

In the first half of 2016 driving factors for firms' investment activity will be their improved activity sentiment in the following months, low oil prices and the continued period of maintaining comparatively high capacity utilisation in industry. At the same time, the continuous uncertainty in the external environment is likely to force firms to adopt more moderate plans for their future development. The contradictory nature of indicators give grounds to expect retention of low private investment. The increase in consumer confidence, as observed in the NSI survey, and its further rise in the second and third quarters of 2015 suggest that the quarterly growth of private consumption is expected to continue in the first two quarters of 2016.

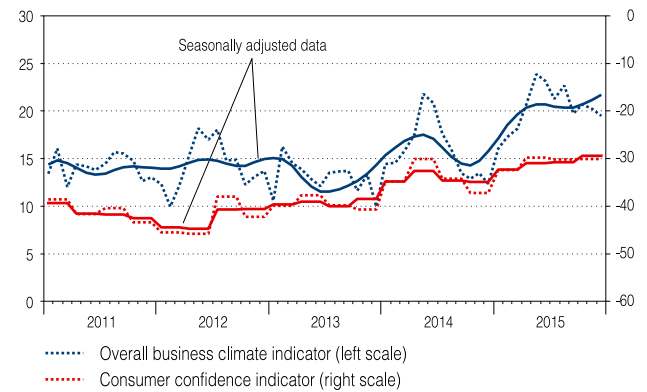
Government consumption and public investment are anticipated to pick up over the fourth quarter, based on preliminary data on consolidated fiscal programme implementation as of December 2015. In performing 2016 State Budget Law parameters, government consumption is expected to post a slight quarter-on-quarter decline in early 2016, compared to its higher levels at the end of 2015, though increasing slightly on an annual basis. Government investment is projected to limit GDP growth in the first half of 2016 and decrease as a result of anticipated delayed start-up of new investment projects for the 2014–2020 programme period.

In the beginning of 2016 goods and services exports are expected to increase at slightly higher rates than imports of goods and services.

Based on these component developments, in the first two quarters of 2016 quarterly real GDP growth is likely to be weaker than that in 2015, with the slowdown likely to affect the annual growth, as well.

The external environment remained a source of uncertainty for the projection. Slower than expected growth rates in Bulgaria's major

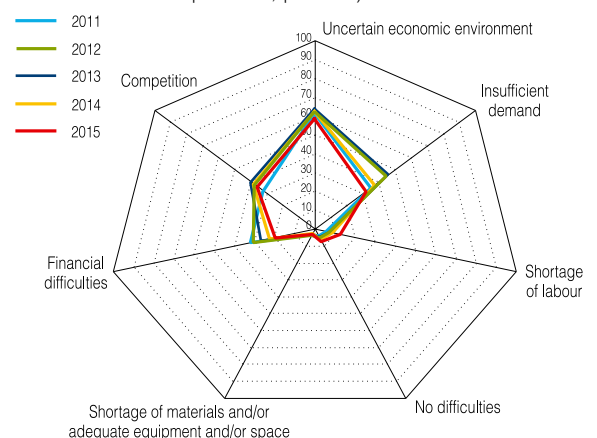
Business Climate and Consumer Confidence



Sources: NSI, BNB calculations.

Factors Limiting Economic Activity of Corporations

(relative share of all corporations, per cent)



Note: Average for the period, sector-weighted (industry, construction, trade and services) data for 2011–2015.

Sources: NSI, BNB calculations.

Real GDP Growth by Component of Final Use

(per cent, quarter-on-quarter; real rate, seasonally adjusted data)

	2012				2013				2014				2015		
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III
Consumption	0.8	0.9	0.3	0.0	-0.5	0.0	-0.2	-0.1	4.9	-1.6	-1.3	-0.8	0.1	0.7	1.0
incl.															
Household consumption	1.0	1.1	0.1	-0.4	-1.2	0.2	0.3	0.3	1.8	0.2	-0.2	0.1	-0.4	0.3	0.7
Government final consumption expenditure	4.1	-6.3	2.1	1.9	-2.6	3.3	-3.2	2.5	4.2	-1.2	-1.2	-7.1	5.3	3.9	-3.1
Collective consumption	0.2	0.3	0.7	1.3	-0.1	1.5	2.8	1.3	-0.2	-1.0	-3.0	-1.3	0.9	0.2	0.5
Gross fixed capital formation	0.0	1.7	-0.6	-0.9	1.4	0.0	2.1	2.2	1.4	-0.4	-0.2	-0.9	-0.4	0.4	0.6
Exports of goods and non-factor services	-8.2	9.4	0.0	-0.1	5.8	1.9	1.4	1.1	-5.0	4.5	-2.5	7.3	4.0	-3.2	-1.9
Imports of goods and non-factor services	-4.6	9.5	-1.2	-2.6	2.7	4.0	3.7	-4.3	1.9	-0.9	0.6	3.8	3.0	-2.7	-0.8
Real GDP growth	0.1	0.0	-0.2	-0.1	0.5	0.2	0.7	0.4	0.1	0.6	0.4	0.6	0.9	0.6	0.7

Source: NSI.

trading partners would contribute to a lower than projected domestic growth, whereas stronger declines in oil prices and their prolonged retention at low levels could stimulate consumption and reduce production costs of firms, thereby increasing growth beyond the expectations. If firms continue to invest cautiously and the expected recovery of private investment is postponed, lower than expected economic growth would be observed. Risks in both directions exist also to public investment.

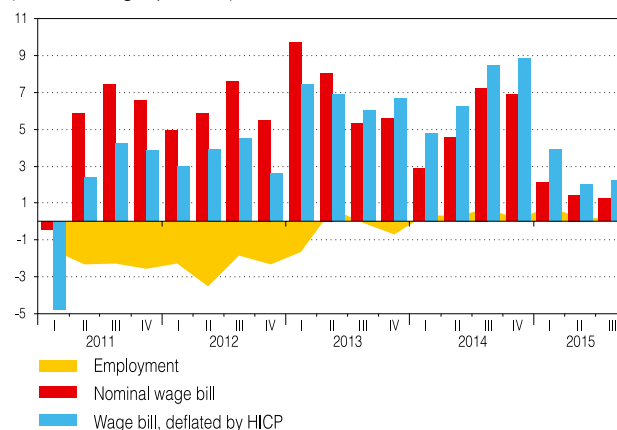
Household Behaviour

In the third quarter of 2015 household consumption increased its growth rate, although the household savings rate remained at comparatively high levels and labour supply decreased slightly. Employment growth continued to be subdued. During most of 2015 the growth rate of household income from remuneration increased at lower rates compared with 2014 (both annually according to non-seasonally adjusted data on wage bill and average wage *per* employee and quarterly according to seasonally adjusted national account data).²⁸ Corporations' expectations about the number of personnel suggest a continuous recovery of labour demand by firms in most sectors. Concurrently, in a period of declining energy prices there are preconditions for increasing labour costs without distorting competitive positions of the firms. These factors

²⁸ Quarter-on-quarter rates of change in seasonally adjusted data indicate recent developments in indicators that are not subject to base effects in the corresponding period of prior year.

Employment and Nominal Wage Bill

(annual change, per cent)

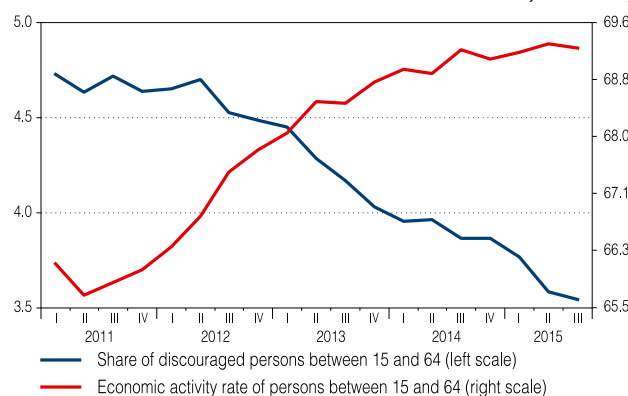


Sources: NSI – SNA, BNB calculations.

Economic Activity and Share of Discouraged Persons

(per cent, seasonally adjusted data)

(per cent, seasonally adjusted data)



Sources: NSI – SNA, BNB calculations.

are likely to contribute to increasing households' labour income over a short-term period, affecting positively consumption.

The NSI Labour Force Survey shows that in the third quarter labour supply by households was low (measured by quarterly changes in seasonally adjusted data on labour force²⁹). The increase in the economic activity rate³⁰ throughout most of the year was mainly driven by declines in working-age persons. Over the third quarter the marginal decline in the economic activity rate (seasonally adjusted data) reflected, to a large extent, the decrease in labour force in this quarter. The number of discouraged persons continued to go down in the third quarter of 2015.

The Labour Force Survey shows that in the third quarter the seasonally adjusted unemployment rate³¹ continued to decrease, reaching 9 per cent (8.3 per cent according to non-seasonally adjusted data) and reflecting mainly the lower number of longer-term unemployed persons (jobless for more than a year). As a result, the share of long-term unemployed came to 5.6 per cent of labour force. The seasonally adjusted unemployment rate³² calculated using the Employment Agency data also contracted slightly in the third and fourth quarters of 2015, reaching 10 per cent in December (9.9 per cent according to non-seasonally adjusted data).

Seasonally adjusted national account data show that household consumption in the third quarter rose by 0.7 per cent on a quarterly basis. Though declining compared to the second quarter according to seasonally adjusted data, retail trade volumes increased again in the first two months of the fourth quarter. Concurrently, the consumer confidence indicator went up according to seasonally adjusted data due to maintained better expectations of households for the economic

²⁹ The labour force (currently economically active population) comprises persons aged 15 and older who provide the supply of labour for the production of goods and services during a specified time-reference period. Labour force includes both employed and unemployed persons.

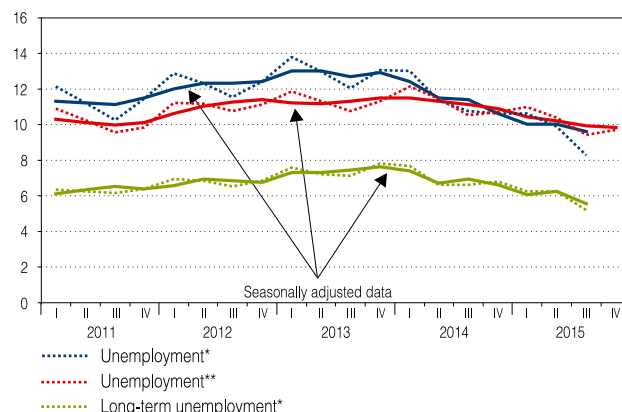
³⁰ The labour force participation rate is the proportion between economically active persons (labour force) and the population of the same age.

³¹ The unemployment rate is the ratio between the number of unemployed and the labour force based on Labour Force Survey data.

³² The definition of the unemployment rate according to the Employment Agency corresponds to that referred to in footnote 31, but using a constant rate of labour force comprising the number of persons in the respective age group since the last census of the population.

Unemployment Rate

(%, share of the labour force)



* NSI data.

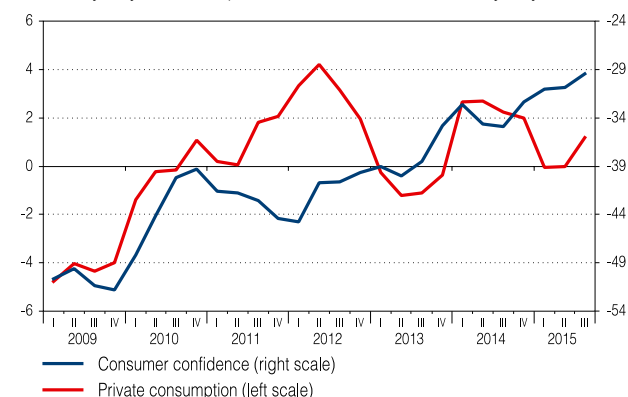
** Employment Agency data.

Sources: NSI – SNA, Employment Agency, BNB calculations.

Private Consumption and Consumer Confidence

(annual change, per cent, seasonally adjusted data)

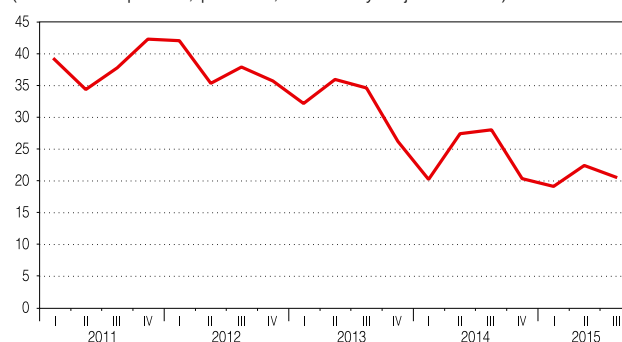
(per cent, seasonally adjusted data)



Sources: NSI – Consumer Survey, BNB calculations.

Household Unemployment Expectations in the Following 12 Months

(balance of opinions, per cent; seasonally adjusted data)



Source: NSI – Consumer Survey.

situation and their financial position, according to the NSI Consumer Survey³³ conducted in October 2015. In the context of low oil prices, rising labour income and improved consumer confidence, it is expected household consumption to recover further in the first half of 2016.

The household savings rate remained comparatively high in the third quarter of 2015. The NSI household budget survey shows that the share of savings in household disposable income retained its comparatively high levels. The share of households, which intend to increase their savings in the following 12 months, remained also high (according to the Consumer Survey of October 2015). Net assets of households measured by their net position *vis-à-vis* the banking system (BNB monetary statistics) continued to increase over the third quarter.

In the first and second quarters of 2016 consumer demand is projected to increase, the household savings rate to remain high and labour supply to be relatively low. The risks to this projection are balanced and relate mainly to factors which could affect consumer confidence, as employment and labour income.

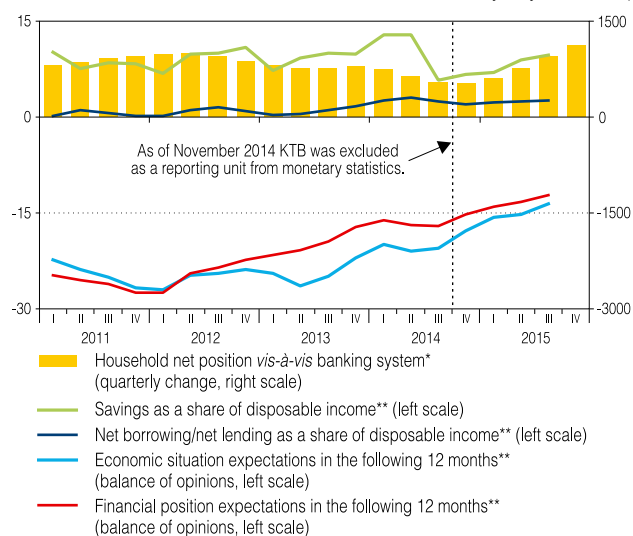
³³ Final results of the Consumer Survey represent balances of opinions calculated as a difference between the relative shares of positive and negative opinions on raised issues. The composite consumer confidence indicator is calculated as the arithmetic mean of expectation balances in the following 12 months for the development of: financial position and savings of households, the overall economic situation in the country and unemployment (the latter with the sign reversed).

Household Propensity to Save and Expectations

(per cent, seasonally adjusted data)

(million BGN;

seasonally adjusted data)



* BNB data.

** NSI data.

Sources: NSI – Household Budget Survey, Consumer Survey; BNB.

Retail Trade Turnover

(per cent, quarter-on-quarter; seasonally adjusted data at constant prices)

	2012				2013				2014				2015			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	Oct.-Nov.
Retail trade, excluding motor vehicles and motorcycles	5.9	-1.0	-0.5	-0.5	1.0	3.1	1.4	1.4	1.0	-0.1	1.9	0.9	0.0	-0.7	-1.1	0.7
incl.																
Food, drinks and tobacco products	1.5	0.9	0.0	1.5	-4.6	3.6	3.9	0.2	0.8	0.7	0.9	0.8	-1.7	-1.3	-0.8	-0.2
Textile, clothing, footwear and leather	8.2	-4.8	2.3	3.5	2.2	4.6	6.3	-3.4	-3.6	1.8	3.1	-0.1	-5.2	0.1	-5.0	0.6
Household appliances, furniture and other household goods	8.4	0.5	-2.4	-0.8	1.4	2.7	2.4	2.4	0.0	0.6	1.5	2.5	1.2	1.0	1.1	0.0
Computer and communication equipment	-3.3	1.4	0.0	-8.1	5.1	5.6	1.5	5.5	4.2	-2.5	1.1	0.7	-0.9	-0.1	-2.1	3.3
Pharmaceutical and medical goods, cosmetics and toiletries	2.6	0.8	1.2	-4.6	7.2	5.3	4.3	1.7	-1.2	0.0	1.8	3.9	0.7	1.6	3.2	0.0
Unspecialised shops with different kinds of goods	8.6	-1.4	-1.3	1.2	0.5	11.7	-4.6	-1.2	-1.2	0.4	-0.3	0.1	0.0	-0.8	2.5	-0.9
Automobile fuels and lubricants	5.1	0.2	1.3	0.9	-3.6	4.6	-5.4	-0.8	1.3	-0.9	6.8	-1.1	6.2	-5.9	-3.5	2.3

Source: NSI – short-term business statistics.

Employment and Income Dynamics

	2012				2013				2014				2015		
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III
(per cent, quarter-on-quarter; seasonally adjusted data)															
Employment	-0.6	-1.7	1.0	-0.2	-0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.0	0.1	0.0	0.0
Nominal wage per employee*	1.6	2.1	2.3	1.5	3.1	0.8	0.8	1.3	1.6	1.3	1.4	0.7	-0.6	0.6	0.2
Real wage per employee**	0.5	2.1	1.6	1.4	3.0	1.2	1.2	1.7	2.3	1.7	1.7	1.3	-0.8	0.4	0.0
Wage bill, nominal terms	0.9	1.6	2.3	0.8	3.0	0.7	0.6	1.3	1.4	1.7	1.2	0.8	-0.1	0.8	0.6
Wage bill, real terms**	-0.2	1.6	1.6	0.6	2.9	1.0	1.0	1.7	2.0	2.0	1.5	1.4	-0.3	0.5	0.5
(per cent, on corresponding quarter of previous year, non-seasonally adjusted data)															
Employment	-2.3	-3.5	-1.9	-2.3	-1.7	0.7	-0.1	-0.7	0.3	0.3	0.7	0.1	0.8	0.2	0.2
Nominal wage per employee*	7.1	7.9	8.5	8.2	12.3	8.6	6.2	6.6	3.5	4.3	7.3	7.3	1.3	0.9	-0.1
Real wage per employee**	5.1	6.0	5.3	5.3	9.9	7.4	6.9	7.7	5.4	6.1	8.5	9.2	3.1	1.5	0.9
Wage bill, nominal terms	4.9	5.8	7.6	5.5	9.7	8.0	5.3	5.6	2.9	4.5	7.2	6.9	2.1	1.4	1.3
Wage bill, real terms**	3.0	3.9	4.5	2.6	7.4	6.9	6.0	6.7	4.8	6.3	8.5	8.8	3.9	2.0	2.2

* The wage is calculated according to NSI data (SNA), with social security contributions paid by the employer deducted from the compensation per employee. The difference is divided by the number of employees.

**Data deflated by HICP.

Sources: NSI – SNA, BNB calculations, Eurostat.

Fiscal Policy Effects on the Economy

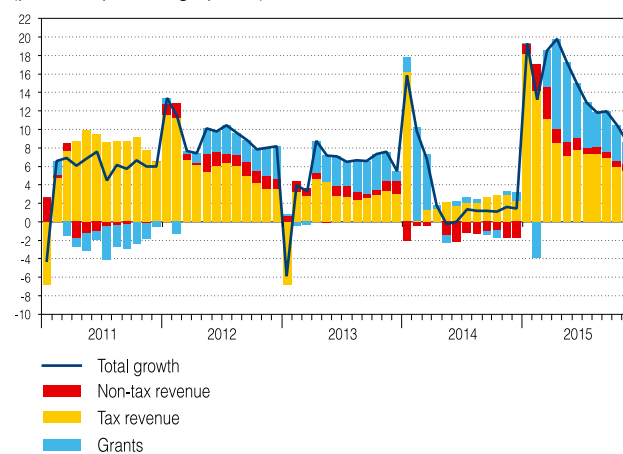
As of end-November consolidated fiscal programme balance was negative at BGN 406.4 million, with budget deficit projected to rise to BGN 2287.0 million (2.6 per cent of GDP), according to MF preliminary forecasts. The concentration of 23.4 per cent of annual expenditure in the last two months of the year (of which 14.7 per cent in December only) was the major factor for the reversal of the trend of accumulating budget surpluses in the first ten months of 2015. At the same time, the reported deficit in December was below the projection under both the initial and updated budget framework (approved by the National Assembly at the end of 2015)³⁴ with an improvement of 1.1 percentage points of GDP being recorded against 2014.

In 2015 higher government investment was the major fiscal policy transmission channel for the economic growth. The government consumption contribution to GDP growth was negative for the first nine months.

Despite slower rates of growth in indirect taxes and grants at the end of 2015, revenue under

Contribution of Major Groups of Revenue to Growth in Total Revenue and Grants, Cumulatively (on an Annual Basis)

(per cent; percentage points)



Sources: MF, BNB calculations.

³⁴ In the Transitional and Final Provisions of the Republic of Bulgaria 2016 State Budget Law published on 8 December 2015, the government budget for 2015 was also updated, with the new estimates in justification to the Law showing a CFP deficit of 3.3 per cent of GDP.

these items surpassed estimates in the updated projections, with overperformance of total revenue reaching 1.9 per cent in 2015 (MF preliminary data). Measures to enhance tax collection and growth in compensation of employees, gross operating surplus and private consumption contributed to the substantial increase in all categories of tax revenue, with indirect taxes and social security contributions adding most significantly to the total revenue growth.

Strong developments in the revenue side of the budget helped boost the national co-financing to implement to the widest extent possible all projects under the 2007–2013 financial framework, as 2015 was the last possible year for their implementation. This led to accelerating growth in capital expenditure throughout the whole year and their increased contribution to total investment growth, particularly in the second half of 2015.

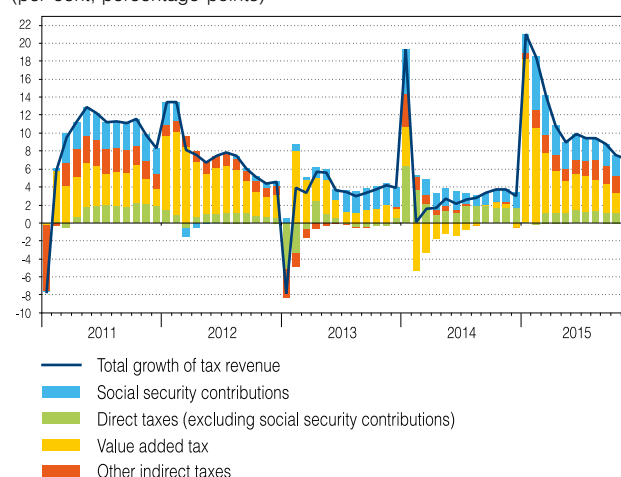
Social payments increased their growth rate over the second half as a result of the pension indexation by 1.9 per cent since 1 July. Subsidy expenditure fell by 0.4 per cent between January and November.

The steady downward trend in operating costs over the first eleven months was the main factor driving declines in real government consumption over the third quarter. Between July and September year-on-year compensation of employees also decreased, thereby amplifying the negative contribution of government consumption to GDP growth (-0.2 percentage points). Despite the partial progress in optimising wage expenses in the public sector over 2015, several one-off factors pushing up these expenses called for an update in annual compensation estimates in December 2015. Higher payments on wages at the end of the year are likely to prompt positive growth in government consumption in the last quarter.

Budget revenue performance in the first two quarters of 2016 will reflect the increased tobacco and fuel excise duties and higher minimum insurance thresholds and minimum wage (see the box *Basic Parameters of the 2016 Law on the State Budget of the Republic of Bulgaria and of the Updated Medium-term Budget Forecast for the 2016–2018 Period*). It is likely that higher cash VAT receipts will be observed in early 2016

Contribution of Major Tax Groups to Tax Revenue Growth, Cumulatively (on an Annual Basis)

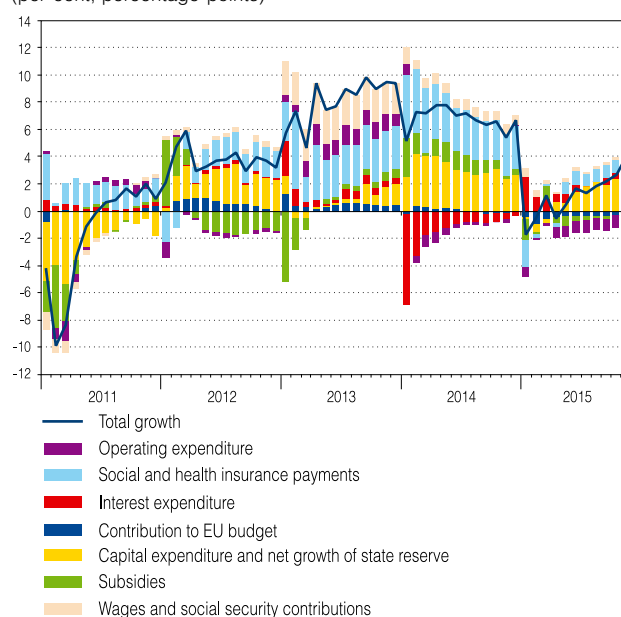
(per cent; percentage points)



Sources: MF, BNB calculations.

Contribution of Major Groups of Expenditure to Total Expenditure Growth, Cumulatively (on an Annual Basis)

(per cent; percentage points)



Sources: MF, BNB calculations.

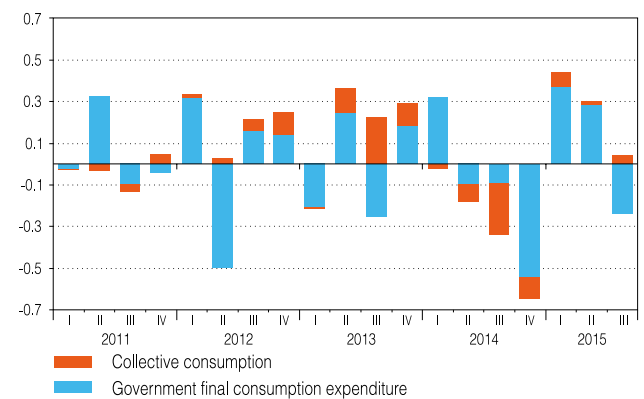
as a result of higher end-year expenditure. At the same time, significant grant payments may be expected to reimburse expenses made after 31 October 2015 under EU-funded programmes.

Public investment is expected to contribute most strongly to the slowdown in economic activity over the first half of 2016. MF estimates of October 2015 show that public investment in 2016 will be lower than the levels attained in 2015.

In performing 2016 State Budget Law parameters, in the first half year current government expenditure is expected to post a slight positive contribution to GDP growth mainly in terms of projected low growth of government consumption and, to a lesser degree, social payments supporting disposable income.

Contribution of Government Consumption Components to Real GDP Growth

(percentage points, quarter-on-quarter, seasonally adjusted data)



Sources: NSI, BNB calculations.

Revenue, Expenditure and Budget Balance on the Consolidated Fiscal Programme for 2014–2015

Consolidated Fiscal Programme	2014		2015								2014		2015	
	January – December		I		II		III				January – November ¹		January – November ¹	
	million BGN	% ²	million BGN	% ²	million BGN	% ²	million BGN	% ²			million BGN	% ²	million BGN	% ²
Total revenue and grants	29 409	1.5	7 795	18.5	16 303.1	15.1	7 859	6.4			26 738	1.6	29 076	8.7
Tax revenue	23 028	2.9	5 937	14.2	12 286.0	9.9	6 282	6.6			21 023	3.7	22 510	7.1
Corporate tax	1 679	8.1	464	2.4	1 008.5	6.3	230	5.0			1 343	5.4	1 449	7.9
Personal income tax	2 597	10.6	621	-0.2	1 349.2	4.4	671	4.0			2 376	11.7	2 493	4.9
Value added tax	7 264	-1.4	1 969	21.8	3 946.3	13.2	2 136	5.3			6 850	1.5	7 199	5.1
Excise	4 039	-0.4	950	11.1	2 006.7	9.4	1 326	15.1			3 720	0.6	4 125	10.9
Customs duties	153	4.8	39	12.5	75.4	7.6	38	-9.4			139	2.7	144	3.1
Social and health insurance contributions	6 449	6.4	1 625	16.4	3 351.8	10.4	1 729	5.2			5 794	5.3	6 268	8.2
Other taxes	847	0.8	269	21.7	548.1	7.6	152	-7.5			801	1.7	832	4.0
Non-tax revenue	3 460	-12.4	1 080	25.8	2 018.9	10.7	832	-4.8			3 204	-12.0	3 423	6.8
Grants	2 921	10.0	778	50.3	1 998.2	71.3	744	20.8			2 511	4.6	3 143	25.2
Total expenditure	32 482	6.8	7 539	1.2	15 413.0	1.6	8 116	3.1			28 339	5.4	29 483	4.0
(incl. the contribution to EU budget)														
Wages and social security contributions	6 020	3.4	1 415	1.4	2 934.4	1.6	1 460	-0.8			5 415	3.3	5 462	0.9
Operating expenditure	4 725	0.6	1 005	-1.1	2 035.1	-5.9	959	-6.3			3 941	-1.9	3 698	-6.2
Interest	580	-15.8	263	31.8	309.6	29.0	321	18.4			534	-20.7	656	22.9
Social security, assistance and social care	13 709	7.5	3 388	0.4	6 891.9	2.3	3 472	2.5			12 393	7.0	12 639	2.0
Subsidies	1 551	9.5	401	21.9	779.0	-7.0	288	-1.2			1 294	5.6	1 289	-0.4
Capital expenditure and state reserve growth	4 942	20.2	765	-2.6	1 957.7	12.7	1 498	16.6			3 951	19.2	4 803	21.5
Contribution to EU budget	955	2.2	302	-13.4	505.3	-10.0	119	-14.1			810	-2.8	936	15.5
	million BGN	difference ³ (million BGN)	million BGN	difference ³ (million BGN)	million BGN	difference ³ (million BGN)	million BGN	difference ³ (million BGN)			million BGN	difference ³ (million BGN)	million BGN	difference ³ (million BGN)
Budget balance, on a cash basis	-3 072.9	-1 632.0	255.9	1 130.6	890.0	1 885.6	-257.0	225.6			-1 600.7	-1028.7	-406.4	1 194.3

Note: The difference between the sum of individual components and total sum is due to rounding.

¹ Based on monthly reports on the implementation of budget and EU fund accounts of first-level budget spending entities.

² Annual rate of change on the same period of previous year.

³ Budget balance changes on the same period of previous year.

Source: BNB.

Basic Parameters of the 2016 Law on the State Budget of the Republic of Bulgaria and of the Updated Medium-term Budget Forecast for the 2016–2018 Period

According to the State Budget Law for 2016 and latest government's medium-term budget forecast of October 2015, the target for cash deficit of the consolidated fiscal programme for 2016 is BGN 1800 million (2.0 per cent of GDP projection). Budget balance is projected to improve on account of both higher total revenue and grants as a share of GDP (from 36.8 to 37.4 per cent) and lower total expenditure as a share of GDP (from 40.2 to 39.4 per cent).

As regards budget revenue, growth in tax and non-tax revenue (by 5.1 and 23.8 per cent compared to the expected outcome for 2015) is expected to entirely compensate declines in grants (by 23.0 per cent *vis-à-vis* 2015). The increase in minimum insurance thresholds across major economic activity and occupational groups (by 8.6 per cent on average) and in minimum wage is projected to have a positive effect on tax revenue performance.¹ Higher excise duties on cigarettes and fuels are anticipated to exert a positive, though comparatively limited, effects on indirect tax revenue growth. The increase in excise duties and in road fees (since 1 January 2016) will directly affect the inflation rate throughout the year. Similar to the 2015 budget framework, planned tax in 2016 involve positive budget effects of applying measures to improve tax collection and counteract the shadow sector and tax evasion.

The planned strong growth of non-tax revenue results mainly from projected one-off receipts of Sofia airport concession and, to a lesser extent, from increased road fees and non-financial asset sales. Estimated long-term budget projections of declining grants revenue in 2016 may be explained by the finalisation of the projects in 2015 under the 2007–2013 financial framework and still early stage of implementation of projects on operational EU programmes for the new funding period 2014–2020.²

In 2016 projected declines in total expenditure (including the EU budget contribution) as a share of GDP is driven by lower capital expenditure given the expected absorption rate of EU funds. Other factors are the projected consolidation of current operating expenditure and lack of allocated reserves for structural reform and/or additional fiscal measures as compared to the amended budgetary framework for 2015.

In 2016 social payments would have the largest contribution to current non-interest expenditure growth, driven primarily by the projected increase in pension expenditure as a result of the 2.5 per cent indexation from 1 July according to the Swiss rule, as well as the increase in minimum pensions for retirement and for old age. As pointed out in the Motives to the State Social Security draft budget law for 2016, the estimated effect of these measures on pension expenditure would be BGN 120 million. In addition, it will be influenced by the expected higher number of pensioners in 2016, given the more gradual rise in the retirement age (by two instead of four months) and the possibility of early retirement since 2016 (up to 12 months), with the effect on the expenditure side of the budget estimated at BGN 64.5 million. Health insurance payments and wage expenses are also likely to increase moderately.³

Under the updated medium-term budget forecast for the 2016–2018 period, in 2017 and 2018 budget deficit is projected to decrease as a share of GDP (by 0.6 and 0.4 percentage points respectively), with the budget balance likely to improve largely through reductions in total expenditure. The ratio of government debt to GDP is projected to increase from 27.2 per cent in November 2015 to 28.9 per cent in 2018.

The budgetary framework for 2016 and projected fiscal consolidation in the medium-term budget forecast show government's intention to adhere to the limitations set in the Stability and Growth Pact. Fiscal consolidation, in its turn, will limit the growth in the government debt. The projected concentration of higher consolidation efforts in 2016 is a positive step, given the existing uncertainty surrounding external environment developments.

Risks to the 2016 State Budget Law implementation stem from a possible materialisation of a more unfavourable revenue scenario compared to the MF forecast, including in the case of continuous declines in oil and energy prices in international markets. Calculations presented in the research topic Economic and Financial Effects of Oil Price Declines, Economic Review, 4/2014, illustrate that the expected net budget effect of decreased oil prices is negative, with the expected VAT revenue decline exceeding both savings in the budget expenditure side and higher fuel excise and other tax that could be associated with revenue stimulating effect of lower energy prices on economic activity. Risks could arise in case of underperforming expected revenue from Sofia airport concession and a deviation from projected levels of current non-interest expenditure for the year. In this respect, a conservative approach is required, with no budget expenses made in full amount until the final confirmation of one-off non-tax revenue proceeds. In the medium term, risks to the budgetary framework could stem from slowly progressing structural reforms in the energy and transport sectors.

¹ Minimum wage was set at BGN 360 since 1 January 2015, BGN 380 since 1 July 2015 and BGN 420 since 1 January 2016.

² According to the updated medium-term budget forecast for the 2016–2018 period, the changed EC funding approach on pre-financing and annual clearance of accounts under operation at EU programmes would contribute to EU grants' decline.

³ National Health Insurance Fund's budget law for 2016 provides for a BGN 210 million rise in pharmaceutical expenditure, with concomitant lower expenses on other activities, with net effect on boosting total health insurance payments by BGN 129 million.

Behaviour of Firms and Competitiveness

In the third quarter of 2015 real value added for the total economy slightly moderated to 0.2 per cent on a quarterly basis from 0.3 per cent in the previous quarter. All economic sectors contributed positively to value added growth.

Gross value added growth in industry moderated in the third quarter of 2015 to 0.6 per cent (against 1.4 per cent in the second quarter). The industrial turnover indicator of the NSI short-term statistics reported a decline for the same period on a quarterly basis both in the domestic and external market.

In construction value added increased by 0.2 per cent on a quarterly basis in the third quarter of 2015. Positive developments in the sector were also supported by data on the construction production index (at constant prices), showing an increase in civil construction and a slower decline in building construction. A slight increase in the number of new dwellings permits issued occurred.

Services value added continued to increase in the third quarter of 2015, with general government,³⁵ trade, transport, hotels and restaurants,³⁶ and professional activities and scientific research³⁷ sub-sectors contributing positively to growth over the review period.

Data available on turnovers in industry, construction and trade for the October–November 2015 period from the NSI short-term business statistics indicate value added growth in the fourth quarter. The increase in the average nominal industrial turnover average for the October–November 2015 period on a quarterly basis was entirely due to the real component of sales on the external market, while the decline in the real component of sales on the domestic market continued to moderate. Retail trade volumes (at constant prices) went up compared with the third quarter of 2015. The construction produc-

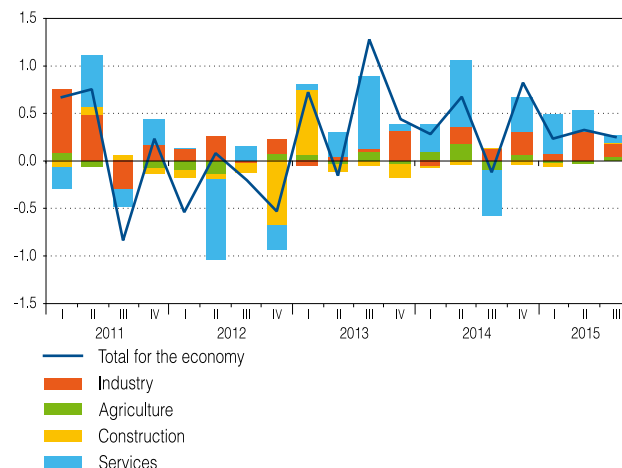
³⁵ Public administration and defence; compulsory social security; education; human health and social work activities sub-sector by A10 breakdown of economic activities.

³⁶ Wholesale and retail trade; repair of motor vehicles and motorcycles; transportation and storage; accommodation and food service activities sub-sector by A10 breakdown of economic activities.

³⁷ Professional, scientific and technical activities; administrative and support service activities sub-sector by A10 breakdown of economic activities.

Value Added Growth and Contribution by Sector

(per cent, percentage points, quarter-on-quarter, seasonally adjusted data)

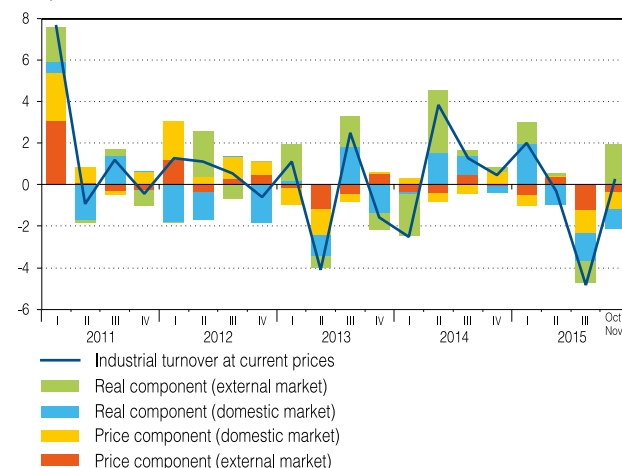


Note: Non-additive data on contributions due to direct seasonal adjustment of value added and its components.

Sources: NSI, BNB calculations.

Industrial Turnover Dynamics

(per cent, percentage points, quarter-on-quarter, seasonally adjusted data)



Sources: NSI, BNB calculations.

tion index remained close to its previous levels. These developments suggest a further recovery of domestic demand in the fourth quarter.

Firms' expectations and sentiment measured by the business climate indicator retained their upward trend since the last quarter of 2014 in the fourth quarter of 2015. Expectations of the future economic activity for the total economy continued their gradual increase in the October–December 2015 period. Over the same period the increased expectations for the number of personnel in following three months, more clearly pronounced in the sectors of industry and trade, and the higher staff shortage was sustained. These developments give positive signs that employment will continue recovering gradually.

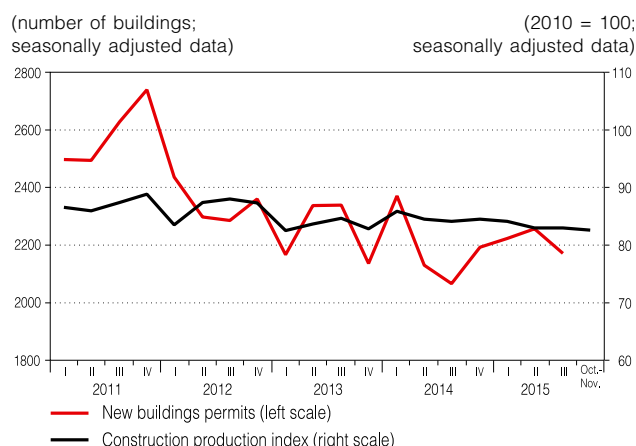
According to national account data, in the third quarter of 2015 investment in fixed capital went up by 0.1 per cent in real terms on a quarterly basis. This growth was mainly attributable to the capital expenditure on the consolidated fiscal programme, while according to BNB calculations (based on national account data and quarterly general government non-financial accounts published by the NSI) private investments went down.

Despite the divergent quarterly dynamics since early 2015 the gross operating surplus remained close to the 2014's level. In the third quarter of 2015, the indicator decreased again both on a quarterly and annual basis with trade and industry sub-sectors having the main negative contribution.

In the third quarter of 2015 employment in the total economy almost matched the levels of the previous two quarters, while in most economic sectors the indicators posted an increase. Employment went down only in the agricultural sector. Given the economic activity recovery and higher economic indicators reflecting the expectations of enterprises about the number of personnel, employment is expected to continue gradually recovering in the first half of 2016.

As a result of stabilised employment and higher gross value added, labour productivity continued to grow on a quarterly basis in the July–September 2015 period at rates similar to those reported since early 2014. Labour productivity posted an increase in most sectors, while the decline in construction was discontinued.

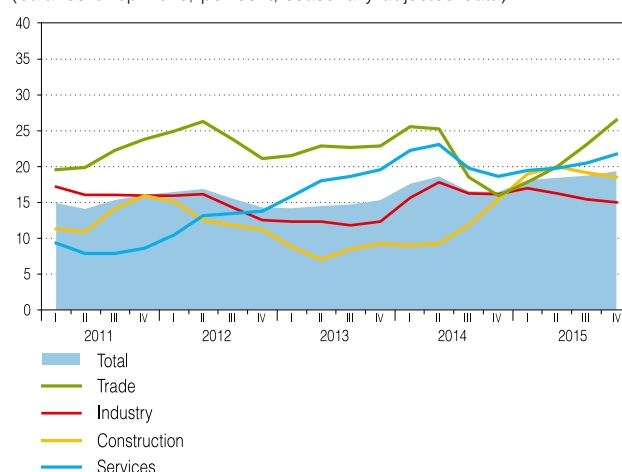
Construction Production Dynamics and New Buildings Permits Issued



Sources: NSI, BNB calculations.

Expectations about Future Economic Activity

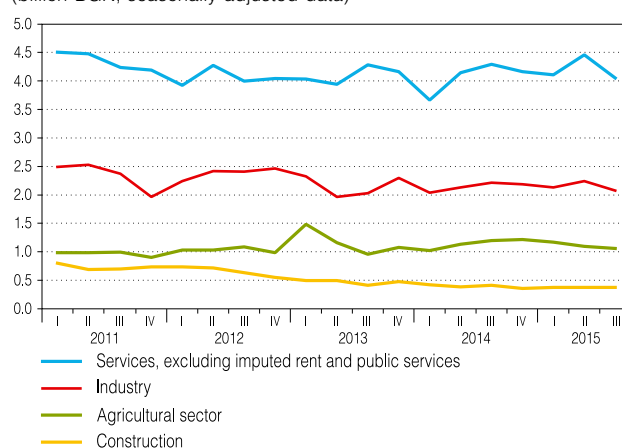
(balance of opinions, per cent; seasonally adjusted data)



Sources: NSI, BNB calculations.

Gross Operating Surplus at Current Prices

(billion BGN; seasonally adjusted data)



Sources: NSI, BNB calculations.

The growth rate of nominal compensation per employee slowed down both on a quarterly basis in the third quarter of 2015 and on an annual basis. This reflected lower wages in most services sub-sectors, while in agriculture, construction and trade they continued to increase.

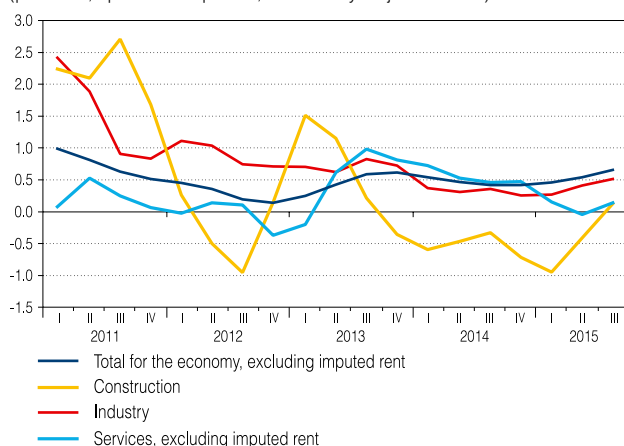
Given the stronger labour productivity growth compared with that in compensation *per* employee, nominal unit labour costs in the total economy posted a slight decrease in the third quarter of 2015 against the previous quarter and on an annual basis. This indicator increased in real terms on a quarterly basis both in most economic sectors and in the total economy.

As a result of the sustained high capacity utilisation in 2015 the capital and total factor productivity continued its positive contribution to real GDP growth as production factors in the third quarter. Almost zero contribution of labour reflects mainly the weak employment dynamics.

The recovery of economic activity and improvements in firms' sentiment and expectations in the context of sustained high capacity utilisation amid low oil prices, are expected to contribute to a longer real growth trend. However, the uncertain economic environment still remains an important factor limiting the investment activity of firms. As a result private investments are expected to remain weak in the first and second quarters of 2016.

Labour Productivity Developments (Value Added *per* Employee)

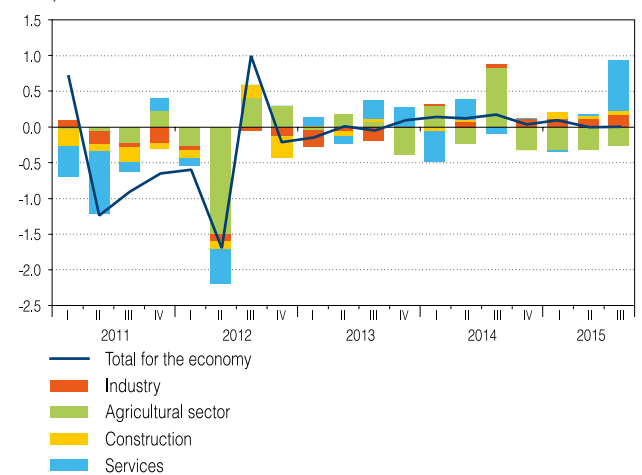
(per cent, quarter-on-quarter; seasonally adjusted data)



Sources: NSI, BNB calculations.

Contribution to Changes in the Number of Employed by Economic Sector

(per cent, percentage points, quarter-on-quarter, seasonally adjusted data)

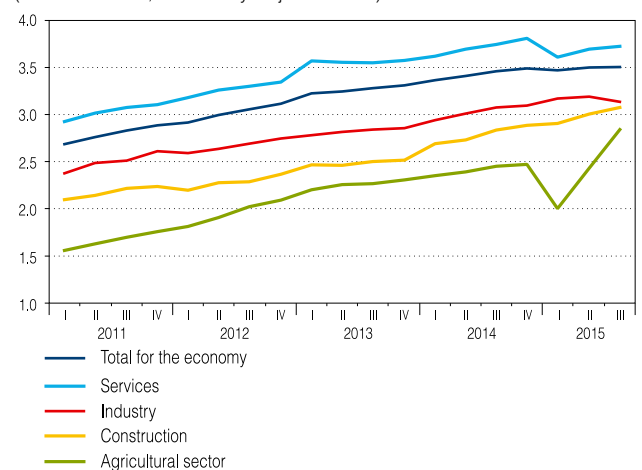


Note: Non-additive data on contributions due to direct seasonal adjustment of the total amount and its components.

Sources: NSI, BNB calculations.

Compensation *per* Employee at Current Prices

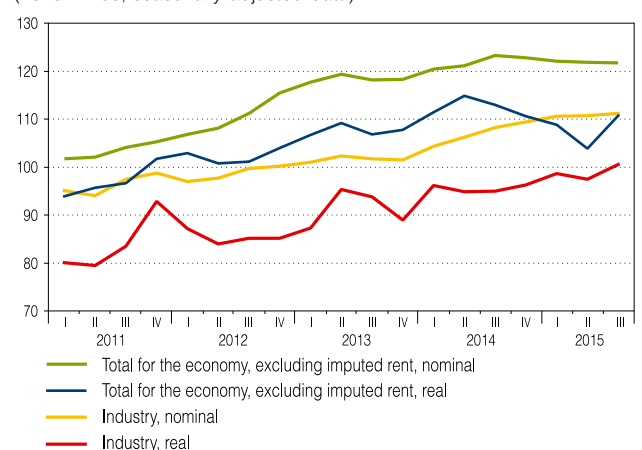
(thousand BGN; seasonally adjusted data)



Sources: NSI, BNB calculations.

Unit Labour Costs

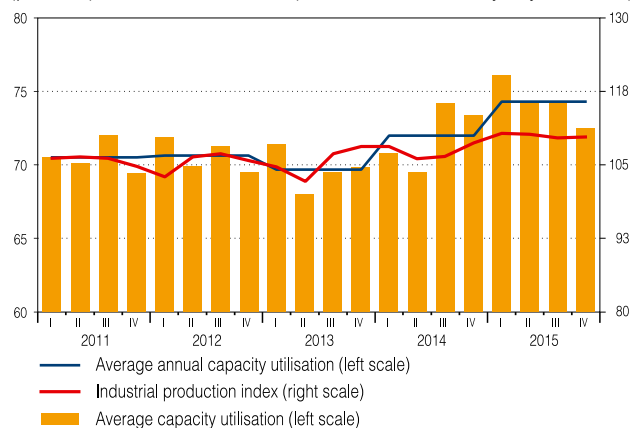
(2010 = 100; seasonally adjusted data)



Sources: NSI, BNB calculations.

Industrial Production Index and Production Capacity Utilisation in Industry

(per cent) (2010 = 100; seasonally adjusted data)

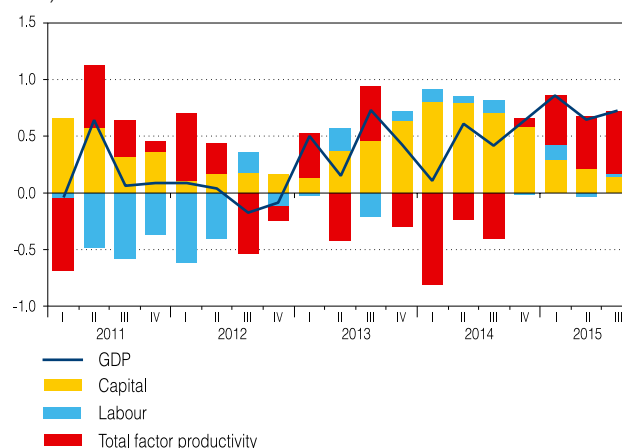


Note: Data on industrial production index for the fourth quarter of 2015 is an average for the October to November period.

Sources: NSI, BNB calculations.

Contribution of Changes in Production Factors to GDP Growth

(per cent, quarter-on-quarter percentage points, seasonally adjusted data)



Sources: NSI, BNB calculations.

Gross Value Added Growth

(per cent, quarter-on-quarter; real rate, seasonally adjusted data)

	2012				2013				2014				2015		
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III
Agriculture, forestry, hunting and fishing	-2.1	-3.1	-0.1	1.7	1.4	-0.8	2.1	-0.9	1.9	3.9	-2.0	1.3	-0.5	-0.7	1.0
Mining and quarrying, manufacturing, production and distribution of electricity, gas and water	0.6	1.2	-0.1	0.7	-0.3	0.2	0.1	1.5	-0.3	0.8	0.6	1.1	0.3	1.4	0.6
Construction	-1.2	-0.7	-1.4	-10.3	11.2	-1.2	-0.8	-2.2	-0.2	-0.8	0.1	-0.7	-0.6	0.0	0.2
Trade, repair of motor vehicles and motorcycles, transport, storage and mail services, hotels and restaurants	1.6	-0.8	-0.1	0.6	1.1	-0.6	2.4	0.4	-0.3	1.2	-1.6	-0.5	0.7	0.1	0.3
Creation and dissemination of information and author products; telecommunications	-2.1	0.2	0.2	0.5	0.7	0.0	1.0	-0.2	0.1	0.4	0.5	0.9	1.3	1.5	0.0
Financial and insurance activities	-2.6	-8.2	3.6	-5.4	0.7	2.5	-2.2	-2.0	0.2	2.7	-2.8	0.4	1.3	-0.2	-1.0
Real estate activities	-0.6	1.2	0.0	-0.3	-0.3	-0.4	-0.3	0.0	0.2	0.0	1.3	0.9	0.4	0.4	0.0
Professional activities and scientific research; administrative and ancillary activities	-2.9	-1.2	2.4	0.2	-0.8	4.3	-1.2	1.7	2.1	-0.5	-0.1	0.6	0.8	1.0	0.6
Public administration, education, human health and social work activities	1.9	0.2	-1.5	2.0	-1.5	0.1	3.2	-0.2	2.0	1.6	-1.0	1.7	0.4	0.5	0.6
Culture, sport and entertainment; other activity; activities of households as employers; non-identified activities of households producing goods and services for own use; activities of extraterritorial organisations and bodies	1.2	-4.0	-2.2	-8.4	0.9	0.5	2.9	3.5	-2.5	1.9	1.2	1.3	-1.1	-1.0	-1.0
Gross value added, total for the economy	-0.5	0.1	-0.2	-0.5	0.7	-0.2	1.3	0.4	0.3	0.7	-0.1	0.8	0.2	0.3	0.2

Source: NSI.

Exports and Imports of Goods and Services

Over the January to October 2015 period nominal exports of goods picked up by 5.9 per cent on an annual basis, while nominal imports of goods by 1.1 per cent.³⁸ According to non-seasonally adjusted GDP data real annual growth in exports of goods came to 9.7 per cent in the first three quarters of 2015, while real imports of goods increased by 5.1 per cent. Cross-checking the changes in exports and imports of goods in nominal and real terms showed that the dynamics in global prices limited nominal

³⁸ Foreign trade data.

Net Exports of Commodity Groups by Use, January–October 2015

	Balance, million EUR	Change*, million EUR	Exports Growth**, per cent	Imports growth**, per cent
Consumer goods	524.3	-38.0	6.5	8.2
Raw materials	-169.5	-190.7	5.8	8.3
Investment goods	-1374.0	382.2	15.7	3.3
Energy resources	-1313.4	698.5	-9.2	-20.8
Other imports	-70.9	3.3	22.5	2.9
Total	-2403.6	855.3	5.9	1.1

* Balance change on the corresponding period of previous year.

** Exports/imports growth for the period on an annual basis.

Source: BNB.

growth of international trade flows in the first nine months of 2015.

The dynamics of nominal exports and imports of goods by quarter was divergent: exports and imports went up in the first half of the year, while in the third quarter they decreased on an annual basis. This decline was due to deflationary trends in international prices, while total exported and imported physical volumes posted an increase. Exports of energy products³⁹ to non-EU countries contributed most significantly to the decline in nominal exports of goods in the third quarter of 2015. Exports of iron, steel and copper had the largest negative contribution. Nominal imports of goods in the third quarter of 2015 was adversely affected by imports of energy resources and investment goods.

In the first half of 2016 real exports and imports of goods are expected to further grow against the first half of 2015, with faster growth of exports compared with imports being sustained. The dynamics of real exports will comply with the expectations for an increase in external demand, while real imports of goods will reflect the projected increase in consumption and private investments in Bulgaria. Falling international prices of major commodity groups will continue to subdue the dynamics of exports and imports in nominal terms. Favourable terms of trade are expected to be sustained. As a result growth of nominal exports is anticipated to outstrip that of imports, decreasing the trade balance deficit as a percentage of GDP.

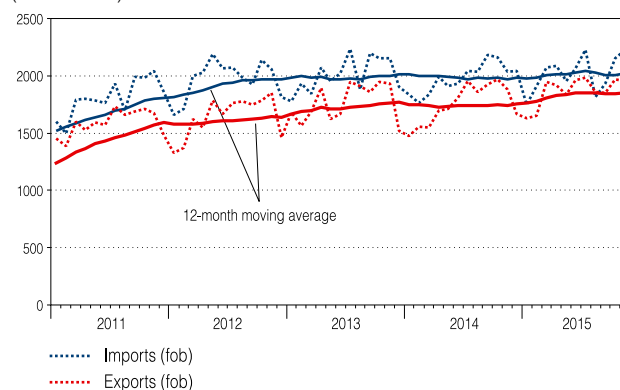
According to the balance of payments data for the January–November 2015 period exports and imports of services rose on the corresponding period of 2014. The national account data for the first nine months of 2015 suggest that this reflects both higher physical volumes and increased prices of exports and imports of services.

In the first half of 2016 real exports of services is expected to decrease against the first half-year of 2015 as a result of lower income under the Travel sub-item due to a slowdown in the economic activity of trading partners important for Bulgaria's tourist sector. On the other hand, real imports of services are expected to increase

³⁹ In this chapter it should read mineral products and fuels group under the Combined Nomenclature.

Dynamics of Exports and Imports of Goods

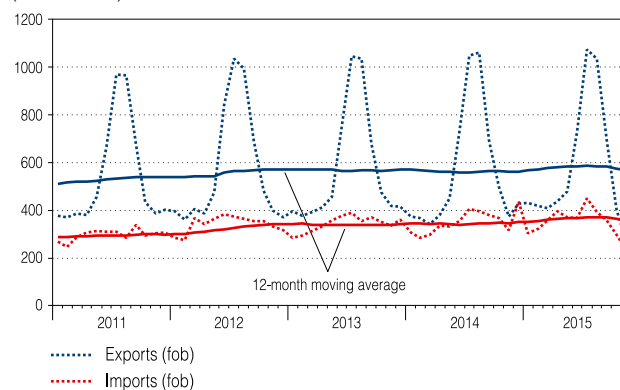
(million EUR)



Source: BNB.

Dynamics of Exports and Imports of Services

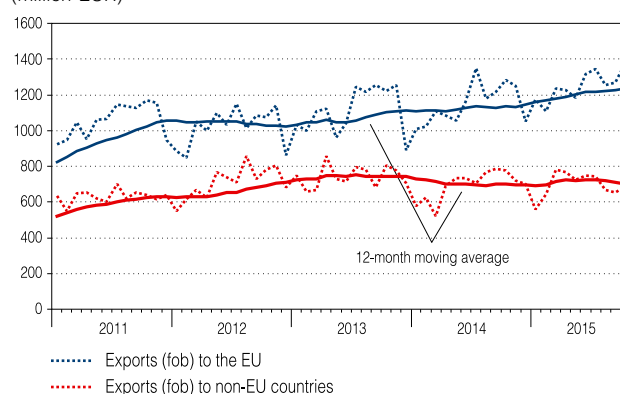
(million EUR)



Source: BNB.

Dynamics of Exports to EU and non-EU Countries

(million EUR)



Source: BNB.

on an annual basis in line with the increasing domestic demand.

Between January and October 2015 exports of goods to EU Member States increased by 9.0 per cent on an annual basis in line with the improvement of EU economic activity. Exports to Germany, Italy and Belgium contributed most markedly to this growth. Exports of machines⁴⁰ and chemical products⁴¹ contributed most significantly to the dynamics of exports to EU Member States by commodity group. Between January and October 2015 exports to non-EU countries rose by 0.8 per cent on an annual basis, with the strongest growth observed in exports to the USA. Growth in exports to non-EU countries was limited due mainly to lower exports of petroleum products as a result of low international prices. The share of exports to EU Member States increased at the expense of that to non-EU countries.

In the January–October 2015 period nominal exports of all commodity groups under the Combined Nomenclature posted an increase on an annual basis, with the exception of petroleum products, with exports of machines and chemical products having the most significant positive contribution.

Between January and October 2015 exports of machines increased on an annual basis, reflecting both increased exported volumes and higher prices.⁴² A significant increase in nominal exports of the group was observed to non-EU countries and to a lesser extent to EU countries. Exports of machines are expected to continue growing in the first half of 2016 driven by strengthening external demand and the high share of the group in total Bulgaria's exports.

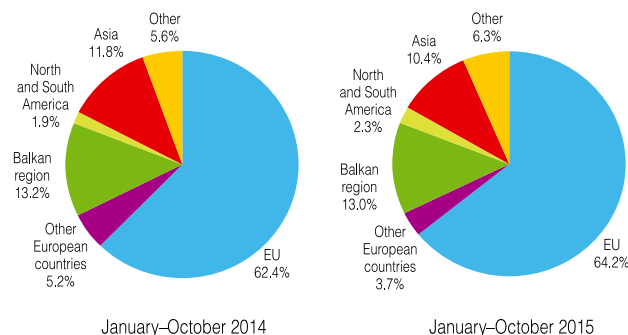
Between January and October 2015 nominal exports of energy products posted a decrease on an annual basis due to lower international prices of petroleum products. Concurrently, over the review period exported physical volumes

⁴⁰ In this chapter it should read the machines, vehicles, appliances, instruments and weapons group under the Combined Nomenclature.

⁴¹ In this chapter it should read mineral products and fuels group under the Combined Nomenclature.

⁴² The quarterly export deflators for the machines, equipment and vehicles group under the Standard International Trade Classification (SITC) were used to estimate the price effect in the first nine months of 2015.

Geographical Breakdown of Exports of Goods



Source: BNB.

Exports by Commodity Group, January–October 2015

	Million EUR	Change* (million EUR)	Growth** (per cent)	Contribution** (percentage points)
Wood products, paper, ceramics and glass	1 018.6	74.9	7.9	0.4
Machines, vehicles, appliances, instruments and weapons	4 656.5	684.2	17.2	3.7
Mineral products and fuels	2 669.6	-199.3	-6.9	-1.1
Base metals and related products	3 146.4	54.2	1.8	0.3
Animal and vegetable products, foods, drinks and tobacco	3 082.7	116.2	3.9	0.6
Textiles, leather, clothing, footwear and other consumer goods	2 546.2	73.4	3.0	0.4
Chemical products, plastics and rubber	2 357.8	288.1	13.9	1.6
Total exports	19 477.6	1 091.7	5.9	

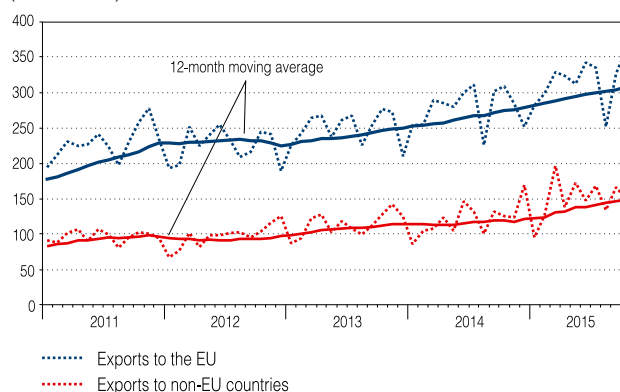
* Change on the corresponding period of previous year.

** Growth/contribution to total export growth over the period on an annual basis.

Source: BNB.

Exports of Machines, Vehicles, Appliances, Instruments and Weapons

(million EUR)



Source: BNB.

rose compared with the January–October 2014 period.⁴³ In the first half of 2016 the downward dynamics of international prices of petroleum products are expected to continue limiting nominal exports of the group.

Exports of base metals⁴⁴ went up on an annual basis between January and October 2015, reflecting both price increases and exported physical volumes⁴⁵. By geographical breakdown increased exports of metals was attributable to exports to EU Member States. Over the review period exports of copper contributed most significantly to growth of the group, while exports of iron and steel reported a decline. In the first and second quarters of 2016 nominal exports of metals are projected to further increase driven by growth in exported physical volumes. Concurrently, nominal growth will be limited by the expected decline (on an annual basis) in international metal prices in euro.

Between January and October 2015 exports of animal and plant products⁴⁶ increased both to EU countries and the rest of the world on an annual basis. The increase of exports in the group was due to higher exported volumes, while falling international prices of goods in this group had a dampening effect.⁴⁷ Over the projection horizon nominal exports of the group is expected to retain its upward trend driven by higher external demand, while growth will be held back by the expected decline in international food prices.

Between January and October 2015 exports of chemical products⁴⁸ rose markedly on an annual basis, with exports of fertilisers and plastic

⁴³ According to the Balance of Payments, November 2015, p. 52, and using the quarterly export deflators of the mineral fuels, oils and related products group under the SITC in the first nine months of 2015.

⁴⁴ In this chapter it should read the base metals and their products group under the Combined Nomenclature.

⁴⁵ According to the Balance of Payments of Bulgaria, November 2015, p. 52, for the non-ferrous metals sub-group using the quarterly export deflators for the precious metals and other non-ferrous metals group under SITC in the first nine months of 2015.

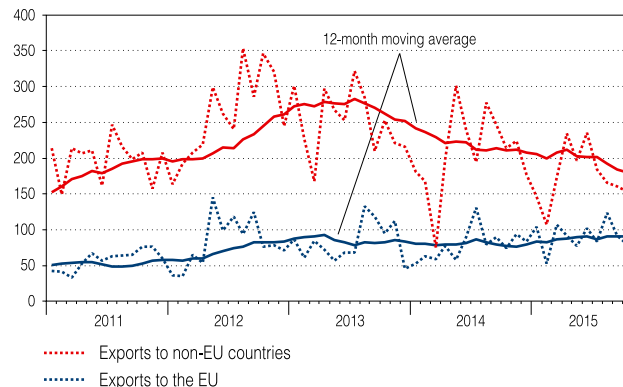
⁴⁶ In this chapter it should read the animal and plant products, food, drinks and tobacco group under the Combined Nomenclature.

⁴⁷ The quarterly export deflators for the cereals and mill products subgroups under the SITC were used to estimate the price effect in the first nine months of 2015.

⁴⁸ The chemical products, plastics and rubber group under the Combined Nomenclature.

Exports of Mineral Products and Fuels

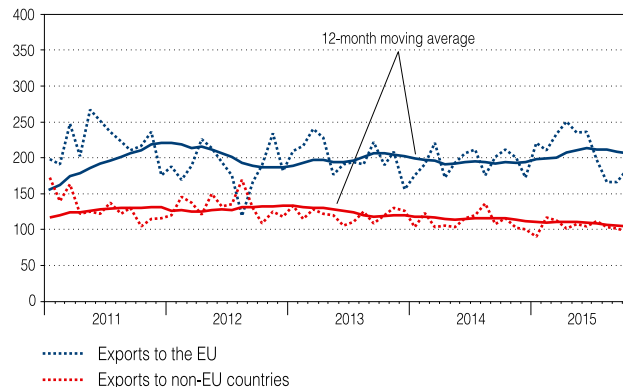
(million EUR)



Source: BNB.

Exports of Base Metals and Related Products

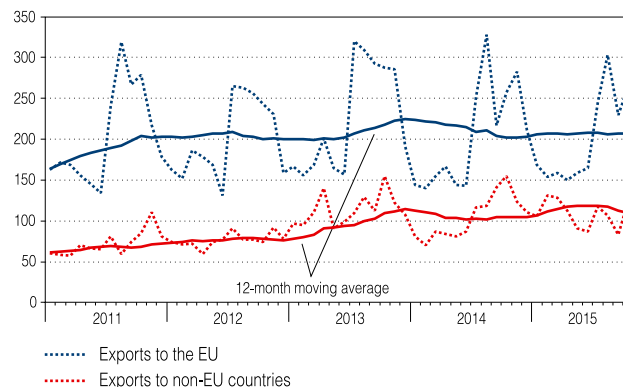
(million EUR)



Source: BNB.

Exports of Animal and Plant Products, Food, Drinks and Tobacco

(million EUR)



Source: BNB.

products contributing most substantially to this growth. Both higher prices and larger physical volumes contributed positively to the group.⁴⁹ Exports of chemical products to EU Member States exhibited stronger growth. In the first and second quarters of 2016 exports in the group are expected to continue growing on an annual basis at rates close to reported ones due to higher external demand.

According to balance of payments data, between January and November 2015 exports of services rose by 1.0 per cent year on year despite the reported decrease in transport and travel sub-groups. Over the review period earnings from tourism decreased by 3.8 per cent on an annual basis, with NSI data reporting a fall of nearly 6.7 per cent in foreigners travelling for tourism in Bulgaria compared with the corresponding period of 2014. The decline was mainly due to a smaller number of visits from Romania, Russia and Greece.

Between January and October 2015 nominal imports (CIF) of goods posted an increase of 1.1 per cent on the corresponding period of 2014. Based on a comparison between real and nominal annual growth in imports of goods for the first nine months of 2015, non-seasonally adjusted GDP data show that this growth was attributable to the increase in imported physical volumes. Raw materials contributed most markedly to nominal growth of imports of goods by use, with their growth matching the annual increase in industrial output.

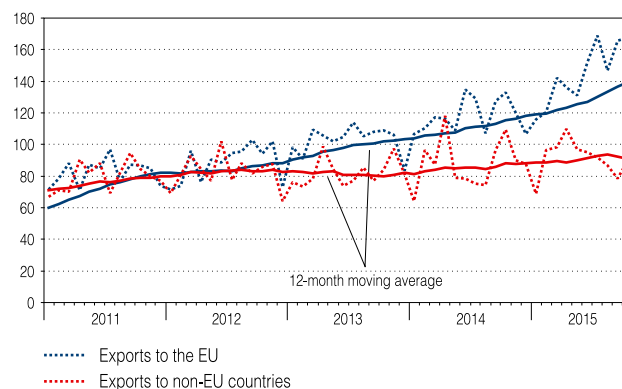
Between January and October 2015 imports of goods from EU Member States increased by 5.8 per cent year on year, with imports from Germany having the largest positive contribution. On the other hand, imports from non-EU countries over the review period went down by 3.6 per cent against the corresponding period of 2014 reflecting mainly the negative contribution of imports from Russia. Between January and October 2015 the share of imports from EU Member States went up to 52.4 per cent.

Nominal imports of energy resources went down on an annual basis between January and October 2015. Lower nominal imports of the group

⁴⁹ The quarterly export deflators for the chemicals and chemical products group under SITC were used to estimate the price effect in the first nine months of 2015.

Exports of Chemical Products, Plastics and Rubber

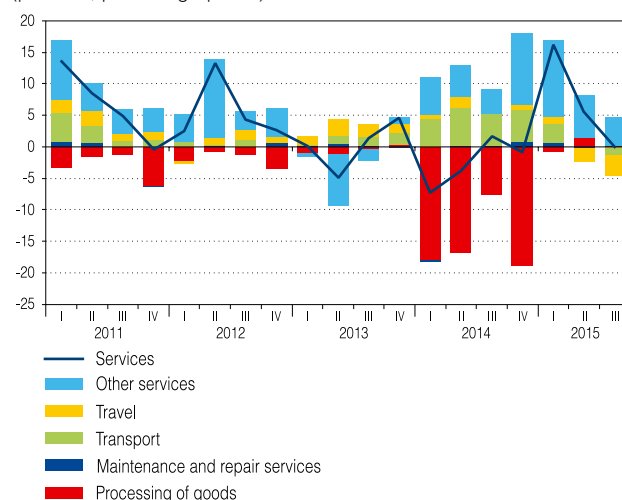
(million EUR)



Source: BNB.

Annual Change of Exports of Services and Contribution by Sub-component

(per cent; percentage points)



Source: BNB.

Imports of Commodity Groups by Use, January–October 2015

	million EUR	Change* (million EUR)	Growth** (per cent)	Contribution** (percentage points)
Consumer goods	4 572.4	347.1	8.2	1.6
Raw materials	8 197.7	631.3	8.3	2.9
Investment goods	5 487.5	177.2	3.3	0.8
Energy resources	3 518.1	-922.3	-20.8	-4.3
Other imports	105.5	3.0	2.9	0.0
Imports, total (cif)	21 881.2	236.4	1.1	

* Change on the corresponding period of previous year

**Growth/contribution to total import growth over the period on an annual basis.

Source: BNB.

was due to falling international prices of energy resources,⁵⁰ while physical volumes increased on the corresponding period of 2014. In the first half of 2016 nominal imports of energy products are expected to be further limited by the projected decline in petroleum prices both in US dollars and in euro.

Between January and October 2015 imports of the raw materials group posted the most significant increase on an annual basis in total imports by use. The assessment of price changes suggests that this growth was due to higher imported volumes, while decreasing international prices of most goods limited imports of the group.⁵¹ In the first two quarters of 2016 imports of raw materials are anticipated to further increase driven by higher private investment and exports of goods for production of which imported raw materials are used.

Imports of consumer goods were also essentially important for growth in total nominal imports. Despite the weak annual growth of consumer demand nominal imports of the group posted a year-on-year increase between January and October 2015. Food, drinks and tobacco, and pharmaceuticals and cosmetics sub-groups had the largest contribution to growth. Over the projected horizon, the group's nominal imports are expected to continue increasing at steady rates driven by the anticipated increase in private consumption.

Between January and October 2015 nominal imports of investment goods grew on an annual basis. This increase reflected both the higher imported physical volumes and the year-on-year price rise.⁵² Imports of the group are projected to retain their growth rates in the first half of 2016 in line with the recovery in the annual rate of growth in private investment.

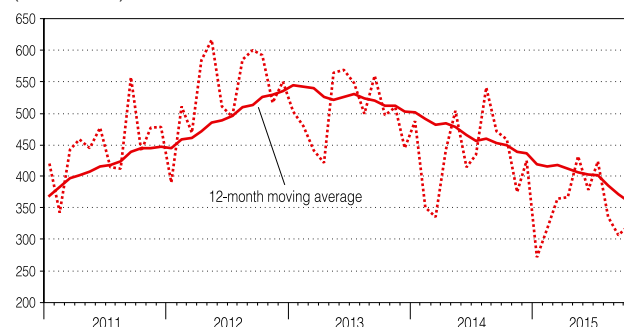
⁵⁰ According to the Balance of Payments, November 2015, p. 52, and using the quarterly import deflators of the mineral fuels, oils and related products group under the SITC in the first nine months of 2015.

⁵¹ The quarterly import deflators of the groups of food and live animals, inedible (crude) materials (excluding fuels); chemicals and chemical products and manufactured goods classified chiefly by materials under the SITC were used to estimate the price effect in the first nine months of 2015.

⁵² The quarterly import deflators for the machines, equipment and vehicles group under SITC were used to estimate the price effect in the first nine months of 2015.

Imports of Energy Resources

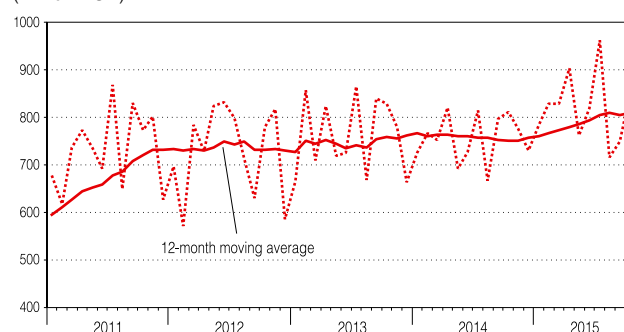
(million EUR)



Source: BNB.

Imports of Raw Materials

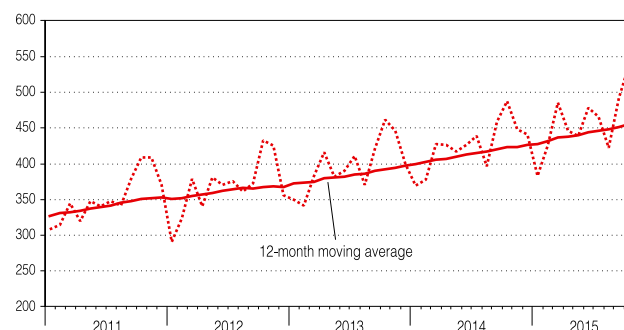
(million EUR)



Source: BNB.

Imports of Consumer Goods

(million EUR)

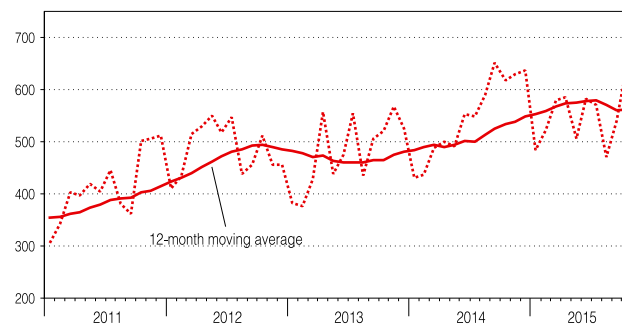


Source: BNB.

According to balance of payments data, between January and November 2015 imports of services went up by 1.9 per cent year on year. Imports of other business services posted the strongest growth. Travelling expenditure of Bulgarian residents exhibited a year-on-year increase over the review period. According to NSI data, over the review period Bulgarians' visits abroad increased on an annual basis, with the most significant increase in the number of visits to Greece and Turkey.

Imports of Investment Goods

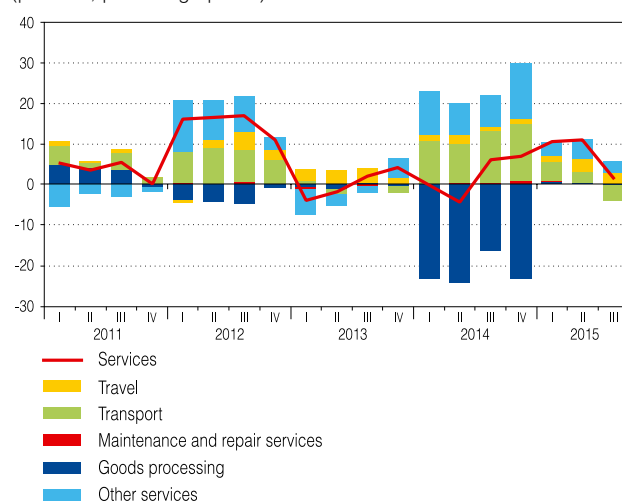
(million EUR)



Source: BNB.

Annual Change of Imports of Services and Contribution by Sub-component

(per cent, percentage points)



Source: BNB.

4. Inflation

Annual inflation was negative in 2015 and amounted to -0.9 per cent at the end of the year. This reflected mainly declining international oil prices which contributed to the significant drop in transport fuel prices and in some administratively controlled prices affected indirectly by fuel prices. The economic environment in Bulgaria did not exert essential upward pressure on end-user prices due to the weak increase in domestic demand and lower production costs of firms related to price falls in intermediate consumption goods and lower nominal unit labour costs.

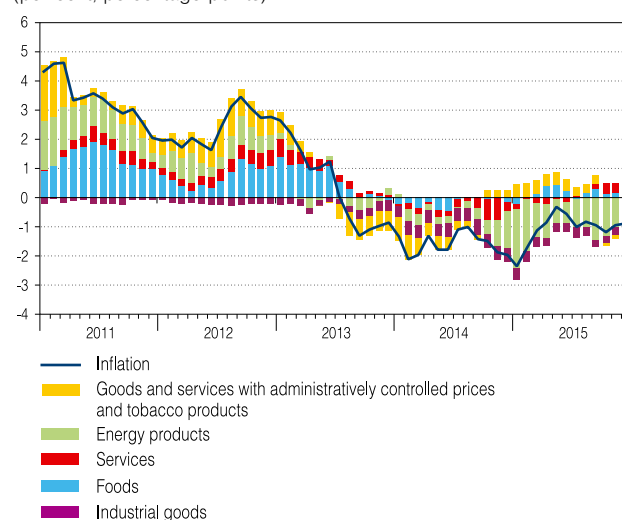
In the first half of 2016 inflation is expected to remain negative but tending to gradually decrease its rate of decline. It will be driven mostly by the projected slower declines in energy product prices and price rises reflecting higher road fees and tobacco excise taxes since early 2016.

The deflationary effect of the external environment, reflecting the downward dynamics of international prices of goods and commodities, was the main factor influencing the annual inflation in 2015. By the end of 2015 the annual inflation was -0.9 per cent (against -2.0 per cent in December 2014).⁵³ Prices of goods imported in Bulgaria retained the trend which started in early 2013 toward a year-on-year decline thus prompting a decrease in total domestic producer price index and end-use consumer prices.⁵⁴ The depreciation of the euro against the US dollar by 16.5 per cent on average in 2015 partly counteracted the downward trends in prices of imported goods.⁵⁵

In 2015 inflation in energy products was strongly negative which corresponded to the reported decline of 36.3 per cent on average in international oil prices for the review period (in terms of US dollars the decline in petroleum prices was 47.1 per cent). As of December transport⁵⁶ fuel

Annual Inflation and Contribution of Major Commodity and Services Groups to It

(per cent; percentage points)



Notes: This structure corresponds to the Eurostat classification; tobacco products and goods and services with administratively controlled prices are presented separately. The index of goods and services with administratively controlled prices is calculated through the elementary aggregates level in the consumer basket.

Sources: NSI, BNB calculations.

⁵³ The analysis in this section employs NSI data on HICP.

⁵⁴ Based on import data under the Standard International Trade Classification (SITC) a stronger year-on-year decline in the first nine months of 2015 was reported in the groups of food and live animals and mineral fuels, oils and related products and a lower decline in the groups of chemicals and chemical products and manufactured goods classified chiefly by materials.

⁵⁵ For more information see the research topic entitled Potential Effects of the USD/EUR Exchange Rate Change on the Bulgarian economy, Economic Review, 2/2015.

⁵⁶ In the group of energy products (excluding the administratively controlled prices of energy, heating and central gas supply) transport fuels occupy the largest relative share; hence, their price developments determine the price dynamics of energy products in general.

prices decreased by 10.5 per cent on an annual basis and had the largest negative contribution to overall inflation (-0.81 percentage points). The decline in services related to heating and gas supply which are indirectly affected by petroleum prices, added to the negative contribution to inflation in the group of goods and services with administratively controlled prices.

In 2012 the overall producer price index on the domestic market to a large extent followed the pattern of international price dynamics. The index posted a further year-on-year decrease and accounted for -3.8 per cent in November 2015 (against 0.9 per cent at the end of 2014). Prices in the manufacturing subsector had a significant negative contribution to the change in total producer price index which was due mostly to lower prices in production of refined oil products.⁵⁷ The subsector related to production of electricity and heating⁵⁸ also had a negative contribution to the annual rate of change in producer prices as of November 2015, consistent with the price fall of imported natural gas recorded in 2015.⁵⁹

Concurrently, producer prices on the domestic market related to production of consumer non-durables started to gradually increase since mid-2015 driven by higher prices of food⁶⁰ and partly clothes. In December 2015 the inflation in the group of food accounted for 0.9 per cent (-0.7 per cent at the end of 2014), reflecting the hikes in processed and unprocessed food prices. Processed food prices contributed positively to overall inflation since the second quarter of 2015, reflecting the upward dynamics of producer prices in the group. By December 2015 the sugars and sugar confectionary⁶¹ and animal and vegetable fats and oils groups had the largest positive contribution to inflation. This was attributable to the higher wholesale sugar price by 17 per cent on average in 2015 and increased import prices of animal and vegetable fats and oils in the first nine months of the year.

⁵⁷ Production of coke and refined petroleum products.

⁵⁸ Production and distribution of electricity, heating and gas.

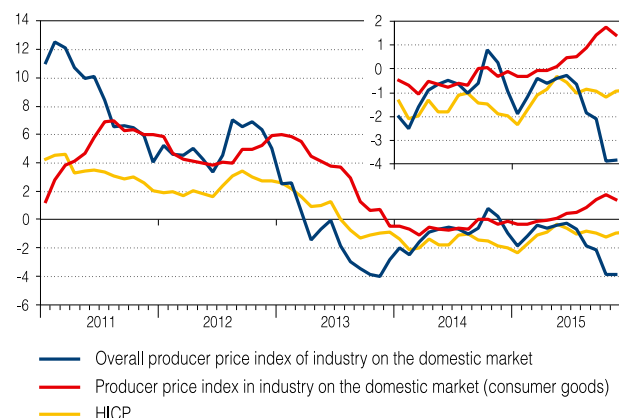
⁵⁹ The administratively reduced price of electricity for non-household customers from 1 November 2015 contributed to lower prices in this group. For more information see the EWRC press release: <http://www.dker.bg/newsbg.php?n=2694>.

⁶⁰ NSI data on agricultural accounts (first estimate)

⁶¹ Sugar, jams, honey, chocolate and confectionery.

Rate of Change in Manufacturing PPI and HICP

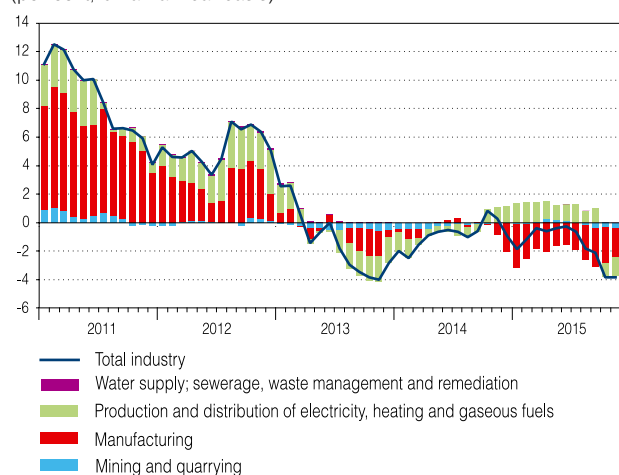
(per cent, on an annual basis)



Source: NSI.

Rate of Change in the PPI on Domestic Market and Contributions by Major Sub-sector

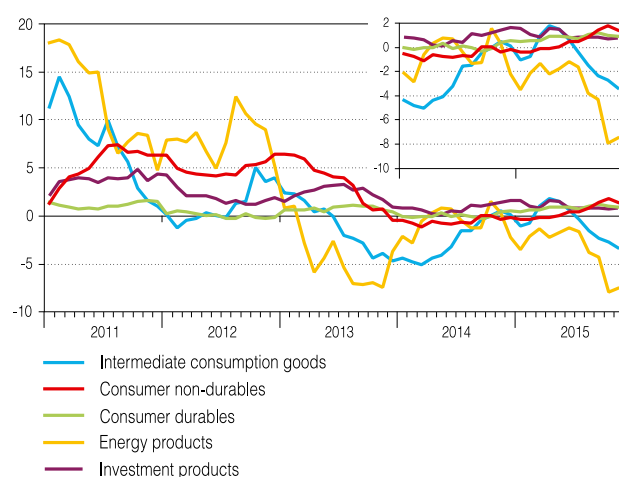
(per cent, on an annual basis)



Source: NSI.

Annual Rates of Change in Producer Prices on the Domestic Market by Major Industrial Grouping

(per cent)



Source: NSI.

As of December 2015 unprocessed food prices slightly increased on an annual basis which reflected the positive contribution of fruits and vegetables groups. The ongoing price decline in the meat and meat products group since mid-2014 driven by the fall in import prices and producer prices in agriculture was a drag on price increases of unprocessed food.

Producer prices of durable goods on the domestic market reported low positive year-on-year growth in 2015, but did not affect final prices of non-food goods which exhibited negative inflation reaching -1.4 per cent in December (against -2.2 per cent at the end of 2014). In the group of durable goods since early 2014 the annual rate of decline in automobile prices remained relatively high, while television and computer equipment, furniture and furnishings reported a relatively lower depreciation.

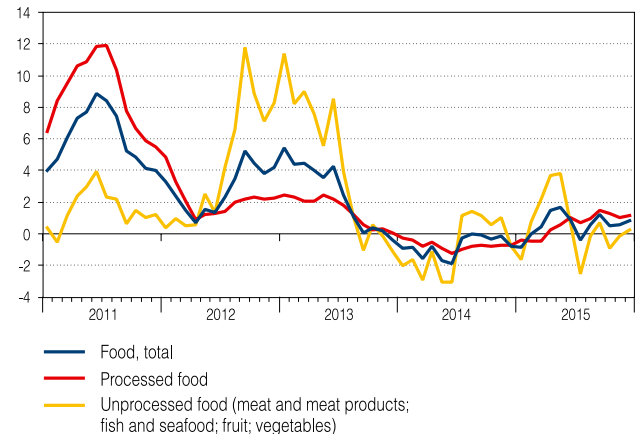
Lower producer prices of energy products in 2015 and lower producer prices of intermediate goods in the second half of the year,⁶² which form a significant portion of firms' production costs, signal that downward dynamics of international petroleum and commodity prices will remain a factor for a decline and/or stabilisation of end-use consumer prices in the following months. Labour cost policies of firms impacted consumer price dynamics. According to national accounts data unit labour costs in the total economy went down by -1.4 per cent in nominal terms in the first nine months of the year, which was also a prerequisite for a stabilisation and/or decline in end-use consumer prices.

Core inflation was negative in 2015, with the decline tending to discontinue at the end of the year. As of December 2015 the deflation in the main components of the HIPC index slowed down to 0.3 per cent compared with 1.6 per cent at the end of 2014. The price dynamics both in the group of non-food goods and that of services contributed to the lower negative core inflation. In the second half of 2015 the downward trend in services prices, which had started in early 2014, was reversed. In December 2015 inflation in the services group (excluding administratively controlled prices) accounted

⁶² These are intermediate consumption goods, energy products, investment products, durable consumer goods and non-durable consumer goods.

Rate of Change of Food Price Index

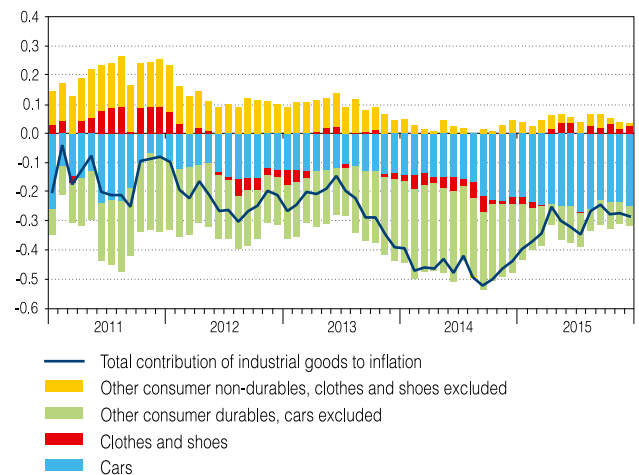
(per cent, on an annual basis)



Sources: NSI, BNB calculations.

Contribution of Non-food Goods (Excluding Energy Products) and Major Goods Sub-groups to Overall Inflation

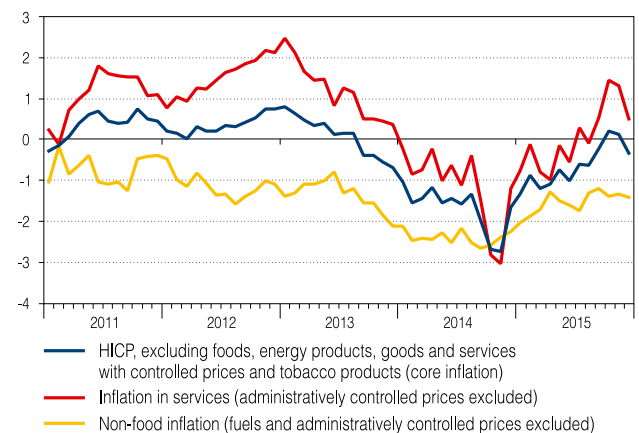
(per cent, percentage points)



Sources: NSI, BNB calculations.

Core Inflation

(per cent, on an annual basis)



Sources: NSI, BNB calculations.

for 0.5 per (against -1.2 per cent by end-2014). This reflected mainly exhausted base effects of one-off price declines in 2014 of medical, dental⁶³ and telecommunication services,⁶⁴ and the appreciation of catering and services related to package holidays, accommodation, cultural recreation services and accommodation. By the end of 2015 telecommunication services reported a slight year-on-year decrease consistent with the long-term downward trend in prices of this group. Since April 2015 transport services have contributed negatively to overall inflation, reflecting mainly lower prices in air transport, while the indirect effects of lower fuel prices on other types of transport remained limited.

In the first nine months of 2015 inflation in administratively controlled prices remained positive and then it became negative amounting to -0.7 per cent in December on an annual basis. The exhausted effect of the increase in regulated price of electricity for households by 10.1 per cent as of October 2014 contributed to this effect. Concurrently, in 2015 the price of the natural gas sold by Bulgargas was decreased in four consecutive quarters by a total of 31.2 per cent, which reflected lower prices of fuels alternative to natural gas on international markets. This was a reason for EWRC to decrease regulated prices of heating and natural gas in April, July and October 2015. As a result, these groups had a negative contribution to overall price dynamics at the end of the year. Medicines prices⁶⁵ also exhibited a downward trend since the year start.

As of December 2015 the diffusion index, showing the share of groups of goods and services with declining prices on an annual basis, slightly went down to 35.5 per cent against 40.9 per cent at the end of 2014. In administratively controlled prices the sub-groups with declining prices increased, which reflected indirect effects of lower energy prices. This is a prerequisite for the diffusion index to remain at a relatively high level in the following months. In 2015 the num-

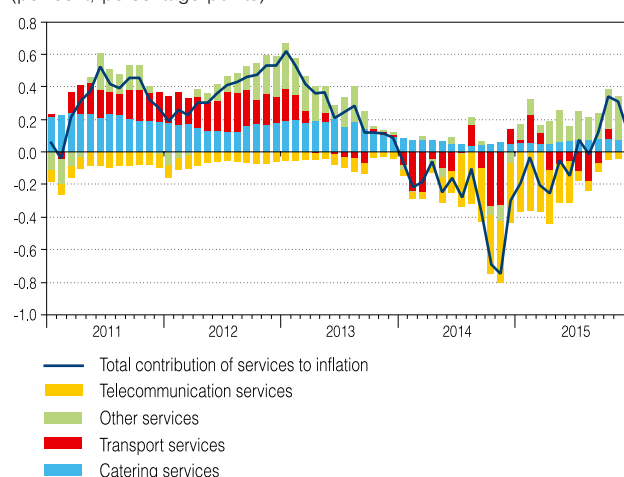
⁶³ Since January 2014 fees paid to GPs, specialists and dentists having concluded contracts with the National Health Insurance Fund were administratively reduced to 28.6 per cent.

⁶⁴ As of July 2014 the price caps for data downloads in all EU Member States were cut.

⁶⁵ Medicals and other pharmaceutical products.

Contribution of Services and Major Services Sub-groups to Overall Inflation

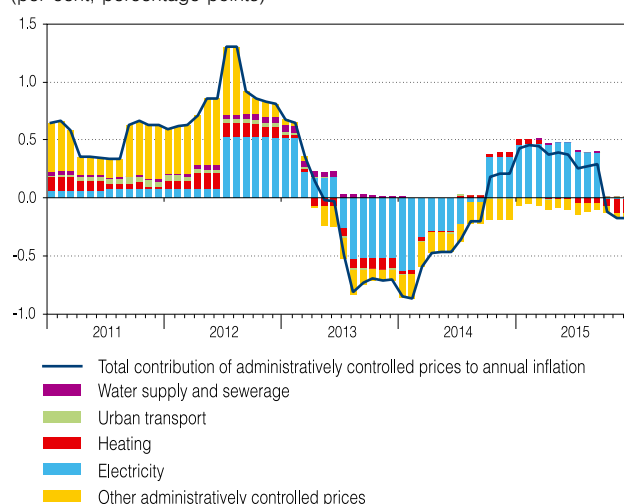
(per cent, percentage points)



Sources: NSI, BNB calculations.

Contribution of Major Sub-groups of Goods with Administratively Controlled Prices to Overall Inflation

(per cent, percentage points)



Sources: NSI, BNB calculations.

ber of goods and services with increasing prices continued to slowly grow, but prices rose at a relatively slow pace (mostly up to 1 per cent). Therefore, the increase in these prices is insufficient to offset the negative contribution of goods and services with declining prices.

According to the NSI business survey, in December 2015 most managers in industry, services and retail trade expect that selling prices in the following three months will remain unchanged. The balance of opinions in the services sector was slightly negative in the second half of 2015 due to the larger share of managers expecting price declines as compared with those expecting price rises. Managers' sentiment gives no ground for expecting an upward pressure on selling prices in the following months, which is likely to reflect both lower production costs and the ongoing uncertainty of firms about the economic environment, the competition and insufficient demand. Domestic consumer demand exerted no inflationary pressure.⁶⁶ Real retail trade volumes, an indicator of consumer demand, followed the downward trend in annual growth between January and November 2015 amid a simultaneous price decline. This trend was more strongly pronounced in food⁶⁷ and fuel⁶⁸ trade, which exhibited a decline in physical volumes at the end of the review period. Concurrently, non-food goods⁶⁹ and trade in non-specialized stores⁷⁰ reported year-on-year growth between October and November 2015.

At the end of the first quarter of 2016 inflation is projected to range from -0.6 per cent to -0.3 per cent and in the middle of 2016 between -0.6 per cent to 0.6 per cent.⁷¹ The forecast is based on the assumption for a slight increase in international food prices (in euro) in the first half of 2016 compared with end-2015 and a decline on an annual basis. Administratively controlled

⁶⁶ See Chapter 3.

⁶⁷ Retail trade in food, drink and tobacco products.

⁶⁸ Retail trade in automobile fuels and lubricants.

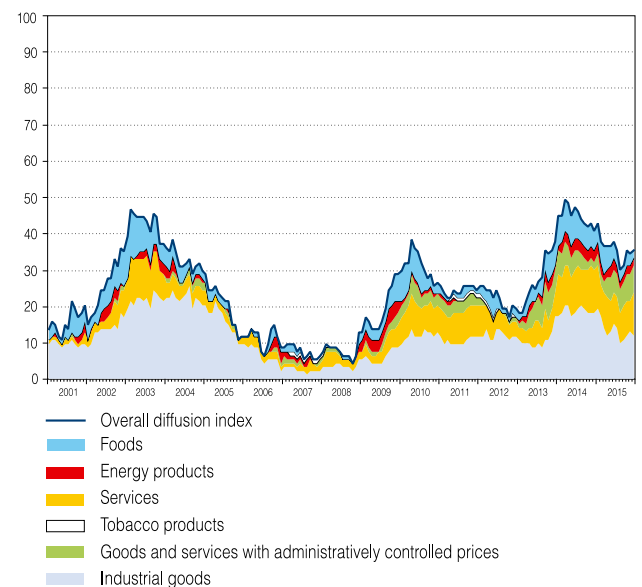
⁶⁹ Retail trade in non-food goods (excluding automobile fuels and lubricants).

⁷⁰ Retail trade in non-specialized stores with different kinds of goods.

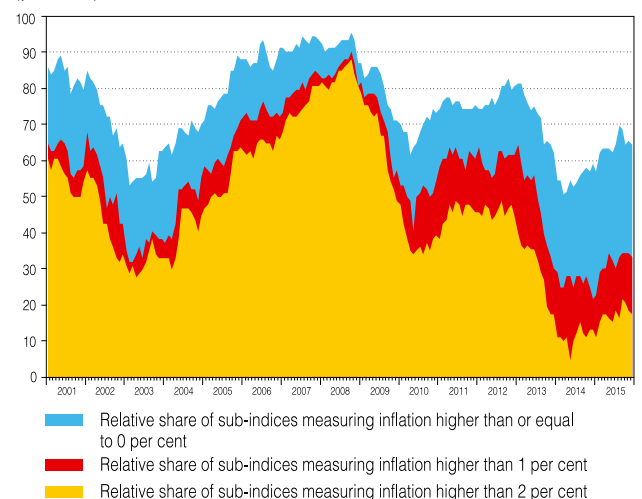
⁷¹ Thus presented ranges of the expected annual rate of inflation correspond to 40 per cent probability distribution according to our expert forecast of the probability distribution for the relevant quarter (see here BNB Projections of Major Macroeconomic Indicators for 2015–2017).

Diffusion Index of Major Goods and Services Groups

(a) *relative shares of declining HICP sub-indices on an annual basis*
(per cent)



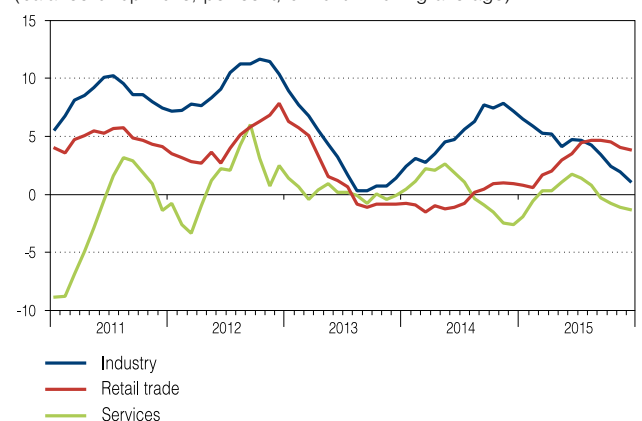
(b) *relative shares of declining HICP sub-indices on an annual basis*
(per cent)



Sources: NSI, BNB calculations.

Selling Prices Expectations in Industry, Retail Trade and Services over the Next Three Months

(balance of opinions, per cent, 6-month moving average)



Source: NSI.

prices are expected to have a positive contribution to overall inflation, reflecting higher road fees and tobacco excise duties since early 2016. Core inflation will have a low positive contribution to overall inflation in line with projected growth of household consumer expenditure amid the continuous improvement of the labour market and growth of compensation per employee.

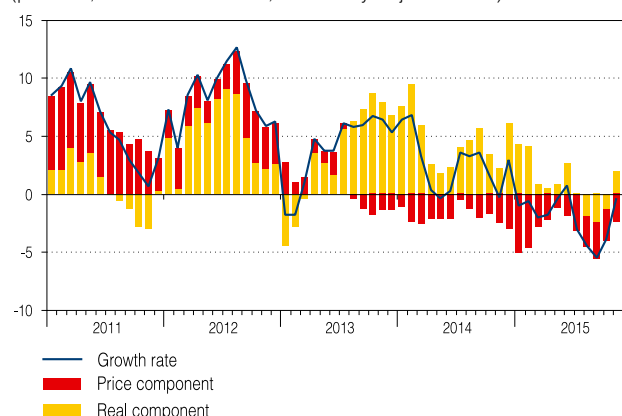
There are risks of lower than projected annual inflation which stem mostly from a possible further decline in petroleum prices at rates faster than expected. Further price decline in some goods and services may be expected as a result of EWRC reduction in the regulated price of the natural gas in the first quarter of the year.⁷² Corporate managers' steady expectations for new cuts in prices of energy resources is a prerequisite for occurrence of stronger indirect effects on other groups of goods and services. As of April 2016 roaming fees in EU Member States will be gradually cut initiated by the European Commission which is a prerequisite for a further reduction in prices of telecommunication services.

⁷² For more details see the EWRC press release. <http://www.dker.bg/newsbg.php?n=2729>

Annual Growth Rate of Nominal Turnover

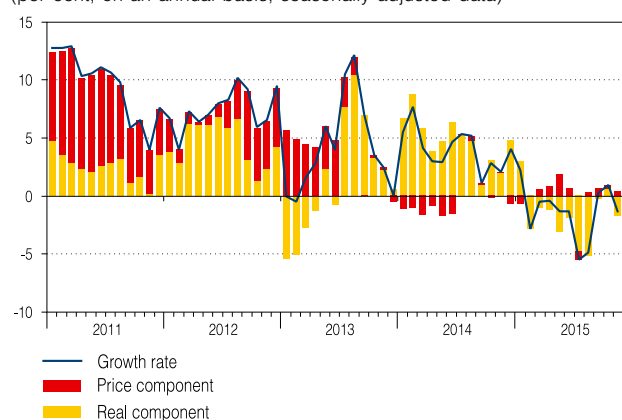
(a) Retail trade, except of motor vehicles and motorcycles

(per cent, on an annual basis, seasonally adjusted data)



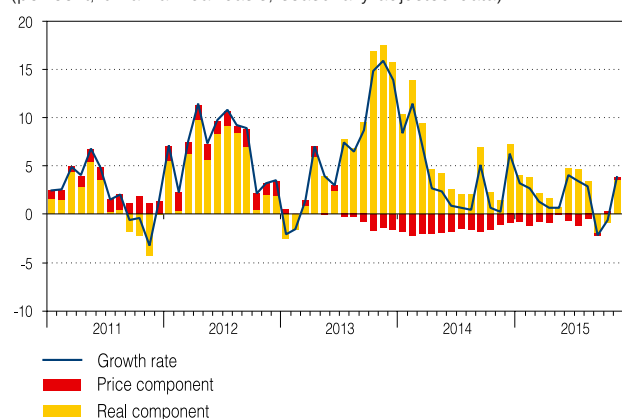
(b) Retail trade in food, drink and tobacco products

(per cent, on an annual basis, seasonally adjusted data)



(c) Retail trade in non-food goods (excluding automobile fuels and lubricants)

(per cent, on an annual basis, seasonally adjusted data)



Source: NSI.

Rates of Change of Major Goods and Services Groups Prices and Contribution of these Groups to Services

	Accumulated inflation as of December 2014 (December 2013 = 100)		Accumulated inflation as of December 2015 (December 2014 = 100)		Annual Rate of Inflation as of December 2015 (December 2014 = 100)	
Inflation (%)	-2.0		-0.9		-0.9	
	Rate of inflation by group (per cent)	Contribution, percentage points	Rate of inflation by group (per cent)	Contribution, percentage points	Rate of inflation by group (per cent)	Contribution, percentage points
Food	-0.7	-0.19	0.9	0.22	0.9	0.22
Processed food	-0.7	-0.12	1.2	0.20	1.2	0.20
Unprocessed food	-0.8	-0.07	0.3	0.02	0.3	0.02
Services	-1.2	-0.30	0.5	0.12	0.5	0.12
Catering services	0.9	0.05	1.6	0.09	1.6	0.09
Transport services	2.4	0.09	-3.6	-0.13	-3.6	-0.13
Telecommunication services	-7.7	-0.37	-1.3	-0.06	-1.3	-0.06
Other services	-0.6	-0.07	2.0	0.23	2.0	0.23
Energy	-13.9	-1.28	-10.5	-0.81	-10.5	-0.81
Transport fuels	-14.8	-1.27	-11.7	-0.83	-11.7	-0.83
Industrial products	-2.2	-0.43	-1.4	-0.28	-1.4	-0.28
Goods and services with administratively controlled prices*	1.2	0.20	-1.1	-0.17	-1.1	-0.17
Tobacco products	1.0	0.04	0.6	0.02	0.6	0.02

* The index of goods and services with administratively controlled prices is calculated through weighting the relevant elementary aggregates in the consumer basket.

Sources: NSI, BNB calculations.

5. Bulgarian National Bank Forecast of Key Macroeconomic Indicators for 2015–2017¹

Global economic growth started to slow down in 2015 as a result mainly of lower growth in developing economies. In 2016 and 2017 growth in developing economies is expected to rise, pushing up global growth. Significant declines in international commodity prices, especially in crude oil prices in 2015 were due to sustained high production and inventories amid weakening demand. Downward price trends are projected to be reversed no earlier than the second half of 2016 under the influence of recovering growth in developing countries. International commodity prices may be expected to begin rising in 2017.

Over 2015 economic activity in Bulgaria accelerated, and real GDP growth is expected to reach almost 3 per cent. In 2016 growth will slow down to 2.1 per cent, with lower government investments acting as a specific factor for this year. In 2017 a new acceleration in real GDP growth to 2.8 per cent is forecasted. Risks to this outlook are assessed as broadly balanced.

Due to the open character of the Bulgarian economy and significant commodity and fuel imports, international price developments have a substantial effect on domestic prices. With the projected stabilisation of global commodity prices in 2016, deflationary trends in consumer prices would be discontinued, and inflation would start to accelerate slowly in 2017, provided that global price rise assumptions materialise. There are risks for inflation to be lower than projected, if international price dynamics is below our expectations.

Forecast

The trend of slowing growth in China and developing economies, which were negatively affected by strong commodity price declines, continued in 2015, resulting in lower global growth than in the previous year. Based on ECB and IMF forecasts on world economic outlook, in 2016 and 2017 global economic growth is expected to accelerate slightly in line with higher growth in developing countries and moderate increases in US and euro area GDP.

Demand for commodities and fuels contracted in 2015 following the economic activity slowdown in developing economies, especially China. The high level of inventories and output led to a decline in their prices throughout 2015. These trends are expected to continue in the first half of 2016, with international prices of commodities and fuels likely to stabilise only in the second half year under the influence of increasing demand amid higher growth in developing countries. More notable rebalancing of demand and supply in commodity markets, which may lead to a rise in energy and non-energy product prices, may be expected in 2017.

Bulgaria's economic growth accelerated substantially in 2015, exports contributing most significantly (a positive contribution to real growth of about 1.7 percentage points) despite the slowing global economic growth. Government investment was another important GDP component with a positive contribution to the 2015 growth, reflecting implementation of EU-funded projects concentrated from 2013 to 2015 for the 2007–2013 programme period. Slower growth in disposable income as a result of a lower increase in compensation *per* employee amid very weak employment growth was a factor behind low growth rates of private consumption and its insignificant contribution to real GDP growth for 2015.

Domestic demand will drive economic activity developments in 2016 and 2017. Private consumption will continue to rise amid increased real disposable income and will be a key factor for growth. An important assumption in this forecast is that private investment will discontinue its downward trend and start to recover as a result of both high levels of capacity utilisation and positive effects of public investment on growth. A specific factor for 2016 contributing to the economic growth slowdown will be lower

¹ This projection is based on data as of 15 December 2015.

year-on-year government investment (its volume under the BNB forecast is consistent with MF estimates as of October 2015). The projected private investment growth in 2016 would not be sufficient to compensate for the lower volume of government investment and will therefore lead to a decline in gross fixed capital formation in real terms. In 2017 this effect is likely to fade away, and total investment to increase due to both continuing growth in private investment and increased government investment.

In 2016 and 2017 the positive contribution of net exports to GDP growth is expected to gradually contract compared with its relatively high level in 2015. Real export growth in 2016 is anticipated to slow down compared with the previous year before it starts to accelerate consistent with the dynamics of external demand for Bulgarian goods and services. Imports of goods and services will also slow down in 2016 and will recover its rate of real growth in 2017 along with gradually accelerating domestic demand.

Given the above assumptions, economic growth is expected to moderate to 2.1 per cent in 2016 and to accelerate again to 2.8 per cent in 2017.

If the forecast of international price dynamics materialises, the terms of trade (measuring the change in export prices against import prices) are expected to remain favourable for Bulgaria in the 2016–2017 period and to contribute to lower balance of payments trade deficit. On the other hand, given the worsening economic activity in trading partners important for Bulgaria's tourist sector such as Russia and Greece, revenue from exports of services are expected to be lower in 2016 and correspondingly the positive balance on services to decrease as a share of GDP. With the recovery of economic activity in Bulgaria companies' profits will start to increase which may boost payment of dividends and distributed profit to non-residents, and correspondingly increase the deficit of the balance of payments primary income account. In the 2016–2017 period net secondary income will remain almost unchanged. Between 2016 and 2017 the balance of payments current account will remain positive and as a share of GDP will hover around 2015 values.

Employment will continue to increase in 2016 though at a slower pace than in 2015 due to the slowdown in economic activity. Companies will remain cautious in opening new jobs, optimising their labour costs. In 2017 employment growth is expected to slightly accelerate. In 2016 and 2017 the unemployment rate is expected to decline further. Given the expected slow employment growth, labour productivity will largely follow the pattern of the real GDP dynamics. With the acceleration of compensation per employee growth to the rate of labour productivity growth unit labour costs are expected to grow by around 2 per cent in 2016 and 2017.

The expected stabilisation of international prices of crude oil, food and commodities as of mid-2016 will contribute to the turnaround of the deflationary trend in the harmonized index of consumer prices in Bulgaria, and the annual inflation is anticipated to reach 1 per cent by the end of 2016. Following the international price dynamics inflation in Bulgaria will continue to slowly increase until the end of 2017. The rise in some administratively controlled prices, reflecting changes in tax legislation, will have a positive contribution to inflation. The forecast takes into account the impact of higher road fees since early 2016 and the rise in tobacco excise duties in the 2016 and 2017. Core inflation is expected to reverse its deflationary trend due to the positive contribution of services prices. Services inflation will be driven by consumer expenditure of households in the context of ongoing labour market improvement and increased real disposable income.

The expectations for the high savings rate of households to be sustained despite declining deposit interest rates will contribute to further growth of deposits to the non-government sector and keeping high liquidity in the banking system. In the 2016–2017 period the annual rate of private sector deposit growth is projected to range between 5 and 6 per cent. The projected smooth acceleration of private consumption and private investment will contribute to the gradual recovery of credit growth in the 2016–2017 period. The continuous decline in lending rates, driven by a deposit inflow in the banking system and interest rate conditions in the euro area, is expected to have a positive effect on demand for loans by non-financial corporations and households. The negative interest rate on banks' excess reserves with the BNB will have some additional impact pushing down deposit rates and consequently lending rates.

Risks to the Outlook

Risks to this outlook of economic growth are balanced. The risk of slower than projected global economic growth in the 2016–2017 period is offset by the possibility of domestic demand private components increasing more dynamically as compared with the baseline scenario. Higher economic growth in 2016 and 2017 is also possible in case of international environment improvement, weakening of geopolitical tensions, or higher than projected growth in the euro area and in developing countries. Growth may be also higher if domestic demand increases at higher than projected pace, reflecting both the stronger increase in private consumption and private investment, and eventually lower than expected public investment decline in 2016.

Uncertainty to the outlook for a particular indicator may be graphically illustrated by means of the so-called fan chart². Chart bands set an interval in which with a certain probability the projected value is expected to fall (for further details see the note to the chart on GDP growth). Each interval widens with the increase in the forecast horizon, reflecting the increasing uncertainty further into the future. The fan chart on the annual GDP growth in 2015 shows that growth is most likely to range from 1 per cent to 3 per cent.

However, risks to the inflation forecast are shifted to lower inflation compared with the baseline scenario. The main factor impacting the inflation is the rate of change in international commodity and fuel prices. In particular, fuel prices may continue to decline faster than expected or for a longer period of time. As a result, besides direct deflationary effects second-round deflationary effects will also occur due to a decline in production costs. Uncertainty to the outlook relates to possible changes in some administratively controlled prices due to side effects of falling oil prices (heating and gas supply). The balance of risks to inflation is graphically shown in the fan chart below.

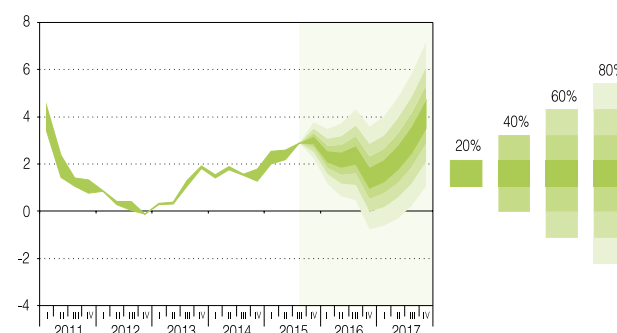
The external environment, and notably the economic activity in Bulgaria's major trading partners, remains the major source of uncertainty to the balance of payments projection. If the external demand for Bulgarian goods and services is lower than projected a higher trade balance deficit and lower surplus on the services balance may be expected, which will result in a lower current account balance.

Risks to the monetary sector outlook relate to lower than expected economic growth and weaker than expected decrease in interest rates on funds extended by commercial banks which will result in a slower recovery of loans to the private sector.

BNB Forecasting Function

One of the key central bank activities, supporting decision-making and preparing positions on the economic policy, is forecasting of key macroeconomic indicators describing the country's economic development. Through this activity central banks obtain an up-to-date view of both the expected economic developments and risks to their future dynamics. Usually central bank forecasts are based on macroeconomic models the results of which are supplemented by expert estimates. The models represent major linkages in the economy and experts add specific information and knowledge which is difficult to be formalised within a model.

Fan Chart of the Expected Annual Rate of Change of GDP

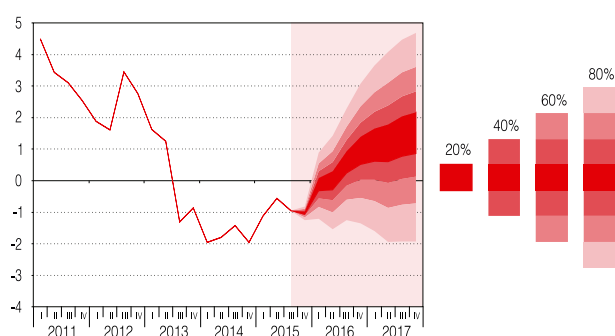


Note: The fan chart shows the expert views of the forecasters on the uncertainty surrounding the projected value based on a probability distribution. The reporting period shows revisions of GDP growth estimates. The middle band of the chart, depicted in the darkest colour, includes the central projection and the probability distribution shows 20 per cent probability for the actual value to fall in this band in each of the quarters. If neighbouring bands (in the same brighter colour) are added to the middle band, there would be a 40 per cent coverage of the probability mass. Thus, by adding each same colour couple of bands, the probability for the value to fall there would be increased by 20 percentage points to reach 80 per cent. The probability for the value to remain outside the coloured part of the chart is 20 per cent based on the distribution chosen.

Source: BNB.

² The use of fan charts is discussed in details in the box entitled 'Measurement and Presentation of Uncertainty in Forecasting Economic Indicators', Economic Review, 1/2012.

Fan Chart of the Expected Annual Rate of Change in Inflation at the End of the Period



Note: The fan chart shows the expert views of the forecasters on the uncertainty surrounding the projected value based on a probability distribution. The middle band of the chart, depicted in the darkest colour, includes the central projection and the probability distribution shows 20 per cent probability for the actual value to fall in this band in each of the quarters. If neighbouring bands (in the same brighter colour) are added to the middle band, there would be a 40 per cent coverage of the probability mass. Thus, by adding each same colour couple of bands, the probability for the value to fall there would be increased by 20 percentage points to reach 80 per cent. The probability for the value to remain outside the coloured part of the chart is 20 per cent based on the distribution chosen.

Source: BNB.

Supplementing of the results of the macroeconomic model by expert analysis allows for preparing realistic views of future economic development taking into account the uncertainty surrounding the forecast.

Central bank forecasting is aimed mainly at providing clear and consistent story of the most probable future economic developments. The forecast is an economically justified most probable (from the point of view of the forecasting team) trajectory of future economic developments, with this trajectory being surrounded by a number of other possible states of the economy which are likely to materialise with a certain probability. These circumstances require as a good practice in preparing and presenting forecasts the main forecast (baseline scenario) to be accompanied by an analysis identifying the attendant risks. Risks may, on a case-by-case basis, be described or presented verbally or graphically³, and in case of higher degree of uncertainty – in the form of alternative scenario of future economic developments.

Similar to other central banks, BNB macroeconomic forecast is a result of a macroeconomic model used and an expert estimate of the most probable scenario of future economic developments in Bulgaria. The forecasting model used by the BNB employs data of quarterly frequency and belongs to the group of macroeconometric forecasting models. It is the BNB's major tool for preparing forecasts and simulations of effects of economic shocks. The system of

Forecast of Key Macroeconomic Indicators for 2015–2017

(per cent)

	2013	2014	2015	2016	2017
(annual rate of change)					
GDP at constant prices	1.3	1.5	2.9	2.1	2.8
Private consumption	-1.4	2.7	0.5	2.3	2.4
Government consumption	2.2	0.1	1.0	1.4	2.1
Gross fixed capital formation	0.3	3.4	2.2	-2.2	3.1
Exports (goods and services)	9.2	-0.1	7.1	3.7	4.3
Imports (goods and services)	4.9	1.5	4.2	2.3	4.0
HICP at end period*	-0.9	-2.0	-0.9	1.0	1.6
Core Inflation	-0.7	-1.6	-0.3	0.2	1.0
Energy	2.2	-13.9	-10.5	5.1	7.7
Food	-0.3	-0.7	0.9	0.5	0.9
Goods and Services with Administratively Controlled Prices and Tobacco Products	-3.0	1.2	-0.7	1.8	1.3
Employment	-0.4	0.4	0.4	0.2	0.5
Unit Labour Costs	7.0	4.4	-0.6	2.2	1.9
Labour productivity	1.7	1.2	2.6	1.9	2.3
Unemployment Rate (share of labour force)	12.9	11.4	9.4	8.5	7.9
Claims on Non-government Sector	0.3	-7.7	-1.6	1.5	3.4
Claims on Corporations	0.3	-12.0	-1.6	1.5	3.4
Claims on Households	-0.2	-1.6	-1.3	1.4	3.2
Deposits of the Non-government Sector*	8.7	1.5	10.6	5.9	5.7
% of GDP					
Balance of Payments Current Account	1.8	1.2	1.8	2.2	1.9
Trade Balance	-6.9	-6.4	-4.0	-2.9	-2.5
Services, net	6.5	5.9	5.2	5.0	5.1
Primary Income, Net	-3.5	-2.1	-3.3	-4.0	-4.2
Secondary Income, Net	5.7	3.8	3.8	3.9	3.5
(annual rate of change)					
External Assumptions					
External demand	2.4	3.2	1.5	3.4	4.5
Average Annual Brent Oil Price (in USD)*	-2.8	-9.1	-47.1	-12.3	16.0
Average Annual Price of Non-energy Products (in USD)*	-6.1	-8.6	-19.9	-9.5	3.2
Brent Oil Price at the End of Period (in USD)*	-0.9	-30.5	-42.9	10.9	12.5
Price of Non-energy Products at the End of Period (in USD)*	-7.0	-13.3	-20.4	-0.2	3.1

Reporting data for 2015.

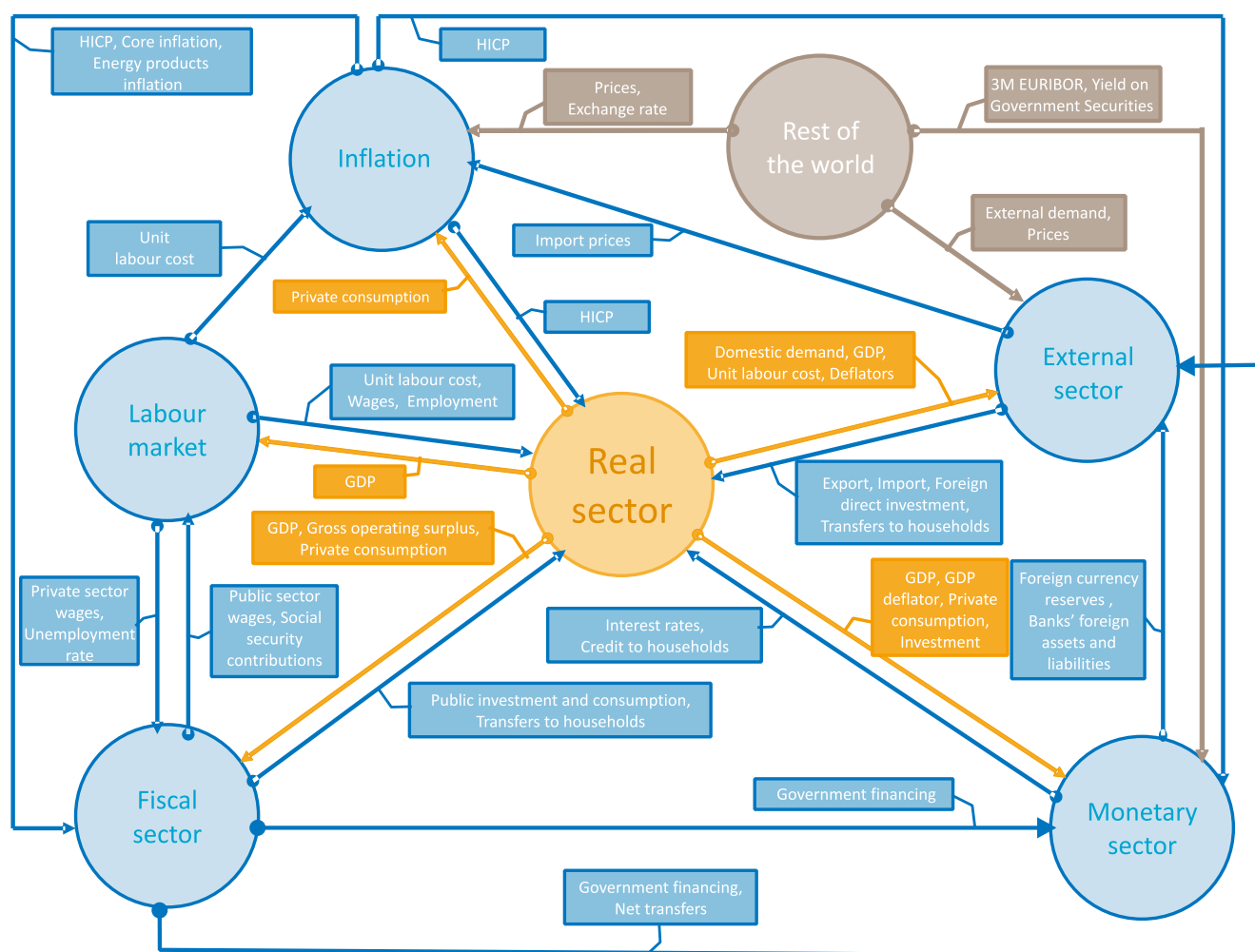
Source: BNB.

³ Fan charts published in the Economic Review are one of the standard ways for graphical presentation of risks to a particular forecast.

equations in the model is based on the assumption of available long-term and short-term behavioural economic relationships. It is considered that irrespective of the short-term economic shocks the macroeconomic variables follow their own long-term dynamics, which is ensured in the model through the so-called Error correction mechanism.⁴

The first version of the model was created in 2008⁵. The model has been continuously developed by adding new information in order to more comprehensively take account of behavioural relationships in the economy. Linkages in the model describe main economic mechanisms in the Bulgarian economy and its interaction with major trading partners. The model consists of six interacting blocks: the real sector, consumer prices (inflation), labour market, external sector, fiscal sector and monetary sector. Major linkages between the blocks are shown in Figure 1 below. The model is solved simultaneously for all blocks and the results are subject to an in-depth expert analysis, which is to be incorporated in the final version of the forecast of key economic indicators.

Main Blocks and Linkages in the BNB Forecasting Model



Source: BNB.

⁴ Error correction models play an important role in economic literature. One of the main articles on this topic is: Engle, R. and C. Granger (1987). 'Co-integration and error correction: representation, estimation, and testing', *Econometrica*, (55).

⁵ The first version of the quarterly forecast model presented at a conference on the Forecasting Models and Procedures of EU Central Banks on 23 April 2008 in Sofia is published on the BNB website at: http://www.bnb.bg/bnbweb/groups/public/documents/bnb_download/p_e_sc_annual_conf_2008_a5_bg.ppt

This process can be divided into four stages: The first stage starts after the publication of the first NSI official estimates on Bulgaria's quarterly GDP and includes the preparation of data and the working environment of the model. At this stage external assumptions of the model are specified as forecasts based on information from external institutions (*e.g.* the ECB or IMF) about the external demand for Bulgarian goods and services⁶ and the dynamics of prices of major commodity groups. Technical assumptions which will be reflected in the forecast are specified, *e.g.* assumptions of no policy change in particular parameters of the economic policy, exchange rates of the Bulgarian lev against the US dollar and SDR, and the gold price, which are fixed at their average value for a period of ten days prior to data loading in the model. The assumptions about EURIBOR are based on the average price of futures contracts with various maturities for a period of ten days prior to data loading in the model. Experts prepare a macroeconomic analysis intended to identify (in the context of the current external economic situation) the initial conditions, in which the Bulgarian economy is at the time of preparing the forecast. The general framework of the forecast baseline scenario is specified and in case of high uncertainty also a framework of an alternative scenario. Usually, alternative scenarios are based on material risks established by experts which cannot be encompassed by the baseline scenario.

At the second stage the model loaded with data is solved and experts analyze the results. In view of the imperfections of macroeconomic models mentioned above, at this stage the solution of the model is subject to an expert analysis in order to correct the results in such a way as to reflect also the view of the team preparing the forecast of expected economic developments.

The third stage relates to the description of the forecast presenting a consistent story of future developments in the Bulgarian economy. The description includes the factors which are expected to drive future developments and risks that may prompt a deviation of reported indicators from their forecast value.

The final stage starts after publishing of reporting data which are compared with forecast values of the corresponding macroeconomic indicators. Experts discuss the factors responsible for deviations of indicators from the forecast, and if deemed necessary, they re-estimate behavioural linkages in the macroeconomic model.

⁶ External demand is measured by weighting real imports of Bulgaria's major trading partners.